Millennium Challenge Corporation

Ethiopia Constraints Analysis Report 2020

MILLENNIUM CHALLENGE CORPORATION
UNITED STATES OF AMERICA

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An Analysis Prepared by the Government of Ethiopia and the Millennium Challenge Corporation of the United States of America for the Development of a Millennium Challenge Threshold Program

2020

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I. Executive Summary

Overview

Over the last 15 years, Ethiopia has experienced the fastest per capita economic growth in Africa, averaging around 6 percent each year. Much of this growth stemmed from investments in massive infrastructure projects aimed at jump-starting the country's structural transformation from traditional, rural, farming activities to a modern, urban, industrial economy. Complementing these investments, Ethiopia has also embarked on a series of political and economic reforms, shifting away from a one-party, state-led model of development to a more democratic system that promotes a greater role for the private sector. The combination of these trends has burnished the country's profile among international investors keen to tap Ethiopia's inexpensive labor pool, emerging domestic market, and regional trade access.

These favorable conditions notwithstanding, Ethiopia remains one of the world's poorest countries, with an annual per capita income hovering around US $850 (or about $2,300 in purchasing power parity terms). Its current population of 115 million is growing rapidly, averaging around 2.7 percent annually over the past decade. And despite significant improvements over the past two decades, about 30 percent of the country still subsists at or below the international poverty line of US $1.90 per day, and Ethiopia's human capital index, a composite measure of human skill, health, knowledge, and resilience, places it among the world's bottom 15 percent.

Eighty percent of Ethiopia's population is rural and occupied mostly in agriculture, which accounts for about one-third of the country's GDP. But the sector's productivity remains very low. Ethiopia, the birthplace of the world's prized Arabica coffee variety, only yields about two-thirds of the international average. Productivity in food crops, including staples like wheat and teff, remain far below potential. Cash crops, led by coffee, sesame, and cut flowers, account for about two-thirds of the country's exports, but revenues often hinge on volatile international markets. Meanwhile, opportunities for value-added food processing go unexploited. Coffee exporters, for example, forego profitable roasting and packaging steps, and livestock exports often amount to simply herding cattle across borders.

Debts to foreign creditors also hang over Ethiopia. While this debt helpfully financed the construction of critical road networks, and power generation and distribution, borrowed funds also flowed to state-owned enterprises (SEOs) with little useful output or productivity gains to show. Ethiopia's SOEs dominate entire swathes of Ethiopia's economy, from transportation, banking, agriculture, power, and telecommunications.

Not only do these SOEs displace and exclude private firms, they operate inefficiently, often in the service of political considerations. Preliminary steps to privatize some of these firms have raised hopes that market forces may introduce new disciplines and innovations in the economy, but such benefits will not happen overnight. Meanwhile, access to finance going forward has tightened as lenders perceive greater risks in Ethiopia's ability to repay.[1]

One hopeful glimmer appears in Ethiopia's textile sector. Over the past decade, production in garments, leather goods, and footwear have presented an opportunity to raise Ethiopia's export income, grow its manufacturing base, and gradually develop complementary industries. To support this emerging sector, Ethiopia has built new industrial parks around the country dedicated to hosting textile and other manufacturing activities. But early expectations of higher exports, more jobs, and transfers of know-how and technology have gone largely unmet owing to roadblocks in the country's logistics and transport, inadequate power infrastructure, burdensome bureaucratic requirements, and the challenges of coaxing young rural farmers to leave their traditional lifestyles and adopt radical new roles in urban settings.

Beyond the present challenges, two larger factors overshadow much of Ethiopia's short to mid-term growth path. The first is the global economic shock resulting from the ongoing COVID-19 pandemic. As worldwide consumer demand plummets, markets for Ethiopian products overseas have contracted, choking Ethiopia's foreign earnings, critical for importing valuable inputs and repaying foreign denominated debts. Similarly, Ethiopian Airlines, the country's most successful SOE, has watched passenger and freight transport decline in the face of travel restrictions and crashing markets. Access to finance has tightened even further as investors flee from risk and political and economic pressures among donor countries potentially threaten aid.

The second factor, Ethiopia's vulnerability to political and ethnic division, is fraught with existential significance. The country has long struggled to balance interests among its rival ethnic regions, particularly among the Amhara, Oromo, and Tigray populations. The 2018 election of Prime Minister Abiy Ahmed, followed by unprecedented new freedoms in the press and political activity, unbottled decades of pent-up resentments and demands for representation and resources. In its most tangible instance, the Sidama people voted in 2019 to break away from Ethiopia's larger catch-all Southern Nations, Nationalities, and Peoples Region (SNNPR) and declared their own, autonomous region. Threats to Ethiopia's federation have also surfaced from more radical separatist elements, manifesting in political assassinations, ethnic and religious unrest, and riots in the capital Addis Ababa and throughout the countryside. The turmoil has provoked forceful military responses from the Abiy government, and renewed restrictions on internet access, news, and social media activities. Meanwhile, repeated delays of national elections, primarily due to COVID-related logistical challenges, have nonetheless raised suspicions of authoritarian creep.

Binding constraint to growth: the shortage of foreign exchange

Based on MCC's analysis of Ethiopia's economy and the results of diagnostic tests, the main binding constraint on the country's economic growth is the shortage of foreign exchange (forex). The forex shortage chokes output in nearly all sectors of Ethiopia's economy. Import-dependent businesses, in particular, incur losses, experience lengthy stoppages, and close frequently due to the difficulty of purchasing raw materials,

[1] In response to Ethiopia's promising steps towards economic reform, in January 2020, the World Bank and IMF awarded it an aid package consisting of $6 billion of concessionary loans and grants

intermediate inputs, and spare parts necessary for operations. Stakeholder interviews repeatedly emphasized the time and opportunity costs associated with securing forex and the government's unpredictable prioritization and allocation of forex uses.

A variety of signals point to the forex shortage as a binding constraint to Ethiopia's growth. In the summer of 2019, the black market rate for U.S. dollars exceeded the official rate by 50 percent, reflecting the urgent demand among firms for foreign currency. Surveys and interviews reveal that the constraint has pushed import-reliant businesses to halt production and even close their doors. Other firms have adapted by either sourcing inputs domestically, entering export markets for the sole purpose of obtaining forex, or traveling abroad to purchase inputs and paying steep import duties upon re-entry. Additional reports reveal that firms exert greater pressure on government offices for forex access, whether through lobbying or bribes. Not surprisingly, most surviving import-dependent firms are state-owned enterprises with preferential forex access, firms operating within government-designated priority sectors, and foreign-owned firms with independent access to forex.

The root cause of the forex shortage is Ethiopia's currency regime which overvalues the Ethiopian *birr* against the U.S. dollar. Ostensibly intended to facilitate Ethiopia's economic transformation process, the policy strengthens Ethiopia's overseas purchasing power, making raw materials and machinery, critical to building the country's infrastructure, more affordable. But the currency regime also drives a wedge between the quantities of forex demanded and supplied, resulting in a shortage at the official rate. Moreover, sustaining the exchange rate in international currency markets also requires rationing domestically-held foreign currency, resulting in allocative inefficiencies and costly wait-times. As a side note, the overvalued currency also harms Ethiopia's export competitiveness by pricing its goods artificially high, particularly in competitive, internationally-traded commodities such as coffee and textiles.

Exacerbating the forex shortage are Ethiopia's inefficient and loss-making state-owned enterprises (SOEs). As alluded to above, years of poor management and low productivity across a variety of sectors have resulted in ballooning foreign-denominated debts, leaving state-owned banks to cover the losses. Apart from the burden of repaying these obligations with interest, these liabilities ultimately worsen Ethiopia's consolidated fiscal deficit, and pressure has grown on Ethiopia's external balance.

Meanwhile, exports of goods and services are Ethiopia's main source of forex earnings, and recent years have witnessed a mixed performance. Overall, exports have risen about 50 percent over the past ten years, reaching $7.6 billion in 2019, owing almost entirely to success in transportation services in the form of Ethiopian Airlines. But after peaking in 2014, Ethiopia's goods exports have fallen by one-fifth to about $2.5 billion. Low productivity explains part of Ethiopia's export struggles, but its undiversified export basket of primary commodities, already disadvantaged by the overvalued exchange rate, also suffers from volatile and falling global prices, particularly in coffee. Burdensome regulations and pre-20th century systems of tracking, certifications, and licensing add further costs. Ultimately, without growth in Ethiopia's exports, forex earnings will not keep pace with the country's demand for imports.

Other Constraints Considered

Following forex, the nearest binding constraints on private sector investments are Ethiopia's power generation and distribution and its access to finance. Ethiopia relies primarily on hydropower to generate its electricity, but the growth of its population has outpaced the country's generative capacity. Networks to

distribute that power, furthermore, either remain incomplete or have degraded due to poor maintenance. These conditions result in low availability and frequent outages which interrupt production and raise costs for firms which rely on a steady, predictable power supply. Recent developments offer hope that these constraints may be relaxing soon. The Grand Ethiopia Renaissance Dam, currently nearing completion, promises to alleviate much of the power generation constraint, and the Ethiopian government has dedicated resources to supply power to its industrial parks to ensure uninterrupted access for its budding manufacturing sector.

Access to finance— this refers to a firm's ability to access financial markets to undertake investments and other operational requirements— also appears as a prominent obstacle based on private sector feedback. Ethiopia's banking sector has operated under onerous regulations, the greatest of which was a government bond purchase requirement equal to 27 percent of a bank's private loans. While such bonds eventually mature and get repaid, the up-front diversion of the capital to non-market driven government spending constrains the supply of loanable funds to the private sector. Additional restrictions governing foreign-owned banks, deposit reserves, and collateral further curtail access. Finally, the state-owned Commercial Bank of Ethiopia, the largest holder of deposits in the country, dominates the banking sector, discouraging private sector innovation and risk-taking. Reforms to Ethiopia's banking sector have gradually begun, however. The bond purchase requirement was lifted in late 2019, and recent evidence from private banks suggests a new willingness to tailor products to traditionally underserved small and medium enterprises.

The analysis also touched on other possible constraints, including transportation and logistics, human capital, and land use, as well as general issues related to government performance. While problems certainly exist across these dimensions, the analysis observed trends towards improvement or judged their impact to be comparably small.

