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KENYA
COUNTRY ECONOMIC MEMORANDUM

From Economic Growth to Jobs and Shared Prosperity

WORLD BANK GROUP

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Cover Photo: Peter Ndung'u

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ABBREVIATIONS AND ACRONYMS

AGOA	Africa Growth and Opportunity Act	MTP-2	Second Medium-Term Plan
AIC	Aggressive Infrastructure-based Composition	NBER	National Bureau of Economic Research
ASC	Aggressive Skill-based Composition	NFRK	National Fund of the Republic of Kazakhstan
BC	Balanced Composition	NSSF	National Social Security Fund
BIH	Bird-in-hand	OECD	Organisation for Economic Co-operation and Development
BPO	Business Process Outsourcing	OSHA	Occupational Safety and Health Act
BTI	Bertelsmann Foundation Transformation Index	PIH	Permanent Income Hypothesis
CPI	Consumer Price Index	PPP	Purchasing Power Parity
CPIA	Country Policy and Institutional Assessment	PWC	PriceWaterhouseCoopers
DSGE	Dynamic Stochastic General Equilibrium	R&D	Research and Development
EAC	East African Community	RBA	Retirement Benefit Authority
ECI	Economic Complexity Index	REER	Real Effective Exchange Rate
EITI	Extractive Industries Transparency Initiative	SACCO	Savings and Credit Cooperative Organization
EPZ	Export Processing Zones	SASRA	SACCO Society Regulatory Authority
ES-IM14	2014 Enterprise Survey Innovation Module	SAYG	Spend-as-you-go
FDI	Foreign Direct Investment	SEZ	Special Economic Zone
Findex	Financial Index	SSA	Sub-Saharan Africa
GDP	Gross Domestic Product	SWF	Sovereign Wealth Fund
GNDI	Gross National Disposable Income	TFP	Total Factor Productivity
GNI	Gross National Income	TOT	Terms of Trade
GPNs	Global Production Networks	UMICs	Upper-middle-income Countries
IMF	International Monetary Fund	UN COMTRADE	United Nations Commodity Trade Statistics Database
KNBS	Kenya National Bureau of Statistics	UNPSA	United Nations Public Service Awards
MDG	Millennium Development Goal	VAR	Vector Autoregression
MF	Moderate Frontloading	WEO	World Economic Outlook
MFA	Multi-Fiber Arrangement	WIBA	Work Injury Benefits Act
MFN	Most Favored Nation	WTTC	World Travel and Tourism Council
M-Pesa	Mobile Money	WWII	World War II

ACKNOWLEDGEMENTS

FOREWORD

It is my pleasure to present the Kenya Country Economic Memorandum (CEM) titled: *"From Economic Growth to Jobs and Shared Prosperity"*. The CEM is a strategic World Bank product that analyzes key aspects of the country's economic development with the main aim of providing an integrated and long term perspective of the country's development priorities. This particular edition of the CEM has benefitted from extensive review from various stakeholders, including the government, academia and the private sector.

The Kenya CEM has five main messages. First, Kenya has performed well in the past decade in terms of economic growth, and modern services are behind the acceleration of growth. Expansion in these services, such as financial intermediation and mobile communications have stimulated demand for other services such as trade. The CEM discusses how to maximize the potential of services, especially given that most formal, high quality jobs are created in this sector.

Second, agriculture, which still contributes to over a quarter of the economy, and manufacturing have stagnated. The CEM discusses the reasons behind this stagnation, noting that agriculture and manufacturing have not been able to create enough jobs for Kenya's growing working age population. Most of the jobs are created by the informal economy and are concentrated in low productivity segments of trade, hospitality, and *jua kali*. Improving the ease of doing business is one way towards job creation and higher productivity. However there is still a need for creating job opportunities for the rural poor, for poverty reduction and achieving shared prosperity. Reviving agriculture, in particular, remains the pathway for poverty reduction.

Third, accelerating growth to meet Kenya's development goals requires technological advances and innovation that raise firms' productivity. Although the likelihood of Kenyan firms to innovate is high compared with firms in several other countries, the CEM finds that there is room to increase innovation. Only a few Kenyan firms have come up with products that are actually new to the domestic market. Moreover, the share of firms spending on research and development (R&D) remains low. And Kenya can leverage its stock of managerial capacity to increase innovation. At the same time, attracting foreign firms can stimulate productivity enhancement as technologies spill over to domestic firms.

Fourth, achieving rapid growth will require macroeconomic stability to boost investment and savings. And as the government strives to build Kenya's energy and transport infrastructure, this needs to be complemented with improvements in the public investment management process and better execution. Fifth, the discovery of oil opens a possibility for raising Kenya's growth. Kenya's recent oil discoveries, if used prudently, can contribute to achieving the Vision 2030 goals. Resource extraction can make a direct contribution to economic output and the main transmission channel will be fiscal. So appropriate management of resource revenues can generate resources that could be used to raise public investment, human capital, and productivity in the non-resource sectors of the economy.

The World Bank Group is proud of its long-standing relationship with Kenya, and looks forward to continuous collaboration with both National and County Governments and other partners. Working together, Kenya can realize its potential to lift millions of families out of poverty and achieve shared prosperity.

Diariétou Gaye
Country Director for Kenya
World Bank

EXECUTIVE SUMMARY

Case Stories

Laetitia Mukungu from Bukura in western Kenya was one of the best students in her primary school, but her dream to continue schooling was shattered by lack of finances after her mom lost her job. Driven by her passion for agriculture, Laetitia discovered a way to earn money to cover her schooling expenses. She spent hours researching on the Internet and came up with the idea of raising rabbits. Kenya's urban centers, in particular high-end hotels and restaurants, demanded more rabbit meat than the market could supply. So Laetitia convinced the local school to lend her K Sh 50,000, which she used to purchase several New Zealand rabbits, and employed 15 women to work in her rabbit center. Today, the business continues to be profitable and provides livelihoods for the women working in the rabbit center. Through her online research and practice, Laetitia discovered the rabbit hatch is a rich source of organic fertilizer and pesticide. Hence, the women in the center started planting maize and sukuma wiki, which supplemented their income. Finally, the business enabled Laetitia to realize her dream of a better education: in 2012 she was accepted at a renowned secondary school, the African Leadership Academy in South Africa.

October 2014 was not a good month for the several hundred workers at the Eveready East Africa and Mondelez (formerly Cadbury) production plants; the owners of the two plants had decided to move production outside Kenya. The reason for the closure of both plants was the same: it would be cheaper to produce the products, dry-cell batteries in the case of Eveready and confectionary (chocolate) products for Cadbury, elsewhere—interestingly, to the Arab Republic of Egypt in both instances—and import them to Kenya. While closing production, both companies noted that Kenya is a growing market for their products and they plan to expand sales. In addition, Eveready announced that it would invest in real estate development on the 20 acres of land where the plant is located in Nakuru, and Mondelez said that Kenya would serve as its business hub for East Africa.

January 2015 brought a cheer among Nairobi's residents as the fast-growing taxi company Uber became available on their smartphones. Following its establishment in South Africa and Nigeria, Uber decided on Nairobi, which it sees as "the Green City in the Sun and East Africa's economic powerhouse."[1] Modern service companies such as Uber need three things to thrive: middle-class city dwellers (urban population) with credit cards (access to financial services) and smartphones (high penetration of mobile Internet). Nairobi clearly has all three. Indeed, other leading multinational companies, such as IBM, Intel, and Google, have moved to Nairobi and are using it as their base for operations in Africa.

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[1] http://blog.uber.com/nairobilaunch.

These three examples pretty much capture the most important messages that the rest of this report conveys from a macro perspective. Laetitia exemplifies the potential of Kenya's large and growing youth: entrepreneurial spirit, access to the Internet (even in a remote village), and expanding primary education. Businesses such as the rabbit center diversify the economy; moving from raising rabbits to producing fertilizer and pesticides is what economists call expansion of production capabilities (or "economic complexity"). At the same time, Laetitia portrays the struggles young people face: how to finance post-primary education, how to get access to finance, as well as the fact that most young entrepreneurs and workers typically go into services or production of goods that are protected from outside competition, that is, in the non-tradable sector.

The second example illustrates how difficult life is for those who have to compete with the rest of the world. Eveready and Cadbury are the most recent examples on a long list of manufacturing firms that have closed production in Kenya and moved elsewhere, while Egypt's list of newly opened manufacturing plants, in particular in the food industry, is rapidly growing. Kenya's growing economy has been consumption driven, so opportunities to meet the demand for goods and services for the rising middle class are plenty. However, importing those goods and services is more profitable than producing them domestically, given Kenya's high cost of labor and utilities (electricity, land, and transport).

The third example touches on a successful part of Kenya's economy—rapid development and penetration of mordern services, such as mobile technologies and finance. These sectors of the economy, together with land development and commercial services, have been booming, particularly in Nairobi, which is the regional hub for most services and industrial firms. However, nine in 10 Kenyans do not live in Nairobi and do not work in the modern services sector. Having a small part of the economy pulling up the rest will not be enough to meet Kenyans' development expectations. Some may think that the recent oil discoveries will fill the gap, but oil should not be taken for granted; the discoveries to date are neither groundbreaking nor guaranteed to become a "blessing" for the majority of Kenyans.

Kenya's Economy in the 21st Century: What Have We Learned?

Over the past half-century, Kenya has established itself as an important regional player on the continent, and has achieved successes on multiple fronts. The turn of the century marked an economic revival that has been accompanied by a rise in citizens' expectations. Following the rebasing of gross domestic product (GDP) in September 2014, the country joined the celebrated ranks of the lower-middle-income countries. Although economic growth accelerated in the past decade, a prosperous society for all Kenyans has not yet been achieved. The economy remains among the poorest 25 percent of countries in the world, and poverty is high at around 40 percent of the population. Unlike in some earlier episodes of Kenya's history, at present there is a strong demand and will to bend the arc of history, and to achieve faster and more inclusive growth. The first step in deciding what can be done to accelerate growth and shared prosperity is to understand the upsides and downsides of past performance.

Services Have Taken Off… But Not Enough to Make Kenya a Star Performer

Over the long term, Kenya has performed relatively well compared with others. A temperate climate, coastal access, and other natural and geographic advantages have provided a strong economic base for Kenya's growth. Despite structural policy mishaps, episodic political violence, and crime, the country has successfully avoided the outright implosion of many of its neighbors: GDP per capita stagnated during 1984–2003, but never crashed. Beginning in the 2000s, the country demonstrated the capacity for innovative services (especially in mobile telecom and banking), which was facilitated by Kenya's role as a regional hub. And Kenya has a manufacturing base. But global and regional competition have threatened the manufacturing base, and, until recently, modernization of the service sector has been hampered by the difficult business environment. Thus, export growth other than in the tourism sector has stalled. At the same time, oil and gas prospects have come into view, but existing weaknesses in public expenditure policy and management will have to be tackled for this new revenue stream to be transformative.

Following two decades of per capita income stagnation, Kenya's economy showed signs of revival at the turn of the century. The market reforms that began in the early 2000s released the economy's potential and GDP growth accelerated steadily from below 1 percent in 2002 to 7 percent in 2007.[2] This is the only episode of five-year accelerating growth in independent Kenya's history (Figure ES.1), and it was also the first time since 1986 that GDP growth reached 7 percent. However, since 2007, the economy has been hit by several shocks. GDP flattened in 2008 and then picked up to 8.4 percent in 2010, but immediately slowed to 5 to 6 percent afterward.

Services, modern and traditional,[3] are behind the acceleration of growth. Between 2006 and 2013, 72 percent of the increase in GDP came from services. Expansion in modern services, such as financial intermediation and mobile communications—partly owing to innovative solutions such as M-Pesa (mobile money)—stimulated demand for traditional services such as trade. For example, there are more than 40,000 M-Pesa retail agents who also sell other products and services. Investment and promotion

Figure ES.1: Kenya's uneven growth performance
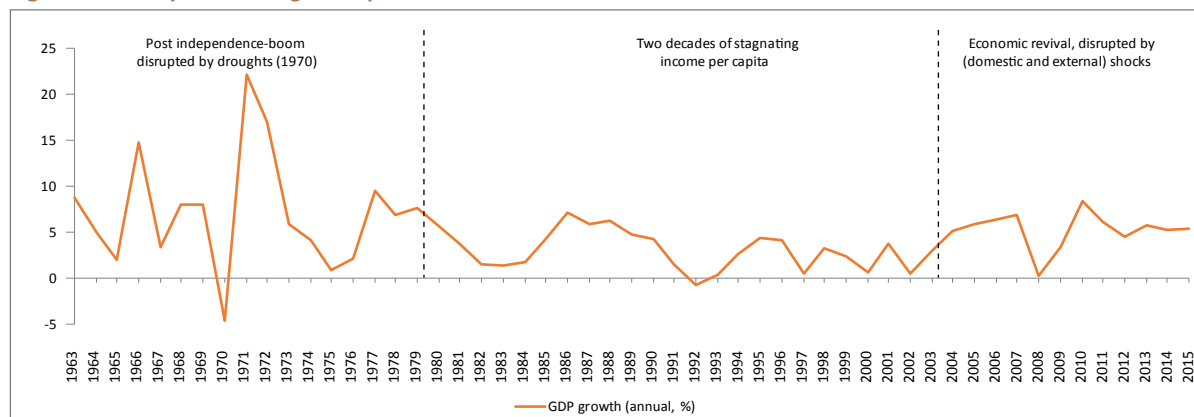
Sources: World Bank and Kenya National Bureau of Statistics.
Note: GDP = gross domestic product

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[2] Use of GDP data throughout the report took into consideration the revised GDP series in September 2014.
[3] Modern services comprise communications, finance, professional, scientific, and technical activities, and other services. Traditional services include construction, trade, transport, hospitality, public administration, education, social, recreation, and administrative services.

of tourism have boosted hospitality, real estate, and transport services. Re-orientation of public resources toward public and social infrastructure has promoted educational services as well as construction and transport.

In contrast, agriculture and manufacturing grew slower during 2006–14. Agriculture suffered weather shocks, which caused the sector's share in GDP to decline from 26.5 percent in 2006 to 22.0 percent in 2014. Manufacturing stagnated at 11.8 percent of GDP on average during the same period. Some subsectors within agriculture and manufacturing, such as horticulture and food production, have prospered, but the overall story for the two sectors has been disappointing (Figure ES.2). The success of the two subsectors is to some extent interlinked: countries with successful structural transformation typically are able to increase the value added in agriculture by moving up the value chain (toward improved quality of produce and further processing). Despite its relatively weak performance, agriculture continues to be the mainstay of Kenya's economy, as seven in 10 Kenyans depend on it for their livelihood. Some parts that have seen no direct government intervention, such as horticulture, have been booming, while food crops, such as maize, have underperformed.

Multiple strategies and reforms have been designed and adopted, but never fully implemented. The liberalization of the maize market began in the late 1980s, yet the government has resisted exiting this market and remains active through the National Cereals and Produce Board. Despite the commitment to allocate 10 percent of budget revenue to the sector, only half of that has been spent over the past few years. Devolution is expected to bring a positive change to the sector: major agricultural functions have been transferred to county governments. Patronage is not expected

to disappear at the county level, but citizens' demand for more accountability is rising, which is expected to boost agricultural development.

As for manufacturing, the puzzle is not why Kenya does not have a manufacturing sector—it does have one—but why this sector has not been able to expand. Factors highlighted by Rodrik (2015), such as the way globalization and trade have worked to the disadvantage of African countries, are part of the story. But the economy has also struggled to develop the deep public-private networks of regulation, facilitation, skills, and infrastructure, which advanced manufacturing economies need. It is revealing that Kenya does well in sectors where networks are somewhat easier to establish, as in banking and telecom, but struggles with the more intensive network capabilities needed for modern manufacturing.

Figure ES.2: Services have been the main generator of growth
(% of GDP)
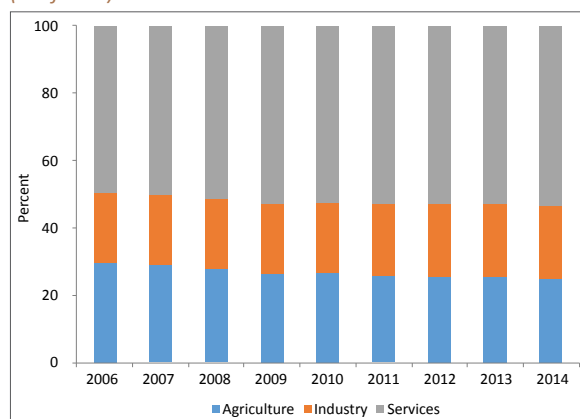
Source: Kenya National Bureau of Statistics.

Looking at the expenditure side, consumption has contributed the most to GDP growth. Rising private consumption has been the main contributor to growth (Figure ES.3), propelled by the growing middle class, booming informality in services, increasing credit to households, and income from abroad. Increased investment has also had a positive, although less significant, contribution, in particular fueled by a shift in

public spending from recurrent to "development spending."[4] What differentiates Kenya from the other peer countries, in particular those outside the East Africa region, is the clogged "exports engine." Exports of goods, as a percentage of GDP, have been falling since 2005, while imports of goods have been increasing. The reason for these trends has been strong capital goods imports, associated with investment related to oil exploration, and a decline in agricultural exports. In contrast, services exports have been expanding, but not by enough to offset the widening gap between the exports and imports of goods.

Figure ES.3: Consumption: Main contributor to GDP growth

Contribution to GDP growth (in percentage points)
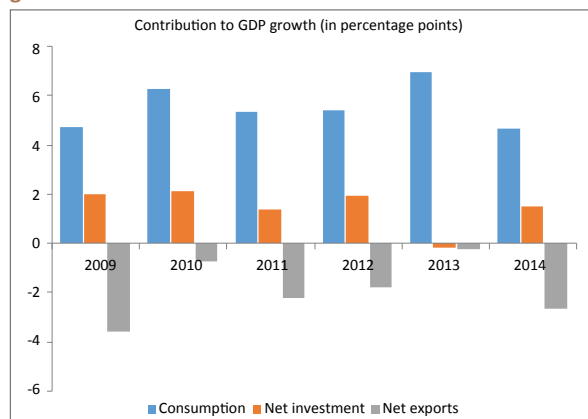
Source: Kenya National Bureau of Statistics.
Note: A percentage point is 1 percent or the unit for the arithmetic difference of two percentages. Therefore, adding all the contributions from each expenditure for a given year should give the annual economic growth. GDP = gross domestic product.

Taken as a whole, the past decade's economic performance can be described as remarkable by Kenyan standards, but in a broader perspective it is not even close to stellar. Instead of comparing Kenya with global or regional (Sub-Saharan Africa) low- and middle-income country averages, where a few large economies such as China and Nigeria pull the averages, this report benchmarks Kenya against a group of peer countries from Africa and the rest of the world that had similar income per

capita. Among the peers, Kenya has had the lowest per capita GDP growth since 2003 (Figure ES.4).

If the Kenyan economy had grown as fast as its peers in Sub-Saharan Africa (SSA) over the past decade, by 2014 the average Kenyan's income would have been 15 percent higher. If the economy had matched the growth of the Asian peers, then Kenya's income per capita would have been 45 percent higher.

Figure ES.4: Kenya's GDP per capita has been growing slower than its peers

GDP per capita (2000 = 100)
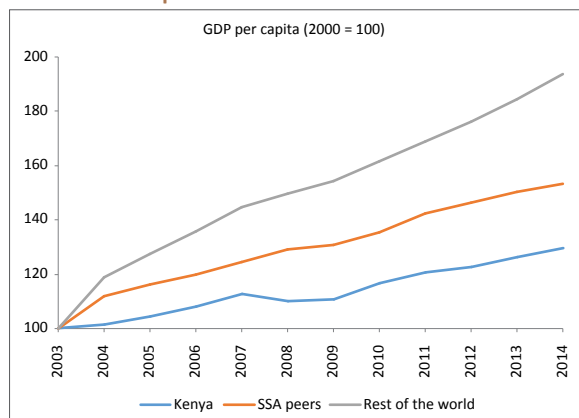
Sources: World Bank World Development Indicators; Kenya National Bureau of Statistics.
Note: Sub-Saharan Africa peers: Burkina Faso, Ghana, Senegal, Tanzania, and Uganda. Non-Africa peers: Bangladesh, Cambodia, India, Pakistan, and Vietnam.

Comparison with similar economies reveals several distinctions about Kenya's growth model. Chapter 1 shows that Kenya is unique in its services-based growth model: in all the other countries, except Senegal, industry[5] had a much larger contribution, and in most of them so did agriculture. In Kenya, rising consumption—propelled by rising, mostly informal, employment, credit to households, and income from abroad—has been the main engine of growth. In contrast to most of the peer countries, Kenya's net exports have made a negative contribution to growth and this has come mostly as a result of stagnant exports of goods.

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[4] Development spending in Kenya denotes public spending on capital investment.
[5] Industry comprises mining, manufacturing, and utilities (electricity, water, and gas).

Growth Has Been Volatile …

Another feature of Kenya's recent economic performance is its volatility, which comes primarily from domestic sources. Kenya's economic growth has exhibited higher volatility than that of its peers since 2003. Moreover, growth volatility increased after 2008. The sources of volatility have been exogenous (through trade or global commodity prices) and domestic (election cycle), but the latter had a larger impact on the economy. Chapter 1 finds that shocks from major trading partners, that is, the fall in demand for Kenyan exports, are instantly transmitted to Kenya's economy, although the impact is not as significant. Global food price shocks also influence inflation; oil prices have less of an influence. However, the most important finding is that much of the volatility has been domestically driven and domestic shocks—such as political instability or drought—typically have longer effects than exogenous shocks.

The silver lining perhaps is that reducing volatility is primarily a question of domestic policies. The past four years attest to the importance of domestic macroeconomic and

Figure ES.5: Macroeconomic stability has been maintained since 2012

Sources: Kenya National Bureau of Statistics; Central Bank of Kenya.

political stability. Since 2012, the economy has benefited from macroeconomic stability (Figure ES.5) and a peaceful election cycle in 2013. Consequently, volatility decreased while growth has been maintained above 4.5 percent.

… and Not Particularly Inclusive

The positive but volatile growth since 2006 translated to rapid poverty reduction. Poverty and inequality in Kenya was last measured in 2005–06. No survey has been fielded since then to update these estimates.[6] In the absence of actual data since 2006, current poverty estimates and projections are highly uncertain and depend exclusively on modeling assumptions, but some likely trends are plausible and these are presented in chapter 2. In June 2013, the World Bank estimated that poverty fell from 46 percent in 2006 to below 40 percent by 2012. An updated model[7] points to weaker poverty outcomes: the poverty rate[8] is estimated to have fallen to around 42 percent by 2013. Poor and uneven agricultural performance has certainly contributed to poverty. Although the economy has been growing continuously, income per capita fell during 2007–09, which set back poverty reduction, especially as agriculture shrank during this period. At the same time, the prices of food and transport—two expense categories that affect the poor more—spiked during 2009–11.

Public policies have had mixed effects on poverty reduction. Fiscal policy has been pro-poor in two ways: the cash transfers program to the poor has expanded (yet it reaches less than 10 percent of the poor), and so has spending on education (although the impact is muted by high teacher absenteeism). These two reforms can have a strong effect on poverty reduction, as experience in other countries has shown.

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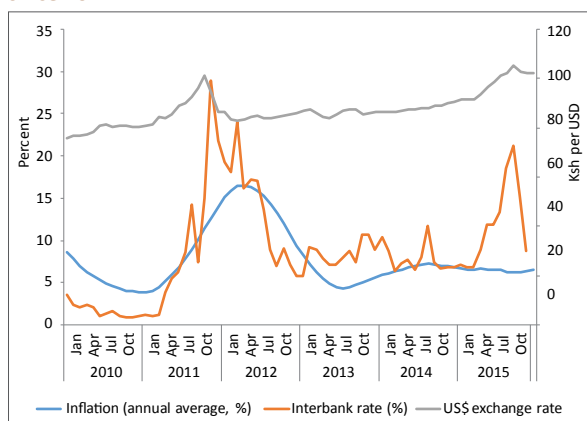
6   Fieldwork for the 2015–16 Kenya Household Budget Survey commenced on September 1, 2015, and the resulting data set, finally after a decade-long wait, will enable updating poverty and inequality measures.
7   The model was updated with revised GDP figures for 2006–13.
8   The share of the population living on less than US$1.25 a day.

For example, Brazil's success in reducing poverty and inequality in the 2000s is attributed largely to expanding social assistance and increasing the wages of low-skilled workers by investing in skill development. In contrast, Kenya's health spending has remained inadequate at below 2 percent of GDP over the past decade, corroborated by high maternal deaths (more than 400 per 100,000 births) and prevalent child malnutrition, which affects the poor disproportionally.[9] The first year of devolution is unlikely to have made a significant impact on poverty, but this may change as counties develop a more proactive role in agricultural development, given agriculture's potential to reduce poverty. Monetary policy affects poverty primarily through its effects on inflation, so in this regard the spike in inflation in 2011 had negative consequences for Kenya's poor, although since then inflation has been within the Central Bank's targets.

How to Accelerate Growth to Meet Kenya's Development Goals?

Vision 2030 sets a goal for Kenya to join the ranks of upper-middle-income countries,[10] a group that comprises countries with gross national income per capita of $4,125 in 2014 (almost four times Kenya's) (box ES.1).[11] This goal is formidable but achievable—several countries have made such progress over the past few decades—and will require GDP growth of about 7 percent per year until 2030. For Kenya's authorities, this will not be an easy challenge; the economy grew by more than 7 percent in only four of the past 40 years. Looking forward, attaining those rates, although difficult, is possible. Moreover, there is a sense of urgency to this agenda, as the growth targets in the Second Medium-Term Plan (MTP-2) are already slipping (2013 growth was 5.7 percent vis-à-vis the MTP-2 target of 6.1, and 2014 growth was also lower than the MTP-2 target of 7.2 percent).

Box ES.1: What does it mean to be an upper-middle-income country?

Tunisia today is just above the upper-middle-income threshold. Looking at Tunisia's economic and social indicators, Kenyans have a lot to look forward to. First, Tunisians live on average 14 years longer than Kenyans. Practically no Tunisian lives in extreme poverty, and all Tunisians have access to electricity. Finally, Tunisians are better educated and two-thirds live in urban areas, compared with less than one-third of Kenya's population. (see Table B.ES.1.1.)

Table B.ES.1.1: Standard of living indicators, Kenya and Tunisia

Years	Kenya	Tunisia
Access to electricity (% of population)	45 (2015)	99.5 (2010)
Life expectancy at birth, total (years)	61 (2013)	75 (2013)
Poverty headcount ratio at $1.25 a day (PPP) (% of population)	43 (2005)	1 (2010)
School enrollment, tertiary (% gross)[a]	8.6 (2014)	35 (2012)
Urban population (% of total)[b]	32 (2014)	66 (2013)

Sources: World Bank World Development Indicators; Kenya Power and Lighting Company; Kenya Ministry of Education.
Note: PPP = purchasing power parity.
a. Estimates based on Kenya National Bureau of Statistics and United Nations Educational, Scientific, and Cultural Organization data.
b. World Bank estimates.

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[9] World Bank Kenya Economic Update 8 (June 2013).
[10] According to the World Bank's income classification.
[11] The World Bank's country classification by income is based on gross national income per capita.

Achieving the desired growth targets entails simultaneous improvements on two fronts: increased physical and human capital, and faster productivity growth. In the short to medium term, adding capital and labor can stimulate growth. Kenya's investment-to-GDP ratio, at 20 percent in 2013, is targeted to rise to 31 percent by 2018 in the MTP-2, and at the same time there is potential to increase employment, given that a portion of Kenya's labor force is unemployed or underemployed (no precise labor market data exist). As the labor force and the share of income that can be set aside for investment have their limits (and face diminishing returns), growth in the long run can only be sustained through productivity enhancements. This report finds there is scope to accelerate growth on both fronts.

Save More to Invest More

Although the economy has relied on foreign funding to increase investment since 2006, national savings would have to increase to reach the desired investment levels. Investment rose from 15.6 to 19.6 percent of GDP between 2006 and 2013, but this increase was financed from foreign inflows, that is, by rising current account deficits. Vision 2030 and the MTP-2 endorse this approach and set ambitious targets for augmenting public and private investment. To this end, the MTP-2 aims to increase the investment rate to 31 percent of GDP by 2018, an ambitious increase of 11 percentage points from the 2013 level, while raising national savings from 16.4 to 25.7 percent in the same period to finance investment in a sustainable manner. As chapter 5 discusses, it is only in 2020 at the earliest when oil could start flowing and contribute to fiscal revenues to be used for public investment. Until then, the government aims to raise national savings by implementing a contributory pension scheme for public servants and tax incentive

measures. To ensure higher savings, the government will pursue prudent macroeconomic policies, to achieve lower economic volatility and improved public investment management.

Compared with other fast-growing economies, Kenya invests less and the share of investment financed by foreign savings is higher. The economic literature and post-World War II history illustrate that investment determines how fast an economy can grow. Kenya's investment, at around 20 percent of GDP, is lower than the 25 percent of GDP benchmark identified by the Commission on Growth and Development (2008). Kenya's investment rate, as a share of GDP, has also been several percentage points lower than the rate in its peer countries. At the same time, the economy has largely relied on foreign savings as a source for new investment since 2007, while national savings have been declining. National savings—measured as a share of gross national disposable income (GNDI)—has not surpassed the 15 percent mark over the past decade. In contrast, Pakistan's savings is above 20 percent of GNDI, and Vietnam's is more than 25 percent. Cambodia had a low savings rate in the 1990s, but it more than doubled the rate in the 2000s.

High unemployment and volatile inflation are two of the reasons behind low saving, in particular by households. The falling youth dependency ratio, that is, declining fertility, should have promoted saving. However, this may not have been the case because a large share of youth has been jobless and thus continues to be dependent although the youth are of working age (Figure ES.6).

Another reason behind the low household saving is the fact that rates on deposits at financial institutions have been low, and even negative in real terms in some years. Volatile

inflation has been one of the main reasons for the negative deposit rates, as nominal deposit rates have not always adjusted fully to changes in inflation, in particular when higher inflation has been unexpected, such as in 2011. Other factors that influence the deposit rate include the level of competition in the sector, and banks' price-setting behavior.[12] Chapter 3 looks into the saving-investment nexus in greater detail, while Spotlight 3 (at the end of chapter 3) shows there is potential to increase saving in rural areas by improving the access to and design of saving schemes. Saving and credit cooperative organizations (SACCOs) have been successful in mobilizing savings in Kenya and channeling savings to investment projects at the local level. Moreover, connected to mobile saving schemes, such as M-Shwari, Kenya's SACCOs have increasingly attracted savings and contributed to the realization of the saving and investment target of Vision 2030.

Figure ES.6: Kenya has among the highest youth unemployment rates, 2000–14 average

Youth (age 15-24) unemployment (in percent)
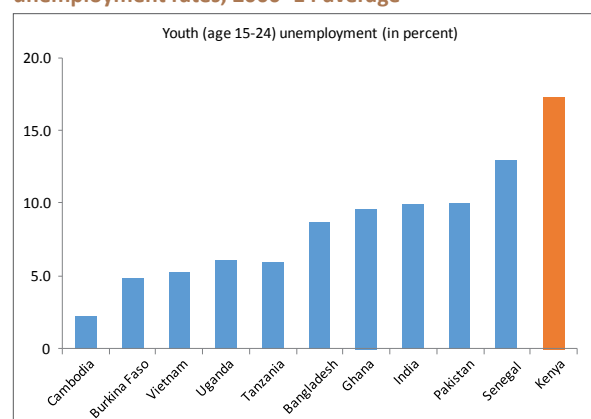
Source: World Bank World Development Indicators.

Although there is potential to increase savings through policy measures, it is more important to channel savings to productive investment. First, the demographic trend of an increase in the share of the working-age population is expected to continue in the next decade, so ensuring job opportunities for the new labor market entrants will support savings. Second, keeping inflation low and stable (within the Central Bank's limits) would raise the real deposit rate and incentivize saving. Third, re-orienting public spending from recurrent to capital expenditure will represent an increase in public savings. To this end, if the 70-30 rule on recurrent versus development spending is implemented in practice rather than on paper (2013/14 had a 69-31 budgeted ratio, but the executed ratio was 71-29), the share of investment in GDP would increase by up to 2.5 percentage points. County governments were partly responsible for the under-execution of development spending: only a third of the budgeted 2.1 percent of GDP was executed in 2013/14. Spotlight 1 (at the end of chapter 1) discusses the impact of devolution on investment and growth, and finds that the lower execution of development spending was accompanied by an increase in recurrent spending by the counties. In promoting private investment, Kenya's financial system is relatively developed, so the onus should be on lowering production (infrastructure) costs and improving the business environment. Finally, oil revenue may become a significant source of savings in the long term, although the potential (discoveries) is still uncertain and the outcomes will depend on how the oil sector (and revenue) is managed (chapter 5 looks into this).

Create Jobs for the Growing Number of Youth

Kenya's growing labor force is not being put to productive use, which in turn is hurting growth. The share of the working-age population rose from 47 percent in 1990 to 56 percent in 2014, and by 2050 it is expected to be 62 percent.[13] This opportunity for a demographic dividend, a boost in GDP growth caused by the increasing share of working-age relative to dependent population,

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[12] World Bank's Kenya Economic Update, December 2013.
[13] World Bank's Kenya Economic Update, December 2012.

will be reaped only if the new potential workers are able to find jobs. Putting Kenya's human capital to productive use has proven to be a major challenge. Between 2009 and 2013, three million youth became of working age, yet the economy was able to add only 2.6 million nonfarm jobs, and the growth in employment (24 percent) could not keep up with GDP growth (26 percent). If employment grew at the same pace as GDP, an additional 150,000 jobs would have been created by 2013, which still would have been insufficient to absorb all the new entrants. Although official statistics are not available, unemployment and underemployment are rampant, especially among the youth.

Although formal jobs are in high-growth and high-productivity sectors, the job-creating potential of these sectors is relatively low, so most job seekers end up in low-productivity, informal activities. Kenya's modern service sectors, such as financial services and communications, but also the education sector, mining, and utilities, have been adding jobs and raising labor productivity at the same time. However, the job-creating potential of these sectors is small. For example, although financial services and communications recorded among the fastest employment growth rates (7 percent per year between 2009 and 2013), fewer than 10,000 jobs were added per year. The four sectors with the highest productivity growth between 2009 and 2013 accounted for only 7 percent of total employment. The majority of job seekers go to the *jua kali*,[14] in trade, hospitality, or manufacturing, and many of them are underemployed.

Kenya's labor market entrants for the next 15 years have already been born, and getting them employed will require much faster job creation than in the past. Kenya's working-age population is projected to be 39.2 million in 2030, from the current 25.5 million in 2015.[15] The government's strategies recognize this, and to this end the MTP-2 targets 570,000 new formal jobs between 2015 and 2017, from 110,000 in 2013. However, for this to happen, most of the sectors of the economy would have to quadruple the job creation rates they achieved in 2013 (which were already higher than in previous years) and sustain them until 2017. Job creation in the informal sector is also projected to increase—from 664,000 new jobs in 2013 to 859,000 new jobs in 2017—and again this will require proactive policies to promote growth in the informal sector, and also higher productivity so that income from informal work can lift people out of poverty.