Conclusion

The country team identified Ethiopia's shortage of foreign exchange as the top binding constraint to the country's economic growth. Additional, though less binding, constraints appear in the power sector and access to finance. As Ethiopia struggles to manage its external debts, new pressures and incentives will likely encourage the country to accelerate its currency's devaluation and introduce greater market disciplines into its sprawling SOE-dominated economy. Evidence to date shows a gradual *birr* devaluation, about 12.5 percent over the first eight months of 2020, but so long as distortions remain, shortages will persist. In addition to currency reform, tentative steps to privatize certain SOEs and efforts to accede to the World Trade Organization signal the government's interest in ushering the country's economy onto the global stage. These positive signals notwithstanding, Ethiopia still faces a raft of economic and political challenges that can disrupt its early progress. Conflict and strife rooted in ethnic tensions will continue to occupy the government's attention and potentially raise the stakes of risky reforms to SOEs that stand to create winners and losers

Acknowledgements

This CA builds on previous work including USAID's 2014 report, a parallel constraints analysis by Harvard University's Center for International Development, and research by Dalberg International. This CA's team also benefited from conversations and consultations with three important groups: (1) the staff of several Ethiopian ministries and government agencies, particularly our early counterpart in the Ministry of Finance, Ato Kokeb; (2) representatives of the Ethiopian private sector, to better understand the constraints they

perceive in starting, operating, and expanding their businesses; (3) a variety of non-governmental organizations and foreign donors whose observations helped shape our own views. See Appendix 1 for more details on the CA process. The team thanks all participants for their cooperation and openness in sharing information that was vital to drafting this report.

II. Introduction

The Millennium Challenge Corporation (MCC) Board of Directors (the Board) selected Ethiopia for a Threshold Program (THP) in December 2018. The Board's selection recognized that under the leadership of Prime Minister Abiy Ahmed, Ethiopia has embarked on unprecedented political and economic reform, shifting from a one-party, state-led model of development to a more democratic system with a greater role for the private sector. The moment provides MCC with an opportunity to support policy and institutional reforms in Africa's second most populous country and eighth largest economy. But notwithstanding Ethiopia's early successes, ethnic violence, separatist movements, and the internal displacement of millions of inhabitants threaten the country's long-run progress. The emerging global COVID pandemic, meanwhile, looms over the country's economy and has repeatedly led to delays in parliamentary elections, straining Ethiopia's fragile ethnic federalist system.

As a first step in designing a Threshold Program, MCC prepared this Constraints Analysis (CA), in consultation with Harvard University's Center for International Development and counterparts in the Government of Ethiopia, to survey the performance of Ethiopia's infrastructure, banking, macro-economy, human capital, and economic policies and governance. See Appendix 1. Through data collection, a literature review, stakeholder interviews, and a series of empirical tests derived from Haussman, Rodrik, and Velasco's *Growth Diagnostic* (HRV, 2005), the CA identified specific bottlenecks constraining private investment in Ethiopia.

The results of the analysis point to Ethiopia's shortage of foreign exchange (forex) as the primary binding constraint. The forex shortage severely limits firms' abilities to import critical inputs necessary for production, expansion, and exports, depressing private investment and ultimately harming the country's growth. It is the proximate cause of Ethiopia's recent growth slowdown and lagging performance in the government's Growth and Transformation Plan. Secondary, less binding constraints are Ethiopia's unreliable access to electricity, which interrupts production, particularly among Ethiopia's critical, forex-earning export manufacturers, and access to finance which poses sizable obstacles to investment, especially for small and medium enterprises (SMEs).

This report presents an overview of Guatemala's economy and society, summarizes the main findings of the CA, outlines and explores the binding constraints in greater detail, and dedicates a brief section to other aspects of the economy judged to be less- or non-binding.

III. Overview of the Ethiopian State and Economy

The political economy of present-day Ethiopia consists of two conflict-dynamics: (1) long-simmering rivalries among geographically-separated ethnic groups competing for national influence and resources, and (2) the increasing friction between the "development state" model of economic management and modern, capitalist forces and global connectivity. Operating in the background and shaping these two conflicts is the persistent legacy of Ethiopia's historically repressive, hierarchical state apparatus.

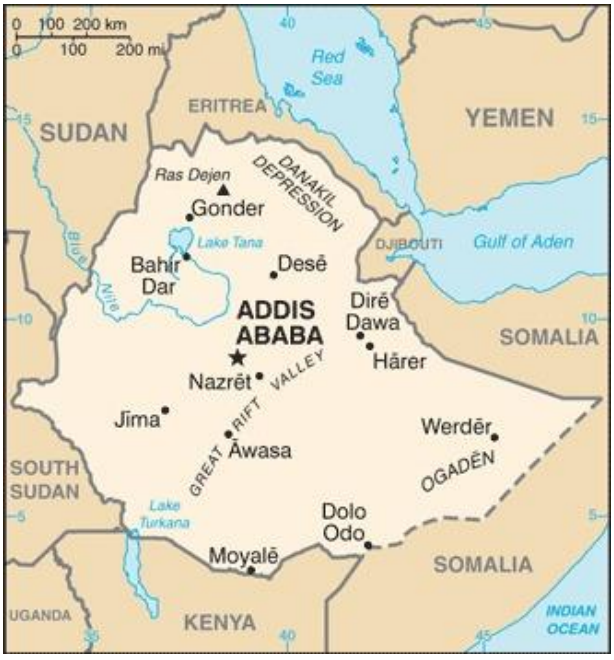

Figure 1 Map of Ethiopia.
Source: CIA World Fact Book

Building a Multi-Ethnic State[2]

Situated in the Horn of Africa (Figure 1), Ethiopia's record of empire and state-building stretches back for millennia. The ancient Kingdom of Aksum, a merchant economy situated along shipping routes between Rome and Asia, originated in the fertile highlands of Northern Ethiopia and Eritrea, and at its peak, extended across parts of Somalia, Sudan, and Yemen. Enduring for nearly 900 years, the Aksumites were among Christianity's earliest adopters, and centuries later, offered refuge to Islam's first believers escaping hostile Arabian tribes, foreshadowing the country's religious diversity. By the end of the first millennium AD, the Kingdom had faded, but beginning in the 13th century, its Amharic-speaking descendants established a new monarchy, and over time, extended their rule over neighboring populations, including Oromos, Tigrayans, Somalis, and a mélange of smaller ethno-linguistic groups throughout the country's South. Over the ensuing six hundred years, the empire forged alliances and contended with threats from near and abroad, while expanding and consolidating control across the Horn of Africa. By the turn of the twentieth century, however, its strength and influence had mostly waned, and Ethiopia amounted to a collection of fiefdoms.

In 1930, Ethiopia coronated a new emperor, Haile Selassie, an Amhara who claimed a lineage tracing back to the ancient Aksumites and the biblical King Solomon. Selassie signaled the desire to open a new chapter of political and economic modernization, reviving hopes for the country's development. Progress halted, however, owing to fascist Italy's invasion and occupation from 1936 to 1941. Exiled from his country, Selassie issued a famous appeal for support from the League of Nations, and with the assistance of British allies, Ethiopia regained its independence. But while his country's international profile grew, Selassie's domestic reform agenda continued to stall due to resistance from the country's landed nobility. Human rights abuses, failed harvests, and economic crises further eroded the Emperor's popularity. Conditions

[2] Much of the information drawn for this section comes from Guilain Denoeux's 2019 report "Perched Between Promise and Foreboding: A Political Economy Analysis of Ethiopia" and Library of Congress publication from 1993 entitled "Ethiopia: a Country Study."

worsened to the point that a group of low-ranking army officers, upset about pay and benefits, seized the opportunity to overthrow the Emperor in 1974 and ushered in the period of the Derg regime.

The Derg, under the command of Mengistu Haile Mariam, upended Ethiopia's monarchical structure, violently purged the country's political elites, and over a two year span, murdered hundreds of thousands of perceived enemies in an episode dubbed the Red Terror. The regime imposed a new, radical Marxist ideology upon the population, nationalized land, resources, and firms, and in a particular affront to cherished religious tradition, disestablished Ethiopia's Orthodox Church. Bouts of civil conflict periodically erupted over the course of fifteen years as the population bristled under the regime's heavy hand, while devastating famines repeatedly afflicted the countryside. In 1991, opposition crested as a new entity, the Ethiopian People's Revolutionary Democratic Front (EPRDF), led an insurgency and ousted the Derg. In the process, Eritrea, which had fought alongside the EPRDF against the Derg, declared its independence, and Ethiopia soon became landlocked.

The EPRDF, an umbrella alliance of four ethnically-based political parties, rapidly consolidated control over Ethiopia's institutions and penetrated the country's entire geography, down to the village-level. Critically, the party converted Ethiopia's unitary state into a republic of nine federated regions based on ethnicity, effectively overturning centuries of Amhara rule over the region. Instrumental to the EPRDF's formation was the Tigrayan Peoples Liberation Front (TPLF), which quickly rose to dominance within the organization. Tigrayans, who account for only about 6 percent of Ethiopia's population, rapidly assumed control of the country's key military, economic, and government levers. Not surprisingly, this fueled resentments among the other member ethnicities, particularly the Amhara and Oromo.

The EPRDF brooked little dissent and signaled authoritarian instincts no different from their predecessors. In 2005, following a surprisingly unfavorable election result, the government violently clamped down on opposition leaders, media outlets, and demonstrators. The ensuing years saw dissatisfaction and unrest, due to both familiar ethnic rivalries and growing levels of youth unemployment, and by 2018, bubbling tensions forced the EPRDF to make historic concessions to the opposition, including the release of political prisoners and the closure of detention and torture centers. But these gestures, while positive, only emboldened public opposition, and ultimately, the party's chairman and prime minister submitted his resignation.

The Abiy Era

In a bid to defuse tensions, Oromo and Amhara parties within the EPRDF collaborated to unseat the TPLF-dominated leadership and appointed a new chairman and prime minister, a 41-year-old former intelligence officer from the Oromo Democratic Party, Abiy Ahmed. This action closed the chapter on 27 years of TPLF control within the EPRDF and thrust Ethiopia into a seemingly new era of uncharted political freedoms and economic liberalization. Abiy accelerated the release of political prisoners including jailed journalists, ended restrictions on the press, committed to privatizing state-owned enterprises (SOEs), and reached a historic rapprochement with Eritrea after decades of armed conflict. Political exiles returned home, and former armed rebels were forgiven. Abiy appointed prominent women to key positions in his cabinet and the Supreme Court. "Abiymania" surged as the new prime minister's popularity skyrocketed at home and abroad, climaxing in October 2019 when Abiy received the Nobel Peace Prize.