Further improvements in the business environment, quality of skills and education, and labor regulations are expected to promote job creation. A conducive business environment is one of the key pillars for job creation, and while Kenya has historically fared poorly in this regard, the Government of Kenya has recently made this a priority. Although many of the positive changes introduced by the government were removed from the cycle to be captured in Kenya's latest Doing Business report, the country's 2016 rank improved an impressive 21 places, from 129 to 108. The Kenyan government recognized the challenges, and has invested significantly, under the coordination of the Ministry of Industry and Enterprise Development, in unlocking business

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[14] This is a commonly used term for Kenya's informal sector.
[15] The total population is 46 million and 65.4 million in 2015 and 2030, respectively.

environment bottlenecks (with the creation of the Ease of Doing Business Delivery unit). Momentum has been gained in prioritizing reforms, particularly in core bottlenecks, including company registration, electricity connections, property transactions, and access to credit. Many aspects of the business environment take a relatively small amount of time and resources to transform. Chapter 2 offers examples of countries that have made rapid progress on various aspects of reform. Prime examples are the actions taken by Kenya, Rwanda, and Uganda to reduce barriers on the Mombasa to Kigali trade corridor, which eliminated roadblocks and administrative barriers that slowed traffic on that important trade route. As a result, transit times fell by about 50 percent and Kenya and Rwanda each improved by around 50 positions in the World Bank's logistics performance index.

Following the education reform successes, which yielded notable improvements in access to education, the focus of the education system has now moved to raising the quality of produced skills. The fastest growing sectors in the economy are increasingly struggling with finding suitable employees. In 2007, only 2 percent of services firms identified skills as a major constraint. By 2013 more than a third of services firms were struggling to find qualified workers. To remedy this trend, the quality of education needs to be improved, which includes ensuring that basic foundational skills are mastered and outcome competencies and programs are relevant for employment. Key components of skill building include acquiring job-relevant technical skills (for example, through technical and vocational education, higher education, pre-employment, and on-the-job training), along with other skills that are valued by employers, such as accessing information, using computers, knowing how to interact professionally with clients, solving complex problems, and learning new skills while on the job. The present system has several deficiencies: it is not flexible to labor market needs, capacity is limited, and there is limited successful measurement of quality and outcomes. Overall, the main priorities for improving the employability of youth are (i) better evaluation of existing programs that would inform policy; (ii) better coordination of youth policies; (iii) improved access to vocational training, particularly for the poor; (iv) better targeted support to entrepreneurship; and (v) improved design of training programs to meet employers' needs.[16]

Finally, the 2007 changes to the labor code seem to be dis-incentivizing formal employment, so some aspects of the legislation may need to be revisited. Before the major revision of labor legislation took place in 2007, only 4 percent of firms found labor regulations to be a constraint, which was less than elsewhere in SSA (12 percent on average). In 2013, one-fifth of firms were complaining about the regulations, which in turn probably incentivized informal employment. Two particular issues have come up. First, regulations are strict in terms of employer-employee disputes; workdays lost to such disputes rose from 15,000 in 2008 to 175,000 in 2011, according to the Kenya National Bureau of Statistics (KNBS). Second, the minimum wage may be pushing firms toward informality. The ratio of the minimum wage to value added per worker was found to be higher in Kenya compared with its peer countries (Figure ES.7).

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[16] T16 Youth Employment Initiatives in Kenya (draft World Bank report).

Figure ES.7: Kenya's minimum wage is highest among its peers
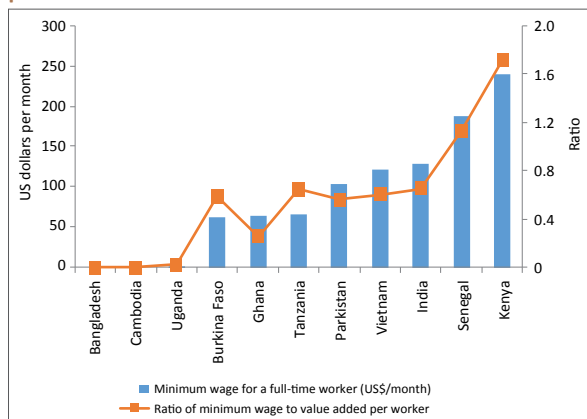
Source: World Bank 2015a.

Since the majority of job entrants will still end up in the *jua kali*, public policy should focus on promoting productivity growth in the sector. Doing so will complement the growing formal sector and help to set a smoother transition from the informal sector to the formal sector over time. The informal sector will absorb most of the urban and rural unskilled youth. Chapter 2 reveals that the *jua kali* is a dynamic sector in terms of market entry, but informal establishments typically stay small (one employee) and hence do not create additional jobs once established. The main challenge that informal entrepreneurs face is access to finance, followed by access to utilities, corruption, and crime. Moreover, although informal business owners are aware of the benefits of formal operation, most opt to stay informal because of cumbersome registration procedures, as well as to avoid paying taxes. Chapter 2 offers examples from other countries in SSA that have successfully addressed some of the constraints of informal businesses. A key lesson here is that public policies should have a dual focus: (i) they should address the largest constraints (for example, access to finance or skill building), and (ii) they should enhance the quality of services and governance, as these influence entrepreneurs' decision regarding informality. It should be noted that counties will have a primary responsibility for these policies, but the outcomes since the start of devolution have been discouraging. Spotlight 1 (at the end of chapter 1) points to the introduction of new taxes, fees, and charges by counties, which is generating concern over the potential impact on local-level business costs, especially for small business operators.

Creating job opportunities for the rural poor is particularly relevant for the poverty reduction agenda. As in many other countries in SSA, Kenya has witnessed low growth elasticity of poverty reduction, because although most of the poor are in agriculture, growth has been happening elsewhere (notably in services). To begin, promoting agricultural productivity is paramount for poverty reduction and growth. Although this report looks at agricultural performance and the rural poor, examination of agricultural productivity is beyond its focus. Nevertheless, increasing the value added of agricultural produce (through higher crop yields, better packaging, higher quality, or further processing) would boost productivity in the sector and raise farmers' incomes. Malaysia, for example, is one of the world's largest exporters of papaya, and the government—through its Malaysian Agrifood Corporation—has played a key role in propelling the food supply chain business through the application of new technology, logistic solutions (packaging), and promotion of international food safety standards. Other ways to generate income for the rural poor include helping youth to transit to nonfarm (informal) employment, as well as promoting their mobility. On the latter, measures to encourage movement to urban centers, or improvements in rural roads so that rural youth can work in urban centers, would boost employment and poverty reduction.

Boost Productivity through Policy Reform and Investment

Whereas adding capital and labor to the economy can accelerate growth in the short to medium term, sustained and rapid growth requires technological advances and innovation that raise firms' productivity. From a macro perspective, productivity can increase by moving labor from low- to high-productivity sectors (for example, from agriculture to services), or by increasing within-sector productivity (such as firms generating higher value added per employee). Kenya's economy offers scope for both, but one in itself will not suffice to reach the Vision 2030 objectives. Shifting jobs to more productive sectors will only bring productivity up to the level of the best performing sectors, but will still be low compared with the development targets. And although there is scope for improving productivity across the board, some sectors, such as agriculture, face limits to productivity growth, so labor would eventually have to move out. Between 2009 and 2013, inter-sector shifts made a negative contribution to productivity, such that labor was moving to sectors with below average productivity, such as informal trade and hospitality (Figure ES.8). The previous

section discussed what could be done to create opportunities for the increasing labor force; this section discusses what could be done to improve the productivity of firms.

Various data suggest that Kenya is an entrepreneurial nation and, as figure ES.9 illustrates, Kenya has witnessed rapid growth of formal business startups. There is higher firm churning and more diversified production than in some of its peers with similar income levels. Moreover, Kenyan firms are proactive in reaching foreign (including regional) markets, although their successes are rare. However, the use of export data as a proxy for production capabilities shows that Kenya's production capabilities (its economic complexity) are lower than those of its peers. Kenya's capabilities are diversified, but mostly in low complexity goods such as tea or coffee, and they have not been increasing in recent years. The reasons for this likely lie in high production costs. Wages in Kenya are much higher than in peer countries at a similar level of development. Transport, energy, and land costs, which account for half of total costs excluding raw materials and labor, are also likely to be higher compared with competitor economies. Moreover, improving workers'

Figure ES.8: Jobs were added in low-productivity sectors between 2009 and 2013
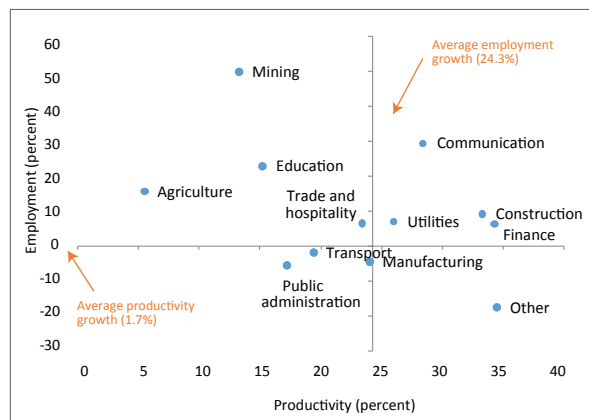
Source: World Bank estimates.

Figure ES.9: Kenya has witnessed rapid growth of formal business startups
(2004 = 100)
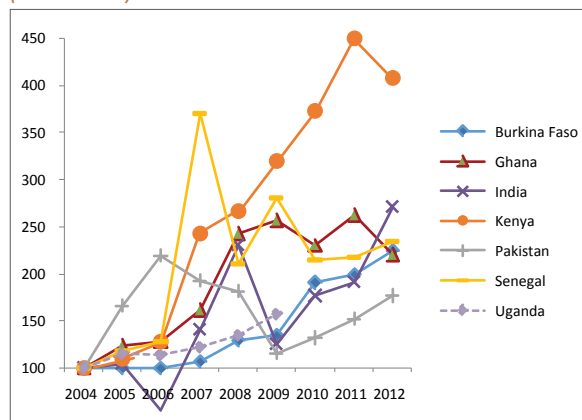
Source: World Bank Entrepreneurship Snapshot.

skills through better quality education will boost productivity. Transport and energy costs could be reduced through investment and regulatory reform (for example, to reduce waiting time at ports and borders), which in turn would increase firm productivity and enable firms to grow as they become more competitive.

In addition, the dispersion in firm productivity within the same manufacturing subsector is high, which means firms are not catching up with their successful peers. Typically, firms that operate in the same sector learn from each other and the ones with the lowest productivity improve over time. Chapter 3 finds that this does not seem to be happening in Kenya, so it is worth examining what is preventing low-productivity firms from catching up to the more productive firms that produce similar products (Figure ES.10). The analysis shows that entrant firms are less productive than established firms, which may be explained by weaknesses in the business environment (for example, costly procedures for starting up, or poor access to finance). Or perhaps established firms are able to draw higher privileges in terms of access to inputs (such as electricity) or markets (government procurements), which would allow them to be more productive than new firms.

Figure ES.10: Within-sector differences in productivity are high among Kenyan firms

Productivity of firms at the 80th percentile relative to productivity of firms at the 20th percentile
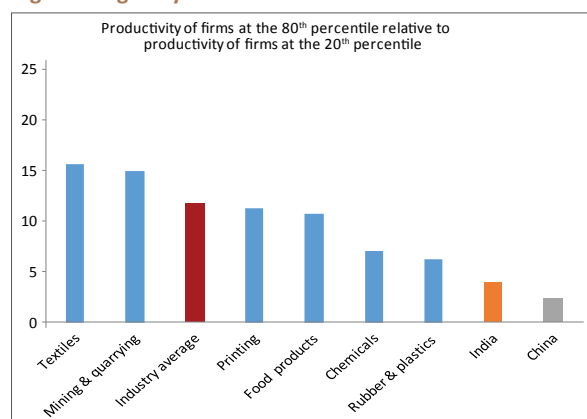
Source: World Bank 2015b.
Note: Sectors are for Kenya; bars for China and India are averages.

Kenya's service economy is competitive at the global stage: services exports more than doubled between 2009 and 2013. Services have performed well, in particular the sectors with a higher share of formality. Several formal services sectors, such as telecommunications and finance, have prospered, and so has tourism over the past decade (2013 and 2014 are exceptions). Looking at services firms through a micro lens, competition seems to work better among formal services firms: unlike in manufacturing, entrant services firms are typically more productive than the established ones. At the same time, the dispersion of productivity within the same sector is high, similar to manufacturing and possibly for the same reasons, but this is something that would warrant further research.

Interestingly, the successful and internationally competitive services have followed an isolated path of development, which is different than in many other countries. Gross exports of services, as calculated in trade statistics, typically undervalue the contribution of services to a country's exports, because domestic services are a significant component in the production of export goods. This is also the case in Kenya. However, chapter 3 shows that although services exports are relatively high, their indirect contribution, that is, linkages, to other sectors is actually relatively lower than in comparator countries. This suggests a dualistic economy in Kenya, where services sectors such as telecommunications, finance, and transport have prospered, while most of agriculture and manufacturing have not. Constraints to the business environment that prevail in Kenya seem to have had disproportionate effects on services vis-à-vis manufacturing firms. The finding of business surveys that manufacturing firms are two and a half times more likely than services firms to find electricity as a major constraint supports this

argument. The implication is that services will continue to expand, irrespective of what happens with agriculture and manufacturing.

Irrespective of the sector, innovation is the critical element of accumulation of production capabilities—in other words, adding complexity to the economy. At the aggregate level, classical and modern theories of economic growth put innovation at the core of the growth process. At the micro or firm level, which is where innovation occurs, there is also strong evidence of a robust, positive relationship between innovation and productivity and growth. Therefore, a critical predictor of countries' potential to grow is how innovative their firms are.

Innovation among Kenyan firms is widespread by global standards. The results from a 2014 innovation survey (World Bank Enterprise Survey 2014) suggest that the likelihood of Kenyan firms to innovate is high compared with firms in several other countries (Figure ES.11), although the subjective nature of the results makes cross-country comparisons challenging (Spotlight 4 at the end of chapter 4). Nevertheless, although most firms say they have introduced some type of product or process innovation, only a few have

Figure ES.11: Innovation is widespread in Kenya by global standards

Percent of firms that introduced product or process innovation in year surveyed

Source: World Bank Enterprise Surveys.

actually come up with things that are new to the domestic market. The fact that these innovations have not been accompanied by productivity gains in most cases confirms the point that Kenya still has a long way to go. And when actual investment in innovation is compared across countries, the magnitude of innovation of Kenyan firms becomes less impressive. The share of firms spending on research and development (R&D) in Kenya is 40 percent lower than in Ghana or the Arab Republic of Egypt, and less than 50 percent that in South Africa. And a relatively lower share of Kenyan firms acquire machinery, equipment, and software, and the same argument holds for spending on training.

At the same time, Kenya's managerial capacity is an asset that can support higher innovation. Managerial capacity—a key recipe for enhancing productivity through innovation—is relatively high in Kenya, considering the country's level of income per capita. Nevertheless, the overall quality of management in Kenya remains far from the frontier, so there is scope for further growth through improving the quality of tertiary education and increasing the linkages between academia and businesses.

Finally, productivity enhancements can come by attracting foreign firms to produce high-value goods and services in Kenya. Foreign direct investment (FDI) in high-productivity sectors can stimulate productivity enhancements in the economy, as technologies and knowledge can spill over to domestic firms. Although it is not a close comparator, China has been particularly successful at this: nearly 90 percent of the foreign-owned firms had adopted the firm's core technology in local production and more than 60 percent relied on local firms for over 50 percent of the production components. At
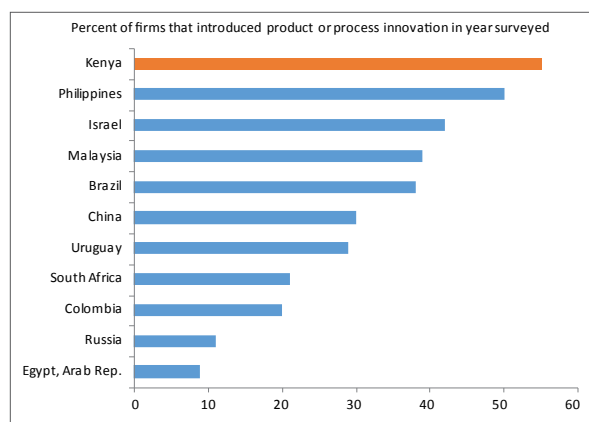
the same time, nearly 50 percent of foreign firms train over 80 percent of their staff, and many of these trained employees eventually move to domestic firms.[17] Kenya has not been able to attract significant foreign investment (in production capacities), irrespective of the data source used for estimating FDI. To this end, the revamping of the special economic zones (SEZs) program holds potential to attract more FDI and in turn enhance productivity. Spotlight 2 (at the end of chapter 2) points to the lessons learned from similar such programs to maximize the benefits, in particular related to the spillover of productivity enhancements to the domestic economy. These include ensuring that SEZs address the most binding constraints to investors (such as infrastructure), leveraging competitive advantages and agglomeration rather than supporting lagging regions, promoting linkages to the domestic economy, and understanding that developing SEZs takes time (5–10 years).

Natural Resources: Kenya's Hidden Source of Long-Term Growth?

Kenya's recent oil discoveries, if used wisely, can contribute to achieving the Vision 2030 goals. The discovery of oil, and possibly gas, opens a possibility for raising Kenya's growth potential. Resource extraction will make a direct contribution to economic output, but more importantly, it will generate fiscal resources that could be used to raise public investment, human capital, and productivity in the non-resource sectors of the economy. As chapters 2, 3, and 4 point out, for sustained and rapid growth, Kenya needs further investment in physical and human capital to promote productivity growth. Windfall revenues could help bridge Kenya's infrastructure gaps and skills deficiencies and expand the provision of health or other social services.

However, the outcome of resource discoveries is not guaranteed; some countries have lived up to the potential, while others are examples of how natural resources can turn out to be a "curse" rather than a "blessing" (Figure ES.12).

Figure ES.12: Different development trajectories of oil rich countries: Angola, Malaysia, and Republic of Congo
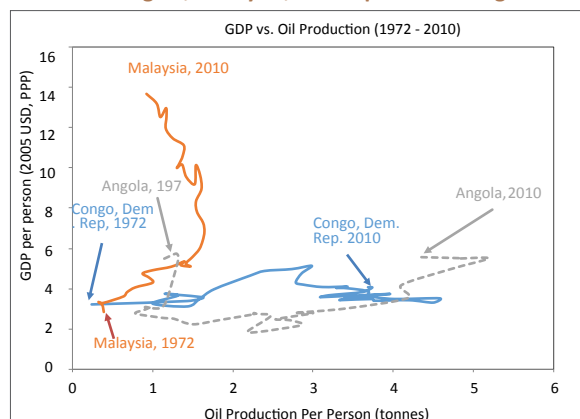
Sources: BP Statistical Review of World Energy; World Bank World Development Indicators.

Kenya may become an oil exporter in a few years' time, and the timing and potential resources can boost Kenya's path toward its Vision 2030 goals. By 2014, commercial oil exploration in northern Kenya brought the discovery of up to one billion barrels of oil resources.[18] More exploration (for oil as well as gas) is ongoing onshore and offshore. These reserves would not turn Kenya into a significant oil producer at the global stage, but will generate fiscal revenue that can raise the country's human and physical capital. The timing of the discoveries relative to Kenya's development cycle is appropriate. Kenya's level of development is sufficiently high to be able to absorb the windfall revenue and establish the needed legal framework and infrastructure for developing the oil sector. However, as pointed out in chapter 1, the economy (in particular the exporting segment) is not too advanced to be vulnerable to a Dutch disease type of shock. According to industry estimates, oil could start

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[18] http://www.tullowoil.com/index.asp?pageid=137&category=&year=Latest&month=&tags=84&newsid=878.

flowing by 2019, which gives sufficient time to complete the legal framework and build the needed human capital (industry skills) and physical infrastructure (for example, pipeline and port upgrades).

Oil extraction will have considerable economic implications, primarily through fiscal revenue. The upstream oil (and gas) industry is not labor intensive, nor does it have strong backward or forward linkages to the rest of the economy. The primary channel through which it will affect Kenya's economy is through the fiscal revenue it will generate. An economic model presented in chapter 5 finds that even the reserves that have been discovered so far will bring substantial revenue to the budget over a period of several decades, and the development impact of this revenue is a factor for policy decisions.[19]

Resource discovery is not a guarantee of development and whether it becomes a curse or a blessing will depend primarily on the decisions taken related to five policy problems. Although the outcomes of the resource discovery are uncertain, it is certain the policy makers will have to solve five main problems associated with the resource extraction: (i) pressures on the tradable sectors that would come from the inflows of foreign exchange (Dutch disease), (ii) oil price volatility (complicating public expenditure and investment decisions), (iii) over-borrowing (borrowers and lenders feel less constrained in anticipation of future revenue flow), (iv) sustainability (the amount of the natural wealth to be preserved for future generations), and (v) corruption and mismanagement of revenue (the larger the resources, the more voracious the incentives for rent-seeking).[20] Some of these

problems will be more important than others. Each will be relevant—to different extents—in the Kenyan context. For example, managing the floating exchange rate will become more challenging under volatile inflows of U.S. dollar revenue. Almost all countries with weak institutions and traditions of patronage politics have experienced challenges in transforming revenues derived from natural resources into assets for growth and shared prosperity. Further, there is evidence that the presence of natural resource revenues has a negative impact on the quality of institutions and governance.[21] The opportunities arising from increased natural resources in Kenya are therefore accompanied by significant governance risks that can best be managed with a strong emphasis on transparency, accountability, and stakeholder involvement.

To respond to some of the questions raised, chapter 5 advises on what share of revenues should be saved or spent, how to allocate spending, and what institutional mechanisms to put in place. For saving versus spending, this report suggests that a permanent income hypothesis[22] approach would best suit the characteristics of the Kenyan economy. For where to allocate the additional resources, priority should be given to increasing health spending while maintaining the current share of infrastructure investment in the total envelope for health, education, and infrastructure. The simulations show that such an approach would bring the highest boost to non-resource GDP and would lead to favorable fiscal outcomes. This finding is derived from the economic principle of diminishing returns to (infrastructure) investment, which is especially true when there are implementation constraints, as is the case of Kenya.

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[19] Although there could be significant non-oil minerals produced in Kenya in the near term, the chapter limits its focus to oil.
[20] See Giugale (2014).
[21] See World Bank (2012b).
[22] This approach implies constant government consumption (in real terms) of oil resources over time that is equivalent to interest income on the net present value of the country's oil wealth.

Among the institutional mechanisms, fiscal rules, transparency mechanisms, and a sovereign wealth fund are suggested as most important for achieving positive outcomes. First, establishing a fiscal rule, that is, imposing long-lasting constraints on discretionary fiscal actions, early on and strictly committing to targets would serve well to enhance policy credibility. International practice demonstrates that effective fiscal rules are well defined, transparent, simple, and to some extent flexible. The last feature is particularly tricky; Spotlight 5 argues that in countries with weak institutional capacity and data—and Kenya would fall in this category—too much flexibility for countercyclical policies may actually increase economic volatility, so a more rigid rule may be more effective. In the Kenyan context where expenditure pressures may come from the counties, a rigid fiscal rule may help the central government in maintaining fiscal stability. Second, transparency (and oversight) is a critical pillar in the institutional framework, and although it cannot ensure the responsible use of resource revenues, without transparency, abuse is almost certain.[23] One step in this direction is to implement the Extractive Industries Transparency Initiative (EITI) standards.[24] Nineteen African countries, including neighboring Mozambique and Tanzania, have already subscribed to the EITI standards. In July 2015, the Kenyan authorities announced that a focal point for EITI implementation would be established within six months. The authorities also announced that a transparent policy and legislative framework would be adopted for the oil and gas sector, including the adoption of a transparent process for licensing and publication of contracts. Last but not least, the sovereign wealth fund (SWF) has proven to be a good instrument for managing resource revenue, and such fund(s) may serve a saving or stabilization function.

Global experiences illustrate that there are many solutions to the design and management of an SWF. The Kenyan authorities have been drafting an SWF bill since 2014, incorporating a broader policy framework for managing resources.

Improving policy coordination in resource management is crucial for achievement of the expected outcomes from resource revenues. Policy decisions require careful analysis and deliberation, in particular for countries with multiple tiers of government that share responsibilities over the use of public resources. It is unclear if Kenyan policy makers' current legislative efforts are sufficient and aligned with the best practices for the development impact of natural resources. The Constitution of Kenya, especially articles 69 to 72, provides the broad foundation of obligations for regulating environmental and natural resource management. Some progress has been made to enact the necessary laws to operationalize these principles. For example, a mining law has been submitted to the Parliament and legislation related to various resources, such as ore, oil, or gas, is being drafted. However, much is left to be desired. Legislative efforts are typically done in an isolated manner, whereas some of the policy issues, such as how to share resource revenue among the levels of government, necessitate unified solutions. In addition, legislation has been proposed (for example, on mining) in the absence of a clear policy for the sector. Various policy proposals on critical issues, such as revenue sharing, are being presented from different parties in the form of legislative proposals and driven by special interests, which make consensus difficult. And legislative proposals are being drafted (for example, on the SWF) without in-depth analysis to guide the proposed legislative solutions. Unless the various stakeholders, in particular

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[23] Humphreys, Sachs, and Stiglitz (2007).
[24] EITI.org.

the central government, county governments, and Parliament, start making coordinated and informed decisions on the management of natural resources, the oil discoveries are at risk to become a curse rather than a blessing for the Kenyan people. Finally, inadequate attention has been paid to managing the expectations and needs of the local communities, and as oil happened to be discovered in Kenya's poorest and conflict-prone region, addressing the economic and social needs of the people in those areas is critical for avoiding unnecessary conflict. Kenya can learn from the mistakes of other oil-producing countries in Africa and elsewhere to avoid falling into the same trap.

Conclusions and Next Steps

To sum, several aspects of Kenya's growth model over the past decade have been positive and can be built on, while in other areas there are challenges to be overcome. What most Kenyans know is that the economy has become much more dynamic and innovative in the past decade. Looking at the data, however, shows that more work is needed to make such economic trends transformational: agriculture remains the mainstay of the economy (more than two-thirds of Kenyans continue to live in rural areas); manufacturing has been unsatisfactory; and the modern sectors, such as finance and communications, account for only a marginal share of employment.

The fact that in a global context Kenya's growth performance has been modest at best comes as no surprise when Kenya is benchmarked against the most important determinants of growth. Countries at a similar level of development typically have greater macro-stability and higher urbanization, are more open, invest more, spend more on health, have better governance, and

have a more developed higher education system than Kenya. There is a wide consensus that these are among the most important determinants of growth, and Kenya's peers have indeed been growing faster over the past decade.

The main policy implication of the above is that achieving rapid growth and shared prosperity will require continued action on multiple fronts. Improving on the key determinants of growth necessitates not only enactment of legislation, but also its enforcement; more public investment and better execution of capital projects; greater political and economic stability; and improved governance. Progress on multiple fronts is happening in Kenya. What remains is to move up a gear as well as to expand the focus on those areas that have received less than the needed attention. This report argues for a range of short-, medium-, and long-term actions that would put the economy on the trajectory envisaged in Vision 2030.

Short-Term vs. Long-Term Reform Priorities

For transformational growth, Kenya requires complementary policy reforms and investments. First, macroeconomic distortions that contribute to pro-cyclical policy and reduce saving should be addressed: lower inflation and less volatility in public spending. Second, the government should consider investments that can unlock Kenya's comparative advantage; energy and transport infrastructure are among the main bottlenecks, and there is notable progress in these areas. Third, the government will also need to consider pressing social sector needs, especially in education and health, in the context of the challenges and opportunities that devolution brings. Fourth, breaking elite capture in the agriculture sector—which is primarily a question of political will—and removing policy distortions

can give a boost to the currently undercapitalized farms and rural enterprises. Finally, for private sector development, reforms should center on those areas that inhibit formalization and enterprise growth. The government has recently prioritized reform improvements to promote private investment and has made significant strides in improving the business environment, and should continue to further these reforms, as chapter 2 points out.

In the short term, fiscal expenditure reforms hold promise to yield immediate gains. As discussed in chapter 1, Kenya's overall macroeconomic management ranks better than that of its peers. However, there is room for improvement, particularly on the fiscal front, where there is a need to maintain and execute the share of the budget allocated to investment. Three elements pose risk in this respect: (i) the rising wage bill, (ii) falling execution of capital projects, and (iii) weak coordination among central and county governments. If the wage bill spirals out of control, the share of public investment in the budget will be permanently reduced. One important issue that emerges is the need to increase revenues collected from taxes at the county and national levels. However, this needs to be complemented with improvements in the public investment management process. Even if funds continue to be raised and budgeted for investment projects, the economy will not benefit unless projects are adequately implemented. For capital projects, improvements in the public investment management framework and improved coordination between counties and the central government would help to raise the effectiveness of public investment.

The list of actions broadens over the medium term to other aspects of fiscal policy, as well as education, urbanization, and agriculture and areas of the business environment affecting the informal sector. Fiscal policy should underpin macroeconomic stability by maintaining a countercyclical role, given that economic volatility has been high in recent years. Whereas the government has effectively started to direct more spending toward stemming the largest constraints to economic development, such as electricity generation, transport, and health, measures should be put in place to ensure sustainability over the medium term without compromising fiscal space. The focus of education reform should move beyond increasing primary and secondary enrollment to making vocational training more in line with market needs and improving the quality of tertiary education. Kenya's urbanization can be used to drive economic growth and poverty reduction with better public infrastructure and services in cities. Urbanization can also drive policies that foster the specialization and agglomeration economies that firms need to create more formal sector wage jobs, while also promoting measures that create opportunities for informal entrepreneurs (chapter 2 shows examples from other countries), given that the majority of those moving to urban areas will not immediately be able to join the formal economy. Devolution has placed the responsibility for many public services and some aspects of the business environment with county governments. Counties are following the positive lead of the national government in looking to improve their local business environments, but devolution work will be an essential piece of the growth agenda. Finally, removing the policy obstacles that choke agricultural development would make a dent in poverty, given that most of the poor are in rural areas

Three elements of the long-term agenda stand out: increasing innovation, making the most of Kenya's newly discovered natural resources, and improving governance. Innovation activity is widespread in various parts of Kenya's economy.

Innovation typically takes the form of introducing new products or production processes, but the improvements tend to be marginal as firms in Kenya spend relatively little on R&D compared with firms in similar countries. In the long term, the government can stimulate more R&D (including through public funding) as well as enhance the quality of education to produce the needed skills. Kenya is expected to become an oil exporting country in 2020 at the earliest. However, to make oil a success story, several things would have to be in place: legal framework, accompanying infrastructure (pipelines), and institutions to manage the sector. The work on each of these building blocks would need to start today; as oil starts to flow, the emphasis would shift to how best to put the resource revenue to use. Great strides have been made in recent years to improve public sector governance: The Constitution 2010, devolution, strengthening of oversight institutions and improvement in core revenue and public financial management procedures are noteworthy achievements which demonstrates significant commitment and reform capability. However, for Kenya to further accelerate growth and poverty reduction, efforts are needed to follow through on these reforms and avoid reversing on the progress made. A significant issue is corruption which is a long-standing concern that remains challenging, and where deeper and faster progress is still much needed.

Next Steps for Further Exploration

This report takes a bird's-eye view of Kenya's economy, and a logical next step would be to zoom in on some of the key bottlenecks and come up with "how-to" ideas. The chapters in this report provide in some instances recommendations or examples from other countries. But the main focus of the analysis is on identifying the problems. Hence, some of the areas would require further work to get from understanding the problem to designing solutions. First, services range from construction to public administration, and addressing the constraints to growth requires delving into the specific issues in each subsector. Therefore, decoupling services and proposing solutions for particular subsectors would be a natural continuation of the work in this report. Second, understanding better the linkages between services and manufacturing may help unleash the potential of the latter sector. Finally, understanding better the impact of subsectors of the economy—including the rapidly developing oil sector—is essential for promoting shared prosperity.

KENYA'S GROWTH STORY

Kenya's Recent Growth Performance

Following two decades of stagnation in per capita income and high volatility of economic activity, Kenya's economy moved to a path of accelerating growth after 2002. Gross domestic product (GDP) growth increased steadily from below 1 percent in 2002 to 7 percent in 2007. This was the only episode of five-year accelerating growth in independent Kenya's history, and it was the also the first time since 1986 that GDP growth reached 7 percent. Since 2007, the economy has been hit by several shocks, starting with the post-election violence in January 2008, which brought GDP growth to a halt, followed by a slow recovery in 2009. Economic growth has started to rebound since 2010 and has stabilized since, although at rates lower than before 2008.

However, growth volatility remained high in the recovery phase. The standard deviation of GDP growth was the same (1.8) in the 1990s and post-2012. In recent years, political turmoil and violence after the political elections in 2007 and the global economic crisis magnified volatility. This fluctuation in growth was caused by various factors, such as political shocks (elections years have been associated with lower growth since the 1990s), exogenous shocks (drought, oil prices, and global crisis), and macroeconomic policy shocks (relatively high inflation).

Although the improvement in economic performance in the past decade has been remarkable, benchmarking Kenya's economy against similar peers from across the world sheds light on Kenya's relative success. For this purpose, the report has identified a handful of countries from the continent and elsewhere at a similar level of development as Kenya was a decade ago.[25] The countries in Sub-Saharan Africa (SSA) include Burkina Faso, Ghana, Senegal, Tanzania, and Uganda. The non-Africa peers are Bangladesh, Cambodia, India, Pakistan, and Vietnam. In addition, Kenya's performance is benchmarked against the high-growth countries of the 1980s and 1990s that had a similar income level as Kenya in the 2000s (these include China, Indonesia, and Thailand). Kenya's average GDP per capita is higher than its SSA peers (Figure 1.1).

Figure 1.1: Kenya's peers with similar GDP per capita
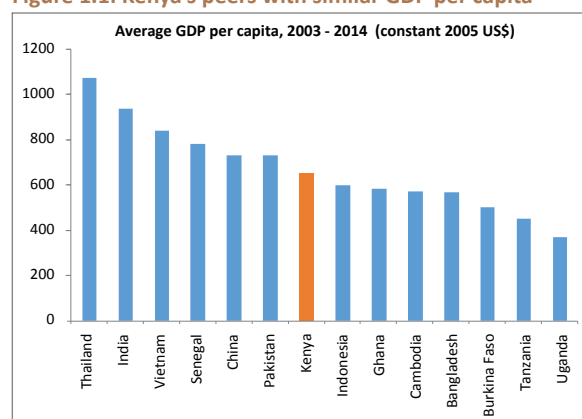
Average GDP per capita, 2003 - 2014 (constant 2005 US$)

Source: Calculations based on World Bank World Development Indicators.
Note: The data for Thailand are for 1971–80. GDP = gross domestic product.

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[25] Peer countries had +30 and -50 percent of Kenya's GDP per capita in 2005.

Compared with the average for the selected peer economies, Kenya's GDP growth was lower. The average growth rate for Kenya was 1.7 percentage points lower than that for the (non-weighted) SSA peers and 3.1 percentage points lower than the high-growth economies during the 1980s and 1990s (Figure 1.2). Furthermore, Kenya's GDP volatility—which has been identified as one of the main concerns for policy makers—is the highest compared with the country's peers.

The first step to understanding the reasons behind Kenya's relatively weaker economic performance is to identify the drivers of economic growth in the past decade. The approach taken to this end is to examine the sector growth trends, the demand side of economic activity, as well as changes in production factors.

Services have been the main engine of Kenya's economy over the past decade. Expansion of the services sectors accounted for almost two-thirds of the increase in output between 2006 and 2014 (Figure 1.3). Industry contributed more than 20 percent of the increase, and the remaining 15 percent came from agriculture. Services also proved to be most resilient following the 2008 election crisis; while agricultural output fell and industrial output growth slowed in 2008 and 2009, growth in services accelerated in 2009.

Figure 1.3: Services have been driving growth in Kenya
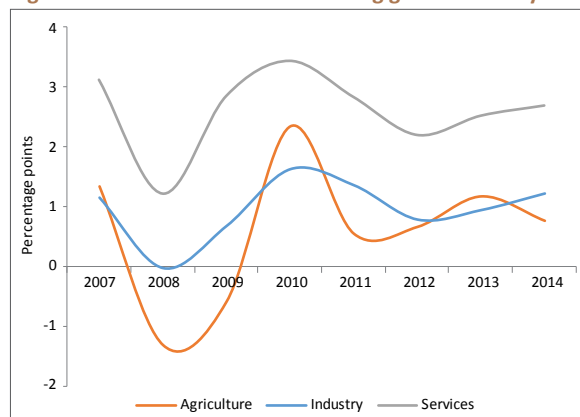
Source: Calculations based on World Bank World Development Indicators data.

Among the services sectors, communications, trade, and financial services have been the star performers. Their share in total gross value added increased from 15.3 to 19.2 percent between 2006 and 2013. Wholesale and retail trade has flourished, boosted by job market entrants who find this to be the easiest way to generate income outside farming. Road transport achieved the fastest growth—supported by the increase in the number of vehicles and rising regional trade—and its share in total transport value added rose from 47 to 65 percent. Air transport output doubled because of increased tourist arrivals and expansion of operations by Kenya Airways (the number of passengers rose from 2.0 million to 3.6 million between 2005 and 2013).

Figure 1.2: Kenya's economy had lower growth and higher volatility than its peers, 2003–14
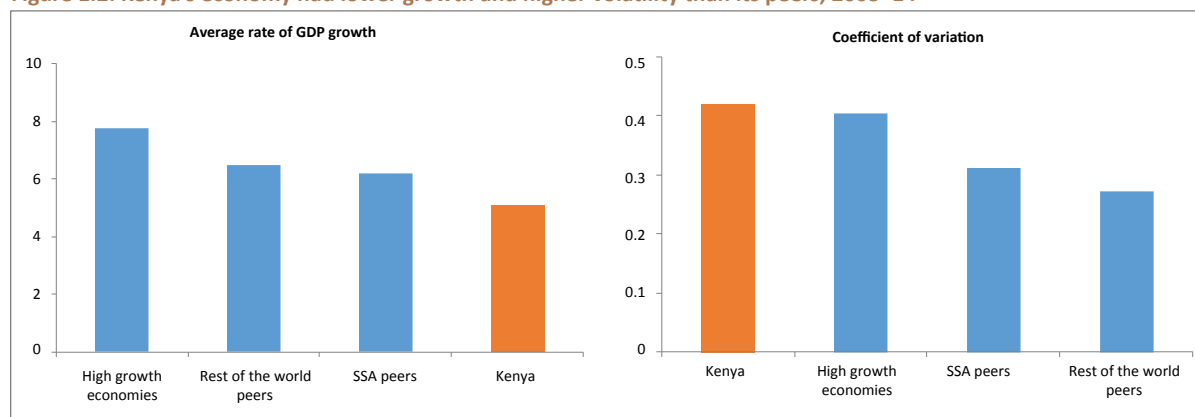
Source: Calculations based on World Bank World Development Indicators data.
Note: SSA peers: Burkina Faso, Ghana, Senegal, Tanzania, and Uganda; non-Africa peers: Bangladesh, Cambodia, India, Pakistan, and Vietnam; high-growth economies: China, Indonesia, and Thailand. GDP = gross domestic product; SSA = Sub-Saharan Africa.

In contrast, railway traffic has been declining, in cargo and passengers. Rapid mobile penetration (from 19 percent in 2005 to 75 percent in 2013) and development of mobile payment services boosted output in the communications sector. The financial sector has also grown rapidly and Kenyan banks have begun to widen their presence in the regional market.

Within industry, mining and energy achieved above average growth, while manufacturing was below average. Manufacturing, which accounts for the bulk of industry, has had a mixed performance. The food industry has proven to be successful, while the other sectors have had slow or negative growth. The share of labor costs in total value added rose from 34 percent in 2005 to 38 percent in 2013, which implies that wages are eating into the competitiveness of the manufacturing sector or that low-skill labor intensive industries have been growing faster. Data from the financial statements of manufacturing firms listed at the stock exchange confirm this trend: the share of labor cost in sales rose from 8.6 to 10.6 percent between 2009 and 2013. Mining has expanded rapidly since 2006, because of the booming demand for and rising prices of soda ash, gold, and fluorspar, although the price trends reversed in 2013. Finally, the energy sector has witnessed a marginal increase in its share in the economy thanks to rising electricity production in recent years. Electricity generation increased by 31 percent between 2010 and 2014. Whereas geothermal grew faster, hydro generation remained the main source, accounting for over 40 percent during the same period.

The agriculture sector is still endowed with opportunities. Horticultural production has boomed and the volume of flower exports rose 32 percent between 2005 and 2013. The stellar performance of the sector can be attributed partly to the efficient air transport that is used for this product, while inefficiencies at the port of Mombasa have been increasing the costs of sea exports. Tobacco is another promising sector; output almost tripled in the eight years after 2005. Among the traditional sectors, although tea production has continued to grow, coffee production has slowed. As coffee prices have fallen in real terms since 2005, production has moved away from coffee (total production area fell by a third). Tea production area increased by 40 percent by 2013. However, the average yield for tea fell in the same period, while for coffee the average yield grew 37 percent.

Compared with the peer group, Kenya stands out in two ways: the contribution of services to overall growth is highest, and the relative performance of each sector is lagging behind that of the peers. Services generated almost half of the GDP growth in the peer groups and two-thirds of Kenya's growth. Correspondingly, the contribution of industry in Kenya was lower than practically in all other countries, with the exception of Senegal. Although growth was skewed toward services in Kenya, the sector grew slower than in most of the peer group countries (Figure 1.4). The growth of agriculture and industry was even weaker in comparison with the peer countries. The discrepancy is particularly noticeable for industry: some countries from the peer group had growth rates for industry that were two or three times higher than Kenya's. The gap is even wider when comparing the performance of Kenya's manufacturing with that of the high-growth economies identified in the Growth Commission Report 2008. In the latter, rapid development of the manufacturing sector was found to be the key driver of rapid and sustainable economic growth.

Figure 1.4: Each of Kenya's sectors has fared worse compared with peers, 2003–12
(GDP growth, %)
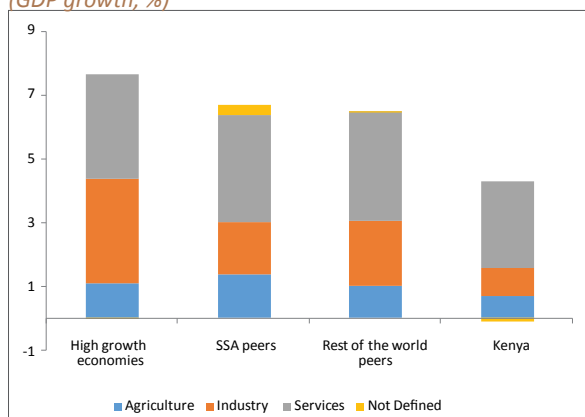
Source: Calculations based on World Bank World Development Indicators data and Kenya National Bureau of Statistics.
Note: High-growth economies data refer to the 1980s. GDP = gross domestic product; SSA = Sub-Saharan Africa.

The finding of services being the driver of output growth is concurrent with the fact that consumption has been the main contributor to growth on the expenditure side. Rising consumption (average annual growth of 5.1 percent), propelled by rising formal employment (average annual growth of 2.8 percent) and credit to the private sector (average annual increase of 20 percent) fueled growth throughout the past decade (Figure 1.5). Investment has also made a positive contribution to growth year after year since 2003—a stark difference compared with the preceding two decades. Interestingly, fiscal policy has been behind the increase in public investment, while private investment fell from 15 to 13 percent of GDP in 2012. The rising consumption and investment generated rising demand for imports of goods, which has not been accompanied by a matching increase in exports. On the contrary, exports as a percent of GDP have declined since 2006. Contrary to popular expectations, exports to the fast-growing regional East African Community (EAC) market—which takes up a fifth of Kenya's exports—have been particularly disappointing. Kenyan exporters have been losing market share: in 2006, 11 percent of EAC's imports came from Kenya and by 2013 the

share had fallen to 6 percent. For example, Kenya's market share in EAC's market for chemicals and paper has been stagnating or declining over the past decade, while Chinese and Indian exporters have been expanding and have surpassed Kenyan exporters in market share. At the same time, the structure of exports, comprising animal, mineral, wood, and footwear products, has remained largely unchanged. As a whole, net exports have been a drag on growth throughout most of the past decade.

Figure 1.5: Consumption has been driving growth while net exports have been a drag
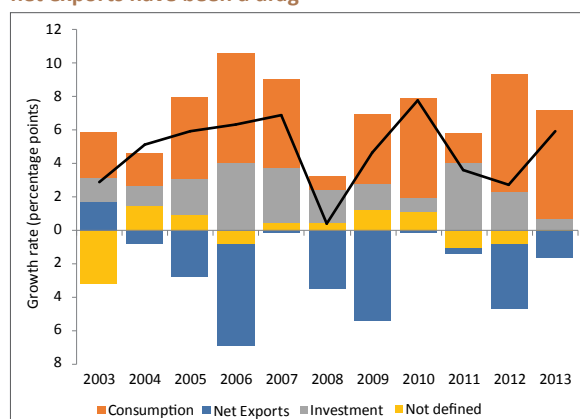
Source: Calculations based on World Bank World Development Indicators.

The clogged "exports engine" is what differentiates Kenya from the peer countries, in particular those outside the Africa region. Kenya's goods exports have been relatively low within the peer group. In 2012, exports of goods were 12 percent of GDP, while the successful East Asian countries have been producing and exporting several times more (Figure 1.6). The weakness of the export sector has been exacerbated in recent years. Kenya was one of the few countries in the group that recorded a decline in the export-to-GDP ratio between 2005 and 2012. Several factors are suspected to be the culprits for this trend: high cost of transport (partly caused by inefficiencies in getting goods to and from Mombasa port), appreciating real exchange rate, and weak manufacturing sector.

Source: Calculations based on the International Monetary Fund World Economic Outlook database.
Note: The data for Thailand are for 1980. GDP = gross domestic product; SSA = Sub-Saharan Africa.

Services exports have fared much better. Unlike most of the peer economies, Kenya has a strong export-oriented services economy: only Thailand and Uganda in the 1980s had a higher services exports-to-GDP share. Travel services[26] (tourism) are the largest services export, followed by transport. Services exports grew faster than GDP between 2005 and 2013, and transport services accounted for almost half of the increase in exports.

Vision 2030 Goal

Kenya has set a goal to become an upper-middle-income country by 2030. The World Bank places countries in four income groups: low-income countries, lower-middle-income countries, upper-middle-income countries (UMICs), and high-income countries. For this purpose, income is defined as gross national income (GNI) per capita based on the World Bank's Atlas method. The GNI per capita (Atlas method) thresholds for 2013 were: US$1,045 or less for low income, US$1,046 to US$4,125 for lower-middle income, US$4,126 to US$12,745 for upper-middle income, and US$12,746 or more for high income. In 2013, Kenya became a lower-middle-income country

with a GNI per capita (Atlas method) of US$1,160, following the rebasing of GDP.

Becoming a UMIC by 2030 is a formidable task. The income thresholds move up practically each year—in line with inflation in the high-income economies—and in 2030 the threshold for UMICs is projected to be around US$5,600. To reach this level, Kenya's GNI per capita would need to increase fivefold over the next 15 years. Looking in the rearview mirror, that is, at Kenya's past performance, the Vision 2030 goal seems farfetched. To begin, Kenya's GNI per capita was just below the lower-middle-income threshold in 1988 when the income classification was introduced, and then kept slipping for more than a decade. Things have improved in the past decade; however, even if Kenya's GNI per capita were to continue to grow at the historic rate of the past 10 years, by 2030 its GNI per capita would still be far from the UMIC threshold.

Nevertheless, the Vision 2030 goal is achievable, and similar successes have been noted throughout the world. Achieving UMIC status by 2030 implies that Kenya's GNI per capita would need to grow 10 percent annually for the next 15 years. Such rapid and sustained growth has been witnessed in several countries around the world, including in SSA. The lower-middle-income countries' GNI per capita grew at 10.6 percent per annum in the 2000–10 decade. This high growth came mostly from the East Asia and Pacific region—which recorded an average annual growth rate of 14 percent—but several countries in SSA have also grown at such a rapid pace. Angola and Equatorial Guinea were among the fastest growing countries in the world in the 2000s: their GNI per capita rose by over 22 percent per annum during the decade (Figure 1.7). This growth was driven by oil exports, similar to the

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[26] Inflows from foreign tourists (spending on travel, accommodations, and food) is recorded as exports of travel services the balance of payments account.

Figure 1.7: Several countries in SSA and East Asia have achieved Kenya's desired pace of growth, 2000–10
(annual average GNI per capita, %)
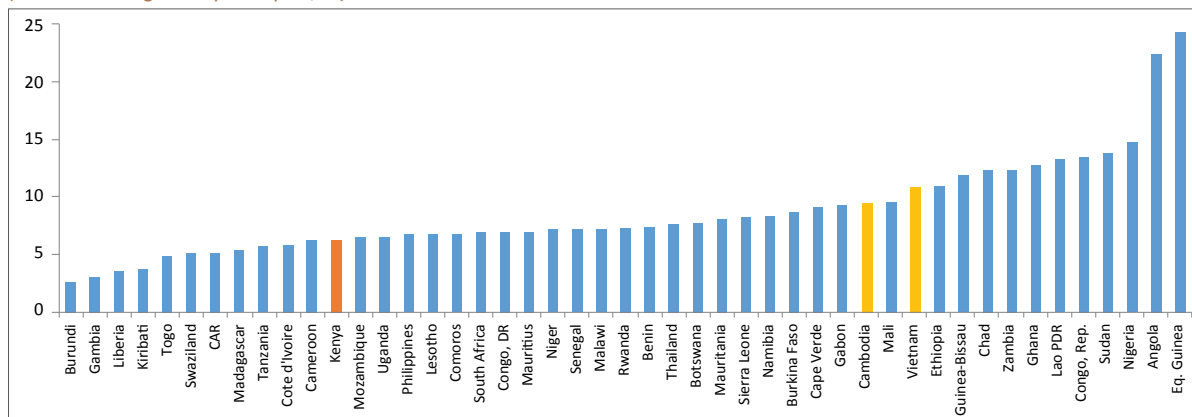
Source: World Bank.
Note: GNI = gross national income; SSA = Sub-Saharan Africa.

case of the next two fastest growing countries in SSA: Nigeria and Sudan. Nevertheless, non-resource rich countries such as Ethiopia, Ghana, Guinea-Bissau, and Zambia also recorded GNI per capita growth rates of 11 percent or higher.

The required 10 percent GNI per capita growth to achieve Vision 2030 translates into a real GDP annual growth rate of 6.8 percent. Under the baseline scenario,27 Kenya's annual GDP growth rate should average 6.8 percent for the country to become a UMIC by 2030. Under pessimistic scenarios that assume higher fertility or exchange rate depreciation, the required GDP growth rate would need to be higher. There have been only a few occasions in Kenya's history when the economy grew by 6.8 percent. Looking forward, sustained annual growth of 6.8 percent or more is possible, but it would require bending the arc of history.

Estimating Kenya's Potential Growth

The previous section estimated the required growth rate to achieve the Vision 2030 goal; this section assesses the potential growth for the

economy under the baseline scenario. The first step in understanding how likely it is to achieve the required growth rate of 6.8 percent for a sustained period of time is to assess how the economy has performed relative to its potential and what is its medium-term potential. The potential growth rate refers to the rate of growth of GDP when all available production factors (capital, labor, and technology) are fully utilized without producing inflationary pressures. Details on the methodological approach to estimating the potential growth rate are provided in appendix C.

The output gap estimates for the past two decades indicate that the economy has been mostly below its potential. For the historic performance, three filter methods have been applied to ensure the robustness of the results. The results illustrate that despite higher growth in the 2000s, the economy has been below potential for most of the past 15 years. The negative output gap was largest in 2003, and then began to narrow, moving to a positive value in 2006. The positive output gap peaked in 2007, but then turned negative after 2008 (Figure 1.8).

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27 The assumptions are population growth of 2.2 percent per year, a stable $US-K Sh exchange rate, and parity between GDP and GNI.

Figure 1.8: The output gap has turned negative since 2008 *(percent)*
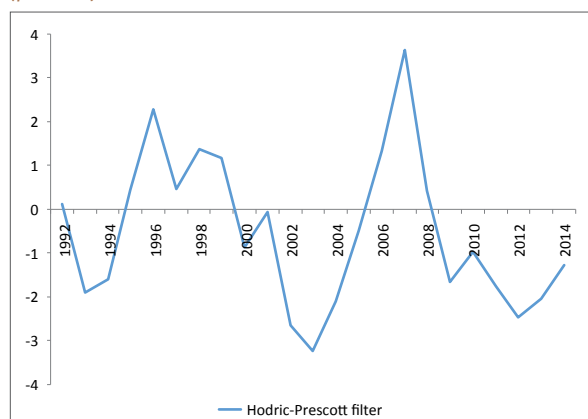
Source: Calculations based on data from World Bank World Development Indicators and International Monetary Fund World Economic Outlook.

Figure 1.9: Comparison of projected actual and potential GDP growth rates for 2014–18
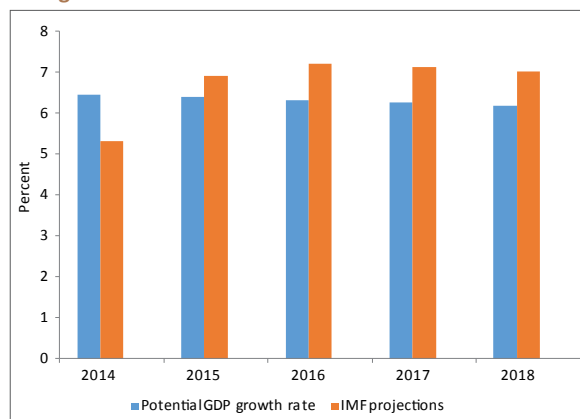
Source: Calculations based on data from World Bank World Development Indicators and International Monetary Fund.
Note: GDP = gross domestic product; IMF = International Monetary Fund.

Kenya's potential growth rate is below what is sought in Vision 2030 and the Second Medium-Term Plan (MTP-2). The potential GDP growth rate up to 2020 is just above 6 percent. Under this scenario, Kenya would not become a UMIC by 2030. Assuming the potential growth rate remains at 6 percent until 2030, GDP per capita in 2030 will be $2,303, which is lower than that for a UMIC.

Unlike the past decade, Kenya's GDP growth starting from 2015 is projected to be above potential. The latest International Monetary Fund (IMF) projections indicate that growth will average 7 percent over 2015–18, which is higher than the potential growth rate of 6.2 percent (Figure 1.9). These projections rest on the assumption that the external environment will be positive and macroeconomic policies, in addition to structural reforms, will be growth oriented. At the same time, the economy will face several downside risks, including on the policy front.

Although in the long term the authorities aim to raise potential output through investment in infrastructure and education, they are likely

to rely mostly on expansionary fiscal policy to give a short-term boost to growth (beyond potential). It seems that Kenya's economy is at a low risk of overheating, that is, there is no risk of domestic demand-driven inflationary pressures over the medium term. This situation implies that there is room for policy interventions aimed at accelerating GDP growth. To understand the policy options for monetary and fiscal decision makers, it is useful to begin by examining the cyclicality of fiscal and monetary policy in the past.

Fiscal policy has been increasingly correlated with the business cycle since the beginning of the century. The synchronization between fiscal policy and the business cycle is assessed using two measures of fiscal outcomes: the primary budget balance and the cyclically adjusted[28] primary budget balance as an indicator for the discretionary fiscal policy stance. The former fiscal policy indicator does not point to a relationship between fiscal policy and the output gap prior to 2008. The cyclically adjusted primary budget balance is found to be negatively correlated with the output gap, which suggests that discretionary fiscal policy was on average pro-cyclical prior

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[28] The cyclical adjustment of the budget balance has been done according to the aggregated approach that is conducted by the IMF. According to this approach, the elasticity of revenues and expenditures with respect to output gap fluctuations are taken to be 1 and 0, respectively.

to 2008. Since 2008, fiscal policy outcomes have improved as both fiscal indicators signal a countercyclical fiscal policy stance (Figure 1.10). The correlation coefficients range from 0.3 to 0.8, which is a relatively strong (statistically significant) positive relationship. In the absence of this fiscal boost, the economic recovery after 2008 would have been weaker and possibly more volatile.

Figure 1.10: Fiscal policy moved from being pro-cyclical to countercyclical in 2008
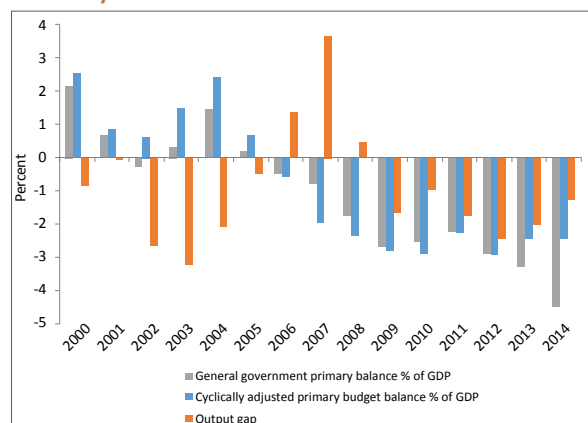
Source: Calculations based on World Bank World Development Indicators and International Monetary Fund World Economic Outlook database.
Note: GDP = gross domestic product.

Kenya's macroeconomic position allows for continued countercyclical fiscal policy to smooth the negative output gap in the medium term. Revenue collection has not been stellar over the past few years, in particular in the administration of value-added tax, and the IMF projects that the revenue-to-GDP ratio will remain at the same level in the medium term. At the same time, the MTP-2 envisages increased spending on infrastructure and social sectors, which will result in continued budget deficits. The 2014 IMF-World Bank debt sustainability analysis concludes that Kenya's public debt is sustainable and the country faces a low risk of debt distress (IMF 2014). Hence, a moderate increase in the budget deficit would be possible.

However, this policy direction has to take into consideration the fiscal weaknesses that undermine the effectiveness of countercyclical fiscal policy. More precisely, the decision on further fiscal loosening should incorporate the following: (i) contingent liabilities arising from the devolution process; (ii) pressures to increase recurrent spending (wage bill), which is difficult to reverse; and (iii) the deteriorating efficiency of investment expenditure. Ambiguity in some aspects of the devolution process has created potential liabilities that may end up in the central government's budget. For example, lack of clarity in the transfer of staff and assets from the central to the county level, as well as potential borrowing by counties, may pose a burden to the central budget. The wage bill, which has swelled at the central and county levels, is another risk to fiscal sustainability, since these entitlements are difficult to curb. Finally, concerns about the declining efficiency of public investment stem from falling execution rates, cutting of operations and maintenance spending, and inadequate prioritization of spending. All these weaknesses would need to be addressed for countercyclical fiscal policy to boost output growth in a sustainable manner.

Monetary policy has been focused mostly on neutralizing price shocks in the economy. This focus is somewhat expected, as the monetary policy regime is a type of inflation targeting, so the Central Bank of Kenya reacts primarily to inflationary pressures, which in the past few years have often come via exogenous shocks (drought or oil prices) rather than domestic demand pressures. For that reason, there was not much space for monetary policy to react to business cycle fluctuations (Figure 1.11). For the medium term, a substantial shift in the policy stance is not expected. The data suggest that, in absence of exogenous supply-side shocks, key policy rates would stay unchanged.

Figure 1.11: Monetary policy has not been fully in sync with the real economy
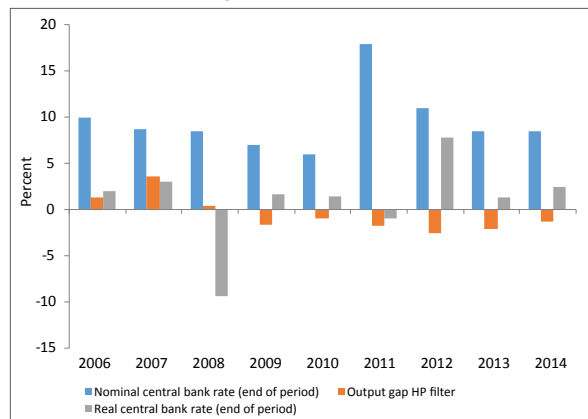
Source: Calculations based on data from World Bank World Development Indicators and the Central Bank of Kenya.
Note: HP = Hodrick-Prescott

Managing Economic Volatility

In addition to growing below the desired, or potential, level, Kenya's economy over the past decade has also been coping with high GDP volatility. Although growth has been positive throughout the decade, the economy recorded significant swings, with annual GDP growth ranging from less than 1 to 7 percent. Recognizing the causes of economic volatility—the most important ones and how long the pass-through effect lasts—is a necessary step toward achieving higher and sustained growth, so that policy makers can prepare for and react to anticipated shocks. Broadly defined, the causes of economic fluctuations can be external or domestic.

The transmission of exogenous shocks to the domestic economy can be assessed via two channels. The first channel is when economic activity in key trading and/or investor partner countries influences domestic economic activity. The second channel is via the pass-through effects of foreign inflation, in particular, foreign effective inflation, global commodity prices, and oil prices, on domestic inflation. The empirical approach and results can be found in appendix A.

Shocks in economic activity in major export partners have an immediate impact on Kenya's economy, but with low magnitude. A shock of one standard deviation in the foreign GDP per capita growth has a 0.7 percentage point effect on Kenya's GDP per capita growth. The impact is transmitted in the current period and persists for almost a year. The variance decomposition results indicate that variations in foreign economic activity account for around 15 percent of the variation in domestic economic activity. This suggests that foreign GDP shocks are quickly transmitted to Kenya, but their size of transmission is less than complete and they can explain only a limited part of the overall fluctuations in domestic output.

In the transmission of foreign shocks to inflation, again the results indicate a positive and statistically significant relationship. A one standard deviation shock in foreign effective inflation leads to an increase in domestic inflation of 6 to 9 percentage points (appendix A). Foreign inflation shocks are transmitted in the current period and persist for a longer time horizon (even up to four years). The variance decomposition method implies that fluctuations in foreign inflation are the dominant factor dictating price movements in Kenya, as they account for up to 71 percent of the variability in inflation.

Digging deeper, the results show that shocks in foreign food prices are likely to affect Kenya's inflation to a much greater extent compared with shocks in oil prices. To examine the impact of the transmission of food and oil process on Kenya's inflation, the same method is applied using quarterly data for 2001–13, because variations in food and oil prices are greater and usually last shorter (a few months), so the pass-through effect can be captured more precisely with lower

frequency data. The impulse response functions indicate that there is a significant reaction of Kenya's inflation to shocks in food prices, but not to oil prices, at the 5 percent level of significance. A shock of one standard deviation in food prices results in an increase in Kenya's inflation from 2.4 percentage points within two quarters delay and up to 10 percentage points after 10 quarters delay. The variance decomposition exercise indicates that fluctuations in world food prices explain up to two-thirds of the variation in Kenya's inflation. The transmission of shocks in oil prices to domestic inflation in Kenya was not found to be statistically significant, even when using monthly frequency data.

The same empirical approach illustrates that much of the economic volatility that Kenya has experienced over the past decade has been domestically driven. First, changes in the investment-to-GDP ratio are shown to have a positive effect on GDP per capita growth of between 0.7 and 2.5 percentage points. The shocks are transmitted with a delay of one year and persist up to six years. A shock of one standard deviation in government final consumption positively affects GDP per capita growth between 0.6 and 1.5 percentage points. The transmission of the shocks occurs with a delay of one year and persists up to three years. Government final consumption explains between 15.5 and 20.9 percent of the volatility in GDP per capita growth. Finally, a shock of one standard deviation in Kenya's inflation has a negative impact on GDP per capita growth of 1.1 to 1.6 percentage points. The shock from inflation is transmitted within the first year and persists up to two years. Inflation explains nearly one-fifth of the variance in GDP growth.

The main conclusion from this analysis is that economic stability is primarily a function of domestic policies. In sum, the empirical analysis illustrates that exogenous foreign shocks are not fully transmitted to Kenya's economy and domestic shocks explain much of the variability in GDP growth. These findings imply that reducing volatility is primarily a question of domestic policies. The next section describes the determinants of growth in Kenya, which in turn should guide decision makers toward the policy priorities that deserve greater focus to reduce volatility and accelerate growth.

Factors behind Kenya's Economic Performance

One of the main questions for Kenya's policy makers is how to accelerate economic growth. Vision 2030 and the MTP-2 call for faster and sustained growth, an outcome that is different from historic economic performance, which has been below potential and volatile. To understand the determinants of growth, this chapter adopts a twofold approach. The starting point is the vast economic literature on the determinants of growth. Then, Kenya's performance in each area is benchmarked to its group of peer countries, which also includes some of the East Asian Tigers during their initial boom periods. Chapter 4 complements the analysis on the growth determinants using a complementary approach: it applies the product space methodology (Hidalgo et al. 2007) to examine the complexity of the Kenyan economy.

The economic literature groups the determinants of growth broadly into three categories: structural policies and institutions, stabilization policies, and external conditions. Structural policies and institutions typically include the country's human capital, business environment and financial sector, size of government, trade openness, and quality of public institutions and governance. Stabilization policies capture macroeconomic conditions, including inflation, output volatility, and the real exchange rate.

External conditions refer to the exogenous factors that influence growth, such as the external environment in major trading partners.

The analysis of growth determinants for Kenya follows a benchmarking approach. Under this approach,[29] the most important factors of growth are analyzed and compared with Kenya's peer countries. The peer group comprises economies with current similarities to Kenya (in GDP per capita and population), as well as some of the high-growth economies during the 1980s identified by the Growth Report (Commission on Growth and Development 2008).[30] The rationale for including some of the East Asian Tigers in the list is because in the 1980s or 1990s these countries were growing rapidly and had initial conditions that were similar to today's Kenyan economy.

Structural Determinants

Human capital is perceived as one of the most significant structural determinants for sustainable long-term growth. For international comparison purposes, the quality of human capital is typically captured through gross school enrollment rates (primary, secondary, and tertiary) and the average years of schooling. Although the quantity of education is important, so is quality; however, many low- and middle-income countries, including Kenya, lack internationally comparable data on the quality of their education systems.[31] In primary and secondary school enrollment rates, Kenya outperforms most of the countries in its peer group (Figure 1.12). Consequently, Kenya's population's average years of schooling, at 6.5 years, is among the highest, with only Ghana having a more educated population. However, marginalized groups (those living in arid lands, pockets within urban settlements, and some of the coastal areas) have not witnessed the same improvements in enrollments. In contrast, tertiary enrollment is an area where Kenya is a clear outlier, having the lowest enrollment rate in the group in 2009.[32] Since then, the authorities have taken strong action to boost university education and enrollment increased by 10 percent in 2011. This trend of a growing number of university students is expected to continue, but the transition from secondary to university education, which was 6.5 percent in 2010, remains low.

Figure 1.12: Kenya has the highest secondary and lowest tertiary enrollment among the peers
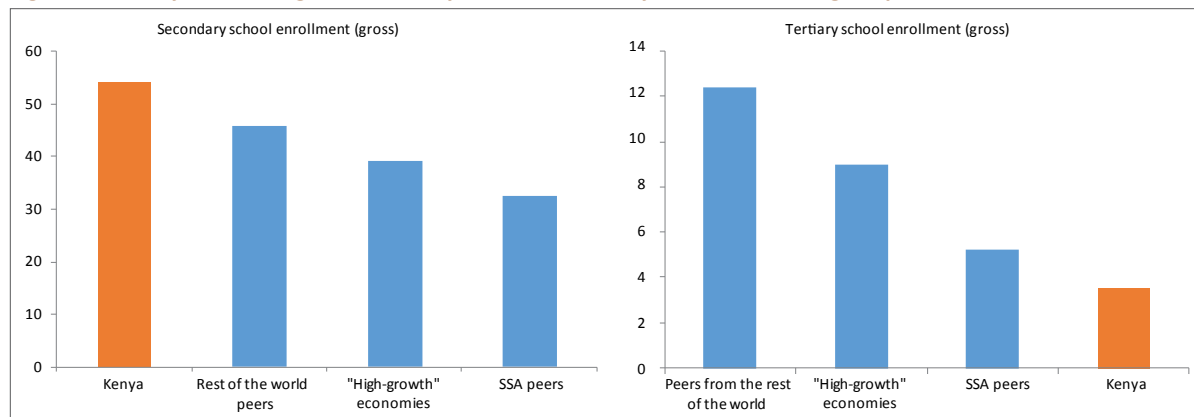
Source: World Bank World Development Indicators.
Note: The data for secondary school enrollment for Vietnam are for 1998 only. The data for Kenya for gross tertiary school enrollment are for 2009 only. SSA = Sub-Saharan Africa.

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[29] See Johnson, Ostry, and Subramanian (2006, 2007).
[30] Those economies are Indonesia, Malaysia, Morocco, and Thailand during the 1980s.
[31] Information on the quality of education is available from several sources: Kenya National Examinations Council has annual student learning achievement data; Southern and Eastern Africa Consortium for Monitoring Educational Quality collects regional student learning data; and UWEZO collects annual national student assessment data.
[32] According to the World Development Indicators, the gross tertiary school enrollment rate increased from 3 in 2005 to 4 in 2009.

Urbanization is another important characteristic of successful low- and middle-income economies, and this is an area where Kenya has a lot of catching up to do. The urban share of the population has been confirmed to be a relevant indicator for a country's development. Urbanization positively influences economic growth through greater technological progress occurring in urban areas mainly through manufacturing production and some services, which in turn raises labor productivity. Another benefit of urbanization is the agglomeration effect, that is, when the know-how, knowledge, and technology found in urban areas are applied in agricultural production, as well as more efficient commuting between urban and rural areas. According to the United Nations' definition of urban population, Kenya's level of urbanization is the lowest among its peer group, and lower relative to its GDP per capita (Figure 1.13). However, those estimates do not include the peri-urban population, which, if included, would put Kenya's urbanization rate at 30–35 percent, which would put Kenya ahead of half of its peers, but still below the expected value relative to its GDP per capita. More than a third of the urban population lives in Nairobi and Mombasa, while another third lives in cities with 100,000–500,000 population. Looking at 2030, Kenya's urbanization rate is projected to increase rapidly, mainly because of the increase in the number of cities with population of more than 250,000.