The honeymoon was short-lived, however. As controls on expression and organization relaxed, Ethiopia's political landscape rapidly fractured as invigorated ethno-political groups re-asserted their agendas. The EPRDF's traditional ethnic balancing act was tumbling, and extremists discouraged each ethno-party from

compromising. Assassinations of key Abiy-allied politicians and military officials in the summer of 2019 roiled the country and raised the specter of renewed instability and attempted coups. In the most substantive alteration to Ethiopia's federation, the Sidama people, inhabitants of the Southern Nations, Nationalities, and Peoples Region (SNNPR) voted for self-determination and formed an entirely new region in the country. The example set by the Sidama raised concerns that the nearly fifty ethnic groups in the region could follow a similar path of disintegration, including secession. By the end of 2019, the EPRDF dissolved, and in its place, the new Prosperity Party emerge, composed of the same ethnic constituencies, with the conspicuous exception of Tigrayans.[3]

From Development State to Market Economy

Beginning with the Derg and throughout the rule of the EPRDF, Ethiopia's leaders managed the country's economy according to Marxist-style ideologies. Following centuries of aristocratic land holding, the Derg swiftly nationalized Ethiopia's resources and properties, returning vast agricultural lands to peasant control. While this appealed to many farmers, land ownership now rested with the state, effectively removing all market incentives for its productive use. Farmland quickly fragmented, investments in land improvements plummeted, scale economies vanished, and agricultural production consequently suffered. Meanwhile, important sectors, such as transportation, energy, pharmaceuticals, agriculture, and banking, fell under the control of inefficiently-run state-owned enterprises (SOEs).

Throughout the 1990s, under the EPRDF, Ethiopia waged a campaign of state-managed infrastructure and economic development, a policy dubbed the "development state." The government invested in infrastructure, particularly in power generation and transportation, with the goal of jump-starting the country's transition from rural, subsistence agriculture to an urban, industrial economy. Ethiopia's SOEs, charged with leading this effort, relied heavily on imported raw materials and equipment for building dams, electric grids, roads, schools, and other infrastructure. These investments led to spurts of improvement in agriculture and various indicators of human well-being. But these imports, financed by overseas lenders, led to foreign-denominated, interest-bearing debts, adding pressure to the country's fiscal position. Domestic private sector activity, while not explicitly forbidden, operated within tightly circumscribed conditions and languished under a regulatory apparatus that was at once opaque, unpredictable, and even hostile to entrepreneurs and investors.

One component of Ethiopia's import-intensive development strategy was its exchange rate regime. Upon the gold standard's collapse in 1971, Ethiopia pegged its currency, the *birr*, to the US dollar at the rate of 2.30 *birr* to US $1 (Dagnew, 1992; Degefa, 2001). With the exception of a handful of punctuated devaluations, this exchange rate regime conferred stability on the price level of imports, critical to achieving Ethiopia's infrastructure goals. But the US dollar's gradual appreciation over time alongside Ethiopia's domestic inflation led to a sustained overvaluation of the *birr*, artificially raising its overseas purchasing power. Ethiopia's government, like many of its peer economies throughout Africa, exploited this

[3] Following the release of the Constraints Analysis results in late 2019, several developments have complicated Ethiopia's near-term outlook. The COVID-19 pandemic not only shocked the country's economy but also led authorities to repeatedly postpone elections originally scheduled for May 2020, a decision which provoked suspicion among the Prosperity Party's rivals as a power-grab. In defiance of the Abiy-led government, the Tigray region nevertheless held elections, raising new questions about the stability of Ethiopia's federal system. Meanwhile, the assassination of a beloved Oromo singer further inflamed already simmering ethnic tensions, provoked protests and violence- throughout the country.

overvaluation to obtain imports at low prices. But propping up the birr's value at the pegged rate required Ethiopia's central bank to spend dollars. As preserving its forex reserves was a priority, Ethiopia compensated by rationing any remaining currency to the private sector (Haile, 2019). This resulted in a slew of problems: frequent currency shortages, currency queues, inefficient currency allocation regimes, rent-seeking, fiscal deficits, and current account imbalances, all of which ultimately harm a country's economic growth prospects (Rodrik, 2008).

Beginning in the 2000s, debt-financed investments in infrastructure reached new highs, with public sector annual borrowing approaching 9 percent of GDP in recent years (CID, 2019). Currently, publicly-held external debt, *i.e.* overseas debt denominated in foreign currency, exceeds 30 percent of GDP, most of which, according to the IMF (2020), has gone to covering Ethiopia's rising import bills (**Figure 2**). But while these heavily financed investments helped achieve rapid economic growth, in some years reaching 10 percent annually, very little of that growth translated into actual gains in productivity.[4] Consequently, as Ethiopia reached the limits of its access to foreign-financed credit, GDP growth has diminished by 3 to 4 percentage points in the last several years.

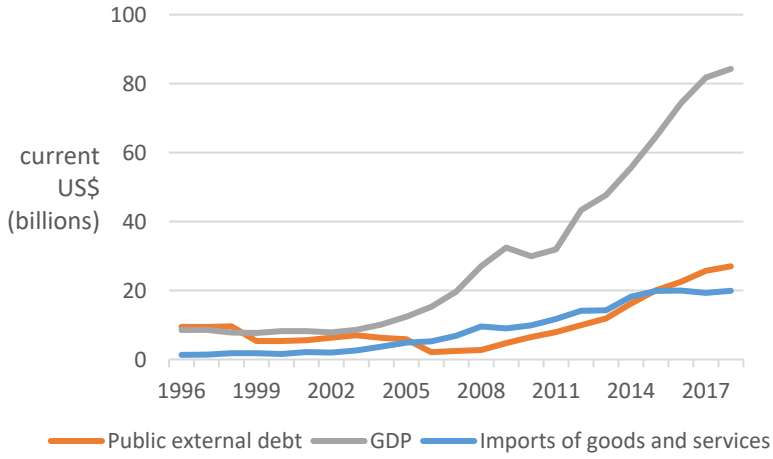

Figure 2 Ethiopia Public External Debt, Imports, and GDP.
Source: World Bank (2020a).

Recently, initiatives to relax Ethiopia's "development state" approach and introduce market forces into its economy have gained traction. As part of its Homegrown Economic Reform Agenda, Ethiopia has advanced plans for privatizing potentially lucrative but inefficiently operated SOEs, particularly in telecommunications and transportation, and its interest in reforming government's regulatory role has grown. For example, restrictions on Ethiopia's bank lending have loosened, easing access to credit for domestic borrowers, and new policies have created greater space for foreigners to hold equity in Ethiopian firms. Parallel to these reforms, Ethiopia has channeled large investments into the construction and operation of industrial parks throughout the country, geared towards efficiently connecting manufacturing firms—mainly in garments and leather goods, but also in food processing— to power, transportation, and

[4] Despite heavy investments in capital and infrastructure, total factor productivity growth outside of agriculture in Ethiopia has not risen since 2011 (PSI, 2020)

other infrastructure, with the goal of stimulating growth in jobs, incomes, and crucially, forex-generating exports.

Poverty, Growth, and Structural Transformation

Ethiopia's per capita income has grown rapidly over the last two decades, averaging around 6 percent annually (Figure 3).[5] In 2019, the total nominal gross domestic product of Ethiopia's economy was $96 billion, and its population was 112 million, sixty percent of which is under the age of 25.

Ethiopia's rapid growth, however, has only delivered relatively modest reductions in poverty. Over the period 1997 to 2016, every 1-percent rise in per capita GDP corresponded to a 0.19 percentage point reduction in the poverty rate, the lowest rate among its comparators (World Bank, 2020c).[6] For this reason, Ethiopia's per capita income hovers around $800 ($600 in year 2010 US$ terms). The country ranks 173rd out of 189 countries in the Human Development Index, a composite value that accounts for income, human health, and education. (UNDP, 2019). In 2015, the latest year for which estimates exist, almost one-third of Ethiopia's population earned less than the international poverty line of $1.90 per day (World Bank, 2020a). Nearly two-thirds fell under the lower middle-income poverty line of $3.20 (*Ibid.*).

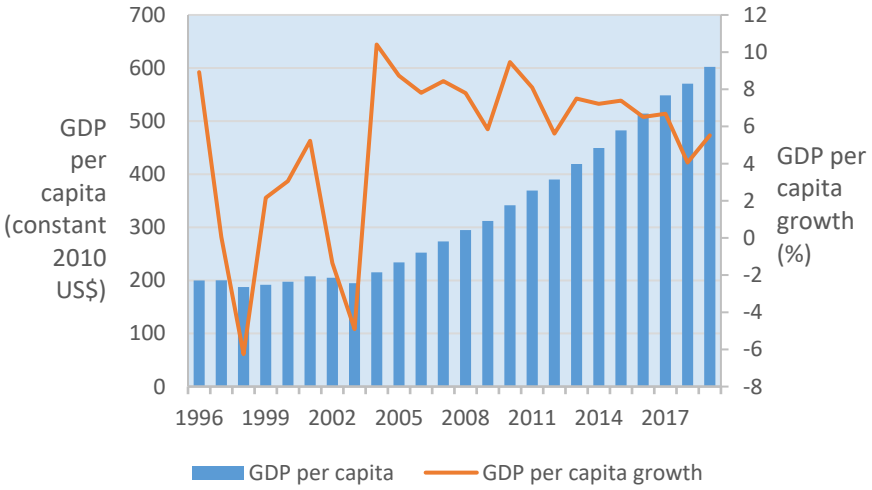

Figure 3 Ethiopia Gross Domestic Product Per Capita, 1996-2019.
Source: World Bank (2020a)

Growth incidence curves further reveal that consumption growth occurred unevenly across the income distribution, with the largest gains accruing to the highest two income deciles, and the lowest decile experiencing zero growth (World Bank, 2020c). Cutting the data along geographic lines, most beneficiaries of economic growth lived in Ethiopia's cities with annual consumption growth ranging from 3 percent to around 7 percent. In contrast, rural inhabitants in the lower half of the income distribution did not see their

[5] Ethiopia's economy overall grew much faster, around 10 percent per annum, but population growth absorbed much of these gains.
[6] World Bank (2020c) identifies Ethiopia's comparator nations to be Tanzania, Burkina Faso, Uganda, Mozambique, and Rwanda.

consumption grow more than 1 percent per annum (*Ibid.*). Consequently, Ethiopia's rural poverty rate (37 percent) exceeds the urban rate (14 percent) by 2.5 times (World Bank, 2020b). And while overall income inequality is not extreme relative to its peers, Ethiopia's Gini index value has steadily worsened, climbing from 0.30 in 2005 to 0.35 in 2015 (World Bank, 2020a).

Much of Ethiopia's poverty hinges on its rural economy, namely agriculture. Two-thirds of Ethiopia's workers are farmers, and agriculture accounts for about one-third of the country's GDP (Figure 4). Over the past two decades, investments in infrastructure and extension services have helped raise agriculture output and yields, particularly in cereals (Bachewe et al., 2018). Meanwhile, rising technology adoption, *i.e.* seeds and chemical inputs, has increased total factor productivity by about 1 percent annually over the past two decades (*Ibid*; Fuglie, 2019). This growth, particularly in cash crops, explains the bulk of Ethiopia's reduction in poverty over the past fifteen years (World Bank, 2020c). But Ethiopia's agriculture productivity gains, while impressive, began from a very low base, particularly in the aftermath of the Derg's destructive collectivization policies, leaving considerable room for additional growth. Today, sizable yield gaps persist due to challenges of land tenure, input use, and irrigation (Berhane et al., 2020; Baye, 2017; Bachewe et al. 2018).

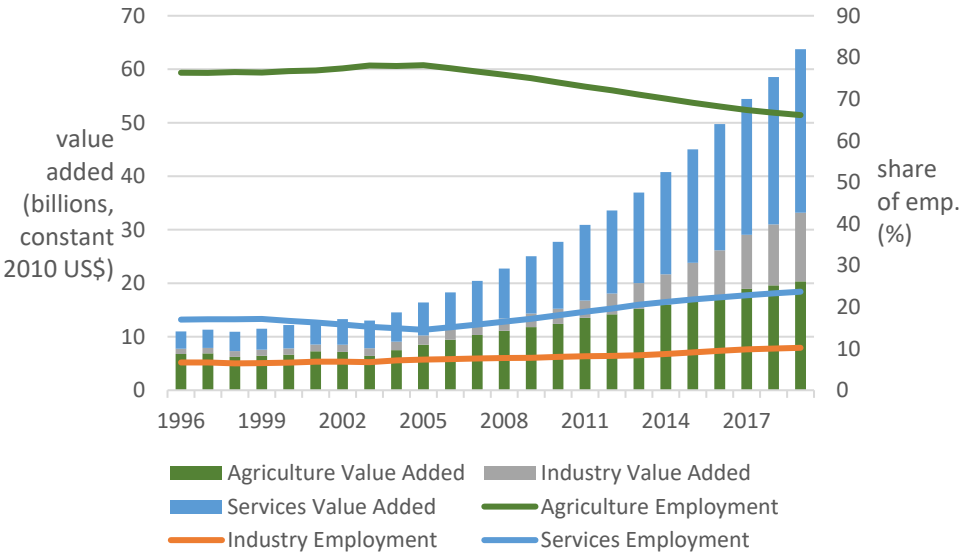

Figure 4 Ethiopia Sector-Specific Value Added and Employment, 1996-2019.
Source: World Bank (2020a)

Ethiopia structural transformation, the process by which an economy evolves away from traditional, subsistence agriculture and into modern, urban industrial activities, has stagnated for reasons outside of agriculture as well. The country's industrial sector, with its relatively small share of current GDP (25 percent) and employment (7 percent), has struggled to grow.[7] Today, most of the industrial sector consists

[7] According to the World Bank, "industry" consists of mining, manufacturing, construction, and public utilities. Within this category, manufacturing represents the activity in which the greatest value-added opportunities exist and the "completion" of the traditional structural transformation process.

of non-tradable construction activity—roads, power plants, buildings—often financed with external funds. Manufacturing, traditionally associated with successful structural transformation, currently accounts for just one-third of Ethiopia's industrial activity and has seen its share of the overall economy stall around 5-6 percent. Over half of manufacturing activity is food and beverage processing, a sector with upstream linkages to agriculture, but an emerging textiles and garment sector has attracted outsized attention due to its potential for technology transfer, export growth, and forex earnings. Meanwhile, rapid growth in the services sector now accounts for nearly half the country's GDP. But while this growth tracks with increasing urbanization, a hallmark of structural transformation, most of this sector remains informal, unskilled, and relatively unproductive (Schmidt et al., 2020).

Trade and Balance of Payments

Ethiopia's export sector, a key element of the country's recent 5-year Growth and Transformation Plan II, is small ($2.41 billion in goods, $4.92 billion in services in 2018) and undiversified (Figure 5). The value of goods exports, the bulk of which are agriculture and food commodities like coffee, sesame, and cut flowers, has flattened and even declined in spite of earlier rapid growth, in part due to falling international prices. Manufacturing exports have fared no better. Despite receiving tax breaks, cheap credit, and easy access to land, domestic manufacturers face a litany of obstacles to production. Chief among these are scarce forex for importing critical inputs and a political economy that discourages domestic financiers away from manufacturing, hindering firms from successfully competing in overseas markets (Siba and Gebreeyesus, 2017; Oqubay, 2019). Meanwhile, foreign manufacturers, lured to the country with cheap labor and industrial parks equipped with power, transportation, and other infrastructure, have struggled to take off thanks to frictions between foreign management and local workers (Oqubay, 2019). For these reasons and others, manufacturing exports, which peaked in 2013, have subsequently declined, currently accounting for less than 10 percent of all goods exports. In contrast, services have steadily grown, due primarily to the successful SOE Ethiopian Airlines and its regional cargo and passenger transportation.[8]

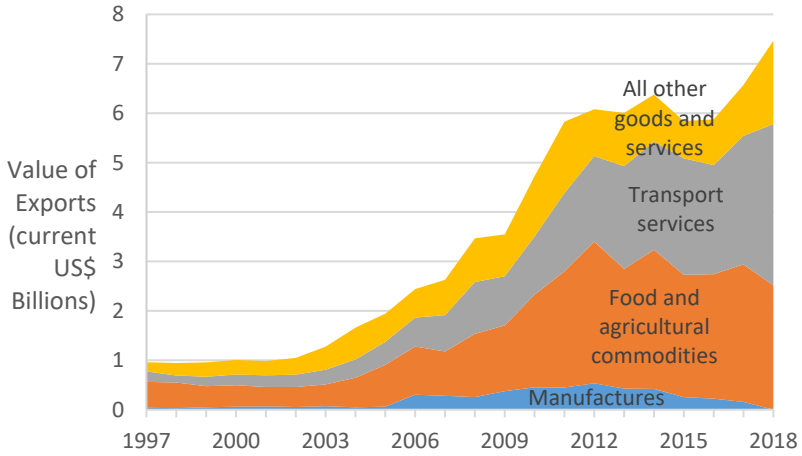

Figure 5 Ethiopia Exports, 1997-2018.
Source: World Bank (2020a)

[8] Ethiopian Airlines stands out among the country's state-owned enterprises for its success and growth. Reasons for its exceptional performance relate to the government's hands-off approach to management, allowing the firm to operate effectively as a private entity and without obligations to political or other concerns.

Weak exports have added pressure to Ethiopia's balance of payments. For decades, imports exceeded exports, often by a factor of two or more, a gap financed by remittances, foreign direct investment, and private, bilateral, and multi-lateral lenders. According to Ethiopia's Ministry of Finance (MoF), of the portion of imports financed with external debt, SOEs accounted for nearly half (MoF, 2019), and their opaque accounting and often politically-oriented objectives often resulted in waste and mismanagement, effectively dumping the burden of external debt repayment on Ethiopia's federal government and worsening its fiscal position. By the end of 2018, Ethiopia's external debt rose to around $27 billion, about 33 percent of GDP and equal to four times its exports, prompting an upwards adjustment to its risk rating that triggered new constraints on Ethiopia's foreign borrowing (IMF, 2018). Under these tighter credit conditions, public borrowing declined, relieving some pressure on the country's balance of payments, but also dampening Ethiopia's growth trajectory (MoF, 2019).

Vulnerable Populations: Displaced Persons, Youth, and Women

Compounding all the political challenges above are the disproportionate struggles and inequalities facing different segments of Ethiopian society. Most visible are Ethiopia's 1.8 million internally displaced persons (IDPs) (IOM, 2020). Armed conflict among rival ethnic groups directly led to 1.2 million displacements, but an additional 500,000 are due to drought and floods that harm livelihoods and food security (*Ibid.*).

Meanwhile, Ethiopia's demographics skew young—over half its population is under the age of 19— and as a result, the country faces a burgeoning youth labor force. Growth in Ethiopia's farm sector has helped absorb much of this expanding labor pool, and rapid service sector growth in urban settings has also created jobs. But youth unemployment in cities still remains high, currently around 20 percent (World Bank, 2017). And while the burden of unemployment among Ethiopia's rural youth appears lower than their urban counterparts, most of their labor is unpaid, e.g. work on family farms, and education outcomes for this segment lag far behind. As inheritances fragment farm plots and other land tenure constraints shrink the supply of land, many of Ethiopia's rural youth will migrate to cities in search of work, adding pressure to urban economies (World Bank, 2017).

More broadly, women in Ethiopia face significant barriers to opportunities generated by economic growth, despite recent legislations, initiatives and political appointments.[9] Women in Ethiopia experience high rates of unemployment, are less likely than men to be paid for their work, and are concentrated at the lower end of manufacturing and other value chains (Buehren et al., 2019). While women dominate the informal private sector—micro-enterprises are important survival strategies—Ethiopia's rate of female-owned enterprises in the formal sector is among the smallest in sub-Saharan Africa (*Ibid.*). Gender gaps in hourly wages, agricultural productivity, and business sales cost the Ethiopian economy a total annual loss of $3.7 billion to GDP (*Ibid.*). The unmet economic potential of women in Ethiopia links directly to gender disparities in education and health, harmful cultural practices, and the burden of family care.

[9] The amendment of the family law in 2000 called for fair wages, provided women the right to own and register property in their own names, raised the legal marriage age from 15 to 18, and gave women greater say over marital property and right to marital property in case of a divorce. The government also introduced a land certification law that mandates married women to be registered jointly with their spouses. The recently formed Agricultural Transformation Agency has been credited with promoting greater gender equality in agriculture.

IV. Binding Constraint to Growth: Shortage of Foreign Exchange

A variety of obstacles impede Ethiopia's economic growth. The legacy of its Marxist governance and political and ethnic tensions weigh heavily on the prospects for growth-friendly reforms, and economic barriers, including its landlocked geography, inadequate power generation, and its limited access to finance discourage private investment and firm growth. One factor, however, stands out for its acute effect on investors' abilities to establish, operate, and grow their firms, namely the shortage of foreign exchange (forex).

Ethiopian firms unanimously point to the shortage of forex as a constraint on their ability to purchase critical inputs from abroad. Missing inputs result in slowed or stalled production, delayed contracts, falling sales, worker layoffs, lower investment, and ultimately slower economic growth. Ethiopia's strategy for economic growth relies on increasing manufacturing activity and exports in particular. So long as such capital-intensive activities go without adequate machinery, equipment, and parts from abroad, the country's development goals will remain out of reach. For these reasons, the team judges the forex shortage to be the top binding constraint on private investment and economic growth in Ethiopia.