In a fast-urbanizing, non-resource rich, low- or middle-income country, it is typically the manufacturing sector that generates integral migration to urban areas.[33] Increasing employment in manufacturing creates "production cities" that in turn generate demand for urban goods and services. However, urbanization in Kenya has been driven largely by the services economy, in particular informal services such as trade.

Post-World War II (WWII) history clearly illustrates that countries relied on manufacturing or abundant natural resources to achieve rapid and sustained growth. The Growth Report (Commission on Growth and Development 2008) found that expanding the manufacturing sector was one of the key ingredients behind the success of most of the dozen or so economies that managed to grow at 7 percent per annum for an entire generation. In practically all cases, growth

Figure 1.13: Urbanization in Kenya has been low relative to GDP per capita
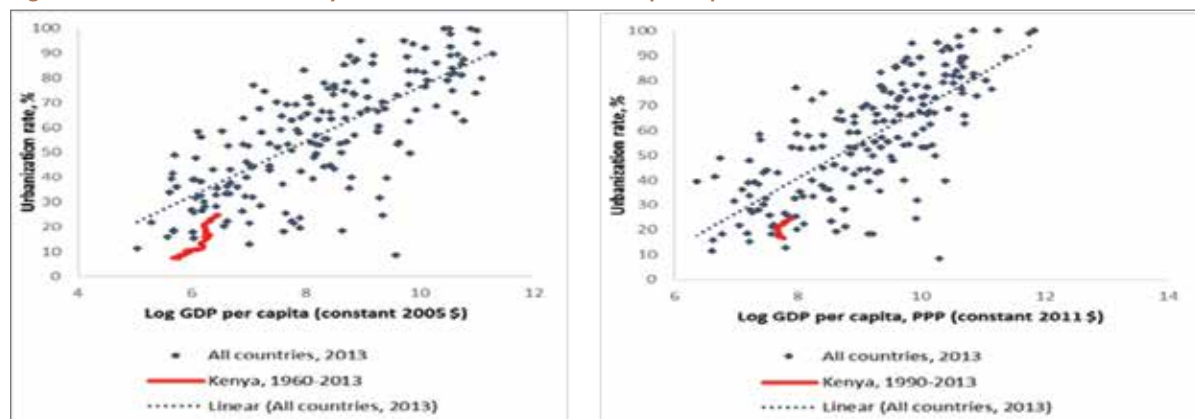
Source: World Bank World Development Indicators.
Note: GDP = gross domestic product; PPP = purchasing power parity.

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[33] Gollin, Lagakos, and Waugh (2013).

in manufacturing production was accompanied by rising manufacturing exports, that is, countries were producing for global markets and in particular for high-income economies. The manufacturing sector is perceived to be one of the key drivers of technology development, know-how, and, consequently, productivity growth.

Kenya has yet to move to a path of expanding manufacturing production and exports. The share of manufacturing value added to GDP and the share of manufacturing exports to total merchandise exports in Kenya are higher than in the SSA peers, but lower than in the high-growth economies and peer countries in the rest of the world (Figure 1.14). The share of this sector in Kenya's GDP has remained unchanged over the past decade. This suggests that the Kenyan manufacturing sector should play catch-up with its peers in the rest of the world and the high-growth economies.

Kenya has reaped the benefits of expanding financial services. Broad empirical evidence identifies the financial sector as a catalyst for economic growth. A more developed financial system increases financial inclusion and thus helps the economy to mobilize savings and allocate them more easily and more efficiently to investment needs. Kenya's financial sector depth,

Figure 1.14: Manufacturing in Kenya Is underdeveloped compared with its non-Africa peers

Share of manufacturing exports to merchandise exports
Share of manufacturing to GDP
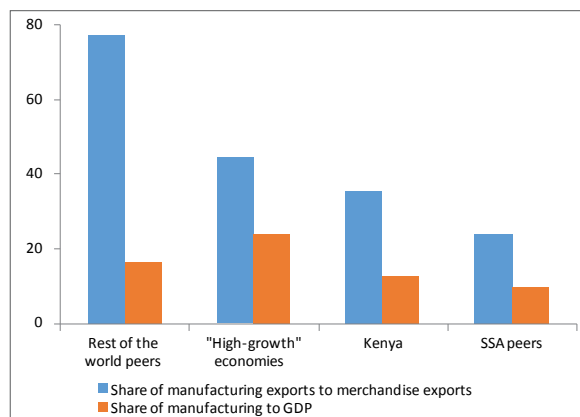
Source: World Bank World Development Indicators.
Note: Values are for 2005–14 for Kenya, SSA, and the rest of the world peers, and for the 1970s or 1980s for the high-growth economies. GDP = gross domestic product; SSA = Sub-Saharan Africa.

measured by the ratio of credit to the private sector to GDP, is impressive for the country's level of development (Figure 1.15). This suggests that the financial sector has been a driving force behind Kenya's economic performance.

Capital markets are relatively well developed in Kenya. Stock market capitalization, as a share of GDP, is the best measure of the development of capital markets. Kenya's stock market capitalization surged to over 50 percent of GDP in 2014, higher than in most peer countries. Some 60 companies are listed, which is more than the listings in Tanzania's and Uganda's bourses combined.

Figure 1.15: The financial sector is more developed than in peers
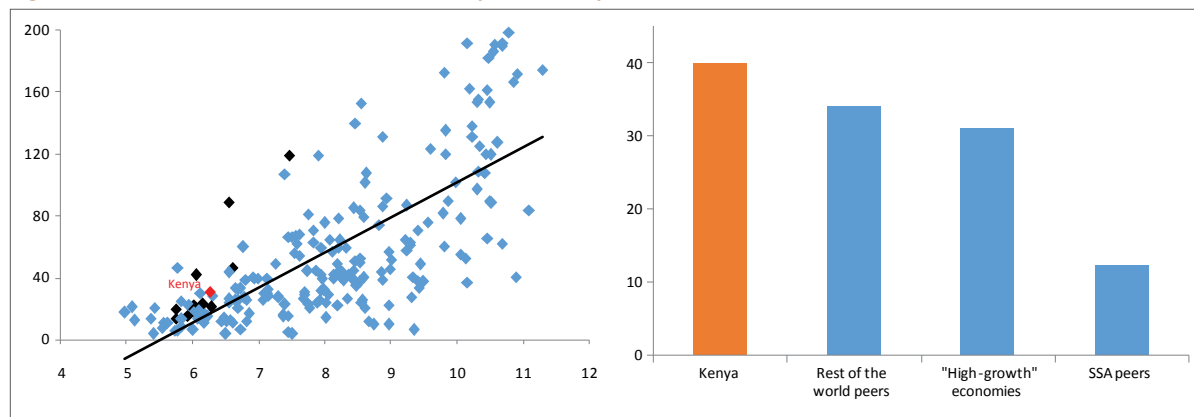
Sources: World Bank World Development Indicators and Finstats data set.
Note: The graphs show the private credit-to-GDP ratio and log GDP per capita (scatter) and the stock market capitalization-to-GDP ratio (bar chart), 2005–13. The red spot in the scatter graph is Kenya; the black spots are Kenya's peers; and the blue spots are the countries in the rest of the world. GDP = gross domestic product; SSA = Sub-Saharan Africa.

Sustained growth requires high levels of investment and this is an area where Kenya aims to achieve more. High-growth economies in the post-WWII period have had high levels of investment, typically 25 percent of GDP or higher (Figure 1.16). Kenya's investment rate was below 25 percent of GDP during 2005–14. Thus, Kenya has the lowest investment rate among the peer group, with the exceptions of Cambodia and Pakistan. Investment in Kenya during the reference period came largely from the private sector. Among the peer group, the private sector played a dominant role in investment, except for

Burkina Faso, where the public sector had higher levels of investment.

Trade openness, that is, trade integration with the rest of the world, is a well-known determinant of growth on which Kenya performs well. Greater international trade stimulates economic growth, as it allows domestic producers to expand their production, or sales, to foreign markets. Openness to trade also facilitates the transfer of technology and know-how, which boost productivity. Another contribution of trade openness is that it increases competition in the domestic market and makes local production more efficient.[34] Kenya' policies to promote trade regionally and beyond have paid off. Trade openness, measured by the sum of exports and imports to GDP, has remained above 50 percent in the past decade (Figure 1.17). However, Kenya's trade openness is relatively low within the peer group (it is higher compared with the high-growth economies because global supply chains were in an infant stage in the 1980s and 1990s) (Figure 1.17). At the same time, Kenya has subscribed to an open trade policy—its applied Most Favored Nation tariff is among the lowest in the group (only Uganda has a marginally lower tariff rate).

Figure 1.16: Kenya has the lowest investment-to-GDP ratio and the highest investment risk, 2005–14
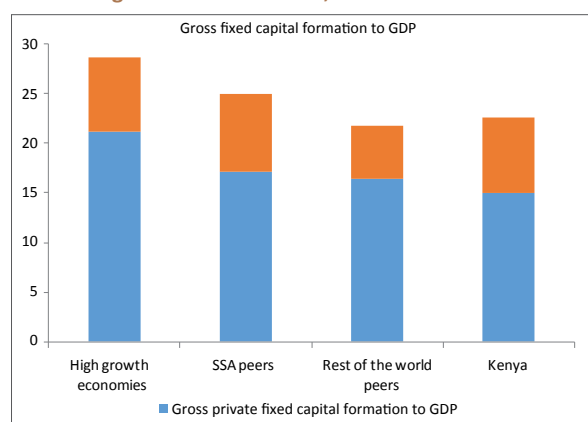
Sources: World Bank World Development Indicators; Political Risk Services group (www.prsgroup.com).
Note: The data for Cambodia, Ghana, India, Pakistan, Tanzania, and Thailand are averages for 2005–13. GDP = gross domestic product; SSA = Sub-Saharan Africa.

Figure 1.17: Kenya's trade openness remains resilient, although it is lower than that of its peers
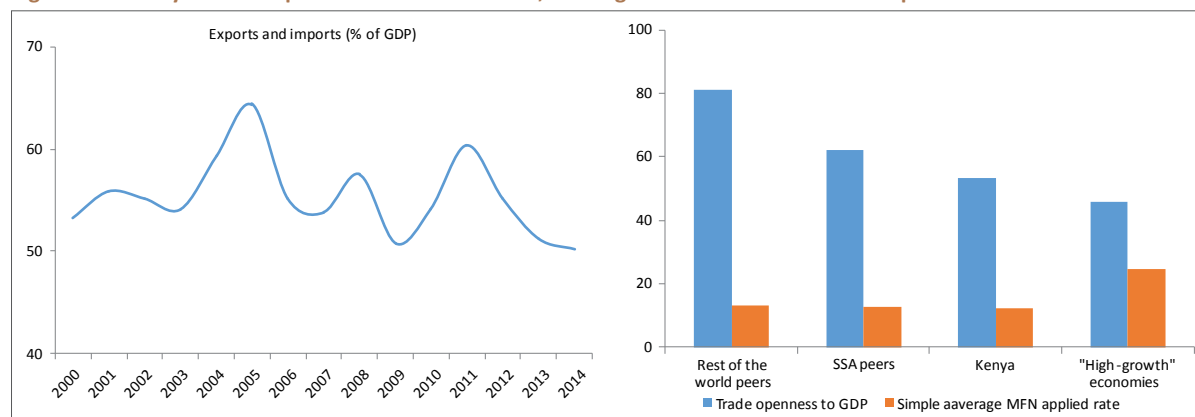
Source: World Bank World Development Indicators.
Note: The data for the tariff rate are through 2012. The data refer to the 1980s for Thailand and Indonesia, and the 1990s for China. GDP = gross domestic product; MFN = most favored nation; SSA = Sub-Saharan Africa.

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[34] A more comprehensive overview of the role of international trade in growth is provided in the Growth Report (Commission on Growth and Development 2008) and Calderón, Fajnzylber, and Loayza (2005).

Government spending can stimulate growth if the spending is geared toward physical and human capital enhancement, but it can also be a drag on growth if it is excessive and focused on non-productive items. If government spending is directed toward productive sectors, like infrastructure, education, and health, then greater government spending should facilitate economic growth. As identified by the Growth Report, the success of the high-growth economies is partially owed to the high public spending in some of the aforementioned areas. Excessive non-growth-enhancing spending, such as civil service wages, which spur domestic demand in the short term, may have negative consequences on economic growth. For example, it may lead to crowding out the private sector, increasing indebtedness, and raising uncertainty. Kenya's public expenditures are by no means excessive. However, what the money is spent on and how the money is spent are the more important questions. The allocation and spending of resources has shifted under the new system of devolved government, so the counties will have increasing responsibility in the public spending–growth relationship. Spotlight 1 (at the end of this chapter) discusses in greater detail the effects of devolution on growth.

Public spending on education in Kenya is the highest, but not necessarily efficient or sufficient. Kenya's education budget, at over 6 percent of GDP, is larger than in any of the peer countries (Figure 1.18). However, not all the spending is growth enhancing. For example, a 2012 Public Expenditure Tracking/Social Development Indicators Education Survey found that public teachers—whose salaries account for 70 percent of total expenditure in the sector—are not teaching 45 percent of the scheduled time. In contrast, some of the benchmark countries have advanced education systems that deliver better results while spending less. For example, Vietnam spends less on education (6.2 percent of GDP)

than Kenya (6.5 percent of GDP), but Vietnamese 15-year-old students are among the best in the world in mathematics, reading, and science. Vietnam was among the top 15 performers on the 2012 Programme for International Student Assessment test—ahead of Australia, the United Kingdom, and the United States—and although Kenya has not participated in this international benchmarking exercise, the evidence points to much worse performance. Public health expenditures are relatively low in Kenya and the effectiveness of saving is likely lower as measured by outcomes. Kenya's life expectancy is 60 years, compared with 65.4 years for the peer group.

Figure 1.18: Development spending is relatively high, 2005–2012 average
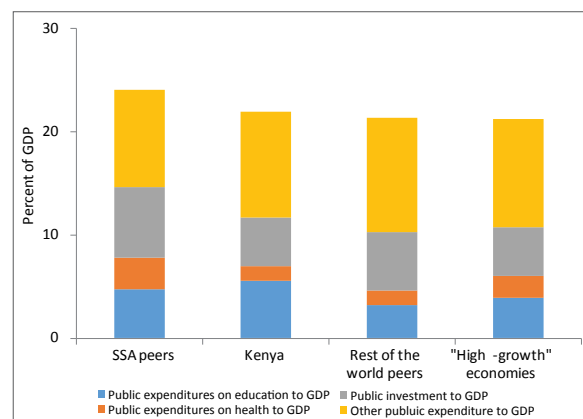
Sources: World Bank World Development Indicators; International Monetary Fund World Economic Outlook.
Note: The data for the high-growth countries are for 2005–12 because data for the 1980s and 1990s are not available. GDP = gross domestic product; SSA = Sub-Saharan Africa.

Good governance can facilitate inclusive growth, and is one of the key impediments to fully unleashing Kenya's growth potential. Strong, effective, transparent, and accountable governance institutions create the enabling environment for broad economic growth. Ineffective governance, and corrupt institutions reduce the prospects for sustainable growth and poverty reduction and take away resources that are meant for delivering public services to businesses (such as infrastructure, business services, regulation) and citizens (such as health, drinking water, and education).[35] (see box 1.1.)

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[34] World Bank (2012b, 10).

Over the past decade, Kenyans have made progress in a range of governance reforms, accelerated by the 2010 Constitution. Progress has been made in areas of economic governance, including revenue administration at the national level; the passing of a public financial management law that, inter alia, regulates the use of budget and control; and the establishment of the Office of the Controller of the Budget and a Supreme Audit Institution. A Treasury Single Account has been introduced and work on program-based budgeting is ongoing. Reforms of the judiciary have been initiated and work is in progress to put in place a credible, public, and transparent process for scrutinizing the appointments of all senior public officers. The defunct Anti-Corruption Commission has been replaced with a new Ethics and Anti-Corruption Commission with some operational independence, although it has recently been embroiled in controversies. Devolution has taken off since the election of March 2013, bringing governance and service delivery closer to citizens, but with significant challenges in the capacity of institutions and systems. Above all, the elections were peaceful and were not accompanied by macro fiscal mismanagement. The reforms bear testimony to significant support and capacity for governance reforms.

Despite the progress, Kenya still faces significant governance challenges. Various indicators are available to assess governance in Kenya vis-à-vis in the rest of the peer group. Although these governance indicators have their limitations, using several sources of information confirms the robustness of the assessment that Kenya has several governance challenges and weaknesses. One source of information on the relative quality of governance in Kenya is the Bertelsmann Foundation Transformation Index (BTI). The overall BTI comprises many components that measure various themes beyond governance, such as investment/trade restrictions, etc. For the purpose of this analysis, a restricted: index based on relevant governance subcomponents of the index is used.[36] The following components of the BTI index are included (Figure 1.19):

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[36] The aggregate value of the governance index is calculated as a simple average of the selected components that capture governance. This approach is consistent with the methodology for calculating the value of the overall BTI.

1. To what extent does the government successfully contain corruption?

2. How effective is the government in implementing its own policies?

3. To what extent are private companies permitted and protected? Are privatization processes conducted in a manner consistent with market principles?

4. To what extent do government authorities ensure well-defined rights of private property and regulate the acquisition, benefits, use, and sale of property?

5. To what extent do safeguards exist to prevent the development of economic monopolies and cartels, and to what extent are they enforced?

6. To what level have the fundamentals of market-based competition developed?

7. To what extent are public officeholders who abuse their positions prosecuted or penalized?

8. To what extent does the state's monopoly on the use of force cover the entire territory of the country?

The BTI suggests that Kenya has the potential for improvement compared with the benchmarking countries. This is especially the case in the area of monopoly on the use of force through its whole territory (reflecting incidents of terrorism), property rights, and anti-corruption policy. Corruption, in particular, has been a major challenge for Kenya's performance on international measures. In recent times, the current president has begun to take some action, including suspension of some members of the cabinet and senior civil servants who are being investigated for allegations of corruption.

Despite reform initiatives in Kenya, the World Bank's Worldwide Governance Indicators show similar results and indicate that there has been little measurable progress in the past decade. Figure 1.20 shows the governance indicators for Kenya compared with all countries in SSA, high-growth peer countries, and other peer countries used for comparison in this report. The indicators include control of corruption, rule of law, political stability and absence of violence/terrorism, voice and accountability, and government effectiveness. The further away a measurement

Figure 1.19: BTI indicators of Governance in Kenya and benchmark countries
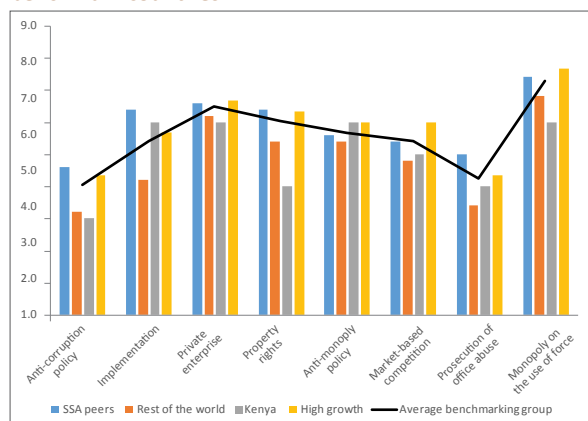
Source: http://www.bti-project.org.
Note: SSA peers: Burkina Faso, Ghana, Senegal, Tanzania, and Uganda; high-growth: China, Indonesia, and Thailand; rest of the world: Bangladesh, Cambodia, India, Pakistan, and Vietnam. BTI = Bertelsmann Foundation Transformation Index; SSA = Sub-Saharan Africa.

Figure 1.20: Governance indicators show Kenya lags behind benchmarking economies
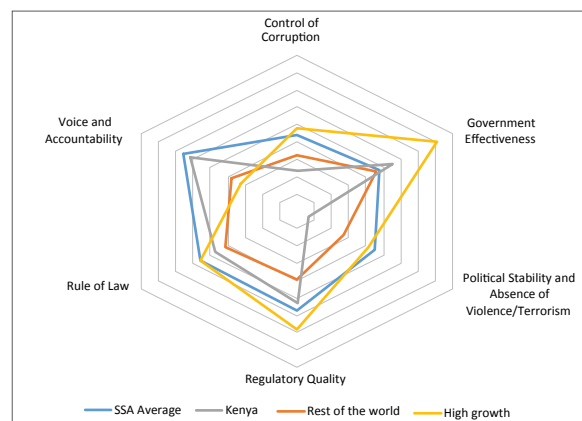
Source: World Bank Governance Indicators, http://data.worldbank.org/data-catalog/worldwide-governance-indicators. Data extracted in February 2016.
Note: SSA peers: Burkina Faso, Ghana, Senegal, Tanzania, and Uganda; high-growth: China, Indonesia, and Thailand; rest of the world: Bangladesh, Cambodia, India, Pakistan, and Vietnam. Values are expressed in units of the standard distribution, ranging from -2.5 to +2.5. The World Bank Governance Indicators are aggregate indicators that combine the views of many enterprise, citizen, and expert survey respondents. The indicators are based on 32 individual data sources. SSA = Sub-Saharan Africa.

point is from the center of the figure, the higher or better the score on the indicators. The figure shows, for example, that Kenya is aligned with the average for SSA for voice and accountability, but is below the average for SSA for the rule of law.

Kenya fares well on regulatory quality and voice and accountability although below the level of high growth countries. Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Kenya scores relatively well on this indicator.

Kenya scores high on the voice and accountability indicator. This indicator captures perceptions of the extent to which citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. These aspects of governance have been strengthened by Kenya's 2010 Constitution, which is very strong on citizen participation and consultation as a requirement, for example, in planning and budget formulation. For example, there have been instances where governance policies and legislation have been challenged successfully in court for lack of consultation with and participation of citizens.

The control of corruption indicator captures perceptions of the extent to which public power is exercised for private gain. This refers to petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This indicator suggests that corruption is perceived to be present to a great extent in Kenya. According to this indicator, Kenya, together with Bangladesh and Cambodia, is perceived by its citizens to be among the most corrupt societies of the benchmark countries. This perception is corroborated by the Global

Competitiveness Report for 2015–16 (World Economic Forum 2015), while at a 99th rank out of 140 countries placing Kenya above its SSA peers identifies corruption as the top problematic factor for doing business in Kenya.

The rule of law governance indicator captures perceptions of the extent to which agents have confidence in and abide by the rules of society. The particular focus of the indicator is on the quality of contract enforcement, property rights, police, and courts, as well as the likelihood of crime and violence. The implementation of reforms under Kenya's 2010 Constitution is beginning to bring improvements across the board, and especially related to property rights and rule of law in general. For example, the government launched a land titling program in 2013 with a target to issue three million land titles in four years. There are ongoing reforms in the police and judiciary, and judicial independence has significantly improved to strengthen the rule of law.

Kenya has had a history of political violence with detrimental effects on the economy. Kenya, together with India, Indonesia, and Uganda, scores low on the sub-index of political stability and violence. The indicator reflects the violent and fierce competition that has historically characterized Kenya's elections and created uncertainties before and after elections. This in turn has resulted in volatile economic activity around the election cycle, with investors adopting a "wait and see" attitude in the period preceding and immediately after elections. The elections of March 2013 marked a positive turn, in the sense that they were relatively peaceful and with no significant adverse effect on economic activity. Nevertheless, in recent years, insecurity has been a concern, with terrorist attacks in parts of the country and negative impacts on tourism, which

is a key sector of the economy. To illustrate, the number of international visitors dropped from 1.7 million in 2012 to 1.5 million in 2013.[37] Recently (August 2015), several countries have eased their travel restrictions, and charter flights from Europe have begun to resume.

Government effectiveness is another area for improvement especially compared to high growth countries. This indicator captures perceptions of the quality of public services, quality of the civil service and degree of its independence from political pressures, quality of policy formulation and implementation, and credibility of the government's commitment to such policies. Kenya is grouped at the lower end, together with Bangladesh, Cambodia, and Pakistan. However, and as in other countries, there are nuances to this overall performance. For example, the Huduma Kenya program, which is coordinated by the Ministry for Devolution and Planning through the Huduma Kenya Secretariat, was the first place winner in Category 1 for Improving Delivery of Public Services in the 2015 United Nations Public Service Awards (UNPSA). In 2007, the UNPSA went to the Performance Contracts Steering Committee Secretariat and the Kenya Open Data Initiative was one of three international finalists at the Open Data Institute's 2015 awards for its publisher award, celebrating high publishing standards and the use of challenging data.

Other governance indicators support the impression that Kenya has its priorities right when putting governance and public sector modernization high on the reform agenda. Governance is one of the areas for improvement in the World Bank's Country Policy and Institutional Assessment (CPIA) index. Kenya's overall CPIA was 3.8 in 2014, which is above the south Saharan

IDA country average of 3.2. Kenyas lowest score was on the public sector management cluster with 3.4. Kenya ranked 139th on Transparency International's Corruption Perception Index in 2015 (Figure 1.21).

Figure 1.21: Perception of corruption in Kenya and the peer group, 2015
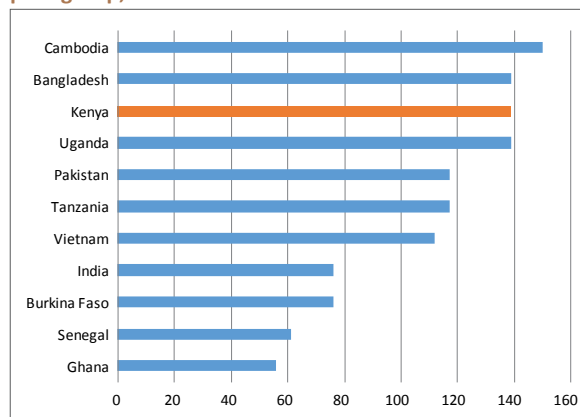
Source: Transparency International.
Note: CPI = Corruption Perception Index

Weak enforcement, red tape, and corruption are some of the main culprits for the prevailing informality and low growth and investment in the formal sector. Corruption and weak enforcement of regulations increase the cost of investment and doing business. As chapter 2 illustrates, Kenya is among the most regulated economies when it comes to doing business, which, combined with the high incidence of bribery (one in four formal firms faces at least one bribery request per year), reduces the return on investment.

There is hope that the new system arising from the 2010 Constitution will overcome some of the governance weaknesses, but legal solutions on their own cannot achieve the full impact. The 2010 Constitution provides an opportunity to strengthen and build strong and effective governance institutions that support development effectiveness and sustained growth. Devolution in particular brings about

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[37] Republic of Kenya, Economic Survey 2014. Kenya National Bureau of Statistics, page 204.

an opportunity for increased participation and stronger accountability. However, the political culture and patronage-based politics are likely to continue to impede investment and growth. Vested interests remain strong and impunity continues to pose a challenge. Corrupt practices are institutionalized and much remains to be done in the fight against

Another driver of change could be the private sector, which, as it grows, can put stronger demands on the state for efficiency improvements. For example, road transport in Kenya and the EAC region as a whole for years had been characterized by poor compliance with regulations and slow transit time caused by low-quality roads, many roadblocks, and weighbridges. As large retailers such as Nakumatt, Tuskys,

and Uchmi grew larger, they started to demand more efficient transport, as the poor transport situation was hurting their profits and growth. Consequently, EAC governments undertook action to improve quality, reduce transport times, and strengthen regulatory compliance.

Significant reforms have been undertaken and the outcomes are likely to register in the data in the coming years if reform initiatives are followed through. However, retrospectively, there has been only modest change in the indicators over time, as illustrated in figure 1.22. Regulatory quality has been on a slight downward trend in recent years, while rule of law and maybe government effectiveness has been on a slight upward trend. Other indicators have been flat at a relatively low level.

Figure 1.22: Development in governance indicators, 1995–2013
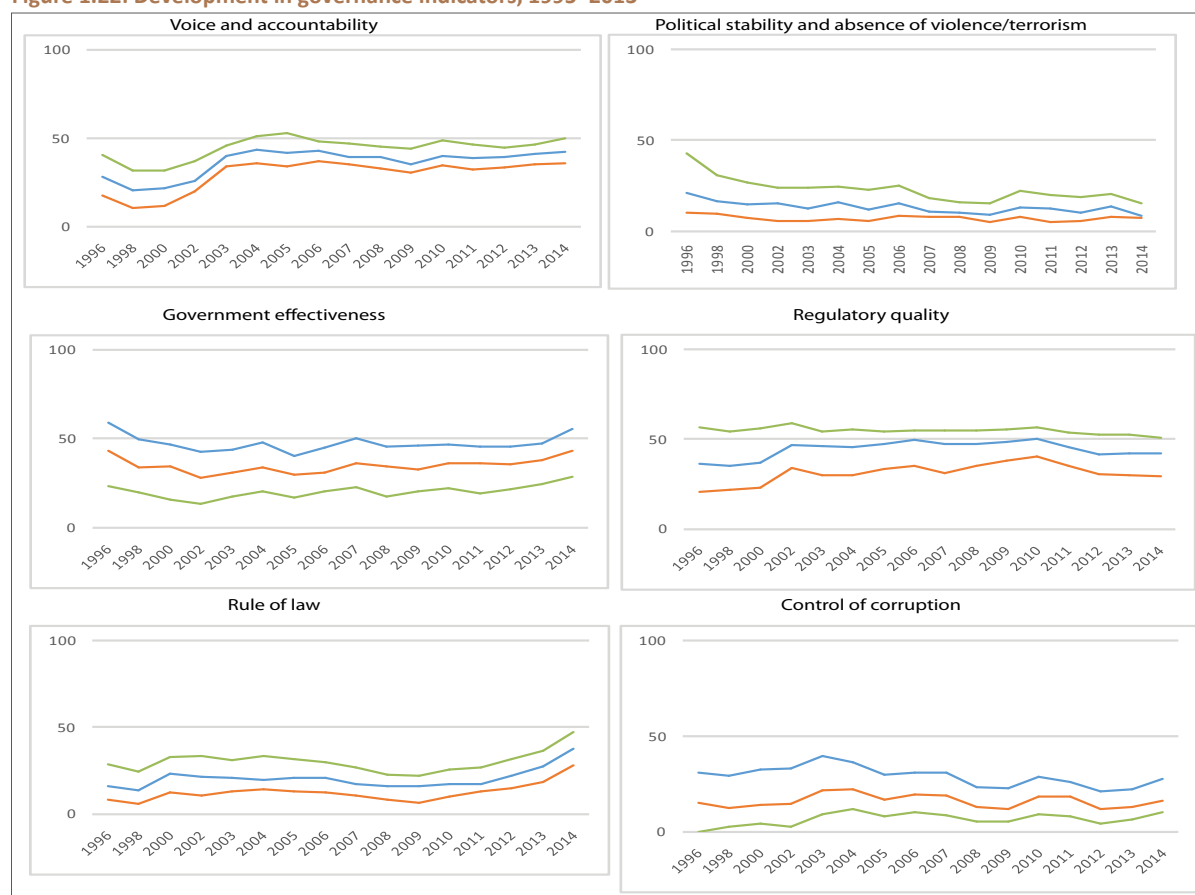
Source: World Bank Governance Indicators, http://data.worldbank.org/data-catalog/worldwide-governance-indicators.
Note: The inner, thicker blue line shows the selected country's percentile rank on each of the six aggregate governance indicators.

Stabilization Policies and External Conditions

Macroeconomic stability has long been considered a key precondition for long-term growth. Some of the most commonly used indicators in the literature to measure macroeconomic stability include inflation, the real exchange rate, and the terms of trade (TOT). Each of the three indicators can be influenced by exogenous factors, but primarily all three are driven by the country's monetary and fiscal policy.

Although Kenya has experienced episodes of high inflation, effective monetary policy has played an important role in maintaining price stability. This outcome has been a result of exogenous shocks and domestic policy. On the former, the transmission of changes in global food prices has been the main cause of inflation in Kenya, and there is limited action that can be taken to this end. On the latter, inflation is typically high when monetary policy lacks credibility or when fiscal policy puts pressure on domestic demand. Both factors seem to have influenced price changes in Kenya over the past few years. Inflation began to accelerate in late 2010, primarily because of rapidly growing credit to the private sector that boosted domestic demand, but fiscal policy contributed to the boost in demand and the monetary authorities contributed, as they were hesitant to respond to the building inflationary pressures.

Kenya's real exchange rate has been appreciating over the past few years, which is not a good signal for its exporters unless it is driven by productivity growth. In parallel to the inflation-targeting monetary policy setting, the nominal exchange rate has been flexible (more than other currencies in the region) and without significant volatility. This partly explains the continued inflows of short-term foreign capital. In addition to recorded inflows, Kenya's economy is attracting unreported foreign exchange inflows, which in turn has increased the value of the shilling. The appreciation of the real effective exchange rate (REER),[39] which has also been a characteristic for Ghana, is opposite from the experience of the high-growth economies in the 1980s, which recorded depreciation of the REER. The depreciation of the REER enabled those countries to keep a fast pace of export growth. Nevertheless, according to World Bank estimates, Kenya's real exchange rate seems to be close to equilibrium.

In addition to the appreciating REER, the terms of trade have been worsening. The TOT indicator is complementary to the REER and depicts the average price of imports (stated in domestic currency) relative to the price of exports.[40] Thus, unlike the REER, which involves tradable and non-tradable goods and services, the TOT involves only traded goods and services. The TOT indicator has been increasing in Kenya during recent years, which implies a worsening of Kenya's TOT (lower demand and/or worsening of the price competitiveness of Kenya's exports) (Table 1.1).

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[39] The weighted average of a country's currency relative to an index or basket of other major currencies adjusted for the effects of inflation.

[40] A negative value of the TOT capacity indicates greater capacity to export than to import and vice versa. An increased rate of growth when the TOT indicator is negative implies improvement of the TOT conditions of the country, whereas increase of the growth of the TOT indicator when it is positive indicates worsening of the country's TOT and a possible deterioration of the current account balance.

Table 1.1: Inflation, volatility of GDP growth, REER, and TOT movements in Kenya and peer economies

	Inflation (%)	REER trend	Terms of trade
Uganda	9.9	Depreciating	Worsening
Tanzania	9.4	n/a	Worsening
Burkina Faso	3.1	n/a	Improving
Ghana	12.5	Appreciating	
Senegal	2.3	n/a	Improving
Kenya	11.5	Appreciating	Worsening
Bangladesh	7.8	n/a	Improving
Cambodia	6.6	n/a	Worsening
Pakistan	11.3	Depreciating	Improving
Vietnam	10.8	n/a	Worsening
India	8.6	n/a	Worsening
Indonesia	9.6	n/a	Improving
Thailand	5.8	Depreciating	Worsening
China	7.8	Depreciating	Improving

Sources: World Bank World Development Indicators; respective central bank websites of the countries.
Note: GDP = gross domestic product; n/a = not available; REER = real effective exchange rate; TOT = terms of trade.