Origins of the Forex Shortage

Ethiopia's shortage of foreign exchange traces its origin to a long-standing currency regime that pegs the local *birr* to the U.S. dollar.[10] As described earlier, Ethiopia initially pursued this policy to stabilize its exchange rate, but over time, as the dollar appreciated against other world currencies, the *birr* gradually acquired greater overseas purchasing power. Domestic inflation, which averaged about 13 percent annually over the past 15 years, widened the gap between the currency's market value and its official exchange rate. Obtaining imports at artificially lower prices allowed Ethiopia to finance its infrastructure goals more affordably, import consumer goods more cheaply, and placate powerful economic interests.

To illustrate this gap in values, Figure 6 depicts the evolution of different indicators of Ethiopia's currency exchange rate. The US$-*birr* exchange rate (left axis) shows an 80 percent nominal depreciation over the period 1996-2019. Similarly, the nominal effective exchange rate (right axis), a composite index across a basket of currencies (year 2007 = 100) fell by about 70 percent. In contrast, the real effective exchange rate (right axis), an index which adjusts the nominal effective exchange rate for relative rates of inflation across currencies, rises by a stark 60 percent, revealing the effective upward valuation in the *birr* relative to its trading partners.

[10] More precisely, Ethiopia administers a "crawling peg" in which the birr is allowed to nominally devalue against the dollar by no more than 6 percent annually.

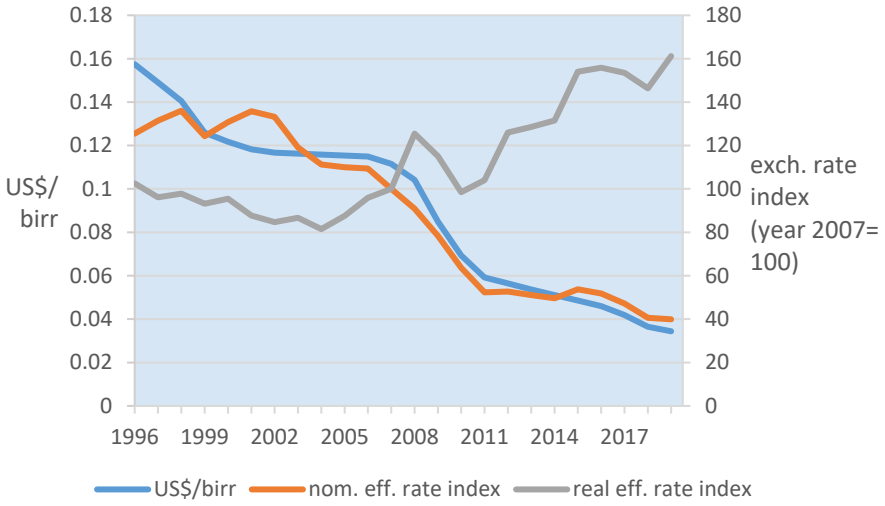

Figure 6 Ethiopia exchange rate indicators, 1996-2019.
Source: World Bank (2020a) and Bruegel (2020)

Under fixed exchange rate regimes, governments enter currency markets to buy and sell their own currency, shifting its supply or demand, until the desired rate is achieved. In Ethiopia's case, maintaining an overvalued *birr* effectively imposed a price ceiling on dollars well below the equilibrium market rate. Figure 7 depicts the end result, in which the quantity of dollars demanded exceeds the quantity of dollars supplied, *i.e.* a shortage of dollars. Black market transactions alleviate some of the shortage, but the principle remains: Ethiopia's overvalued exchange rate leads to a shortage of forex.

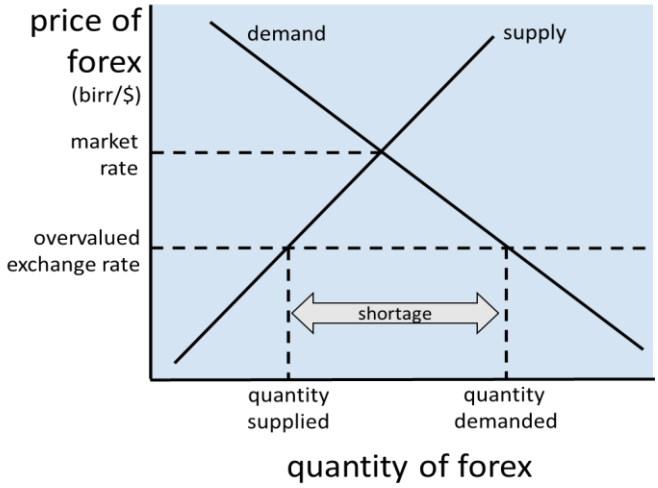

Figure 7 Market for forex (US$) under an overvalued fixed exchange rate regime

Ethiopia's state-owned enterprises (SOEs) exacerbate the forex shortage. As described earlier, SOEs frequently operate outside of market disciplines, mixing politics with profits. But thanks to their priority access to forex (see section *Effects of the Forex Shortage* below), SOEs' inefficient and wasteful operations

often squander their forex resources. Consequently, over the past two decades, many SOEs have accumulated large debts denominated in foreign currencies for which the Ethiopia government remains on the hook as it prioritizes allocating scarce forex to debt service and ahead of private sector import needs. Relatedly, to pay off debts in local *birr* currency, the Ethiopian government has resorted to "monetization" by effectively printing more money, which further debases the local currency's real value and widens the gap with the official exchange rate.

Ethiopia's trade imbalance also contributes to the forex shortage. Its export sector generates less than half the forex necessary to cover the country's import bill. As described above, Ethiopia's goods exports primarily consist of raw agriculture and food commodities that are vulnerable to swings in international prices. Unable to carry out domestic value-added processing, Ethiopia forgoes large portions of a finished product's overseas value. Ethiopia's manufacturing exports remain constrained by inadequate access to finance, a burdensome regulatory state, and, in a reflection of the problem's endogeneity, the lack of forex to import critical production inputs. Even Ethiopia's most promising investments in textile and leather industrial parks, occupied by foreign firms unencumbered by issues of finance and forex access, have failed to generate the volumes of forex the country desperately needs. Meanwhile, Ethiopia relies on imports for basic food commodities-- annual wheat imports over the period 2014-2018 averaged about $200 million-- and other processed foods as well as simple manufactured goods (Simoes and Hidalgo, 2011). For many of these goods, domestic production know-how exists, but logistical, bureaucratic, and final obstacles compel buyers to source overseas, spending precious forex in the process.

Effects of the Overvalued Exchange Rate and the Forex Shortage

While Ethiopia's overvalued exchange rate makes imports cheaper, its exports suffer due to higher prices upon converting to other currencies. Coffee, sesame, cut flowers, and manufactured goods, Ethiopia's most important goods exports, become more expensive in overseas markets, a consequence that harms the country's export competitiveness, particularly in homogeneous commodity markets that compete on price.

To maintain the overvalued peg, Ethiopia's central bank spends dollars from its reserves to prop up demand for *birr*. Beginning in 2008, Ethiopia began rationing currency for import purposes (Dorosh et al., 2009). Ethiopia identified firms within specific sectors, including fuel and pharmaceuticals, and SOEs involved in infrastructure-related activities, as priority forex recipients. Non-priority sectors and firms must wait in line for their turn to exchange currency, often for over a year (CID, 2019). This non-market arrangement has predictably led to inefficient currency allocations, rent-seeking, and a black market for dollars that pays a sizable premium over the official rate (Haile, 2019). Apart from rationing forex, Ethiopia also imposes forex surrender requirements on commercial banks and tight time limits on firms holding forex, policies which further constrain their operations. Banks are similarly forbidden from lending to non-priority sectors in foreign currency, adding further pressure to import-dependent firms (CID, 2019).

The shortage also disadvantages domestically-owned manufacturing companies versus their foreign-owned counterparts who easily access forex outside official Ethiopian channels. This harms home-grown efforts to invest in sectors critical to Ethiopia's economic development and job growth (Dorosh et al. 2009; Rodrik, 2008). Additionally, importers with privileged access to forex can obtain foreign-made inputs cheaply and undercut locally-made substitutes, eroding Ethiopia's domestic production capacity. More broadly, across many countries, overvalued exchange rates and the resulting forex rationing ultimately harm economic growth and worsen income inequality (Rodrik, 2008).

Evidence of the Binding Constraint

As described above, a variety of indicators point to the forex shortage as a binding constraint to economic growth. The HRV growth diagnostics suggest four kinds of tests that can shine more light on the question: (1) Does the factor have a high shadow price? (2) Do changes in the factor result in changes in firm activity or growth in general? (3) Do firms attempt to by-pass the constraint to achieve their goals? (4) Do firms or sectors that are not intensive in the factor thrive relative to others?

High Shadow Price

Prices signal the scarcity of a resource, and forex is no different. Firms unable to access forex to import critical inputs for their production often turn to Ethiopia's black, or parallel, market. This option for forex has existed for years (Degefa, 2001; Dorosh et al., 2009), but as Ethiopia's balance of payments position has steadily worsened and its access to international credit markets has dried up, forex has grown increasingly scarce, widening the gap between the official and the black market rate. Beginning around 2011, the spread between the official and parallel rate was around 5 percent but has steadily grown over the years, reaching 30 percent in 2018 (Haile, 2019). By July 2019, the premium spiked to 50 percent (CID, 2019).[11] Engaging the black market, of course, is illegal and entails risks, as the government alternates between currency seizures and amnesties to motivate currency holders to surrender their dollars to banks. Presumably, the black market rate builds in these risks and, as such, also lies below the market equilibrium exchange rate.

Changes in Changes

As described earlier, Ethiopia's overvalued exchange rate likely harms its competitiveness in export markets. As the value of the birr has appreciated, goods exports, particularly in commodities for which margins are thin and little room for absorbing exchange rate fluctuations exists, are expected to fall, *ceteris paribus*. Evidence of such a link appears in Figure 8 which plots Ethiopia's average annual real effective exchange rate (REER) against its merchandise exports (as a fraction of GDP) for each year over the period 1996 to 2019. Ethiopia's merchandise exports during this time consisted nearly entirely of agricultural commodities with manufacturing goods ranging from 1 to 5 percent of GDP.

[11] On Facebook, one page entitled "Ethiopia Birr Black Market Exchange Rate" reports crowd-sourced updates on the black market rate for interested followers. According to the page, on April 12, 2020, the black market rate ranged from 40 to 43 birr/US$, while the official exchange rate was 33 birr/US$, reflecting a premium between 20 and 30 percent.

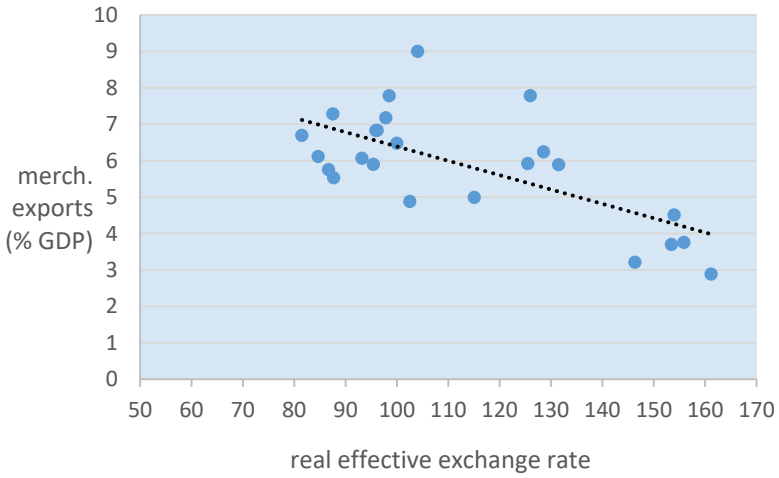

Figure 8 Ethiopia exchange rate valuation and merchandise exports (percent GDP), 1996-2019.
Source: Underlying data taken from World Bank (2020a) and Bruegel (2020)

From the plot, a downward sloping, statistically significant (*p*-value < 0.001) line fits the relationship between the two variables, evidence that appreciation in the REER is plausibly associated with lower merchandise exports.[12] While this simple plot is only suggestive—additional controls are necessary to account for correlated explanators—it offers a useful initial impression that Ethiopia's currency overvaluation harms its exports.

Published econometric studies show that a 1-percent devaluation in Ethiopia's exchange rate correlates with higher exports (0.52 percentage points) and higher real GDP growth (0.23 percentage points) (Nguyen, 2014). In an extension of this analysis, Haile (2015) disaggregated exports into manufacturing and agriculture and reports disproportionately large effects on manufacturing, a result confirmed in larger cross-country settings. In another study based on firm-level data, a 1-percent *birr* depreciation is associated with a rise in export volume of 0.36 percent and manufacturing, specifically, of 1.18 percent (Mengistu et al., 2017). Depreciation also aids new firm entry and export diversification as firms across a wider swathe of sectors encounter profitable opportunities enter the export space (Molla and Berihu, 2019; Wondemu and Potts, 2016).

In light of Ethiopia's highly overvalued exchange rate presently, these estimated effects translate into very large impacts on the country's export position and growth trajectory. In short, evidence strongly suggests that movement in Ethiopia's exchange rate can drive changes in firm-level exports, total exports, and overall GDP growth. One caveat bears consideration: Depending on the price elasticities of import demand and export supply, the short-term effects of a devaluation may in fact harm the trade balance as the export response takes longer to materialize while import costs immediately rise. Known as the J-curve, the trade balance recovers gradually over the long-term, as suppliers and buyers eventually reallocate resources in response to the new price signals.

[12] The estimated coefficient is -0.04 and its t-statistic is -4.24. Interpreting the results, a 10-unit appreciation in the real effective exchange rate is associated with a 0.4 percentage point decrease in manufacturing exports share of GDP. Variation in the REER explains nearly half the variation in merchandise exports (R-square = 0.45).

Bypassing the Constraint

For firms unwilling to wait their turn in line for forex, several alternatives exist. As discussed earlier, firms can buy forex in the black market. But meetings with stakeholders in country revealed other strategies to either reduce the need for forex or obtain it through complex schemes. For example, where feasible, firms have gradually sourced their inputs domestically, though this may entail additional costs and delays. In other cases, firms establish offshore accounts into which foreign contacts (e.g. Ethiopian diaspora) can deposit forex which firms then use to finance imports. Estimates suggest around half of all remittances to Ethiopia arrive through unofficial channels (CID, 2019).[13] In other instances, firm owners may travel abroad to purchase their inputs and personally carry them back into the country, electing to pay import fines to guarantee their business' uninterrupted operations. And not surprisingly, rent seeking behavior is on the rise, as firms compete for favors from policy makers in control of determining forex access (CID, 2019).

In more extreme cases, some firms obtain domestically grown coffee, sesame, soybeans, and other agricultural commodities and sell them in foreign markets, often at a steep discount, solely for the purpose of acquiring the forex to apply towards their core business. Frequently, the culprits are traders who import consumer goods that can be profitably resold in local markets. Such currency arbitrage through the cannibalization of exports has the perverse effect of undercutting Ethiopia's traditional agriculture grower-exporters, and in an ironic twist, depriving the country of the full forex value of its exports. During stakeholder interviews with the country team, one of Ethiopia's largest coffee grower-exporters reported observing coffee discounts ranging anywhere from 1 to 7 percent, sizable amounts considering the razor-thin profit margins of raw agricultural commodities. Other estimates reach as high as 20 percent (CID, 2019). The case of sesame is similar. In September 2019, FOB Djibouti export prices were 17 percent lower than prices recorded at the Ethiopian Commodity Exchange (ECX) (FAS, 2020). In the year leading up to September 2019, sesame's average Djibouti-ECX price spread approached 10 percent. In response to these issues, government has cracked down on commodity hoarders, revoked export licenses, and forbidden export sales at prices below international levels. While well-intentioned and potentially effective, this measure has also had the unintended consequence of adding more burdensome paperwork requirements, namely documenting each sale's profitability, on the very same exporters who initially voiced their complaints.

Performance of Non-Forex Intensive Firms

If the forex shortage is indeed a binding constraint to growth, a testable hypothesis is whether sectors and firms not intensive in imports and consequently unencumbered by forex requirements, account for a greater share of both Ethiopia's economic growth and size. Services fit this description more so than other sectors, since it uses relatively fewer physical inputs for production, and as such, relies less on imports and forex to operate.

Ethiopia's service sector, led by communication and transport services, hotels and restaurants, as well as wholesale and retail trading, has grown rapidly in the last decade, accounting for nearly 50 percent of the

[13] One common channel is physically carrying cash directly into the country, often through airports. Ethiopia requires travelers to declare large sums of foreign currency when entering the country and depositing it immediately in a bank. But given the levels of traffic and the difficulties of monitoring, enforcement is spotty.

country's overall GDP growth, vastly outpacing agriculture (21 percent) and manufacturing (7 percent).[14] Consequently, services now occupies the largest share of the economy. As a first pass at the data, Figure 9 shows how much of that share may owe to the forex shortage, by plotting variation in the real effective exchange rate (REER) over the period 1996 to 2019 against the corresponding yearly GDP share of these three sectors. As the exchange rate's valuation rises—a condition which worsens the forex shortage—economic activity appears to shift into import-light services. In contrast, agriculture's share appears to decline in the face of REER appreciation possibly due to the heightened difficulty in obtaining inputs from abroad (e.g. machinery, fertilizer) or the competitive impact of the overvalued exchange rate on crop exports. Meanwhile, manufacturing's share appears unresponsive, perhaps simply because it has no appreciable room to decline.

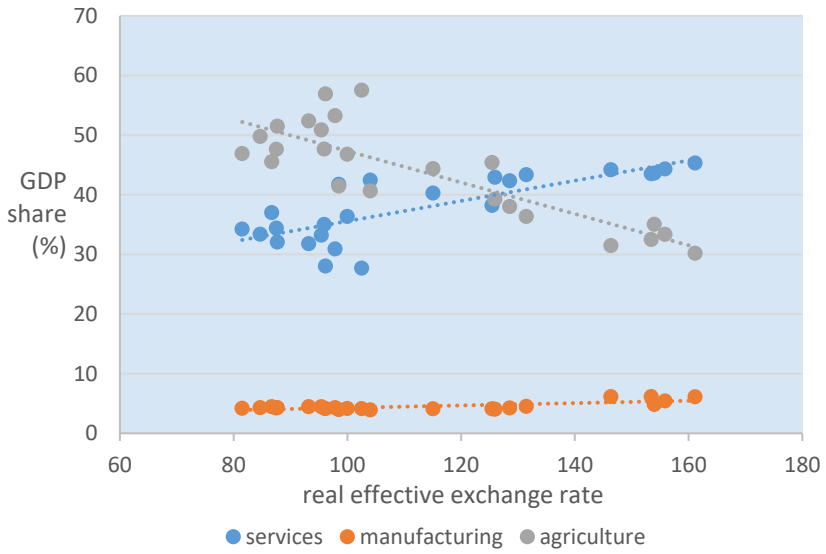

Figure 9 Ethiopia Real Effective Exchange Rate and Sector Shares of GDP, 1996-2019.
Source: Underlying data taken from World Bank (2020a) and Bruegel (2020)

Conversely, a small fraction of import-intensive firms manages to succeed precisely due to their privileged access to forex. Firms located in Ethiopia's industrial parks, mostly garment and leather goods factories, report little trouble securing the forex necessary for importing equipment and supplies. Such ease of access owes entirely to their foreign ownership which supply forex to their Ethiopian operations independently of Ethiopian channels. Meanwhile, Ethiopian SOEs also enjoy priority access to the country's forex supply by virtue of their involvement in top-tier sectors (e.g. construction, transportation) and close relationships with the Commercial Bank of Ethiopia.

Gender and Social Inclusion Considerations

Women in Ethiopia own nearly 40 percent of food and beverage production, 10 percent of textiles, and 17 percent of import-dependent wholesale and retail businesses. Accordingly, forex shortages and an

[14] The World Development Indicators' all-encompassing "industry" sector includes not just manufacturing but also mining, construction, and large public works projects including hydropower dams, railways, and roads. Since so many of these activities are publicly financed and unconstrained by the forex shortage, we limit the analysis to manufacturing, which is more heavily populated with private sector actors.

overvalued exchange rate inhibit a wide swathe of women-run firms and activities. Moreover, barriers facing women in accessing finance, particularly beyond microenterprise loans, threaten to diminish any share of the benefits from improving access to forex. Additional ethnic dimensions of forex access and credit merit attention since much of the formal banking sector and MFIs in Ethiopia is organized along ethnic lines.

V. Other Binding Constraints

Evidence suggests that power and access to finance constrain private sector investment and economic growth in significant ways. But recent and near-future improvements in each of these sectors are expected to relax these constraints measurably. For these reasons, the team judged these constraints to be less binding than the forex constraint. A heat map summarizing the evidence across the different factors, including the top binding forex constraint, appears in Appendix II.