However, Kenya's overall macroeconomic management ranks better than that of its peers. Using the World Bank CPIA, Kenya has maintained its position in economic management, with an average score 4.2 points, which is higher than SSA peers and the rest of the world (Figure 1.23). This situation is the result of government measures toward macroeconomic, fiscal, and debt policies.

Figure 1.23: Kenya's economic management ranks above its peers

Economic Management Cluster (CPIA) score, 2005 -2014
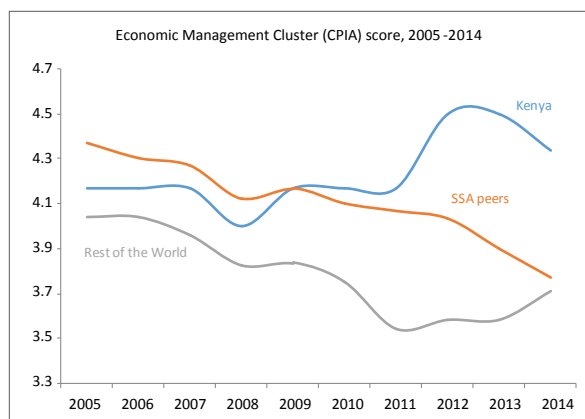
Source: World Bank World Development Indicators.
Note: CPIA = Country Policy and Institutional Assessment; SSA = Sub-Saharan Africa.

The Priorities: What Are the Binding Horizontal Barriers to Growth?

The benchmarking of Kenya against its peer countries on the most relevant determinants of growth shows mixed results. The positive news is that progress has been recorded in recent years on many of the growth determinants in which Kenya performs below average. For a few of the determinants, the outcomes have been stagnant; hence, a strong impetus of reform is needed to bridge the gap with the peer countries. On a positive note, Kenya is quite advanced, relative to the same group, in several areas that are important for growth and shared prosperity. Kenya ranks below its peers on governance and has had a flat profile of performance in the period observed. However, the significant reforms that have been initiated, if they are sustained, could result in improvements.

Not all growth determinants are of equal importance, and their roles are not the same at all levels of development. Improving on some of the discussed growth determinants could unleash growth in the short term, but to achieve the desired sustained growth, improvements across the board will be required. For example, reforms that stimulate investment may bring immediate benefits in growth acceleration, but may only define progress up to a certain point. After all, investment (as a share of GDP) can only go so far and sustained growth requires technological advances and innovation that raise productivity. At the same time, productivity jumps typically come with a lag, so filling some of the performance gaps will have a medium-term rather than immediate impact.

More importantly, the above list of growth determinants is not all encompassing. On the contrary, in addition to making progress across the horizontal areas that have been discussed, growth can occur on the mezzo (sector) or micro (firm) scale by developing the capability to produce a particular good or service. The Atlas of Economic Complexity, by Hausmann et al. (2011), illustrates that a country's economic complexity, which reflects the knowledge embedded in its productive structure, drives income per capita growth. Changes in economic complexity occur at the sector and firm levels, whereby the potential for improvement is defined by the country's starting point, that is, its current capabilities and complexity.

None of these growth determinants on its own is likely to alter a country's growth trajectory. A good example is the following: in 2013, the average years of schooling of Kenya's labor force was 6.75, and GDP per capita was around US$730 (in 2005 U.S. dollars). The United Kingdom's labor force had the same quantity of education in 1964 and its GDP per capita was 25 times higher, and France reached that level of education in 1985 when its GDP per capita was 40 times that of Kenya.[41] Growth occurs when various aspects of the economic environment stimulate the creation of productive knowledge, that is, the knowledge and ability to produce different types of goods and services. This process is complex and gradual, so emphasizing one growth determinant will not necessarily deliver equivalent outcomes if other aspects remain a bottleneck to knowledge creation.

The remainder of this report examines several of the growth determinants. Chapter 2 focuses on jobs and touches on access to finance, governance, and urbanization. Chapter 2 also assesses the link between growth and poverty, as poverty reduction is a complementary goal in the government's strategy. The issue of how to increase investment is discussed in Chapter 3, which looks at the role of saving as a driver of investment. Chapter 4 looks into the performance and growth potential of manufacturing, but also services, as Kenya has proven to be more successful in unleashing the potential of several service industries. Last but not least, chapter 5 looks a bit further into the future and explores how the discovery of oil changes Kenya's growth potential.

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[41] Barro and Lee (2001).

What Does Devolution Mean for Growth?

Devolution is the centerpiece of Kenya's 2010 Constitution, involving large-scale political, fiscal, and administrative decentralization, with fiscal equalization as a major objective. Underpinning the devolution agenda was the need to: (i) address deeply entrenched disparities in development between regions; (ii) improve equity in access to social and economic services at the county level; and, (iii) work progressively toward equalizing opportunities for all Kenyans.

Significant service delivery functions have been devolved from the central government to the counties. Under the 2010 Constitution, counties are responsible for policy implementation and service delivery in primary and secondary health care, water supply, rural electrification, urban service delivery, trade licensing, transport (county roads), and agriculture. In the first year of devolution (fiscal year 2013/14), the equivalent of 3.9 percent of GDP was transferred to county governments, against an original budget of 4.3 percent of GDP. The shortfall was comprised of donor financed conditional grants and the allocation to the equalization fund, both of which were budgeted as transfers, but not actually paid. For 2014/15, a total of K Sh 247.21 billion was budgeted to county governments, of which K Sh 230.65 billion was expected to be transferred to them. The National Assembly and Senate have recently agreed that counties will be paid a total of K Sh 308 billion in 2015/16. In the medium term, counties' equitable share allocation of nationally-raised revenue is expected to remain stable at about 4 percent of GDP.

Experiences from other countries illustrate that fiscal decentralization can catalyze economic growth but there are also downside risks. The benefits of decentralized government include the following: (i) public policies tailored to local needs through closer proximity to the people; (ii) better governance and accountability structures, since they are closer to the people; (iii) more cost-effective approaches to delivery of services, through peer competition; and, (iv) where there is subnational tax autonomy, increased accountability with a positive relationship to growth. At the same time, antagonists of devolution argue that devolution can undermine growth potentially through: (i) increased bureaucratic burden; (ii) separation of spending and taxing responsibilities, which can undermine efficiency and lead to arrears; and (iii) newly created subnational governments that may face capacity constraints.

The effects of devolution on economic growth in Kenya will manifest through multiple channels. The first is the macroeconomic effect of public spending, including how county resources are shared between recurrent expenditure and investment. The public financial management law (2012) requires governments (national and county) to spend at least 30 percent of their revenue on investments. Second, counties will define the quality and scope of growth-enhancing services, such as health care or urban service delivery. Finally, the responsibility of improving governance is being shared between the central and county authorities. This spotlight focuses on the first channel.

County governments have taken over the delivery of devolved services, starting with an expenditure layout of 5.4 percent of GDP or 20 percent of total expenditure in 2013/14. At the outset, the intention was to increase productive spending through devolution. The 2013/14 fiscal data reveal important emerging trends in county expenditure: (i) overall expenditure execution is low (the overall budget execution rate was 63 percent of approved expenditure); (ii) administrative expenditures have built up rather quickly (78 percent of total spending was on recurrent costs); (iii) underspending was concentrated on the development budget, where only a handful of counties allocated at least one-third of their budget for development projects; and (iv) the counties experienced an overall revenue gap, mostly on own revenues, with a collection gap of 57 percent.

County spending in 2013/14 reflected a worrisome trend on expenditure priorities; the 2014/15 county budget allocation reflects a clear shift in sector spending commitments (Figure 1.24). Counties' general public services accounted for 84 percent of the total county spending in 2013/14, a share that reduced significantly to 36 percent of the total county budget in 2014/15. Counties' allocation to the health sector (which is a fully devolved function) increased to 19 percent of the total county budget in 2014/15. Expenditure allocation to counties' economic affairs sectors, which include agriculture, transport, and other economic affairs subsectors, accounted for 26 percent of the total county budget in 2014/15, reflecting a shift toward productive spending.

Figure 1.24: There is a clear shift in counties' sector spending priorities
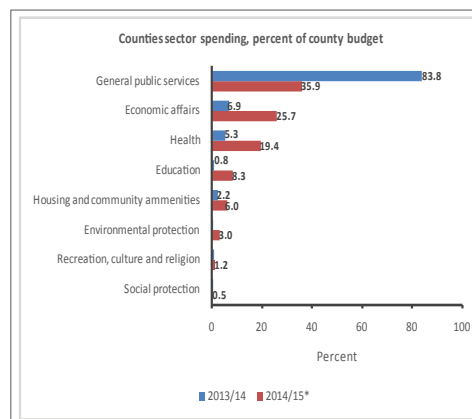
Source: Kenya National Bureau of Statistics 2015.

The majority of counties face revenue and expenditure gaps. On the revenue side, many counties budgeted for "hidden deficits" through inflated estimates of own source revenues; but several have been unable to match the revenues of defunct local authorities.

More importantly, from the prism of accelerating growth, counties were not able to execute their expenditure plans fully, and development spending suffered in particular. Only a third of the budgeted 2.1 percent of GDP on development spending was executed in 2013/14 but this figure improved in the second year of devolution to 2/3 of the budgeted amount. The reasons for low execution included: increasing cost of administration and wages; significantly undershooting local revenue targets; and late receipt of one-sixth of the equitable share, which arrived too late to be spent in both fiscal years. County governments ended 2014/15 with a surplus of K Sh 17.9 billion compared to K Sh 54.8 billion in 2013/14.

Local revenue collection is improving and revenue forecasts are also becoming more realistic in the second year of devolution. Actual amount collected was K Sh 23.6 billion in 2013/14 (66 percent shortfall) and K Sh 33.9 billion in 2014/15 (33 percent shortfall) (Table 1.2). Pressure to inflate revenue estimates appears to be coming from two interlocking factors: the requirement to budget 30 percent for development spending—which is beyond the fiscal capacity of counties that inherited large wage bills—and the political pressure on county governments to appease multiple interests in the budget process, to get the county budget passed. If the causes behind these trends are not addressed promptly, fiscal policy will become a drag on economic growth.

Data on revenue collection and budget execution performance for 2014/15 are more encouraging. By the end of 2014/15, the counties had spent a total of K Sh 90 billion on development, compared with only K Sh 36.6 billion for the same period the year before. The county government budget execution rate for the year was 79.1 percent, which was not far behind the national budget execution rate of 84.6 percent.

Table 1.2: Local revenue collection has improved

	2013/14		2014/15		2015/16	
	Revised Budget (K Sh millions)	Actual realized (K Sh millions)	Revised Budget (K Sh millions)	Actual realized (K Sh millions)	Budgeted revenue (K Sh millions)	Forecast increase in revenue (K Sh millions)
Nairobi	15,448	10,026	13,323	11,500	17,528	4,205
Mombasa	7,345	1,716	5,122	2,493	5,182	60
Kisumu	3,417	622	1,500	971	1,869	369
Nakuru	2,555	1,817	2,756	2,200	29,112	26,356
Uasin Gishu	1,754	564	890	801	1,037	147
Machakos	2,542	1,175	2,850	1,357	2,372	-478
Kakamega	3,500	325	904	5,169	1,000	96
Nyeri	479	432	1,344	681	1,488	144

Source: Office of the Controller of the Budget.

A particular expenditure challenge affecting many counties is the high and/or growing wage bill. Personnel costs accounted for almost half of the counties' budgets in 2013/14 (Figure 1.25). For 16 counties, the proportion exceeded 50 percent; in Taita Taveta County, the figure was 73 percent. For some of the counties, in particular the urban ones, this is a legacy issue: bloated workforces were inherited from defunct local administrations. Poor design of the process for transferring staff from central-level to county-level institutions also contributed to overstaffing, which in turn has inflated the wage bill. Last but not least, counties introduced additional allowances for county staff, which has further increased wage costs. County wage bills still grew in 2014/15. Counties spent K Sh 77.4 billion on wages in 2013/14. At the end of 2014/15, they had spent K Sh 103 billion. These figures reflect the reality that counties did not necessarily inherit the skills they need to carry out their new mandates.

Figure 1.25: The high inherited wage bill is crowding out development spending in most counties
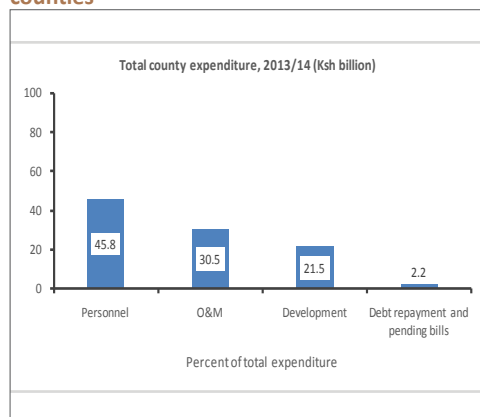
Source: Office of the Controller of the Budget.

To address the fiscal burdens arising from inherited staff, the Commission for Revenue Allocation has proposed a revised revenue-sharing formula that will take into consideration the wage bill in allocating resources; but the recommendation has not yet been accepted by the Parliament, which is authorized to decide the formula. In the long term, rationalization of county staff will greatly help ease this problem. At present, county governments lack the legal power to remove staff who were transferred to counties as national public servants. A rationalization program is being conducted by the national government. Counties need clear guidance on their authority to reduce staff numbers, and a clear process and technical support for doing so.

Another risk to growth, which stems from the challenges that have been described, is that some counties are trying to bridge the fiscal gap through uncontrolled introduction of new fees and charges. Having limited opportunity, or will, to adjust expenditure, many counties are introducing, or increasing, county-level fees and charges. These charges include parking fees, business permits, health inspection and transport licenses, rents, and payments for billboard adverts. In many cases, the new charges were significantly higher than previous local authority levels, a situation that has generated concern over the potential impact on local-level business costs, especially for small business operators (Figure 1.26). In general, such drastic increases in local taxes could also have

SPOTLIGHT 1

Figure 1.26: Kisumu County's new fees and charges have no coherent basis and are above all previous levels
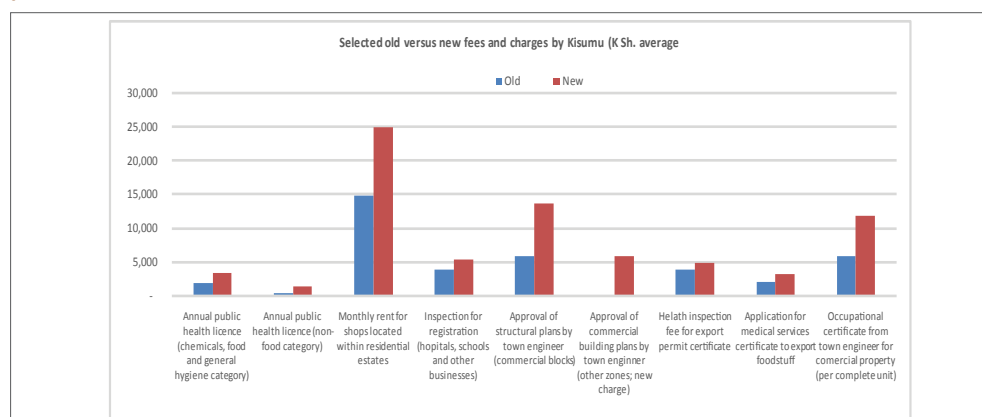
Source: Kisumu County Finance Act (2013).

detrimental effects on county revenues in the medium term, particularly if they drive away business and investment. Some counties are also charging taxes for goods that are transported through their jurisdiction, in effect applying domestic trade taxes. These charges have dubious legal validity, since counties have been empowered to impose only two taxes, property rates and entertainment tax. The domestic trade taxes are also economically inefficient and prejudice producers whose goods have the furthest to travel to market.

At the same time, county governments are not fully exploiting the main revenue stream available to them—property rates. Former local authorities raised about 20–25 percent of their revenue from property rates, although valuation rolls for some of the largest urban centers are woefully out of date. For example, Nairobi's property roll is estimated to cover less than one-quarter of the total properties, and values are now almost 35 years out of date. Realizing the full potential of property rates will require complete reconstruction of the fiscal

cadaster, which is likely to meet political resistance. In Kiambu, Mombasa, Nairobi, and Nakuru, past attempts at updating the valuation rolls have been stalled by political interference.

Last but not least, subnational fiscal borrowing, if not well managed, is likely to become another source of concern for macroeconomic stability and growth. As counties are pressured to deliver on public services, they may embark on borrowing domestically and internationally to spend more. At present, there is a restriction on county borrowing, during the three-year transition period. The restriction is to allow more time for finalization of the regulatory framework, which is currently being formulated. In any case, the Constitution disallows county borrowing without sovereign guarantee. Nevertheless, based on the experience of countries such as Brazil, India, Mexico, and South Africa, the main concern in Kenya is that with inadequate monitoring of debt issuance and weak enforcement of borrowing regulations, counties could generate unsustainable levels of contingent liability for the central budget.

Therefore, specific elements of the subnational borrowing framework will need further attention. The definition of debt is unclear. Decisions are needed on whether debt includes contingent liabilities, including multi-year obligations and public-private partnerships, which many counties are entering into. The establishment of borrowing limits needs more work. Proposed debt stock limits of 20 percent of recurrent revenues are out of step with international norms (usually around 200 percent). The current debt of Nairobi, estimated at K Sh 42 billion, is more than 10 times the stock limit of around K Sh 4 billion. The process for issuing debt does not yet include a comprehensive assessment of county creditworthiness. Finally, a comprehensive framework of ex post rules should include triggers for insolvency, options for intervention and financial restructuring, and a clear pathway for counties to exit from interventions. A further area of potential concern is the proposal by some counties to form a regional bank. Although the objective of financing economic development in neglected areas is an understandable one, if imprudent investments are underwritten by county governments, they could jeopardize county fiscal solvency. This is the sequence of events that generated the subnational debt crises in Brazil two decades ago.

In addition to these issues, inadequate coordination between national- and county-level actors is hampering successful implementation of public service provision. Inadequate coordination has led to inconsistencies and, in some cases, duplication and conflict. For instance, a pre-devolution arrangement to transfer functions and funding in phases, based on the level of preparedness of each county, was abandoned shortly after the 2013 elections. Many complexities experienced during the first year of devolution, including disruption of crucial services, could be attributed to this approach. In addition, some functions, notably responsibility for secondary roads and drug distribution, are yet to be clearly assigned to either level of government, a situation that continues to cause duplication, including in public spending. More broadly, devolution has remodeled power-cum-public resource relations between key institutions (and vis-à-vis civil

society) in ways that may not have been fully anticipated. To minimize conflicts and achieve a more successful implementation of devolution, it will be important to get intergovernmental relations to work effectively, while also expanding the political space for engagement, including with citizens.

SPOTLIGHT 1

FROM ECONOMIC GROWTH TO JOBS AND SHARED PROSPERITY

Introduction

The ultimate objective of the Kenyan government and its people is to achieve not only growth, but also shared prosperity. Vision 2030 and the Second Medium-Term Plan (MTP-2) set targets for gross domestic product (GDP) growth, but at the same time aim for poverty reduction and job creation. The two goals are interdependent, but higher growth does not always imply lower poverty or more jobs. The African continent presents some of starkest examples of this inconvenient truth. Equatorial Guinea is the richest country on the continent, with GDP per capita above US$20,000—almost 20 times higher than Kenya's—and its economy grew at double digits over the past decade, yet more than 60 percent of its population lives on less than US$1.25 (in purchasing power parity) per day.42 For Kenya, inclusive growth is to be spread across sectors: in services, which have high poverty elasticity, but also in agriculture, where most of Kenya's poor are.

Kenya's economic model has not been particularly inclusive; hence, poverty remains high. New estimates—in the absence of actual poverty data since 2006—point to lower poverty reduction since 2006 than previous studies have found. This finding is partly explained by below average and volatile growth in agriculture, and also a result of above average price increases for food and transportation, which represent a significant share of the poor's consumption basket.

Moving forward, the focus should be on generating job opportunities, as the poor rely mostly on labor income. As the poor in Kenya depend primarily on labor income, the key is to provide them with job opportunities. However, job creation has yet to catch up with demographic trends, as half of the increase in output is being generated by sectors with low labor elasticity, such as finance or communications. Creating formal jobs has been a major struggle; only 75,000 formal jobs per year are being created. The remaining 90 percent of labor market entrants end up being part of the informal economy, which is characterized by low productivity, that is, low earnings, and stunted growth potential.

The labor market entrants of 2030 have already been born, and a large share of them will most likely be starting their employment in the informal sector. Despite having formalization as a priority, the informal sector will remain part of Kenya's reality even as the country moves toward being classified as an upper-middle-income country. Going forward, focus should be placed on improving the productivity of the *jua kali*.43 The reasons for the low productivity and growth potential are multiple. *Jua kali* entrepreneurs face difficulties with access to finance and access to utilities (including land), among others, which in turn stunts their growth. This chapter concludes that public policies should center on enabling the *jua kali* to prosper in addition to removing constraints for formal businesses. The chapter also provides examples from other countries that have successfully promoted the informal economy (box 2.1).

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42 http://www.africaneconomicoutlook.org/en/countries/central-africa/equatorial-guinea/.
43 A commonly used term for Kenya's informal sector.

Poverty rates have been falling across Africa since the beginning of the 2000s. As gross domestic product (GDP) growth accelerated to around 5 percent per year, the percentage of people living on less than US$1.25 per day in Sub-Saharan Africa declined at an average rate of 0.8 percent per year. However, beneath the regional averages, there is considerable variation in the elasticity of poverty to growth. Rwanda and Nigeria illustrate this point.

Rwanda is one of Africa's economic success stories of the 2000s. GDP grew at an average of 8.2 percent per year between 2005 and 2010, and GDP per capita grew at 5.2 percent. This translated into growth of mean consumption per person among the rural poor of 2.1 percent per year, which brought poverty down from 62 to 48 percent.[a] Rwanda's growth story was pro-poor in the absolute sense and the relative sense, as consumption growth of the poor rose faster than consumption of the non-poor (0.4 percent). The key to Rwanda's success was increasing agricultural production, which doubled at the household level, as did the share of households selling surplus harvests on the market. Behind this success was a cohesive agricultural strategy focused on increasing investments in agricultural inputs, land consolidation, and infrastructure. If Kenya had the consumption trends in rural Rwanda, Kenya's rural poverty rate would have declined to 38 percent.

Like in Rwanda, Nigeria's growth has been robust, but poverty reduction much less so. Annual non-oil GDP growth rates have averaged 8 percent per year since 2003 and GDP per capita has grown at 3.5 percent per year. However, unlike Rwanda, the results from household surveys conducted in 2004 and 2010 suggest that overall poverty declined by only 2 percentage points (to 46 percent) and rural poverty went down from 57 to 53 percent. Although there are lingering questions about the quality of the consumption data for 2010, the evidence points to growing inequality in the country. A decomposition of the change in poverty between 2004 and 2010 indicated that poverty would have been 4 percentage points lower had inequality not increased.[b] Nigeria's experience also highlights how regional variations in economic performance affected the national trajectory of inequality. While states in the coastal regions and the federal capital enjoyed inclusive growth, poverty reduction in the rest of the country was set back because growth was accompanied by increasing inequality or stagnation. In Kenya, there are stark spatial divides, primarily between the high-potential agro-ecological zones in central, western, and coastal Kenya, and the arid and semi-arid pastoral regions of northern and southern Kenya. Uneven geographic development will likely work to accentuate national inequality.

a. World Bank 2012a.

b. World Bank 2013b

What Do We Know about Kenya's Poor?

From Growth to Poverty Reduction

There is no guarantee that a growing economy will reduce poverty. Where and how economic growth is concentrated, which sectors lead, and whether institutions harness growth into improved public services all play a role in the extent of poverty reduction. For growth to be pro-poor, inclusive, or shared,[44] the income of the bottom quintiles should increase. As the poor rely primarily on labor income, and mostly in rural areas, inclusive growth must capture those segments of the economy where the poor are currently active, or generate new opportunities for the poor in the nonfarm, urban sectors of the economy.

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[44] Given the magnitude of poverty in Kenya, for the purposes of this discussion references to "inclusive" or "shared" (referring to the bottom 40 percent) growth connote reducing poverty.

Understanding Poverty in Kenya

Going back several decades, the story on poverty alleviation in Kenya, as in many other African countries, is a disappointing one. In 1981, the poverty rate was estimated at 48 percent,[45] and a generation later it was only 1 percentage point lower. This is not surprising, since real GDP per capita measured in constant 2005 U.S. dollars actually fell by 2.5 percent, from US$537 to US$525, between 1980 and 2005.[46]

In 2005, 16.7 million Kenyans (47 percent of the population) were unable to afford the cost of a basic needs bundle of food and nonfood goods deemed necessary to avoid living in poverty.[47] This bundle of goods was valued at K Sh 1,562 per month per person for those living in rural areas and K Sh 2,912 for the urban population. In 2005, 47 percent of the population lived under the international poverty line of US$1.25 per day (K Sh 1,246 per person per month).[48] At that time, 85 percent of poor households lived in rural areas, were headed by members with less than five years of formal education (33 percent never attended school), and worked primarily in family farming (41 percent). Moreover, 95 percent lived without electricity in the home, 49 percent lived without a decent source of drinking water in the home, and 26 percent lived without some kind of waste infrastructure in the home.

Economic performance since 2005 has been solid, but not spectacular, as chapter 1 describes. Seen through the prism of poverty, the good news is that GDP growth has been positive and sustained. However, as output growth slowed, average income per capita fell between 2007 and 2009. Then the economy, and especially the agriculture sector, exhibited high volatility that disproportionately hurt the poor. Agriculture suffered from several shocks, including low rainfall, extreme temperatures, and reduced demand in key export markets (such as North Africa and Europe) for cash crops.[49] Consequently, agricultural output shrank by 5 percent in 2008 and by another 2.3 percent in 2009; it then bounced back in 2010 (10 percent growth) and has been growing at 2–5 percent per year since.

In addition, inflation has been high and volatile, and market distortions in key food items (sugar and maize) have contributed to rising prices. Food prices spiked in 2011 in response to a rising global food crisis; food inflation increased from 10 to 26 percent between 2009 and 2011. In addition, various policy measures are in place that raise the prices of maize and sugar, which are key consumption items for poor households. Because of high import tariffs, nontariff barriers, state intervention, and anticompetitive conduct by firms, the wholesale price of sugar in Kenya is almost three times the world price, and the price of maize is 20 percent higher (Box 2.2). Transportation inflation, another expense category that disproportionately affects the poor, doubled between 2009 and 2011.

Moreover, economic growth has been mostly consumption driven, which is disproportionately good for the poor in times of accelerating growth and bad in times of economic slowdown. As noted in chapter 1, Kenya's economy has been riding on a consumption-driven growth model since 2005 (Figure 2.1). In years when growth was high or accelerating, private consumption per capita—the average amount a person consumes in a year—grew faster than GDP per capita. However, in years of economic slowdown, such as 2008 and 2011, private consumption

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[45] Rural Household Budget Survey, 1981/82, obtained from Gamba, Mghenyi. Rural Poverty Dynamics, Agricultural Productivity and Access to Resources, Tegemeo.
[46] Data from World Bank World Development Indicators 2013.
[47] Kenya Integrated Household Budget Survey 2005/06.
[48] World Bank 2009.
[49] World Bank 2011.

Box 2.2: Despite challenges, there are still opportunities in the agriculture sector

Agriculture is the main source of employment in rural Kenya and has significant potential to reduce poverty. Kenya has seen several successes in agriculture, including in tea, fertilizer, and horticulture. Overall, the sector continues to have a large potential for growth and contribution to poverty reduction and shared prosperity.

The agriculture sector challenges are well represented by the maize market, where competition is limited and consumer prices are high, with significant negative impact on welfare and poverty (Figure B2.2.1).

State intervention, tariff barriers, nontariff trade barriers, and anticompetitive conduct by firms are among the explanations behind the high prices (Argent and Begazo 2015). The mechanisms in place to maintain high prices reflect a complex political economy. Maize is produced by smallholders for private consumption in large parts of Kenya, but a considerable proportion of maize traded for consumption is produced by

Figure B2.2.1: Wholesale prices of maize in Nairobi, Kampala, and international commodity markets
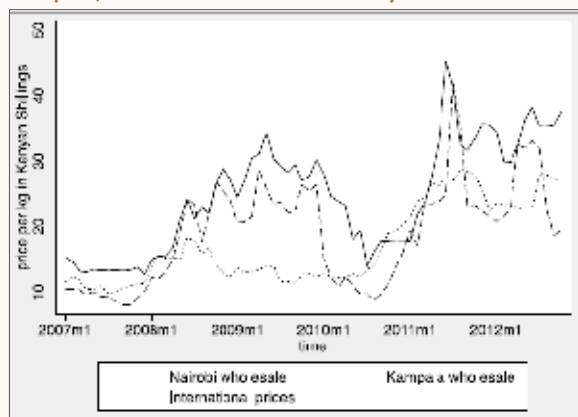
Source: Argent and Begazo 2015

large Kalenjin farmers in the Northern Rift Valley. Using household surveys, the Tegemeo Institute shows that although maize production is widespread, 70 percent of maize farmers produce for their own consumption only. The same surveys show that 50 percent of revenues from traded maize was earned by 2 percent of the farmers. The government, through the National Cereals and Produce Board, is engaged in setting the price for maize through price announcements in the immediate post-harvest period each year and through maize purchasing schemes. The National Cereals and Produce Board has largely been managed by officials with ties to the Northern Rift Valley.

Figure 2.1: GDP growth has been driven by consumption
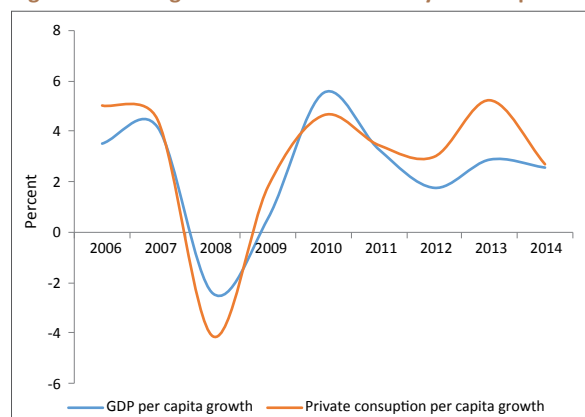
Source: World Bank.

per capita fell by more than GDP per capita. The increased investment model that chapters 1 and 3 argue for would of course have the opposite effect in the short term, although in the medium term more investment would raise the economy's potential and its growth rate, which in turn would bring higher consumption.

The volatility of the agricultural sector is perhaps the most influential dimension of Kenya's growth in terms of its effect on poverty. Although the net impact of food prices on poverty depends on whether the poor are net buyers or sellers of grain,[50] without corresponding increases in wages

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[50] Food makes up 70 percent of the poor's monthly consumption budget. Analyses from Tegemeo suggest that the poorest deciles in rural settings purchase food for more than three months of the year, compared with only 1 month for the top decile.

Box 2.3: Why agriculture will continue to matter for Kenya's growth and poverty reduction

Agriculture continues to be a key pillar of Kenya's economy. It accounts for about a quarter of gross domestic product (GDP) and two-thirds of exports. And agriculture accounts for more than 70 percent of employment in rural areas. Moreover, adding the food industry and indirect (spillover) effects, the total contribution of the agriculture sector goes up to half of total output.

The sector's performance over the past decade can be characterized as weak and erratic at best. Apart from a few exceptional segments, productivity and output growth in agriculture have been quite weak. The causes of the underperformance are well known. The World Bank Agriculture Sector Review (forthcoming) finds the following to be particularly high ranking: (i) institutional and regulatory weaknesses (legal framework that supports elite capture), (ii) land fragmentation and administration (average farm size of just above one hectare and significant share of unregistered land), (iii) lack of downstream facilities (such as drying and storage), and (iv) poor rural infrastructure (less than 2 percent of agricultural land is irrigated).

From a macro perspective, sorting out the challenges in the sector would bring positive spillover effects. First, increases in agricultural output and productivity would directly raise exports and GDP, as well as the incomes of the bottom 40 percent of the population. Second, because of its excessive reliance on climate conditions, the sector has been one of the main contributors to economic volatility over the past five years. Hence, productivity measures that stabilize food security, such as greater stability in grain policy (tariffs and quotas) or subsidies for seeds or fertilizer, would also reduce volatility in the nonfarm sector. Third, improvements in agriculture would facilitate a transition of labor to the more productive nonfarm sectors, following a decade in which the share of urban population has been stable. Such urbanization would in turn reduce rural population density and land scarcity, which in turn would abate the political risks that may stem from land scarcity. Finally, raising the incomes of the rural population would make a significant dent in poverty, as most of the poor live in rural areas.

and incomes, overall increases in the cost of living threaten to pull households consuming close to the poverty line into poverty (Box 2.3). However, strong growth in private consumption (private consumption per capita has increased by 2.2 percent per year since 2006) and growth in services suggest that there are increased earnings and employment opportunities for poor families that are diversifying into nonfarm livelihoods or seeking opportunities in cities through migration.

Poverty in Rural Kenya

Rural poverty has been on a decline, primarily as a result of rural workers doing nonfarm

work.[51] Research based on a panel survey data set fielded in maize-growing areas suggests that the within-sample poverty rate declined from 42.3 percent in 2000 to 37.6 percent in 2007.[52] The households that escaped poverty were more likely to have better educated members, more land under cultivation, and more non-land assets (that is, more diversified income). These findings imply that diversifying income beyond farming is an effective poverty reduction strategy, and education helps rural Kenyans to obtain skills to perform wage work or become self-employed (Box 2.4). Since most of the rural poor live relatively close to the largest urban centers, promoting internal mobility—through better

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[51] A panel survey was conducted by Tegemeo Institute (Egerton University) in 1997, 2000, 2004, and 2007. Data were collected from 1,275 households across eight agro-regional zones in Kenya (excluding pastoral areas).

[52] Suri et al. (2008).

The broader context of jobs in Kenya is one in which an increasing number of people are moving away from small-scale farming. Figure B2.4.1 provides estimates from census data of the population of people primarily dependent on family farming, nonfarm self-employment, and wage work. A person is classified as being "primarily dependent" on one of these job classes if that person resides in a household where more than 50 percent of the working-age members work in that job class. The starkest changes are the reduction in the share of the population dependent on family farming, the increase in the share dependent on nonfarm self-employment, and the stagnation of the share of employment in the wage sector.

Figure B2.4.1: Wage work and self-employment are increasing rapidly *(population, millions, by primary source of income)*
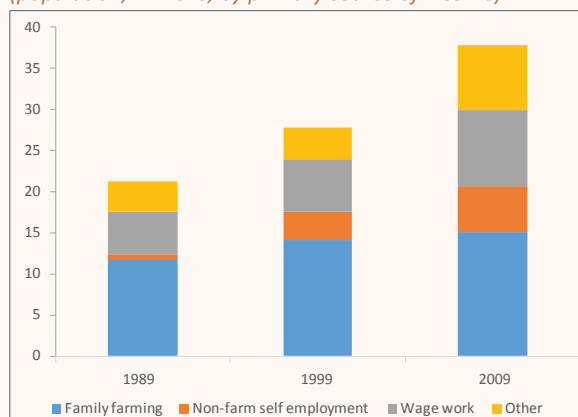
Source: Kenya National Bureau of Statistics Population Censuses.