Power

Frequent and prolonged power outages affect all sectors of Ethiopia's economy, harming productivity, employment, and export earnings (Abdisa, 2018; Carlsson et al, 2018). Ethiopia has embarked on an expansion of its generation capacity with projects slated for completion in the next couple of years, including the massive Grand Ethiopia Renaissance Dam. But the obsolescence of transmission and distribution infrastructure continues to compromise reliable supply. Part of the challenge relates to power companies' inability to import equipment for maintenance, upgrading systems, and fuel, all of which rely on scarce forex. As such, the forex constraint perpetuates itself, as export-oriented manufacturing firms, which rely heavily on consistent power supplies, struggle to produce, sell abroad, and earn the valuable forex necessary for maintaining their own operations.

Progress in extending rural access to electricity is on par with SSA and low-income countries. Overall, only 40 percent of Ethiopia's population has access to electricity (World Bank, 2020a). Rural populations account for much of this outcome, since nearly 100 percent of urban inhabitants enjoy some measure of access. Capacity, however, is very problematic as the demands of Ethiopia's rapidly growing economy and population go increasingly unmet. Both the 2015 World Bank Enterprise Surveys (WBES) and a 2017 UNDP survey of firms ranked electricity as among the top obstacles to conducting busines. From the WBES, the number of outages per manufacturing firm is higher in Ethiopia (2015) than comparator countries Kenya (2018), Uganda (2013), Mozambique (2018); although, Ethiopia appears comparable to Tanzania (2013) and SSA as a whole, excluding older surveys.

A variety of indicators point to unreliable access to electricity as a constraint on economic activity. Estimates suggest that Ethiopia's frequent and lengthy electricity outages raise production costs by 15 percent, and firm-level surveys reveal losses due to outages and greater dependence on self-generated power (Abdisa, 2018; Carlsson et al, 2018). Meanwhile, evidence shows firms increasingly substitute away from power-intensive capital investments in favor of labor. As a consequence, the composition of Ethiopia's manufacturing sector disproportionately favors micro and small enterprise activities, which rely relatively less on electricity-dependent capital. Even among households, the constraint is detectable with usage of low-load appliances, in spite of income levels that could sustain more electricity consumption.

Gender and Social Inclusion Considerations

Urban versus rural residence and variation in wealth drive differences in access to electricity. Nationwide, nearly 60 percent of female-headed households are connected to the grid, compared to about 27 percent of male-headed households. Female-headed households are disproportionately located in urban areas where access is nearly complete. Within urban areas, access to the grid is similar among male- and female-headed households. In rural areas, connection to the grid is higher for female-headed households (at about 24 percent) compared to male-headed households (15 percent). In general, the cost of electricity is not a widespread burden for households.

Finance

Ethiopia's government exerts a variety of controls over the banking sector that constrain firms' access to finance. Arguably the most distortionary intervention was the requirement for banks to purchase National Bank of Ethiopia (NBE) bonds equal to 27 percent of the value of funds loaned, a form of financial repression that effectively reduces the available supply of capital to private firms.[15] But while earlier World Bank Enterprise Surveys (WBES) cited access to finance as a top constraint among Ethiopia's firms, a more recent UNDP survey ranked access to finance below power shortages, forex, access to domestic raw material, and even internet access. WBES data also suggest that Ethiopia is not exceptional with respect to the low percentage of firms financed by banks. That said, questions of access remain. Since commercial banks generally serve Ethiopia's largest firms, and regionally-focused microfinance institutions (MFIs) tend to micro-scale enterprises, the needs of the "missing middle" of small and medium-size enterprises (SMEs) largely go unmet (Dalberg, 2019).

Ethiopia shows mixed signals of constrained access to finance. Savings rates have risen, increasing the supply of funds for lending, and as a result, private bank lending to the private sector has risen by 22 percent annually since 2014. However, firm-level surveys suggest the bulk of investments continue to be self-financed or served by the black market. Risk assessments remain challenging owing to the absence of credible risk-rating services, further curbing the flow of funds.

Gender and social inclusion considerations

Access to finance remains a critical barrier for women's economic empowerment. Barely a quarter of Ethiopians (26 percent) save money at financial institutions, and being female, rural, unemployed, and less educated decreases the likelihood of having a bank account. Trends since 2014, show that the gender gap in access to the formal banking sector is increasing; in 2017, only 20 percent of women, compared to 41 percent of men, had a bank account (Buehren et al, 2019). Women comprise 46.8 percent of microfinance institution clients. But women entrepreneurs have difficulty graduating from micro-finance institutions to commercial bank lending, which is characterized by high minimum loan sizes, higher interest rates, and burdensome collateral requirements. High failure rates among women-owned SME is due in part to the tendency of Ethiopian financial institutions to rely upon "relationship lending", basing credit analyses not only on borrowers' repayment track records, but their standing in the community, experience, and education. These factors work against women, who cannot easily penetrate the elite, male-dominated networks through which these relationships are built (Buehren et al, 2019).

[15] This policy was discontinued in early 2020 as part of a larger effort to loosen restrictions on finance.

VI. Non-binding Constraints Considered

Other constraints considered by the team, including transport and logistics, human capital, land, water and sanitation, and institutional and micro-risks also pose costs to firms but ultimately were judged to be non-binding. Again, recent progress across these factors has lightened their drag on economic growth.

Transport and Logistics

While not considered to be a binding constraint, Ethiopia's current state of transport and logistics performance impose an additional layer of costs to firms seeking to export and generate forex. Relative to its comparators, Ethiopia's transport and logistics rank poorly. The World Bank's Logistics Performance Index (LPI), a composite score based on infrastructure, timeliness, customs, and logistics quality, places Ethiopia last among its peers, nearly 30 percent below the LPI leader Kenya. Much of this outcome owes to Ethiopia's poor road quality and connectivity, for which the African Development Bank and the World Bank both report low scores. Meanwhile, Ethiopia's rail network also lags far behind its comparators, with the average rail density of its comparators exceeding Ethiopia's by more than twelve times. That said, the percentage of Ethiopian firms reporting transportation as a major constraint to doing business, around 8 percent, falls well below the average rate of 25 percent reported among its comparator countries. In the World Bank's Ease of Doing Business rankings, Ethiopia is about average for Sub-Saharan Africa on the Trading Across Borders score, which includes assessments of both internal transport costs plus the costs of documentary and border compliance.

Unit costs of inland transport are comparable to other countries. Compared to Kenya, for example, where the distance to port is shorter, the inland cost is about the same as for Ethiopia. Upon reaching the port, however, the story changes. Ethiopia's export transit time, 42 days, far exceeds its landlocked comparators Rwanda and Uganda, and is twice as long as China, Vietnam, and Kenya. Underlying these delays are not only the long inland distance to the Djibouti port but also the document preparation, port handling, and customs clearance processes, which are substantially longer and costlier than Ethiopia's comparators. Consequently, export container costs are higher than Kenya's, and two to three times higher than Bangladesh and Vietnam, Ethiopia's competitors in textiles and apparel. Meanwhile, imports suffer additional delays, insomuch as Ethiopian importers must pay their suppliers in foreign currency, an outcome which likely explains some of the difference between import and export customs clearance times, about 11 days. Research literature points to a link between expansions in transportation (e.g. roads, rail) on poverty reduction, consumption, agriculture production, and overall economic growth (Nakamura et al, 2019; Iimi et al, 2019; Dercon et al., 2009).

Human Capital

The last two decades have witnessed significant improvements in Ethiopia's formal education and literacy, two key indicators of its human capital. Currently, enrollment in primary education is around 100 percent, and secondary education has risen steadily to reach around 40 percent (World Bank, 2020a). And while tertiary education remains low at around 10 percent, it has also increased dramatically year-over-year in the last decade. Among Ethiopia's youngest citizens, literacy rates exceed 80 percent. Meanwhile, girls and young women account for a growing portion of these human capital improvements, to the point that, among Ethiopia's teenage cohorts, the gender gap in literacy and primary education has shrunk to nearly zero.

Data show that income's response to education at all levels (primary, secondary, and tertiary) over the past ten years has diminished or stagnated, suggesting that the supply of labor is growing at a faster rate than its demand. Mincer regressions estimated on data covering the period 2009 to 2015 show the percentage rise in income in response to completing a college degree fell slightly from 14.5 percent to 13.4 percent. This result implies that labor, particularly the present supply of highly skilled workers, appears not to constrain the ability of firms to produce and grow.

That said, interviews with stakeholders also suggest firms remain dissatisfied with elements of workforce quality. Certain "soft" skills, including teamwork, creativity, and initiative hamper firms' ability to innovate and grow. Weak linkages between universities and industry lead to some mismatch of skills with jobs, potentially stifling firm investment and limiting income growth among educated workers. Other concerns center on the level of human capital within government bureaucracies, namely the ability of policy makers to navigate and regulate a rapidly evolving and modernizing economy.

Gender and Social Inclusion Considerations

Despite Ethiopia's important progress, significant socioeconomic and gender disparities persist (Buehrens et al., 2019). Ethiopia's Ministry of Education (MoE) reports students in the poorest quintile of *woredas* complete the eighth grade at a rate 36 percent below the national average (MoE, 2019). In regions with high rates of early marriage and childbearing, including Afar, Somali, and Benishangul-Gumuz, girls grade school attendance is as low as 74 percent the rate of boys and girls secondary education attendance falls below 50 percent of boys, compared to 90 percent nationwide (*Ibid.*). Women comprised 38 percent of students entering tertiary education, but of these, only 25 percent complete their studies (*Ibid.*).

Land

In Ethiopia, all land is officially owned by the government, complicating certain endeavors of investment and management. Recent reforms to land policies, however, including one of the largest land certification campaigns in Africa around the turn of the last century, have introduced land use rights through long-term leases, as well as permission to rent, transfer of usage rights, and bequests. In addition, the government's introduction of industrial parks throughout the country has unlocked land for large, foreign-owned factories and other manufacturing and transport logistics activity. These reforms have notably coincided with the reduction in land constraints facing firms throughout the country, an outcome reflected in the World Bank Enterprise Surveys in which firms identified land as an obstacle 23 percent of the time in 2011 and only 4 percent in 2015. That said, land continues to account for the bulk of the government's dispute resolution activities, with processes often lasting many months, and Ethiopia compares unfavorably to its neighboring countries for its time and cost of transferring land between parties and the reliability and transparency of its administrative processes.

Gender and Social Inclusion Considerations

According to Ethiopia's constitution, women have rights to acquire, administer, control, use and transfer land or other property, and use it as collateral (World Bank, 2009). Local traditions, however, still favor men, who are likelier to inherit land, with older sons receiving the larger, more productive plots. Although current law provides for joint titling of land used or acquired by married couples as well as those in informal unions, women who are divorced or never married may end up landless, since most women obtain and keep

land through their marriages. Women's land rights are still contested in courts and in practice, particularly in Ethiopia's south (*Ibid.*).