Within households, working-age members are increasingly incorporating nonfarm self-employment into the mix of income sources. Income data from the Tegemeo panel survey also suggest that rural households have increasingly been diversifying away from crop income. In 2000, 50 percent of household income was derived from crops and 16 percent from nonfarm business; by 2007, crop income comprised 38 percent of household income and nonfarm business comprised 21 percent.[a] The census data also suggest that the bottleneck of low job creation in the wage sector may in part explain the increase in nonfarm self-employment.

In a setting of stagnant wage job growth and increasing demand for nonfarm jobs, one short-run solution for individuals with some schooling is to try their hand at starting an informal business. In the foreseeable future, it is inevitable that informal self-employment will continue to grow, given the rapid growth of the workforce and increasing access to education in a setting of low wage job growth.

a. Suri et al. 2008.

transport links, public goods, access to credit, and land tenure—holds promise for reducing rural poverty.

Overall, Poverty Has Been Declining

Poverty in Kenya has been on a steady but slow decline. In the absence of official measurement of poverty since 2006, this report estimates poverty trends up to 2013 building on earlier estimates in the 2013 Kenya Economic Update (World Bank 2013c) and using the revised GDP data. The magnitude of poverty reduction depends on the distribution of income, that is, change

in (in)equality, which is something that can be measured only through a household survey. In the absence of such, four scenarios are presented in the report (Figure 2.2). Under the first scenario, which assumes that consumption per capita grew at the same rate as the GDP per capita growth rate and (in)equality did not change, the poverty rate fell to less than 39 percent in 2013. If inequality, measured through the Gini coefficient, fell by 1 percent per year between 2005 and 2013, poverty fell to 35 percent, while a 1 percent per year increase in inequality brings poverty to about 42 percent by 2013. The last scenario

uses sector growth rates and population shares to estimate household consumption. According to that scenario, poverty fell to about 40 percent by 2013.

Figure 2.2: Poverty has been on the decline in Kenya
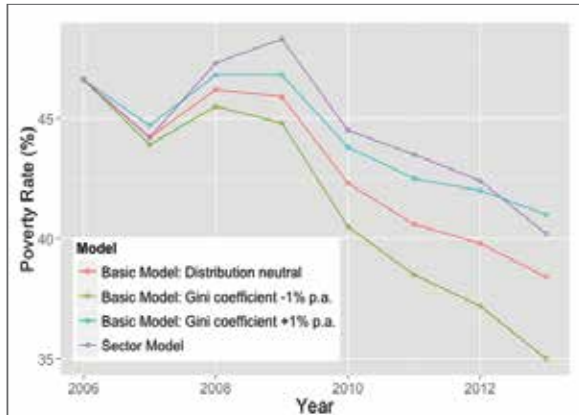
Source: World Bank estimates.
Note: The graph shows estimated trends in the poverty rate under different models between 2005 and 2013.

Another way to understand poverty trends is by asking people how they feel about it. In a 2011 survey among adults across the country, when asked to rate the government's performance on a range of matters, more than 80 percent responded "very bad" or "fairly bad" in the areas of reducing income gaps, improving the living standards of the poor, and creating jobs. In addition, despite growth, there has been a growing tide of discontent. Between 2003 and 2011, the proportion of Kenyans describing their living conditions as very bad or fairly bad doubled, from 36 to 72 percent.[53]

The Way out of Poverty

The past economic performance, if maintained in the future, is unlikely to make a big dent in poverty. Between 2006 and 2013, average annual output growth in agriculture, industry, and services was 2.5, 3.9, and 5.9 percent per year, respectively. If each sector continues to expand at the same pace, and assuming the employment transition out of agriculture to services continues at its historic pace, by 2020 the poverty headcount will be in the vicinity of 35 percent. One intervention that can reduce poverty further, if targeted well, is the government's expansion of social protection programs, primarily cash transfer programs for the poor. Enrolling and sustaining the almost one million households in cash transfer programme with transfers equal to cover their average poverty gap, and with a 75 percent targeting accuracy, would reduce poverty by an additional 16 percentage points.[54]

Moving forward, the path of poverty reduction will be mostly defined by what happens in rural Kenya. The majority of Kenya's poor live in rural areas: 90 percent of Kenyans in the bottom 40 percent of the income distribution live in rural areas (Figure 2.3). Hence, to make a big dent in poverty, the incomes of rural poor would have to rise. As the poor in Kenya depend primarily on labor income, the key is to provide them with job opportunities, which is the focus of the remainder of the chapter.

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[53] Afrobarometer 2011.

[54] Kenya has four cash transfer programs implemented under the Ministry of Labor and Social Services: cash transfers for vulnerable children, older persons, persons with severe disability, and poor urban households, and one program under the Ministry of Devolution and Planning: the Hunger Safety Net Program, which operates in four arid counties in northern Kenya. The programs give K Sh 4,000 to enrolled households on a bi-monthly basis.

RURAL

Working age pop. in rural residence by consumption decile

Decile	Percent
1	0.94
2	0.89
3	0.91
4	0.89
5	0.87
6	0.82
7	0.76
8	0.73
9	0.61
10	0.45

URBAN

Working age pop. in urban residence by consumption decile

Decile	Percent
1	0.06
2	0.11
3	0.09
4	0.11
5	0.13
6	0.18
7	0.24
8	0.27
9	0.39
10	0.55
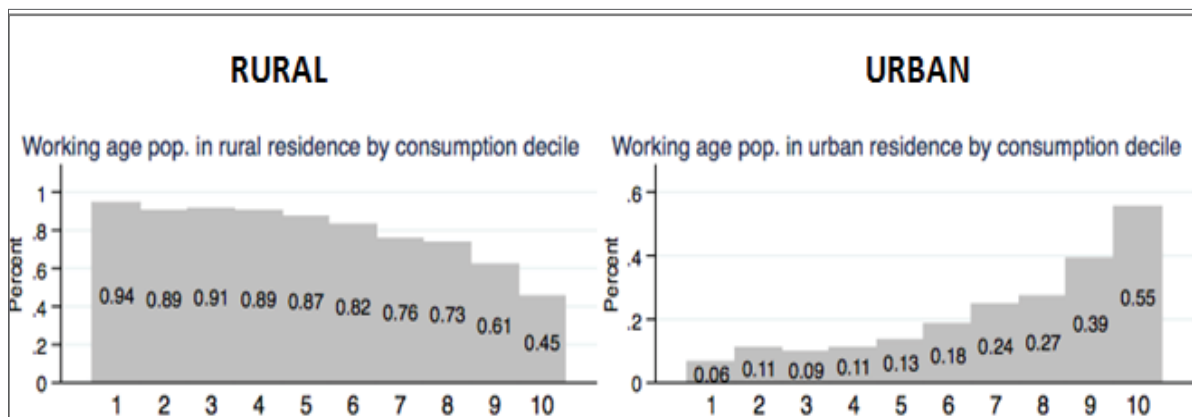
Source: Kenya Integrated Household Budget Survey 2005/06.

If the economy is able to shift growth into higher gear, as laid out in the MTP-2, with agriculture, services, and industry growing 6.8, 9.4, and 8.6 percent per year, respectively, by 2020 poverty would drop to 20 percent. Although in the long run services hold the largest potential for economic development, in the medium term improvements in agriculture are key to reducing poverty. If agricultural growth were boosted to 4.6 percent (from an average of 2.3 percent) while services and industry continued at their historic averages, poverty would fall to 27 percent by 2020 (Figure 2.4). Boosting the rate of services growth to 10.6 percent while holding the other sectors constant would see poverty decline to 30 percent. And boosting industry's rate of growth to 9 percent would reduce poverty only

to 33 percent. Rather than providing credible predictions of the trajectory of poverty, these scenarios suggest that raising the productivity of agriculture carries more potential than other sectors for poverty reduction, given the current patterns of population change in each sector.

Although future outcomes in the sector are not certain, there is no doubt that productivity must increase to achieve a substantial acceleration in agricultural output growth. Kenya has suffered through a long period of stagnant yields in agriculture. For example, cereal yields have remained practically unchanged for more than a decade, while other countries have achieved rapid productivity growth. In Rwanda, for example, crop yields have been rising 8 percent per year for more than a decade and have surpassed Kenya's. Uganda and Vietnam have also seen crop yields grow at 2–3 percent annually since 2000. A small-scale experiment on maize farms in western Kenya illustrated that yields may double simply through applying improved crop management practices, and adding fertilizer would give a further boost.

Figure 2.4: Estimated trends in the poverty rate under different scenarios between 2005 and 2020

Model
- Sector Model: Growth continues at 2006-2013 average
- Sector Model: Rate of Agricultural growth doubled
- Sector Model: Rate of Industrial growth doubled
- Sector Model: Rate of Services growth doubled
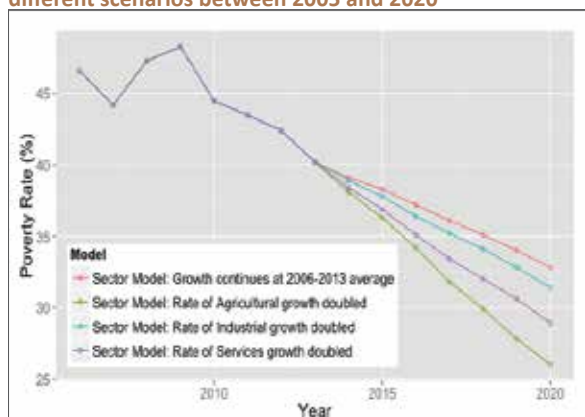
Source: World Bank estimates.

Poverty reduction outcomes would be greater by boosting agricultural productivity and liberalizing the sugar and maize markets. The removal of market restrictions in the sugar and maize markets is expected to yield poverty

reduction gains: 20 percent reductions in sugar and maize retail prices are estimated to reduce poverty by 1.5 and 1.8 percent, respectively. This could be achieved through lowering import tariffs for sugar and maize, applying more stringent competition policies, and reducing the role of the National Cereals and Produce Board in determining prices (Argent and Begazo 2015).

Last but not least, it is difficult to design effective poverty reduction policy in the absence of precise poverty data. The historic estimates and the forward-looking outlook on poverty that are presented here are based on assumptions about what may have been happening with the income of the poor since 2006. However, this approach cannot replace having comprehensive data on the income trends and characteristics of the poor. Thus, for effective poverty reduction policies, it is absolutely critical to conduct household budget surveys at regular time intervals. To this end, the Kenya National Bureau of Statistics (KNBS) is expected to complete a new household budget survey (Kenya Integrated Household Budget Survey-II) in 2016.

Has Growth Created Jobs and Where?

Although good data on the labor market are not available—in the absence of labor market surveys—-official statistics confirm that Kenya is suffering from high rates of underemployment and youth unemployment. Kenya has not had a labor force survey in the past decade, although KNBS compiles annual (formal and informal) employment by sector. Estimation from the 2009 population census points to pervasive underemployment—hidden unemployment—which is transposed into a high share of labor in subsistence agriculture (Kenya Economic Update Edition 7). Although this phenomenon is not unique to Kenya, this section looks at job creation and the constraints to employment.

Job creation has not been able to keep up with population growth. While the working-age population increased by three million between 2009 and 2013, 2.6 million jobs—or 80 percent of the working-age population—were created in this period. The economy expanded by 26 percent in the five-year period, while total employment—formal and informal, excluding subsistence farming—rose by 24 percent, which points to the contribution of productivity increases to GDP growth. Micro data from listed companies at the Nairobi Stock Exchange confirm this. Sales (of those companies that publish data on employment) rose by 56 percent between 2009 and 2013, while employment increased by only 22 percent. At the same time, almost 90 percent of the jobs were created by the informal economy, where four in five Kenyan workers are employed (Figure 2.5). In contrast, only 75,000 new formal wage jobs were added each year.

Figure 2.5: Formal employment, although desired by many, remains a privilege for a few
(Kenya's demographic trends, millions)
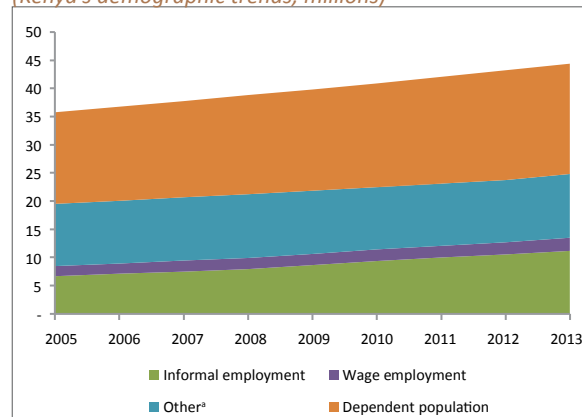
Source: Kenya National Bureau of Statistics Economic Surveys.
a. Other includes small-scale farmers, pastoralists, as well as the unemployed/inactive population.

Although the informal economy cushions Kenya's unemployment rates and is Kenya's largest employer, it does not contribute directly to government budgets. Businesses in the informal sector are able to use public services and contribute to them through value-added taxes, but they face challenges accessing private services, with access to finance being the most

important. Even if these businesses were to formalize, it is unlikely this situation would change, because the businesses would be too small to boost government budgets significantly, and they would still have difficulties accessing formal finance, given high collateral requirements.

Most of the new labor market entrants find jobs in trade and hospitality, predominantly as informal workers. In the informal sector, almost two-thirds of new jobs between 2009 and 2013 were in trade and hospitality. Manufacturing contributed to 18 percent of job creation in the *jua kali*, while formal manufacturing jobs rose by 7 percent during the four-year period. The construction sector also recorded strong growth, with formal employment growing much faster, although informal employment continues to account for two-thirds of the total. More than half of informal jobs are created in rural areas—which is not surprising, given that three-quarters of Kenyans live in rural areas—however, it is interesting that job creation in urban areas did not grow faster than in rural areas until 2013. This trend is behind the relatively slower urbanization in Kenya over the past decade compared with peers in Sub-Saharan Africa (SSA), but 2013 seems to have marked a break in the trend, as 90 percent of the 630,000 additional informal jobs were in urban areas.

In contrast, the number of formal workers is small and predominantly in the public sector. Kenya's formal job market is tiny: only 2.3 million Kenyans were formally employed in 2013, of which about 700,000 were in the public sector. Although data are not available, it seems that formal jobs are relatively stable, as practically every sector of the economy has been adding jobs year after year since 2009 (Figure 2.6). The public sector's role in job creation has been limited: 75,000 workers—most of them teachers—were added in this period.

Figure 2.6: Jobs are created largely in informal trade and hospitality services
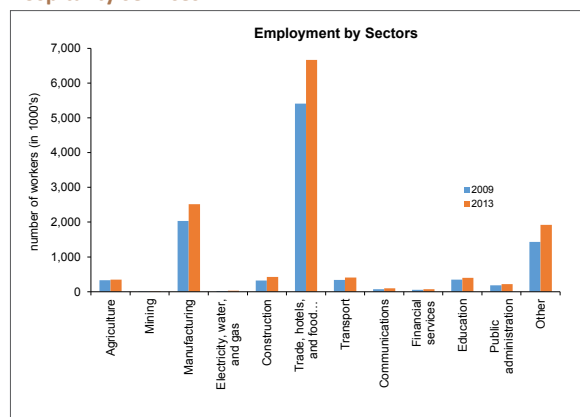
Source: Kenya National Bureau of Statistics.
Note: Agricultural employment refers to formal employment only (informal and subsistence farming data do not exist).

Productivity is increasing in the sectors with formal employment. Modern services, such as financial services and education, and industry (excluding manufacturing) have seen increasing productivity. At the same time, the four sectors with the highest productivity growth account for only 7 percent of total employment (Figure 2.7), so their contribution to the overall labor productivity of the economy is minimal. The good news is that informal trade and hospitality, which attract the majority of labor entrants, are becoming more sophisticated: productivity in the sector grew by 6 percent between 2009 and 2013. Data on (informal) agricultural employment are not available, so the change in agricultural productivity cannot be measured.

Figure 2.7: Productivity growth is fastest in sectors with few workers
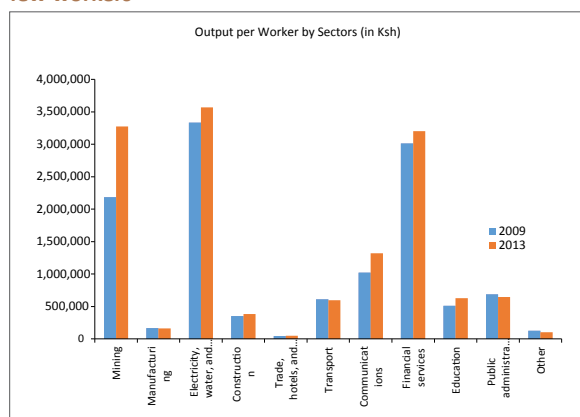
Source: Calculations based on Kenya National Bureau of Statistics data.

To conclude, Kenya's jobs story does not correspond with the strategic goals of accelerated and shared growth. The good news is the economy added more than 2.6 million nonfarm jobs between 2009 and 2013. The bad news is the structure of job creation is unfavorable. First, workers are going into the lowest productivity sector, trade and hospitality. Second, labor productivity is growing fastest in sectors that employ few workers. Third, manufacturing—one of the priority sectors for the government—is showing declining productivity. Had manufacturing recorded the same productivity growth as trade and hospitality (6.4 percent between 2009 and 2013), which, similar to manufacturing, comprises largely informal employment, GDP in 2013 would have been 1.6 percent higher.

Furthermore, the ambitions of the MTP-2 are much higher than the performance over the past five years. Job creation is targeted to double, from 723,000 new jobs in 2013 to 1.4 million jobs in 2017. The structure of the labor targets is even more ambitious: new formal wage jobs are to go up from 110,000 in 2013 to 570,000 in 2017. Under this scenario, the proportion of modern sector employment would increase from 12 percent in 2012 to 40 percent by the end of the plan period. However, to achieve the 570,000 new formal jobs target in 2017, job creation growth would need to quadruple compared with the 2012–13 growth rates in the sectors that are not constrained by resource or fiscal limitations (Table 2.1).

What Do We Know about the Jua Kali?

The *jua kali* has been part of Kenya's economic reality for more than three decades, but information on the sector has been scarce until now. In the absence of robust demand for wage labor in the formal sector, those moving to urban

Table 2.1: Average annual growth rates to reach MTP-2 formal jobs target

	2012–13 actual	2013–17 estimates
Agriculture	2.7	10.7
Manufacturing	3.3	13.3
Construction	12.3	49.3
Trade and hospitality	6.7	26.9
Transport	1.6	6.4
Mining	4.4	4.4
Utilities	8.0	8.0
Other	5.5	10.9
Communications	8.2	8.2
Financial services	8.8	8.8
Education	4.2	4.2
Public administration	5.1	5.1

Sources: Kenya National Bureau of Statistics; staff estimates.
Note: Green = high growth potential; yellow = moderate growth potential; red = historic growth trend. MTP-2 = Second Medium-Term Plan.

areas have been forced to create their own opportunities and employment. Consequently, the number of (informal) jobs in wholesale and retail trade, hotels, and restaurants has exploded. Other than the fact that the *jua kali* is a fallback option for most new labor market entrants, little was known about the characteristics of this sector and the constraints that the millions of informal entrepreneurs are facing. An informality survey, conducted in 2013 and financed by the World Bank, offers insights on these issues that are highly relevant for targeting public policies in the sector.

The age structure of the surveyed informal business enterprises corroborates the story of the structural change that began to take place in the early 2000s. The data on the year of establishment show a clear break in the number of "births" between the 1990s and 2000s (Figure 2.8), which is likely to capture the change in the economic environment after the end of the Moi regime (the rest of the difference being explained by exit of unsuccessful firms). One of the key changes was the relaxation by commercial banks

and micro finance institutions of lending to the general public. The spurt of lending generated lots of informal manufacturing business, mostly *jua kali* activities to support the boom in the informal economy.

Figure 2.8: Informal firms are mostly young
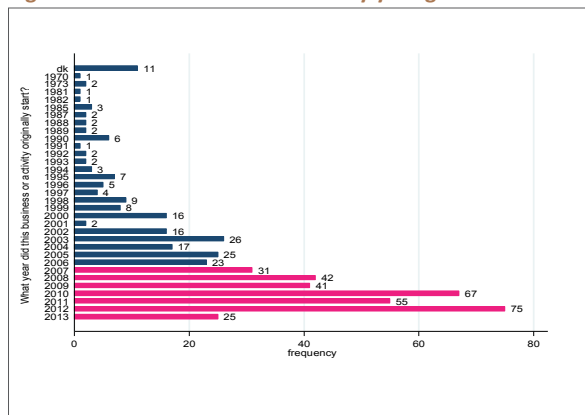
Source: Kenya Informality Survey 2013.
Note: dk = don't know.

Most of the informal businesses remain small, with no more than one employee. Although more than half of the surveyed firms were established prior to 2010, three-quarters had no more than one person employed, that is, the owner (Figure 2.9). Moreover, three-quarters of the firms did not hire additional employees or acquire machinery or space over the past three

years. In addition to being small, informal firms have low productivity, which is illustrated in the wages of their employees. Most informal firms pay minimum wages or less, which confirms the findings from the macro-data on output and employment that were discussed in the previous section. Three-quarters of the people employed by informal businesses earn between K Sh 1,000 and K Sh 9,000 (US$12 to US$104) per month. The minimum wage in Kenya is about K Sh 7,000 (US$80). Only 10 percent of firms pay their workers more than K Sh 10,000 per month.

***Jua kali* entrepreneurs are mostly young with some education.** Almost three-quarters of the surveyed owners of firms are younger than 40 years of age (Figure 2.10). Adding the fact that 20 percent of the firms are more than a decade old, with some in operation since the 1980s, it becomes clear that Kenya's youth has been behind the creation and growth of the *jua kali*. At the same time, the majority of the owners in the informal sector have some form of education, with three-quarters having undergone vocational training or secondary school. This fact reiterates the point that informal entrepreneurship has been a "must" for Kenya's youth.

Figure 2.9: Informal businesses employ few people and pay minimum wages or less
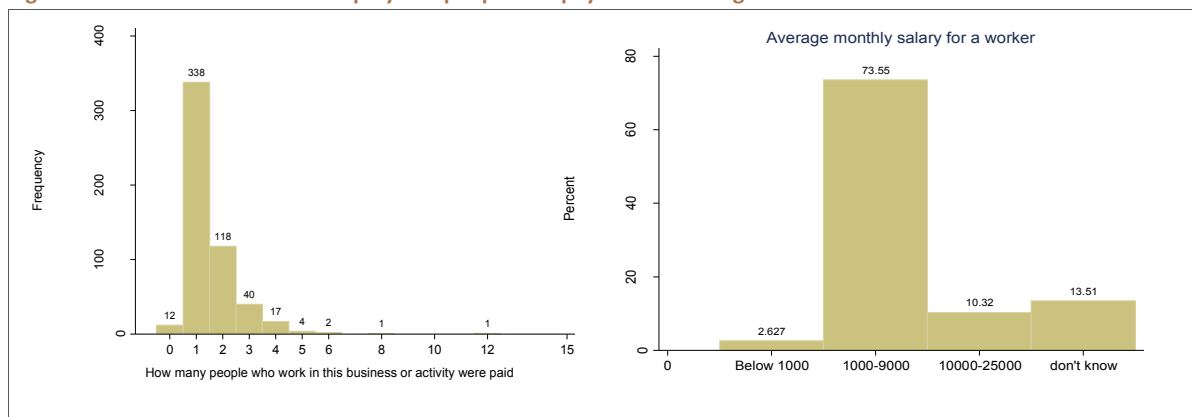
Source: Kenya Informality Survey 2013.
Note: The number of employees includes the owner.

Figure 2.10: Most owners of informal enterprises are young and literate

a. Education

What is the highest level of education of the largest owner?

Level	frequency
No Education	10
University training (complete or not)	13
dk	17
Primary School (complete or not)	147
Vocational Training	172
Secondary School (complete or not)	174

b. Age

Age of the largest owner

- 18 and don't know: 2.81%
- 20-29: 31.33%
- 30-39: 39.02%
- 40-49: 18.01%
- 50-59: 7.13%
- 60-99: 1.69%
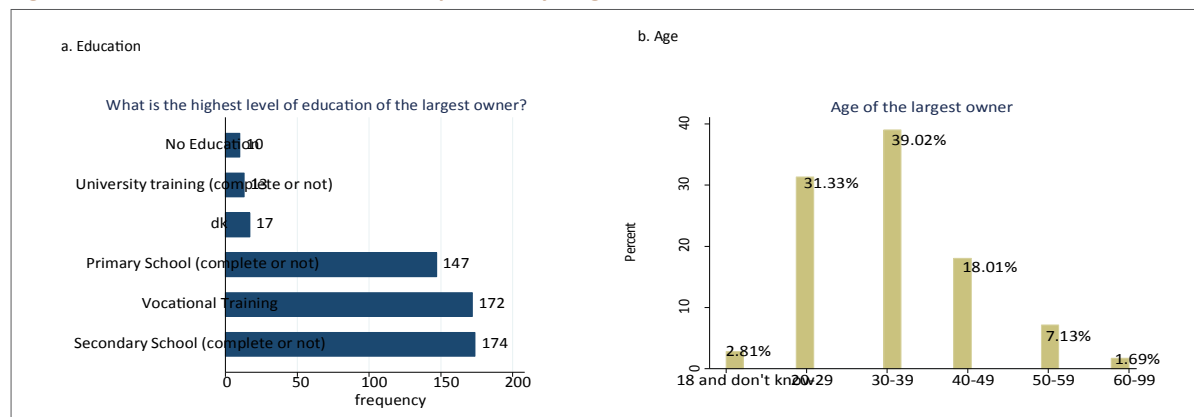
Source: Kenya Informality Survey 2013.
Note: dk = don't know.

Since informal firms are not growing and they operate at low productivity, the main question for policy makers is about the main obstacles that these firms face. Lack of access to finance is the main cause of stagnation for 43 percent of the informal businesses (Figure 2.11). Only 10 percent of informal firms have received funding from banks or microfinance institutions. The rest have to rely on own resources, and few are able to get suppliers credit (Figure 2.12). Other key obstacles include getting electricity (7.5 percent of firms), corruption (6.8 percent), access to land (6.7 percent), and crime (5 percent). Although there is consensus on the largest obstacle for informal firms, the other obstacles are also quite severe. For example, corruption, although not the largest, is a major obstacle for a third of the surveyed firms. And more than a quarter of firm owners report crime to be a major obstacle. Seven percent of those surveyed stated they had suffered a loss from crime in the past month.

In addition to identifying the most important constraints to doing business, the informality survey also reveals the reasons for operating informally. The two main reasons for staying informal are registration procedures and taxes (Figure 2.13). The procedures for starting a formal

Figure 2.11: What is the largest obstacle faced by informal firms?

Obstacle	frequency
Limited access to tecnology	3
Inadequately educated workforce (including the owner)	7
don't know	10
Problems with the water supply	12
Crime	24
Limited access to land	36
Corruption	36
Problems with the electricity supply	40
not applicable	135
Limited access to finance or loans	230
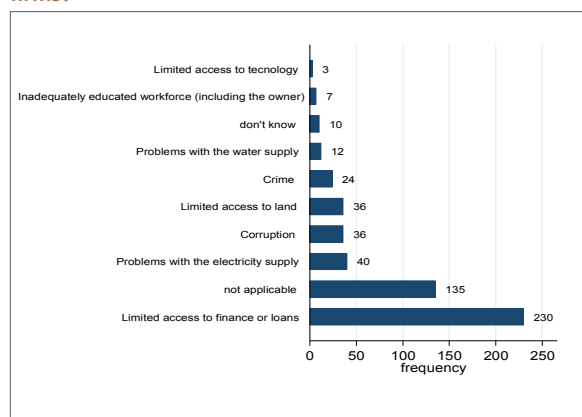
Source: Kenya Informality Survey 2013.

Figure 2.12: Own funds constitute the main source of finance

Own Funds Constitute the Main Source of Finance

Most used sources of finance

Source	frequency
Don't know	52
Own funds	372
Credit from suppliers	36
Moneylenders	2
Microfinance institutions	29
Banks	17
Friends or relatives	22
Other	3
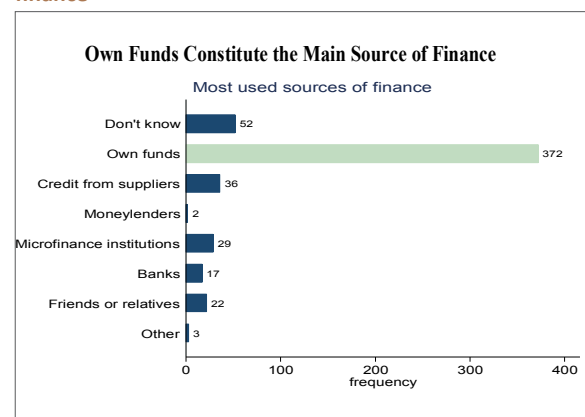
Source: Kenya Informality Survey 2013.

Figure 2.13: Why do they choose to operate informally? Why aren't they registered?

a. Registration procedures

Because of time, fees and papaer work required to register

	frequency
dk	33
No	219
Yes	52.7 % — 281

b. Taxes

Because of taxes to be paid if registered

	frequency
dk	39
No	213
Yes	52.7% — 281
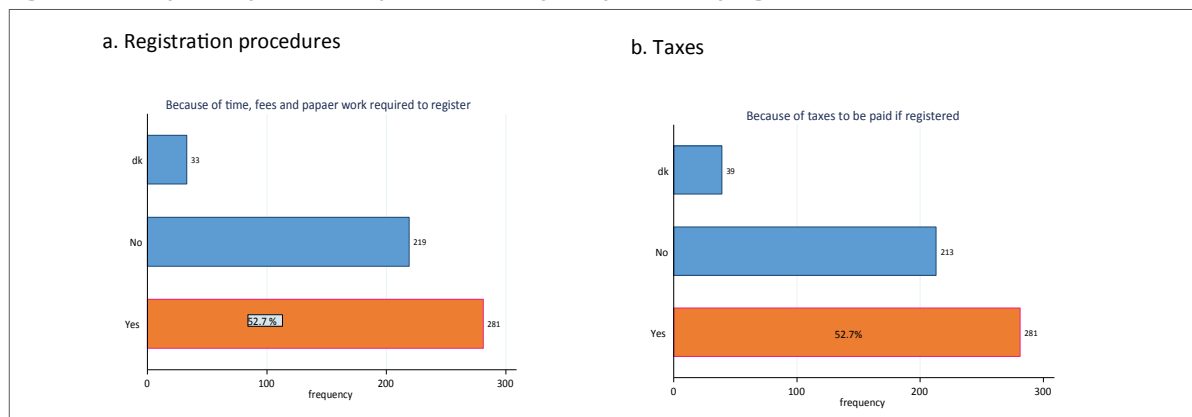
Source: Kenya Informality Survey 2013.
Note: dk = don't know.

business are indeed complex and onerous in Kenya. Formal registration of course brings many benefits, such as better access to services and institutions (such as courts), lower burden from inspections and other government officials, as well as limited liability of the owner vis-à-vis the firm. Informal entrepreneurs are aware of these benefits: half of them responded that they felt formal registration would bring them benefits. Thus, easing the regulations for starting and operating a business should increase formality, and in turn productivity and output.

What Is Constraining Job Creation in Kenya?

Several factors constrain the labor market in Kenya, on the demand and supply sides. This chapter centers on: (i) the business environment; (ii) the education system, that is, skills supply, as school enrollment has rapidly expanded and employers are concerned with challenges related to quality and mismatch; and (iii) labor regulations. The latter relates to a small segment of the labor market—formal employment only—but in the long run it is relevant, as productivity

in the informal sector has a ceiling, and moving toward upper-middle-income status necessities productivity increases that only the formal sector can achieve. These three constraints are particularly relevant for job creation.

Business Environment

A sound business environment is a foundation for enterprise growth and employment creation. Kenya has historically remained behind its peers in most aspects of the business environment (Box 2.5) until it gained a noteworthy momentum in its business environment reforms last year. According to the Doing Business 2016 Report, Kenya's increased by 21 places, moving from 129th to 108th place globally. Kenya introduced a total of 4 reforms making it easier to do business in the areas of starting a business, getting electricity, registering property and getting credit. These efforts helped Kenya be recognized as the third most improved economy globally in the period from June 2, 2014 to June 1 2015, and positioned it as the second most business-friendly economy in the East African Community (EAC).

Box 2.5: Who can Kenya learn from about improving the business environment?

While Kenya fares well compared to its regional, and even global competitors in the area of Getting Credit, it shows room for improvement in the 9 other areas measures by Doing Business indicators, where its ranking remains in triple-digits. Areas such as starting a business, dealing with construction permits and resolving insolvency, in particular, could benefit from additional streamlining to reduce procedure count and cost needed to complete these processes, as well as strengthening the underlying legal framework. While several efforts to pass various bills aiming to improve these areas are ongoing, implementation and communication remains to be an important aspect of reforms that should not be neglected moving forward.

Starting a business. Senegal has made solid progress in facilitating the creation of formal businesses by shortening the time to register a business to six days (involving only four procedures). In Kenya, it takes 26 days and 11 procedures to start a company.

Dealing with construction permits: The region's best performer in this area is Mozambique, where it takes only 10 steps and 111 days to obtain a construction permit, while the cost for the procedure is at 3.7% of the warehouse value. In Kenya, the procedure count is above the regional average (15 vs 14.5) and it takes 146 days to obtain a construction permit, while the cost is also above the regional average with 6.9% of warehouse value.

Table B2.5.1: Kenya Remains behind in the Doing Business Indicators

	Selected peer countries	Kenya
Starting a business	Senegal (90)	143
Getting electricity	Ghana (151)	71
Registering property	Vietnam (33)	136
Paying taxes	Rwanda (27)	102
Trading across borders	Tanzania (137)	153
Enforcing contracts	Vietnam (47)	137
Resolving insolvency	Uganda (98)	134

Source: World Bank 2016 (www.doingbusiness.org).

Registering property. Rwanda, is the region's best performer in this area and it takes 3 steps, 32 days and costs only 0.1% of property value to transfer a property. In Kenya, the process is twice as long with 61 days, and the procedure count is 3 times bigger, at 9 steps. The cost is at 4.2% of property value.

Getting electricity: Mauritius is the region's best performer in this area, where it takes only 4 steps, 81 days and costs 260% of income per capita to get a new electricity connection. Mauritius also scores 6 out 8 points on the new reliability of supply and transparency of tariff index. Ranked 127th on this indicator, Kenya takes the same amount of steps to get a new electricity connection, but shows significant room for improvement in streamlining the time and cost needed for new electricity connection, and improvement under the new reliability of supply index, where it scores zero.

Resolving insolvency. Mauritius is the region's best performer in this area, where the recovery rate is 67.4 cents on the dollar and the strength of insolvency framework index is 9.5 out of 16 points. In Kenya, the recovery rate is only 27.9 cents on the dollar and strength of insolvency index score is 5 out of 16 points. Kenya's product market regulations are also unnecessarily restrictive. Regulatory characteristics of the business environment determine the incentives and ability of firms to participate in markets and compete. Compared with other countries, in Kenya the regulatory framework presents a high degree of restrictiveness to firm entry and expansion, as shown by the Barriers to Entrepreneurship indicator calculated using the Product Market Regulation methodology designed by the Organisation for Economic Co-operation and Development (OECD). The level of restrictiveness in Kenya is higher compared with the OECD average and many low- and middle-income economies, such as South Africa (Figure 2.14).[55]

Figure 2.14: Kenya is among the countries with restrictive product market regulations
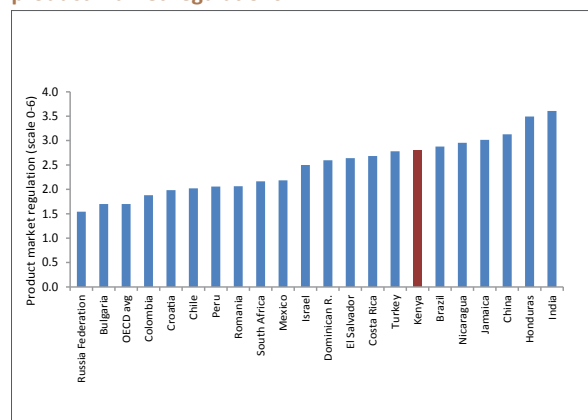
Sources: OECD Product Market Regulations database; OECD-World Bank Group Product Market Regulations database.
Note: A score of 6 indicates the most restrictive regulatory framework.

In addition to the above horizontal measures that constrain business activity, there are many examples of sector-specific obstacles to doing business. For example, in the market for mobile payment systems, the absence of full interoperability between operators and the existence of exclusive contracts between operators and cash merchants reduce the possibility of new market entrants. In professional services, limitations on advertising and on partnerships hinder new market entry and investment. In agribusiness, unclear and unnecessarily burdensome licensing requirements for processors, as well as rules that require consent from incumbents to grant a new license, discourage entry. Likewise, the lack of a market-oriented process for spectrum assignment may be hurting growth in the telecommunications sector. Finally, lack of clarity on whether the competition law applies to state corporations raises concerns about potential market distortions.

Multiple factors are behind the weak business environment: lack of implementation capacity and the challenges of multiple agency coordination top the list. In the past few years, several initiatives to streamline business regulations have failed to be implemented, as other legislation took priority over business law review and amendments. Lack of effective coordination among the various institutions in charge of business regulations has undermined the capacity to drive these complex reforms, and the recent devolution of national functions has added further challenges to this process, as capacity constraints are generally exacerbated at the county level. Reform in some aspects of the business environment has also been hampered by vested interests. For example, lawyers may benefit from the complex processes associated with company registration, public officials may benefit from the lack of automation in property and land transactions, and restrictions on market entry and competition may be a result of political lobbying by incumbent firms.

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[55] Data are not available for the peer countries (except India) used throughout the report.

More recently, the Government of Kenya has made significant efforts to improve the business environment, under the coordination of the Ministry of Industry and Enterprise Development (with the creation of the Ease of Doing Business Delivery unit). Momentum has been gained in prioritizing reforms, particularly in core bottlenecks, including company registration, electricity connections, property transactions, and access to credit. Counties are following suit to improve their local business environments. One of the first movers is Mombasa county, which has embraced the use of technology to interact with businesses through automated systems for construction and business permitting. The results of these efforts should improve the operating environment for companies and are expected to improve Kenya's poor performance on international benchmarks.

Acting on the weakest links is expected to boost investment and market competition. There is growing evidence that streamlining business regulations stimulates economic activity. For example, reducing the burden for starting a business is expected to result in the establishment of more firms, and this has been confirmed by several case studies.[56] According to the Doing Business 2013 report (World Bank 2013a), improved regulations are associated with higher inflows of foreign direct investment. Haidar (2012)[57] goes further and examines the link between "doing business" reforms and economic growth, and finds a positive significant relationship between the two. In addition, several studies show that streamlining product market regulations promotes innovation, employment, and productivity growth. Nevertheless, improving the business environment is necessary but not sufficient to achieve the desired jobs and poverty reduction targets; human capital and streamlined labor regulations are also critical.

Quality of Skills and Education

Kenya's education system is failing to meet market needs, as it does not prepare the labor market entrants with appropriate skills. Although the quantity of graduates is rising rapidly, businesses are increasingly complaining about shortages of skills in the labor market (Figure 2.15). This is particularly true for services firms, which represent the fastest growing segment of the economy. In 2013, more firms in Kenya were identifying skills as a major constraint than in the rest of SSA. In large part, the mismatch of skills seems to be caused by the quality of the education system. Kenya's basic education system continues to overemphasize teaching facts and imparting knowledge, rather than the development of analytical and problem-solving skills (Murthi and Sondergaard 2012). The system is also weak on creating job-relevant technical skills (for example, through technical and vocational education, higher education, pre-employment, and on-the-job training), along with other skills valued by employers, such as accessing information, using computers, solving complex problems, and learning new skills while on the job.

Figure 2.15: Finding skilled workers is becoming a major challenge for employers

Percent of firms identifying inadequtely educated workforce as a major constraint
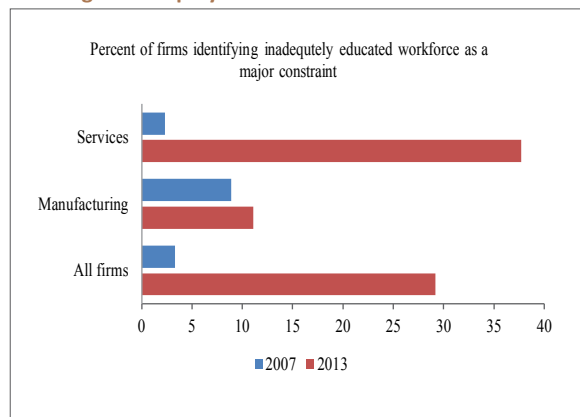
Source: enterprisesurveys.org.

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[56] http://www.doingbusiness.org/reports/case-studies/topic/starting-a-business.
[57] Haidar 2012.

The current 8-4-4 education system, which was introduced in the 1980s, has failed to keep up with the fast-changing labor market and needs reform. The system needs reform to focus on promoting the acquisition of strong generic (cognitive and noncognitive) skills and enhancing the alignment of academic curricula with market demands, particularly at the secondary and tertiary levels. The expansion of tertiary education should be managed through the strengthening of quality assurance frameworks and the provision of better information on labor market prospects in various fields. In addition, emphasis should be placed on the production of skills for innovation at the tertiary level. The skills demanded by firms today are rapidly shifting from routine, manual, and cognitive skills toward more non-routine, higher-order skills.

Technical and vocational education needs adequately designed expansion. In an effort to address the large youth unemployment, there are pressures to expand technical and vocational education. However, very little is known about the current system, its quality, and the employment trajectories of its graduates. Addressing skill mismatches among young workers calls for well-designed apprenticeship programs that ease the transition from school to work by developing behavioral skills. International experience underscores the importance of the governance of technical and vocational training, and close partnerships with private sector employers. For example, the recent development of oil exploration and extraction, which is new to Kenya, will necessitate that job entrants have specific skills. Hence, education policy should be geared toward creating those skills. There have been positive steps toward strengthening the link between businesses and academia. One example for this is the "Linking Industry with Academia"

platform established in 2010, precisely with the objective to facilitate linkages between firms and educational institutions.[58]

Tertiary education among youth has expanded rapidly. The coverage of tertiary education has expanded more rapidly in the past two decades, mainly as a result of upgrading of colleges to universities as well as through what is referred to as "parallel programs" where students pay tuition for part-time or distance learning programs. Expansion has occurred in all public universities and in private, for-profit providers of tertiary education. However, Kenya has not joined the trend of attracting world class universities to establish an in-country presence (campus); neighboring Rwanda, for example, saw the opening of a campus by Carnegie Mellon University.[59]

Increasing the pool of university graduates is good for productivity growth. A study from 2006 showed that returns to tertiary education are high in Kenya's urban centers (Kimenya et al. 2006). Returns for women are significantly greater than for men in rural and urban settings (Table 2.2). Increasingly, however, research demonstrates that rates of returns vary with the quality of the skills imparted. Recent studies show that rather than years of schooling, it is the quality of cognitive skills that determines individual earnings. Labor markets clearly offer returns to those who have skills that are relevant, rather than years in school *per se*.

The rapid expansion of tertiary education carries significant risks, including for the quality of learning. The expansion of post-secondary educational opportunities has been driven by demographic pressures as well as pressures arising from earlier reforms undertaken in primary and secondary education. However, it

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[58] http://liwatrust.org/index.php/about-us/linkages.

[59] http://www.cmu.edu/rwanda/.

Table 2.2: Private returns to tertiary education are high, 2006 *(%)*

Category	Completed primary	Completed secondary	TVET	University
National	7.7	23.4	23.6	25.1
Urban	9.3	34.4	26.2	34.8
Rural	7.8	21	22.4	14.2
All males	4.4	21.2	12.8	23.3
Urban males	6.1	25.6	17.9	30.7
Rural males	4.2	20.2	12.4	12.6
All females	13.2	36.3	43.5	62.5
Urban females	6.2	44.9	28	66
Rural females	16	30.3	51.5	18.6

Source: Kimenya, Mwabu, and Manda 2006.
Note: TVET = technical vocational education and training.

seems evident that most tertiary institutions have emphasized revenue generation, while placing weak or nonexistent mechanisms to maintain or improve quality. At the same time, the expansion of tertiary education carries a risk of inequitable access if the system fails to equalize opportunities for key constituents, such as women, the rural population, and those with low income.

Labor Regulations

The 2007 changes to the labor code seem to have disincentivized formal employment. Labor legislation was drastically revised in 2007, without wide stakeholder participation, and firms have not been happy with the reform. The reform was done primarily as an appeal to the trade unions ahead of the December 2007 elections; the Central Organization of Trade Unions claims to have 1.7 million members.[60] Many of the changes that were introduced have been disputed by employers and their business associations, who continue to voice their concerns about the strict regulations. Businesses' perceptions are also noted in enterprise surveys. In 2007, only

4 percent of firms found labor regulations to be a major constraint to doing business, far less than the SSA average of 12 percent. However, by 2013 the share of firms rose to 20 percent, while in the rest of the continent the share of firms complaining about labor regulations remained unchanged at 12 percent.[61] The main grievances concern the strict medical surveillance requirements, health and safety audits (Box 2.6), as well as the high minimum wage.

The strict regulations partly explain the rise in disputes between employers and employees. Industrial disputes between employers and employees have been on a rise in recent years. According to KNBS data, the number of workdays lost as a result of such disputes skyrocketed from 15,000 in 2008 to 175,000 in 2011. Disputes in the agriculture and forestry sectors have been most prevalent, accounting for half the workdays lost. The transport, manufacturing, and construction sectors follow, while in other sectors of the economy such incidents are rare.

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[60] http://cotu-kenya.org/about/
[61] www.enterprisesurveys.org

Box 2.6: Examples of labor regulations that are causing firms to become risk averse in hiring

The Work Injury Benefits Act (WIBA) and the Occupational Safety and Health Act (OSHA) provisions seem to have become a source of costly litigation between employers and employees. Although these laws seek to protect employees' rights and were enacted to root out oppressive practices at the workplace, they have resulted in higher costs for formal hiring. For example, the definition of a dependent in the WIBA is too wide and it can result in unnecessary litigation instead of the law limiting the dependents to the immediate family only.

The costs of annual safety and health audits and risk assessments have been loaded onto employers. OSHA Provision No. 15 of 2007 introduced compulsory annual safety and health audits, risk assessment, and the requirement for a health and safety statement by all employers. The costs of these undertakings are loaded onto the employers instead of the agencies undertaking the audits. The cost of compliance with this requirement will drive out small investors who are unable to conform because of lack of capacity to conduct the audits and assessments.

Compensation levels for injury at work are also perceived to be high by employers. According to the Kenya Association of Manufacturers, an employee earning K Sh 50,000 a month would be eligible for compensation of K Sh 4.8 million, and one earning K Sh 1.2 million a month could get K Sh 115 million in case of permanent disablement. Such high amounts make businesses risk averse when it comes to employment.

The prescribed minimum wage may also be pushing firms toward informality. Kenya's average prescribed minimum wage in 2012 was K Sh 5,704 for agricultural workers and K Sh 10,646 and K Sh 13,471 (depending on the urban area) for those working in manufacturing and services, respectively. Consequently, and to no surprise, KNBS data also show that less than 4 percent of formal wage workers in trade and hospitality earn less than K Sh 20,000, and at the same time there are more than six million informal workers in the sector. The same goes for manufacturing and construction, where less than 1 percent of formal workers earn less than K Sh 15,000, while there are two million and 300,000 informal workers, respectively, in the two sectors. The minimum wage is relatively high in an international comparison. According to the Doing Business 2014 report, Kenya had the highest minimum wage for a young market entrant among a group of peer countries (Figure 2.16). Moreover, the ratio of the minimum wage to worker productivity (measured as value added per worker) was by far the highest.

Figure 2.16: Minimum wage is highest in Kenya among peer countries
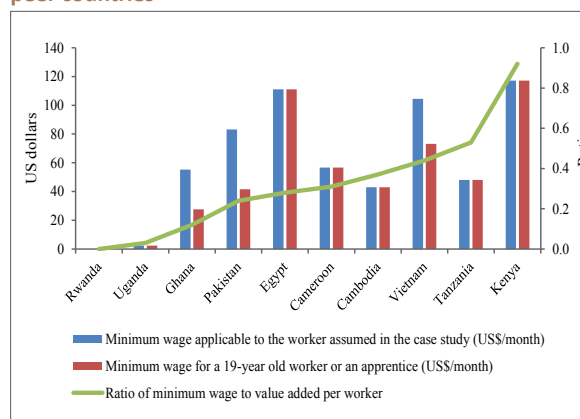
Source: World Bank 2014b.

Understanding Kenya's Segmented Labor Market

To meet the MTP-2 goals on job creation, Kenya's government would have to focus in parallel on three segments of the working population. Job creation is a multifaceted policy challenge, and one way to approach it is by grouping new labor market entrants in three groups: (i) urban educated youth, (ii) urban low-skilled youth, and (iii) rural (low-skilled) youth. Different stimuli will be required for each group.

The urban educated youth demand "modern" jobs. To make this cohort fit for modern jobs, the education system, in particular tertiary education, should focus on quality as well as on producing skills that the market needs. In addition, firms in modern sectors, including financial and business services, or high-skill manufacturing sectors, should be allowed to operate in an environment that is conducive to investment and innovation. Moving to such an environment will require policy reforms to remove some of the regulatory burden, as well as investment in the infrastructure that these sectors need. Empirical evidence from neighboring Tanzania (box 2.7) illustrates the need to place qualified market entrants in adequate jobs at the start of their career; otherwise they risk going for, and staying in, low paid traps.

The low-skilled urban youth will aim for low-skill formal wage jobs. Kenya has the potential to generate formal jobs in low value-added manufacturing, construction, or tourism-related services such as hotels and restaurants. Unleashing this potential requires business environment reforms and infrastructure improvements that promote firm creation, investment and productivity growth, as well as reforms to make labor regulations more friendly to hiring low-wage workers. And active labor market policies, in particular those that involve the private sector, could boost demand for such jobs.

But in the short to medium term, low-skilled urban youth are more likely to end up in the *jua kali*. The informal sector will continue to be the employer of last resort, as it has been for the past few decades. Hence, public policies should be oriented toward boosting productivity in the sector rather than limiting its presence. Countries in SSA have taken divergent approaches on this topic. South Africa is a good example (box 2.8). World Bank (2014a) considers informality in low- and middle-income countries and points to the important fact that there is heterogeneity among informal firms, so different policies need to be devised for different types of firms. Nevertheless, a broad lesson is that public policies should have a dual focus. First, they should aim to improve firm productivity by boosting skills, improving access to finance, or financing business services. Second, they should be aimed at enhancing the quality of services, governance, and the institutional system

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Box 2.7: Locking labor market entrants in low-productivity jobs limits their long-term earning potential

A recent study by Falco et al. (2014) uses the Ghana and Tanzania Urban Panel Surveys to examine the determinants of earnings, earnings growth, and low-pay/high-pay transitions in the high growth period 2004–08.

The findings highlight the relative importance of job characteristics—over workers' endowments—in determining earnings and earnings growth. The findings also point toward path dependence in pay trajectories. This conclusion is reinforced by the finding that being in low-paid employment has a scarring effect: it undermines future earnings prospects. In other words, low pay is a persistent condition and new entrants in the labor market risk being trapped in low-paying occupations, and some groups of workers—women and youth—are particularly at risk of falling into low-pay traps. Falling into low pay undermines individuals' prospects for obtaining high-paying jobs in the future.

Source: Falco et al. 2014.

in general, as these features strongly influence the decision of firms regarding informality. Other African countries are doing more in this regard, according to MasterCard's African Cities Growth Index 2014, which ranks Nairobi at position 19 of the 49 large African cities surveyed. The index concludes that the capital has low potential for growth in the next five years, based on capital formation, political stability, GDP per capita, governance, and household consumption.[62]

One way to boost productivity in the informal sector is through offering market information. Even in rural areas, information technologies and mobile penetration are becoming an effective platform for disseminating market information, such as price trends or market opportunities. These technologies are already in place. For example, farmers can check produce prices with their phones. Expansion of such solutions—either by the public or by promoting private sector involvement—would raise productivity and boost informal employment.

Another way to promote the *jua kali* is through developing targeted skill-building programs, including apprenticeships. Informal workers typically depend on their income for survival, and so cannot attend training during the day. They also have limited access to new technologies and pedagogical sources of training (World Bank 2013a). Hence, the report suggests that training programs should be tailored to informal workers: be flexible and affordable, provide access to relevant technology, and offer the broad range of skills needed (World Bank 2013a). Evidence from past programs in Kenya shows that vouchers can stimulate private sector provision of such skill-building programs. In addition, apprenticeships have been proven to be an effective tool for promoting skill building and youth employment

> **Box 2.8: South Africa's informal economy policy was born in eThekwini/Durban**
>
> The broader Durban metropolitan area, eThekwini, has been at the vanguard of establishing a friendly policy environment for the informal economy. Its pro-informal economy interventions have been emulated by other local governments in the country and serve as the catalyst for a broader national reflection on local government and informality in South Africa. What began with a department dedicated to street trader management in 1990s has grown into a full-fledged policy that aims to support the informal sector and allocate resources to infrastructure development for these firms.
>
> *Source: http://wiego.org/informal-economy/durbanethekwini-south-africa-informal-economy-policy.*

throughout Africa. Kenya benefits from a well-organized informal sector, so *jua kali* associations could be actively involved in designing and implementing apprenticeship programs.

County authorities can also learn from Kenyan examples of how to support informal businesses. The Muthurwa market in Nairobi, a US$9 million project, created the then largest market in East and Central Africa, with capacity for 8,000 traders. The market was constructed with the aim to boost the market efficiency and productivity of thousands of traders who, because of lack of adequate space, were selling on the streets of Nairobi. The project was successful in moving traders from the street to the market; however, just a few years down the road, Muthurwa market was in a dilapidated and unhygienic condition as a direct result of the lack of management and support infrastructure.[63] This illustrates the point that putting up infrastructure is necessary but not sufficient. A contrasting case is an example from Bamako, Mali, where the local authorities delegated the management

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[62] http://www.businessdailyafrica.com/Nairobi-ranked-low-on-inclusive-growth-in-Africa/-/539546/2342528/-/hvqspez/-/index.html.
[63] http://www.delog.org/cms/upload/pdf-africa/managing_informality_local_governments_practices_towards_the_informal_economy.pdf.

of markets to the informal traders. The results were improved market conditions (hygiene, sanitation, and access to water) and increased tax collection. This example shows that the buy-in and involvement of stakeholders in project management are essential, and that partnerships between local authorities and informal traders can bring win-win outcomes.

Finally, a comprehensive job creation strategy must recognize that more than half of Kenyans will continue to live in rural areas. Even if urbanization picks up at a faster pace, the number of Kenyans living in rural areas will increase by about five million by 2020 and the vast majority would be involved in small farming. Hence, the first step is to take measures to enhance the productivity of small farmers, and this comprises a mix of public investment, institutional reforms, and regulatory changes. Investment in irrigation offers huge returns: even moderately successful investment in smallholder agricultural water development could triple per capita farm incomes. And investment in infrastructure can facilitate downstream industries, such as food production, and exports. Policy reforms could change the incentives for farmers to diversify and shift toward more productive crops. Risk management interventions, such as insurance, could help pastoralists cope with droughts and generate income even in times of bad weather.

The second priority is to expand the possibilities for nonfarm income in rural areas, including through promoting mobility (better infrastructure) so that those living in rural areas could work in urban centers. Third, as agricultural productivity increases and services and manufacturing are allowed to grow, the transition from rural to urban areas should be encouraged by policies that promote urbanization. Such policies could include improved public services, clear property rights, and better urban infrastructure. Some reforms along these lines are already being implemented. For example, there has been an expansion of public investment in rural roads. However, these reforms would have to be further expanded and accentuated to achieve the desired pace of change.

The Jobs Potential of Special Economic Zones

Kenya's Experience with EPZs

The export processing zones (EPZ) program of two decades ago ended up being heavily focused on the apparel industry, but expansion of production slowed after 2005. With the EPZ in place, Kenya was well-positioned to take advantage of the opportunities available through the U.S. Africa Growth and Opportunities Act (AGOA), which came into effect in 2000. The EPZs grew rapidly and by 2004 more than 40 zones were established, employing close to 40,000 workers and contributing 10 percent of national exports. Production at the EPZs was highly concentrated in clothing exports to the United States under AGOA, accounting for around 80 percent of EPZ exports and 90 percent of employment. Following the expiration of the Multi-Fiber Arrangement (MFA)

in 2005—and the new competition from East Asia—investment in the EPZs slowed sharply, despite some success in diversifying production in other sectors, notably agro-processing. Total employment has remained around 40,000, and between 2009 and 2013, the number of EPZ firms declined from 83 to 81 (figures 2.17 and 2.18).

Since 2011, the EPZs have been boosted by AGOA-linked apparel exports, owing to rapidly rising wages in China. By 2013, the zones hosted more than 80 enterprises, employed more than 35,000 Kenyans, and exported more than US$500 million (of which 8 percent to the East African Community (EAC) market). Nevertheless, on a global scale, Kenya's EPZ results are not impressive. Countries like Costa Rica and Vietnam, as well as China, ramped up investment

Figure 2.17: EPZ exports rising but employment steady
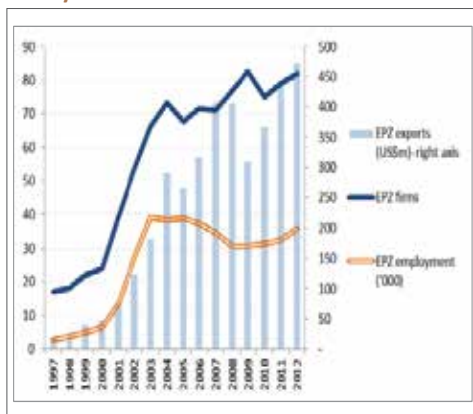
Source: Data from EPZA Annual Performance Reports (various years).
Note: EPZ = export processing zone.

Figure 2.18: Relative contribution of apparel declining

Source: Data from EPZA Annual Performance Reports (various years).
Note: EPZ = export processing zone.

and exports much more quickly (Figure 2.19). The MTP-2 aims to change this trend, so learning from own successes and failures, as well of those of other countries, should be a first step in revamping the zones program.

Figure 2.19: Evolution of export growth in selected global SEZs from year of launch
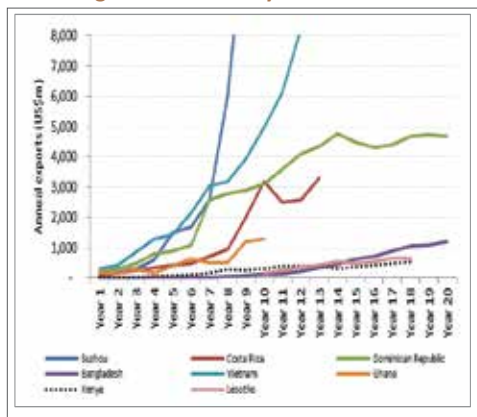
Source: Farole 2011.
Note: SEZs = special economic zones.

Lessons Learned from the EPZ Experience

Kenya's unsatisfactory experience with EPZs mirrors that of most African zone programs. Part of the story is simply one of bad timing. The rapid growth of economic zones worldwide and their success in stimulating export-led growth owes in part to an unprecedented era of globalization of trade and investment that took place during the 1980s and 1990s, with the rise of global production networks (GPNs). But African countries, most of which launched programs only well into the 1990s and 2000s, face a much more difficult competitive environment. This situation resulted not only from the expiration of the MFA, but also from the entrenchment of "factory Asia," the consolidation of GPNs, and the post-2008 slowdown in global demand.

Nevertheless, like other African zone programs, Kenya's EPZs also suffered from some critical weaknesses in design and delivery, including the following:

Overemphasis on single-factory units. Zone authorities are generally stretched to carry out their mandate within the main zones, and servicing single-factory units (with infrastructure, support services, etc.) is even more difficult.

Failure to address infrastructure and other barriers to competitiveness outside the EPZ gates. Kenya's EPZs offered a better investment climate than what was available to firms in the domestic economy. The quality of infrastructure and services was also superior to other African EPZs, yet

it still lagged considerably behind what Asian and Latin American countries offered. One of the reasons for this was that although the EPZ infrastructure and regulatory environment was effective, little was done to address gaps beyond the EPZ gates, including issues such as electricity outages (Figure 2.20), electricity costs, customs (Figure 2.21), transport logistics, and the low productivity of the labor force.

Rigid model that restricts potential for diversification and local integration. The EPZ model adopted in Kenya was relevant only for export-oriented, assembly-related activities relying on imported inputs. Companies in the EPZs were disadvantaged when it came to serving the large EAC market, and services companies were excluded altogether.

SPOTLIGHT 2

Figure 2.20: Monthly downtime caused

Source: Farole 2011.

Figure 2.21: Days to clear imports from customs
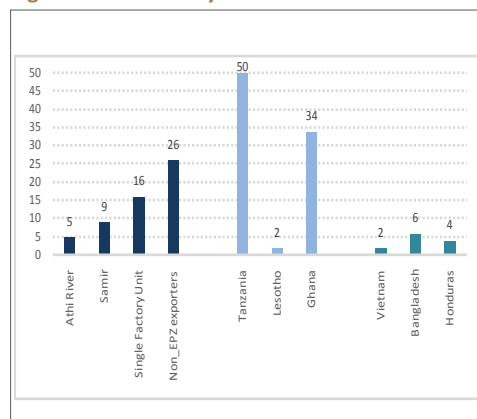
Source: Farole 2011.

From EPZs to SEZs—Getting It Right This Time Around

Kenya is in the process of transforming its economic zones program; however, SEZs as a model are not a panacea for economic transformation, and simply adopting a new regime is no guarantee of success. What can Kenya do to help ensure the likelihood of greater success with the new regime? In addition to learning from own experience and the experiences of other EPZ programs in Africa, Kenya's government can draw on the experiences described in this section. The new SEZ bill is expected to address some of the issues, although the key to success lies in successful implementation.

SEZs should address the most binding constraints to investors. Too often zones are developed with little that differentiates them from the national environment. It is critical to begin with understanding "what are the most important constraints to investment in the country?" and addressing those constraints in the zones. In this context, it is worth noting that although investors will always ask for fiscal incentives, these

are seldom the most important criteria for decision. For example, in Bangladesh, electricity infrastructure was a big constraint. This constraint was resolved in the zones by establishing a new law allowing investors to establish power plants and resell production within the zones. The largest constraints for foreign companies in Kenya include regulations and tax policy, followed by logistics and infrastructure. Obtaining work permits for expat staff, typically managers, has been especially difficult according to a survey done by the International Finance Corporation of foreign investors in Kenya. Having restrictive policies or practices on employing foreign workers seems unnecessary, as two-thirds of the managers in SEZs are Kenyans, a level similar to other zones across the world.

Use SEZs to leverage competitive advantages and facilitate agglomeration rather than to support the development of lagging regions. International experience has shown clearly that the location of an SEZ in a country—in particular, its proximity to major trade gateways (ports and airports) and the country's largest metropolitan areas—

is critical to the success of the SEZ. This finding is particularly important for zones that depend on manufacturers who require access to imported inputs, business services, large pools of labor, and transport networks. But it also holds true for knowledge-based zones (for example, information technology parks), which require proximity to specialized labor and high-quality backbone services. In Kenya, this means focusing on Nairobi (especially for services-oriented investments), Mombasa (exports for world markets), and Kisumu (exports for EAC).

Infrastructure remains a critical factor for success. In almost all low- and middle-income countries, the provision of quality infrastructure will be the single most important way in which a zone program can offer a "special" environment to investors. This may include the provision of land and factory shells with flexible lease terms (reducing risk for investors), but most critically it means delivering an environment where the supply of utilities (water, telecommunications, and most importantly electricity) are dependable and available at a reasonable cost. However, although the infrastructure of a zone is important, it is equally important to develop the connective infrastructure between SEZs, cities, and ports.

Institutions matter—build capacity and ensure coordination. The implementation of SEZ programs is as important as the design and legal framework of this instrument. Given the reality that few governments ultimately establish a powerful and autonomous SEZ authority, effective coordination across the many agencies

that contribute to delivering on an SEZ is of critical importance. A one-stop shop is an effective tool to ensure timely and efficient approvals for initial setup and ongoing operations within the SEZ.

Actively promote linkages to the domestic economy. The SEZ regime should actively pursue policies that promote diffusion of knowledge, technology, and backward linkages with domestic firms. The difference is obvious: in the Republic of Korea's main SEZ in 1971, domestic firms supplied only 3 percent of inputs to foreign firms in the zone; four years later they supplied a quarter; and a few years down the road, their share rose to almost half of the value of inputs. In the Dominican Republic, by contrast, the share of domestic value added started at a similar level as in Korea, but never moved up. The Korean government encouraged backward linkages with domestic

firms. For example, local firms supplying the zones had preferential access to raw materials and technical assistance was provided to subcontractors. In contrast, the Dominican Republic did not introduce any incentives to domestic firms and actually made their operations difficult by requiring difficult-to-obtain export licenses to sell to the firms in the SEZs.

SEZs take time. Finally, it is important to remember that reaping benefits of SEZs requires time and consistent effort. Experience from countries with successful SEZ programs, such as China or Malaysia, shows that it takes at 5 to 10 years to build momentum in SEZs, in particular with regards to backward linkages with the domestic economy.

SPOTLIGHT 2

RAISING INVESTMENT THROUGH SAVINGS

Introduction

As chapter 1 illustrates, stimulating investment is the most effective way for policy makers to accelerate economic growth in the medium term, and Kenya's investment rate is lower than the rates of its peers. The current level of investment would not yield the Vision 2030 and Second Medium-Term Plan (MTP-2) growth targets. The MTP-2 sets an ambitious target—investment rate to reach 31 percent of gross domestic product (GDP) by 2018—and this target is accompanied by an anticipated jump in savings.

So far, the increase in investment has resulted in a rising current account deficit that is unsustainable in the long term. The increase in investment over the past decade has been financed primarily from foreign savings, which brings into question the sustainability of this model, although non-debt-creating inflows have so far accounted for the bulk. Domestic savings, private and public, started to increase after 2011, likely driven by the rise in corporate savings. Public savings are relatively low, although on an upward trend.

Several factors, including youth unemployment, negative real deposit rate, and low public savings, are the most relevant for the low savings. Demographic trends over the past decade, such as falling youth dependency ratios, should have promoted saving. However, this may not have been the case, given that the effective youth ratio (which takes into account youth employment) has fallen only slightly. Another reason for low savings has been the low, and in some years negative, real deposit rate, which is likely an outcome of volatile inflation. In addition to the macro determinants of private savings, Spotlight 3 (at the end of this chapter) looks at the behavioral aspects of saving. Finally, higher savings would need to be accompanied by better macroeconomic management, that is, lower economic volatility and improved public investment management; otherwise, savings may end up in low-return investments.

Going forward, higher savings can be reinforced through economic policy. First, the demographic trend of the past decade is expected to continue; hence, more job opportunities for youth would promote higher savings. Second, if inflation is kept under control, deposit rates are envisaged to turn positive, which in turn would incentivize saving. Third, recent changes in fiscal policy, such as the re-orientation of spending from recurrent to capital expenditure, are projected to continue, which implies an increase in public savings. Finally, growth-accelerating economic policies are expected to boost income and promote saving.

Encouraging saving, in particular household saving, is even more relevant in the context of recent oil discoveries. First, oil production and exports are not expected to occur before 2020-2022, and the government's strategy is to boost savings and investment by 2018. Second, even under a conservative spending scenario (of oil rents), Kenya's budget is likely to rely on borrowing in the early years of oil production. Thus, encouraging household savings could be seen as a way to mitigate pro-cyclical fiscal responses to anticipated oil revenue.

Investment and Long-Term Growth

Chapter 1 concluded that Kenya needs higher rates of investment to accelerate growth. The Growth Report (Growth Commission 2009) concluded that an investment rate of 25 percent of GDP or higher was common among the high-growth countries of post-World War II. Previous literature has confirmed that investment determines how fast economies can grow (Figure 3.1). However, economic growth cannot rely solely on capital accumulation in the long term because of diminishing returns. Sustainable growth needs human capital enhancements and technological improvements.

Figure 3.1: Investment and growth are highly correlated
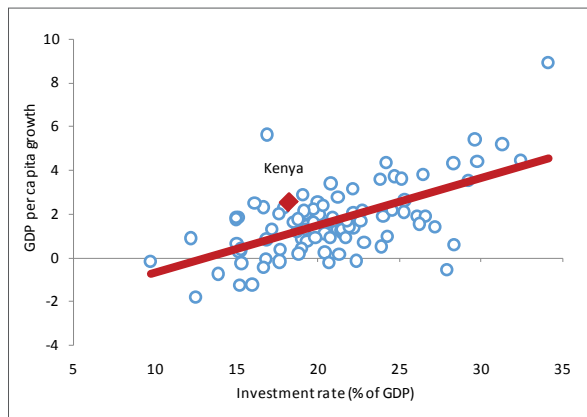
Source: World Bank World Development Indicators.
Note: GDP = gross domestic product.

The economic literature demonstrates that low and declining savings hampers long-run investment and growth. Across the globe, saving rates exhibit high correlation with investment and economic growth. Although there has been controversy on causality between savings and growth, the causality that runs from savings to growth plays a critical role through the capital accumulation process.[64] In theory, it does not matter how investment is financed. In practice, however, a close connection between the two is observed, especially in the long run (Figure 3.2). Investment is not necessarily financed by national savings if a country has access to external sources. Nonetheless, the country cannot rely on external financing over a long-term horizon, given that large current account deficits cannot be sustainable.