Water and Sanitation

Ethiopia has abundant water resources. Moderate to high productivity aquifers underlie most of the country's territory. Over 90 percent of all water withdrawals, underground and surface, are for agricultural use, compared to the global average of 70 percent. Agricultural withdrawals, though high, are under 9 percent of available renewable resources. Despite these resources, much of Ethiopia's rural population faces challenges in terms of household access to safe drinking water and sanitation service utilization. Most gaps in service follow a rural-urban pattern, though recent investments in rural access over the last ten years have helped matters. In numerous surveys of firms, water insufficiency does not appear as a significant obstacle when ranked against other potential issues, though Ethiopian firms may report problems more frequently than regional peers. In the absence of absolute scarcity in much of the country, the technical cost of withdrawals primarily drives the price of provision.

Micro Risks

Micro risks pertain to the policies and conditions relevant to the appropriability of profits—taxation, protection of property rights, and business regulation. Ethiopia's performance across the different dimensions of micro-risk are far from ideal. The World Economic Forum's Global Competitiveness Index (2018) ranks Ethiopia 108 out of 148 countries surveyed, with an index score of 3.8 out of 7. Firms reported foreign currency regulations, corruption, access to finance, and inefficient government bureaucracies among the biggest problematic factors. The World Bank's Enterprise Survey (WBES) captures a similar set of indicators.[16] In 2019, Ethiopia ranked 159 (out of 190 countries) with an Ease of Doing Business score of 49.06 (out of 100), though recent years show a slight deterioration in Ethiopia's rank and score. Results from the most recent surveys appear in Table 1.

Table 1 Ranking Problems for Businesses in Ethiopia

Rank	**Enterprise Surveys** **2015**	**Global Competitiveness Index 2017/18**
1	Access to Finance (40.4%)	Forex Regulations (17.4%)
2	Electricity (10.1%)	Corruption (15.9%)
3	Customs and trade (9.9%)	Access to Finance (11.1%)
4	Tax rates (7.6%)	Inefficient Govt. (10.3%)
5	Corruption (7.1%)	Inflation (6.8%)

Source: World Bank Enterprise Surveys 2015, World Economic Forum 2017, 2013. Note: Percent reporting in parentheses.

That said, Ethiopia's major constraints fall within the range of outcomes observed in a set of comparator countries, albeit mostly on the lower end (Figure 10). In short, while Ethiopian firms struggle to cope with

[16] Based on the two most recent WBES, most firms in Ethiopia consistently point to access to finance as the biggest obstacle. No direct question on forex appears in the WBES, and as such, responses may have conflated access to forex and other types of finance.

the obstacles and threats to profitability, its outcomes are not exceptional among its economic and geographic peers.

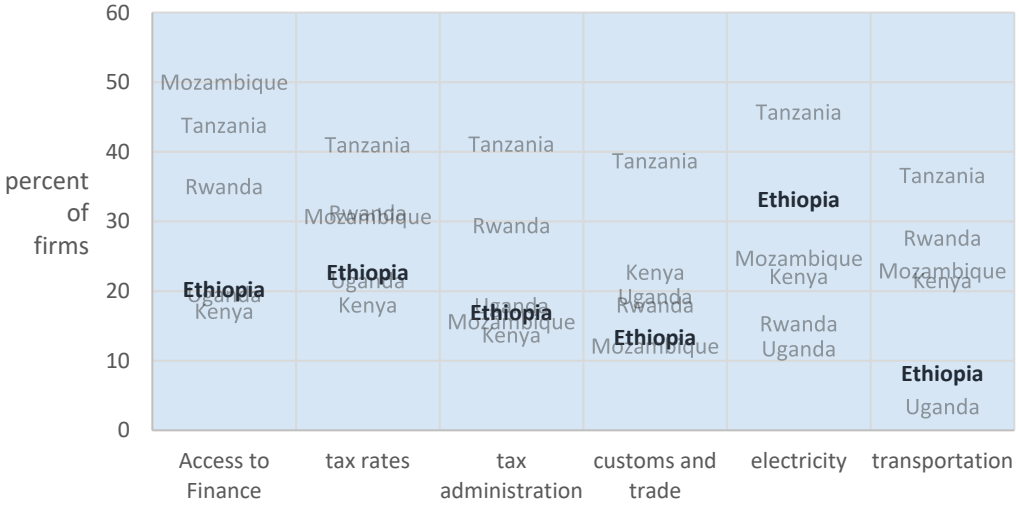

Figure 10 Major constraints cited by firms across comparator countries.
Source: World Bank Enterprise Survey, 2015.

Customs and Trade

Customs and trade constraints can often impede the international flow of goods. Outside of the general forex shortage, bank approvals to release forex are inconsistent and can take weeks to obtain. And Ethiopia's documentary compliance costs for imports are more than double those for SSA, and for exports are about the same as SSA but still five times higher than high income OECD countries. Border compliance costs are much lower than SSA.

Taxes and Tax Administration

Ethiopia collects inadequate tax revenue due to an inefficient tax system. The government has employed financial repression as a revenue mechanism in part to compensate for this inefficiency. Tax revenue as a share of GDP has declined sharply since 2012 as growth has slowed, evidence that tax burdens have likely not slowed growth. However, a relative fall in tax revenue may be a symptom of the growth (and import) slowdown a condition which will worsen the consolidated public sector deficit (CID, 2019).

Government Coordination

Overlapping and sometimes conflicting authorities across Ethiopia's government have led to complaints from firms that rely on the well-coordinated administration of regulations and procedures. This is particularly apparent among the entities involved in trade administration. While dissatisfaction with government coordination may be a frequently encountered complaint, it is not considered a binding constraint.

Corruption

Transparent and fairly applied rules of the regulatory environment are critical to the success of private firms' operations. When these rules are obscured or bent due to corruption, firms may elect to limit their

investment or exit the market entirely. Using the most recent data from the WBES, Ethiopia leads its comparators in the incidence and depth of bribery requests, but these outcomes do not appear out of line for countries at its income level. And while about 27 percent of Ethiopian firms report corruption as a major constraint to doing business, this is well within the range of its comparators, and as detailed above, only about 7 percent of firms cite corruption as their biggest obstacle. Meanwhile, less than 10 percent report the courts as a major constraint: the lowest value among the comparators. Based on these results, the present analysis flags corruption as problematic but not a binding constraint on private sector activity.

VII. Conclusion

The Constraints Analysis determines that Ethiopia's top binding constraint to private investment and economic growth is the shortage of forex. Without forex, Ethiopian firms, particularly manufacturers, cannot import machinery, supplies, equipment and parts necessary for their operation and growth. As part of Ethiopia's Homegrown Economic Reform Agenda, the manufacturing sector plays a critical role in creating jobs, raising incomes, generating exports, and increasing the country's capacity and know-how for production. Power and access to finance also bind on Ethiopia's growth, but to lesser degrees, and signals suggest imminent improvements in these two factors. Additional factors, including human capital, transport and logistics, land, and other micro risks were judged to be costly but not binding.

Recent packages of support from the World Bank and IMF have raised the possibility of reforming elements of Ethiopia's macro-policies, including relaxing its fixed currency exchange rate regime beyond the routinely incremental depreciations. Market and lender disciplines on Ethiopia's borrowing habits have also led to reduced borrowing, particularly externally, inviting Ethiopia to more quickly discharge its debt burden and confront the inefficiencies and distortions of its state-owned enterprises. Additional improvements in Ethiopia's financial sector, both recent and imminent, promise to further loosen lines of credit to firms eager to invest and grow.

Notwithstanding these positive signs, the economic shock resulting from the ongoing COVID-19 pandemic and the repeated threats to the country's federal configuration of power raise the specter of larger political trials to come. In the near-term, managing rival domestic interests in a budding democracy and shepherding a developing economy at once beset by Marxism's legacy, and modern capitalist forces will test Ethiopia's leadership and shape the coming landscape of conflicts and decisions.

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Appendix 1: MCC Constraints Analysis Process

MCC kicked off THP development in February 2019 with a visit by the MCC Head of Agency. The MCC Ethiopia THP team first traveled to Ethiopia in March 2019 to launch the constraints analysis (CA), meeting with dozens of Government of Ethiopia (GoE) representatives and stakeholders from the private sector and civil society. At MCC's request, the Ministry of Finance (MoF) established a technical team and a higher-level advisory panel to support and provide feedback to the CA. The technical team and the advisory panel are made up of representatives from the MoF, the Ethiopia Investment Commission, the National Bank of Ethiopia (NBE), the Ministry of Women and Children, the National Planning Commission, and the Ethiopia Chamber of Commerce, as well as economists from prominent think tanks and academia.

MCC conducted the CA in concert with The Growth Lab at Harvard University's Center for International Development (CID), who had already been engaged by USAID through a three-year cooperative agreement to produce a growth diagnostic and to strengthen the capacity of the GoE to diagnose and address constraints to economic growth. In order to accelerate the CA, MCC and CID agreed to refresh a growth diagnostic that was concluded by USAID in 2014.

The MCC team made another trip in June 2019 to collect more data and presented the major themes emerging from the CA to the technical team and the advisory panel. In September 2019, team members presented the findings of the Constraints Analysis to the advisory panel. The panel supported the findings, which are consistent with and likely informed the GoE recently-issued Homegrown Reform Agenda.

The MCC also commissioned a political economy analysis (PEA) to describe and analyze the historical legacies that continue to impact the country. It identifies the interests, incentives, resources, strategies, and relationships among key political and economic actors, including the formal and informal rules that govern interaction among them. In addition, the Finance, Investment and Trade (FIT) team engaged Dalberg to conduct a financial sector review and a productive sector analysis. These studies drew on in-country interviews with a wide range of stakeholders, including business owners, multinational corporations, development partners, government agencies, financial sector specialists, financial institutions and management consulting firms. The findings of the PEA and the Dalberg studies have supplemented and enriched the CA findings.

Appendix 2: Heat Map of Constraints

Rank	Factor	Diagnostic Test			
		High Shadow Price	Changes in Changes	Bypass the Constraint	Camels and Hippos[17]
1. Top Binding	Forex shortage				
2. Other Binding	Power				
	Finance				
3. Non-binding	Human Capital				
	Land				
	Transport & Logistics				
	Water, Sanitation & Health				
	Micro Risks				

Constraint Evidence Legend

Strong	
Mixed	
Weak/None	

[17] "Camels and Hippos" is a short-hand reference to firms that thrive in the absence of particular resources. Camels, for example, thrive in water-scarce environments, *e.g.* deserts. In the case of Ethiopia, this category of diagnostic captures firms that thrive in a forex scarce environment.