Kenya's savings[65] have not only declined, but are also the lowest among selected peer countries.[66] In the 1980s, Kenya's average saving rate was higher than the saving rates in several peer countries (Figure 3.3). Since then, Kenya's rate has declined, while its peers have boosted their saving. Over the past decade, Ghana, Senegal, and Uganda, which had among the lowest

Figure 3.2: Savings are correlated with investment and growth
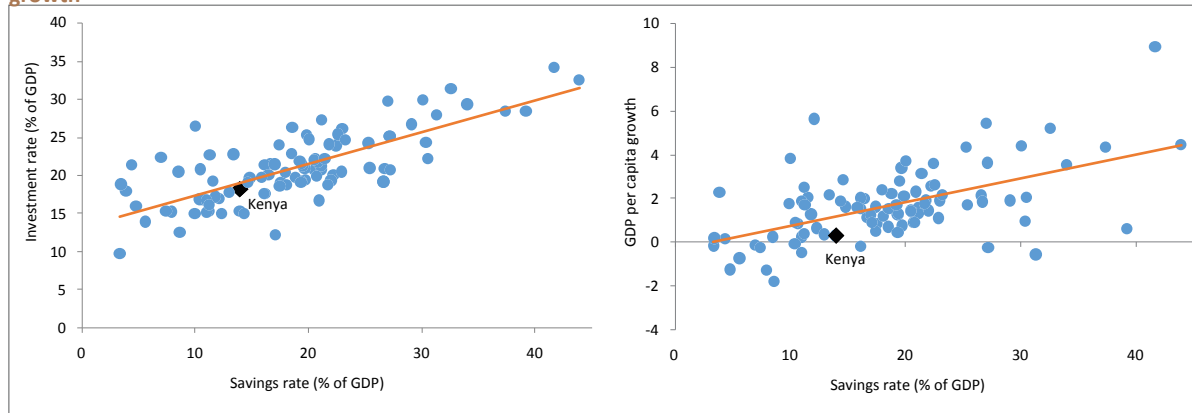
Source: World Bank World Development Indicators.
Note: GDP = gross domestic product; GNDI = gross national disposable income.

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[64] Aghion, Comin, and Howitt (2006) developed a theory that domestic saving affects economic growth in low- and middle-income countries that are far from the technological frontier.

[65] Gross domestic savings are measured relative to GDP and are defined as the difference between GDP and final consumption. Gross national savings are measured against gross national disposable Income (GNDI), which equals GDP plus net income and transfers from abroad. In the case of Kenya, where transfers from abroad, which include development aid, are significant, gross national savings is the more appropriate indicator.

[66] See chapter 1 on the selection criteria for the peer countries.

saving rates in the 1980s, have surpassed Kenya in savings. Neighboring Tanzania has already passed the 20 percent mark (23 percent in 2012), although its gross national income per capita is lower than Kenya's. In addition to the increase in income and higher GDP growth, population growth and longer life expectancy contributed to higher saving because of the increase in the working-age population. The same trend of rising savings can be observed across most of Sub-Saharan Africa (SSA). Low-income SSA's average saving rate went from 11 percent in the 1990s, to 12 percent during the 2000s, and by 2013 it reached 18 percent.[67] Similarly, saving rates for lower-middle-income SSA rose from 13 percent in the 1990s, to 17 percent in the 2000s, and 20 percent in 2013. For example, Tanzania and Uganda have achieved remarkable investment rates, and high saving rates are a large contributor to this success.

Figure 3.3: Decade average savings rate: Kenya and its peer countries
(Percent)
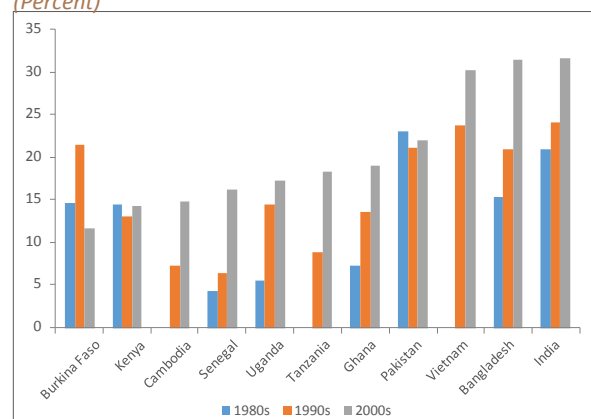
Source: World Bank World Development Indicators.

The widening gap between savings and investment has so far been financed largely by non-debt-creating foreign inflows. Despite the low and declining savings, investment has been on the rise over the past decade. In 2003, saving and investment rates were equal at around 16 percent of gross national disposable income (GNDI). Since then, savings have declined to 12 percent of GNDI, while investment has been on a gradual upward trend, reaching 20 percent of GNDI. The consequent widening of the current account deficit has been financed mostly by non-debt-creating foreign inflows, including foreign direct investment, portfolio equity investments, and real estate investments, although it is difficult to pinpoint the financing sources because of weaknesses in the balance of payments statistics.[68] Nevertheless, in 2014 the government moved toward external sources to finance the fiscal deficit. In the second half of 2014, €2.75 billion in Eurobonds were issued, and a US$3.6 billion loan was signed with the Export-Import Bank of China for the financing of the standard gauge railway project. Consequently, external debt is projected to continue to increase over the medium term.

Nevertheless, the high current account deficits are not sustainable in the long term, and even less so if investment is to reach the targets set in the MTP-2. The total external debt is projected to increase from 27 percent of GDP in 2010 to 37 percent of GDP in 2018, which puts a question mark on the long-term sustainability of the savings-investment gap. The rising stock of short-term foreign flows, including portfolio equity investments, exposes the economy to shifts in investor confidence or preferences. The monetary tightening in the United States in early 2014, for example, illustrated the risk of reversal of flows to emerging markets. In addition, these projections are based on the assumption of maintaining investment at around 23 percent of GDP over the medium term, which falls short of the MTP-2 target.

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[67] Low-income countries are defined as non-fragile countries with average per capita gross national income of less than US$1,045 in 2013. Those countries included Benin, Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Tanzania, and Uganda.

[68] In the September 2014 Article IV staff report, the International Monetary Fund estimates annual foreign direct investment (FDI) inflows at above 4 percent of GDP between 2009 and 2011 (based on a foreign investor survey), while in official balance of payment statistics FDI is below 1 percent of GDP.

In the long term, oil rents could become a major source for financing investment, but it will be years before a significant amount of oil revenue starts flowing to the budget. As chapter 5 discusses, oil production will start in 2020-2022 at the earliest (and the sector is facing headwinds in meeting this target date). Then, the first few years after oil production begins are likely to see increased public borrowing. Hence, domestically financed investment up to 2020 and probably beyond will rely on increasing domestic savings.

Financing Investment from Domestic Resources

The first step to understanding the domestic sources of financing investment is to understand who saves in Kenya. Decomposing national savings into private and public savings reveals two characteristics of Kenya's savings. First, public savings have been low and mostly stable over the past three decades (Figure 3.4, panel a). Second, private savings constitutes a large portion of national savings and has been the driving force of its trend.

In the past decade, Kenya's public savings rates fluctuated around 1 percent of GNDI, and have been less than 10 percent of national savings (Figure 3.4, panel b). This trend of low public savings is very different from most of the peer economies, which have public savings rates that are several times higher than Kenya's. For instance, neighboring Tanzania's public savings was around 8 percent in the 2000s and accounted for 50 percent of national savings.

Public savings, defined as total revenue minus total expenditure and public investment, has been fairly stable in Kenya. Changes in recurrent expenditures have mirrored trends in revenue collection, while the increase in public investment, that is, development spending, since 2006 has largely been financed by public borrowing. Consequently, public debt rose from 40 percent of GDP in 2010 to 44 percent in 2013.

Corporate savings is estimated to have been on an upward, although volatile, trend since 2005. Official data on corporate savings are not available. The data used here were estimated based on the retained earnings of 56 corporations listed at the Nairobi Stock Exchange for which financial data are available. Corporate savings doubled from 1 percent of GNDI in 2005 to 2.4 percent in 2010, but then fell to 2.1 percent in 2013 (Figure 3.5). The financial sector generates the bulk of savings—a quarter of listed companies is banks or insurance companies—although it is also the most volatile.

Figure 3.4: Kenya's public savings is relatively low and declining
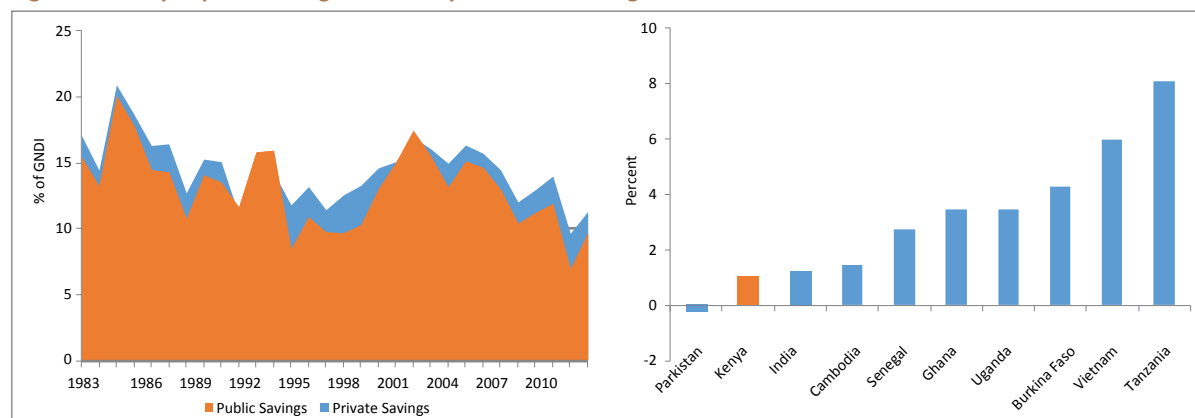
Source: International Monetary Fund World Economic Outlook.
Note: In panel b, national savings as a percentage of GNDI is the average for the 2000s. GNDI = gross national disposable income.

Figure 3.5: Corporate savings have been increasing, 2005–13
(K Sh, thousands)
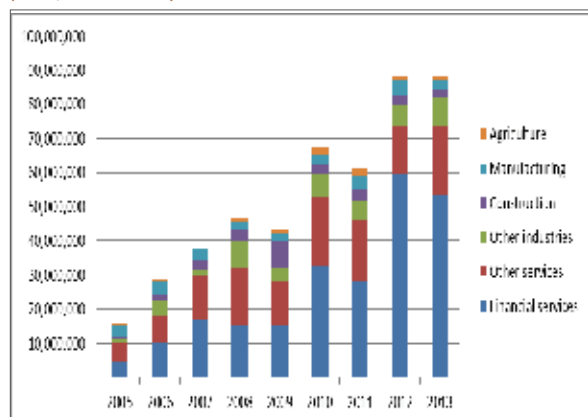
Source: Calculations based on the financial data of corporations listed on the
Nairobi Stock Exchange.
Note: Data for some companies are missing in certain years.

Data on household savings are not available, but the analysis implies that households have been saving less over the past eight years at least.
The last household budget survey was conducted in 2005/06; hence, there are no primary data to show trends in saving since then. However, the fact that national savings have been falling since 2005, while corporate and public savings have increased marginally, implies a reduction in household saving. One of the explanations for this could be the increased borrowing by households as access to credit has become easier. Commercial banks' credit to households rose fivefold between 2005 and 2013, to over 5 percent of GDP (Figure 3.6).

Figure 3.6: Credit to households is growing rapidly
(K Sh, billions)
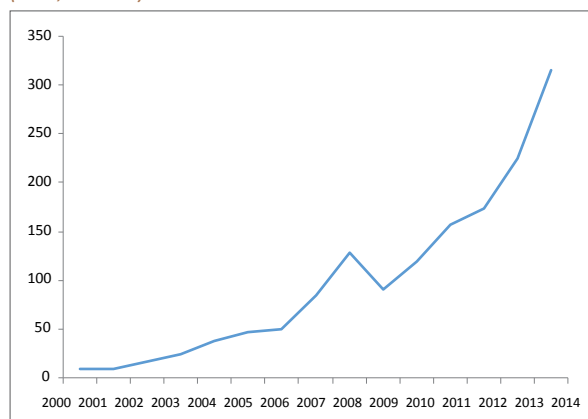
Source: Central Bank of Kenya.

One way for Kenyan households to save is through formal contributory pension systems.
Retirement saving through various pension schemes is relatively well developed by SSA standards. Kenya has three pension schemes: the pay-as-you-go Civil Service Pension Scheme, the fully-funded National Social Security Fund (NSSF), and various occupational pension funds. The Kenyan pensions system manages assets of about 17 percent of GDP and is dominated by the NSSF. The number of employees contributing to the NSSF rose from less than four million in 2008 to five million in 2013. The pension schemes are regulated by the independent Retirement Benefits Authority (RBA), which is mandated to ensure prudent management of pension assets.

Similar to households in other countries in SSA, one reason behind low savings is the continued increase in the value of immovable property.
International experience shows that it is common for individuals to save in nonmonetary assets in an environment of low returns to saving in financial assets, or low real rates on deposits. And if property values are continuously growing—as has been the case in Kenya—owners expect such trends to continue and in turn generate future income, thus lowering their need to save. Although data on the housing stock and prices are sparse, two trends back the hypothesis that Kenyans save in this way. First, housing prices in the two main economic centers have soared. According to the Wealth Report 2012 by Knight Frank and Citi Private Bank (2012), real estate prices in Nairobi and Mombasa increased by 25 and 20 percent, respectively, in 2012, placing the two cities in the first and second positions, respectively, of 71 cities surveyed globally. This happened at a time when construction of new residential buildings exploded. The number of new constructed residential buildings, according

to the Kenya National Bureau of Statistics (KNBS) Economic Survey 2013, quadrupled between 2008 and 2012. In addition to these factors, Spotlight 3 (at the end of this chapter) looks at the behavioral aspects of saving.

How Much Savings Is Needed to Achieve the Desired Investment Growth?

What level of savings is needed to achieve the development objectives of Vision 2030 and the MTP-2? Over the long run, growth requires investment, and to be sustainable investment it should be accompanied by savings. The following simulations employ a model that investigates the link between savings, investment, and growth. The analysis answers the following questions: (i) what is the potential growth with the current saving and investment rates, and (ii) what saving rates correspond to the desired Vision 2030 growth rates?

As discussed in chapter 2, economic growth relies on the accumulation of factors of production and productivity improvements. Higher total factor productivity (TFP) implies that the economy can produce larger output with a given level of physical and human capital. However, sustaining high TFP growth is not easy: only 5 percent of countries in the world achieved an average 2 percent TFP growth during 1965–95. The average TFP growth rates for SSA and low-income countries in the 2000s were 1.5 and 1.4, respectively. Kenya's TFP growth was negative up to 2003, and then increased to almost 2 percent before it turned negative again after 2008.

Kenya's ambitious growth target of around 7 percent per year requires much higher savings and investment. To achieve the growth target, savings and investment would need to more than double. Only China and a few other resource-rich countries have achieved such results. Although

Kenya's oil discoveries could make such a scenario feasible, it is yet unclear when the oil production will reach its peak—probably in about a decade—(chapter 5 discusses the macroeconomic effects of oil production). Consequently, long-term sustained growth requires a mix of more (and sustainable) investment and higher domestic savings over the medium term.

What Determines Savings?

The discussion so far argues that investment should be accompanied by domestic savings. To put forward policy options on how to stimulate savings, this section reviews the literature on determinants of savings from the macro and micro perspectives. The determinants of savings fall into two categories: (i) nonpolicy determinants, such as GDP growth and demographic change; and (ii) policy determinants, including financial sector development, macroeconomic stability, and income volatility (see box 3.1).

At a first glance, Kenya's stubbornly low savings in a period with a rapidly falling youth dependency ratio seems peculiar. The negative correlation between savings and the youth dependency ratio has been quite strong. In East Asia, for example, a 10 percentage point decline in the youth dependency ratio has been associated with a 3 percentage point increase in the saving rate. In Kenya, the youth dependency ratio declined by 25 percentage points between the 1980s and the 2000s, while the saving rate increased by only 0.3 percentage points (Figure 3.7).

This inconsistency is a result of the high youth unemployment rate in Kenya and in SSA in general. What ultimately matters for savings is the effective youth dependency ratio, which takes into consideration whether the job market entrants are actually employed. Kenya suffers from high youth unemployment: new labor

Box 3.1: Determinants of Savings

Although a strong positive relationship has been found between savings and income growth, the causality between the two runs both ways. There are two major arguments in the controversy. The first argument is causality between savings and growth; the second argument is how income growth affects savings. Loayza, Schmidt-Hebbel, and Serven (2000) find that a 1 percentage point increase in income growth increases the saving rate by roughly the same amount. Moreover, the same authors show that this relationship is stronger in low- and middle-income economies. In contrast, Rodrik (2000) concludes that a permanent increase in the saving rate induces a temporal increase in output growth, whereas a permanent increase in income growth is followed by a permanent increase in the saving rate. This argument on the causality has profound policy implications. If saving causes growth, savings-enhancing policies are likely to induce growth. If the direction is opposite, such policies may fail to promote permanent growth. These policies may promote growth in the short run by fueling investment through savings. In the long run, however, they may fail to realize permanent growth because returns to capital diminish and savings itself does not affect total factor productivity, that is, the long-term determinant of economic growth.

Demographic Changes
Demographics are another strong determinant of savings. The life-cycle theory predicts that savings follow a hump-shaped pattern, that is, young workers dis-save against their future income, middle-aged workers save for their retirement, and the elderly dis-save upon their retirement (Modigliani 1970). Therefore, demographic changes have significant impacts on household saving patterns. The microeconomic and macroeconomic literature confirms that rises in youth and old dependency ratios tend to lower the savings rate.

Macroeconomic Stability
Macroeconomic stability has been found to be among the most important policy determinants of savings. The stability of prices is the main parameter of macroeconomic stability that influences savings. Balassa (1986) claims that maintaining low and stable inflation encourages saving. Kenya's decade-average inflation rate declined from 17.4 percent in the 1990s to 10.9 percent in the 2000s. This macroeconomic stabilization could be accompanied by an increase in the saving rate. Nevertheless, price volatility has risen since 2010, which in turn discourages saving.

Financial Development
Financial development leads to more efficient domestic resource mobilization, but has two opposite effects on savings. As the banking sector grows, individuals have more opportunities to save, although at the same time they are able to borrow more, which in turn leads to dis-saving. Kenya's financial sector has developed rapidly over the past years, with the share of population with access to finance increasing from 69 to 75 percent (of which access to formal prudential banking rose from 22 to 33 percent) (IMF 2014). It seems that the increased access has supported saving, as the number of customers and deposits rose faster—157 and 92 percent, respectfully—than credit to households (84 percent growth) between 2009 and 2013.

Urbanization
Urbanization has been found to influence savings, as it depicts an increase in income stability. As people move from rural to urban areas, their income becomes less volatile and uncertain, which in turn has been found to lead to lower savings. Rural households are expected to save a larger portion of their income for the precautionary motive (for example, in case of a poor harvest), while nonfarming households tend to save less because their income is more predictable. Kenya has witnessed a trend of shift in population from its rural to urban areas (see chapter 1), which possibly contributed negatively to saving rates.

Empirical studies have shown that an increase in public savings can lead to an increase in household savings in the short and long runs. The permanent income hypothesis predicts that a change in the timing of taxation does not affect household consumption behavior. Given a sequence of public expenditures, it does not matter when the government raises taxes to finance these expenditures. Therefore, the theory predicts that change in public savings fully crowds out private savings, leaving national savings unchanged (Ricardian equivalence). However, most empirical studies show that public savings only partially crowd out private savings. Because the private sector needs some time to adjust its saving behavior, the impact of public savings on household savings is more pronounced in the short run. This situation suggests that public savings can be an effective policy instrument to raise savings.

Figure 3.7: Lower youth dependency ratio associated with higher savings, average, 1980–2013
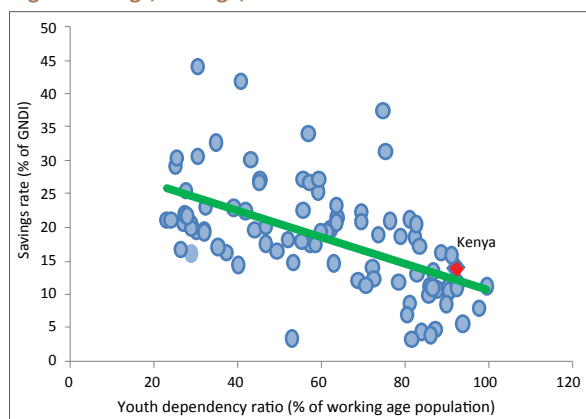
Source: World Bank World Development Indicators.
Note: GNDI = gross national disposable income.

Figure 3.8: Kenya's effective youth dependency ratio is much lower, 1975–2010
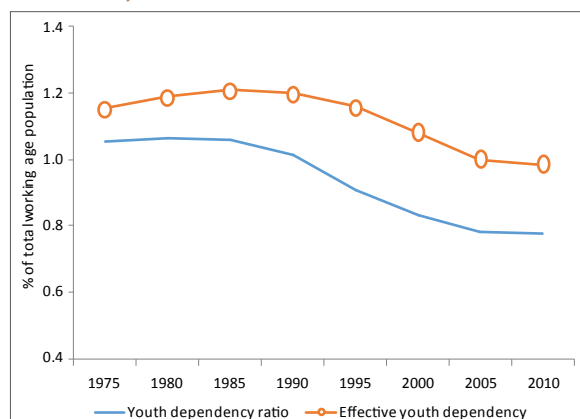
Source: World Bank staff calculations based on United Nations World Population Prospects and Omolo 2010.

market entrants, those around age 20 years, face an unemployment rate of around 35 percent.[69] Comparison with the peer group shows that Kenya's youth unemployment rate (for those ages 15–24) is the highest, at 17 percent. Consequently, even as the young-age population bulge entered the labor market, the effective dependency on income earners did not decline much (Figure 3.8). One positive contribution in this process may be the fact that an increasing share of youth is in school rather than searching for jobs. Although this makes them dependents, at least parents are spending on education, which is considered consumption, although it is in fact investment in human capital.

In countries with a low real interest rate, increasing the real interest rate typically raises savings. Savers, be it households or firms, are attracted to save by the real returns they expect to get on their deposits. Negative real deposit interest rates in general discourage household, but also corporate, saving in the banking system. Although Kenyan banks offer relatively high nominal rates on deposits, the real deposit interest rates in Kenya have been negative for most of the past decade (Figure 3.9). The variability of the real rate comes as a result of the wide fluctuation of inflation. Nevertheless, even when inflation has been low and stable (as it has been since 2012), the real deposit rate has been

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[69] UNDP (2013).

low. The high interest spread, which averaged more than 10 percent over the past decade, has meant that nominal deposit rates are low.
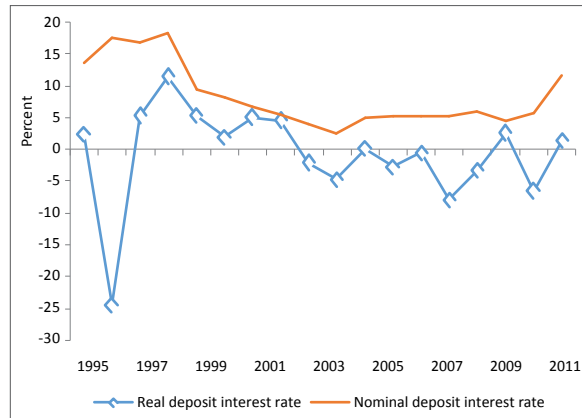
Source: World Bank World Development Indicators.

What Can Be Done to Expand Resources for Investment?

As the analysis so far illustrates, saving behaviors are determined by various policy factors. From the perspective of a policy maker in Kenya, it would be useful to know in which way the wind may blow, that is, to be aware of the trends in each determinant of savings and what could be done to promote saving.

To begin, economic policies that would stabilize growth will also promote savings. In contrast to the volatile period since 2008, Kenya's economic growth is expected to be high and sustained over the medium term. Hence, following years of uncertainty and shocks, the stable growth outlook should boost the confidence of households and firms to save.

Demographic trends also support a move away from consumption and toward saving. Although below the peak of the 1970s, fertility in Kenya is still high, at around 3. The expected drop in fertility over the next decade will bring a "demographic dividend" for Kenya, whereby the share of the working-age population is expected to increase. The consequent decline in the youth dependency ratio should lead to more saving, but this will only happen if those entering the labor market are actually able to find a job. Otherwise, Kenya's youth dependency ratio will continue to be high; that is, the number of savers will not increase. For example, the youth dependency ratio is projected to fall to 0.6 by 2030, which is higher than the one Vietnam observed in 1996. If the youth unemployment rate remains high, Kenya's effective youth dependency rate will go down only to 0.7. As the youth dependency ratio is a critical determinant of savings, reducing the effective youth dependency ratio through jobs holds tremendous potential for enhancing saving rates. Chapter 2 discusses policies that could promote job creation, in particular for youth.

Maintaining macroeconomic stability and low inflation could also reap high benefits in terms of savings. Inflation has been volatile and high throughout the past decade, during which the rate on deposits would be positive, which should incentivize individuals to save more. However, any policy shocks, for example, inflation spikes that in turn lower real deposit rates, may lead to loss of confidence and reduce savings.

To turn real deposit rates positive, policy makers should focus on reducing the interest rate spread, in addition to maintaining low and stable inflation. Two possible causes of the high interest spread seem to stand out: the lack of competitiveness in the banking sector and the high cost of financial intermediation. Kenya's financial market is highly segmented between large banks and small cooperatives. Large banks have the market power to maintain a wide spread at the expense of borrowers and depositors. Measures to expand the number of players or products in the sector (for example, M-Shwari) and limit the market power of the largest bank

could result in a lower interest rate spread and higher real deposit rates. The first step to this end would be to develop a strategy for promoting competition in the banking sector.

The high interest rate spread points to structural deficiencies in the business environment for banking, which also need to be addressed to reduce the interest rate spread. The main priority in this regard is to reduce information asymmetries and risks by improving the credit information systems, regulatory framework (collateral, creditor, and insolvency laws), land and company registries and titling, and process of taking and realizing collateral.

Increasing public savings, which is a direct outcome of fiscal policy, can raise overall savings in the short and long runs. Policy makers can stimulate savings through lowering recurrent expenditure or raising tax revenue. Kenya's public savings is low (at 1 percent) compared with the peer economies and the continent in general (the SSA average is 4 percent). In this context, raising public savings could be an effective tool to shift resources from consumption to investment, especially through reduction in recurrent expenditure. Lowering the overall public sector wage bill would not only strengthen fiscal sustainability, but also promote savings. It should be noted, however, that the fiscal classification of expenditures is not fully consistent with the definitions of savings and investment. For example, some recurrent expenditures, for example, teacher salaries, are in fact investment in human capital. Hence, redistribution of spending should take into consideration the social returns to such (recurrent) spending, relative to capital spending on infrastructure.

Changes in pension policy can also affect saving behavior. Although evidence from other countries reveals that the expansion of pension schemes does not necessarily lead to more savings, there is strong evidence that pay-as-you-go pension systems reduce national saving rates while fully-funded contributions increase national savings. The main challenges that Kenya's pension system faces are contingent (unfunded) liabilities and inadequate corporate governance. Moving from a Pay As You Go to a funded public pension scheme recognizes government liabilities and will create a significant pool of assets. The RBA is working to increase savings amongst informal sector workers and on improving the governance of the NSSF."

Finally, it matters less where savings are generated compared with how they are channeled. In some countries, such as the East Asian Tigers, households were the primary generators of savings during high-growth episodes, while in others, such as resource rich countries, the state (public budget) played this role. What ultimately matters for economic growth is that savings is invested in productive assets. For public saving, the main priority of the government should be increasing infrastructure investment (chapter 1 raises the risks of shifting resources toward recurrent spending). In the case of households, the onus is on how to mobilize their savings in savings and credit cooperative organizations (SACCOs) to good small business investment opportunities, including in the *jua kali* (chapter 2 looks into the performance and challenges of Kenya's informal entrepreneurs). For corporations and enterprises, the main objective should be to create the right conditions that would allow them to invest in expanding their business (chapter 4 discusses enterprise developments in manufacturing and services).

Insights from Behavioral Economics on Savings

Behavioral Economics

Standard economics says that a primary school graduate will continue his or her education if the benefits from further education exceed the costs of education. It also says that a poacher will stop killing elephants if he or she can earn more from safari tourism than from smuggling ivory. In reality, the secondary school enrollment rate in Kenya is still low and smuggling ivory remains a big issue in many countries in SSA. People do not always make rational decisions.

Behavioral economics seeks to explain why people make irrational decisions from the perspectives of psychology and economics. This spotlight presents insights from behavioral economics on saving behavior, that is, why people do not save even if the long-term benefits from savings exceed the short-term benefits from consumption.

Behavioral economics encompasses theories such as (i) hyperbolic discounting, which suggests that people tend to discount the future and overweigh the present when making decisions (Thaler 1981; Laibson 1997); (ii) loss aversion, which implies that people react differently to losses and gains of equal size, such that people feel losses more keenly than gains of equal magnitude (Tversky and Kahneman 1992); and (iii) the tendency

to perpetuate the status quo, so that if people have not had bank accounts, they cannot save even when they have access to bank accounts (Samuelson and Zeckhauseer 1988).

How Can Saving Behaviors Change?

Saving is crucial not only for economic growth for a country, but also for poverty alleviation at the household level. Saving allows households to accumulate capital to invest in education, pay for health care, and provide seed funding for entrepreneurship. Failure to save under poverty could lead to dropping out of school, having limited access to medical services, and missing out on business opportunities.

Low savings among the poor are often a result of the way people think rather than lack of income. The World Development Report 2015 shows two examples from Kenya that illustrate this. An experiment with poor households that were in need of preventive health products, such as insecticide-treated mosquito nets, showed that providing people with a lockable metal box to save money or a dedicated savings account for health emergencies can increase savings; in this case, investment in these products rose by 66–75 percent. A second example is from rural Kenya, where poor farmers typically use less than the optimal amount of fertilizer because of lack of

funds at the time of applying fertilizer. However, in an experiment, an option to pre-purchase fertilizer at the end of the harvest season (when farmers have money) was introduced, which in turn resulted in higher fertilizer use than if the cost of fertilizer was subsidized by 50 percent at the time of applying fertilizer.

In addition, lack of access to banking has been a challenge, especially for the rural poor. Households without access to banks often save at home or save in nonmonetary assets, like cows. In either case, interest cannot be accrued. Financial institutions are reluctant to provide services to the rural poor because of the high cost. The number of individuals in the world without access to banks is estimated at two billion to three billion (Karlan and Morduch 2009). In Kenya, three-quarters of the rural labor force saved in the past year, the majority of whom saved in a saving club, such as a SACCO (Table 3.1). However, most households, and especially poor ones, save primarily in nonfinancial assets such as a house, land, or livestock. Even for those who save in financial instruments, only 9 percent of households' assets are in formal financial instruments, according to the Kenya Financial Diaries survey in 2014 (Zollman 2014). For many poor households, informal saving channels,

such as rotating saving and credit associations or even keeping money in the house, are the preferred way to save. Among the formal channels, M-Pesa (mobile money) is the prevalent instrument for saving in financial assets—for a quarter of the surveyed poor, it was their preferred instrument—followed by saving in a bank.

However, this challenge does not mean that the high cost of banking services causes poor households not to save. Women in rural Kenya, having faced limited access to saving instruments, have the desire to save. Dupas and Robinson (2013a) provided access to non-interest-bearing bank accounts to female market vendors in rural Kenya. Despite high withdrawal fees, a substantial share of the women used the bank accounts, saved, and increased their productive investment and private expenditures. Once the main barriers to saving are removed, then savings are expected to increase.

Formal and informal commitments to save, such as at a financial institution or through a rotating savings and credit association, can help households to save. Dupas and Robinson (2013b) performed another experiment in rural Kenya by providing access to four saving schemes with different levels of commitment. The

Table 3.1: Saving behavior by groups, individuals ages 15+ (%)

In the past year, did you…	Total	Rural	Income, bottom 40%	Income, top 60%
Save any money	76	75	70	80
Save at a financial institution	30	28	13	42
Save using a savings club	40	40	38	42

Source: Global Financial Inclusion (Findex) database 2014.

schemes ranged from a simple lockbox to a health pot with a binding commitment to save and the opportunity to withdraw in case of emergency. The higher the level of commitment, the more the rural Kenyans saved.

SACCOs are another important segment of the financial sector that helps channel savings to investment, particularly in rural areas. More than 60 percent of membership in deposit-taking SACCOs comes from farmer- and community-based SACCOs, although their assets are only 16 percent of the total. Hence, SACCOs play an important role in mobilizing savings in rural Kenya and channeling it to investment projects at the local (community or county) level. Although membership and assets (and asset quality) have been growing rapidly (Table 3.2), many policy initiatives are being discussed by the SACCO Society Regulatory Authority (SASRA) that would enhance the efficiency of the financial intermediation of SACCOs, by expanding and improving the quality of investments. In its 2013 supervision report,[70] SASRA outlined

policy reforms aimed at strengthening capital adequacy, broadening the rules for investment in land and buildings, improving credit information sharing, allowing prudentially supervised SACCOs to access the payment system if they meet the operational requirements, and expanding the liquidity management system. Some of these reforms are expected to result in consolidation of the SACCO industry, which in turn should lead to greater efficiency and lower lending rates (unlike the lending rates in the banking sector, SACCOs have not lowered their lending rates since the 2012 hike in response to the rising inflation).

Recent technological advances have enabled saving schemes with dramatically low transaction costs. M-Pesa, the largest and most rapidly growing mobile money platform in low- and middle-income countries, provides saving schemes through M-Kesho and M-Shwari in Kenya. M-Shwari's customer savings have reached more than K Sh 24 billion in just over two years since the launch of the mobile phone–based bank account. M-Shwari attracts

SPOTLIGHT 3

Table 3.2: The SACCO industry is growing rapidly

Indicator	2010	2011	2012	2013
Number of active SACCOs[a]	1,821	1,954	1,989	1,995
Of which deposit taking				215
Membership				3,294,829
Total assets (K Sh million)	261,144	248,765	293,827	335,437
Member deposits (K Sh million)	157,540	180,003	213,080	240,805
Loans and advances (K Sh million)	157,926	186,149	221,554	251,879
Total capital (K Sh million)		20,115	21,324	25,297
Turnover (K Sh million)	27,721	31,464	37,286	43,271

Source: SACCO Society Regulatory Authority.
Note: SACCO = savings and credit cooperative organization.
a. SACCOs that filed their audited financial statements with the commissioner for cooperative development as a legal requirement.

[70] http://www.sasra.go.ke/index.php/resources/publications?download=64:sacco-supervision-annual-report-2013.

K Sh 200 million in deposits daily from more than six million users.[71] Moreover, mobile platforms are now connected to SACCOs, which increasingly are attracting savings, especially from the youth, and contributing to realization of the savings and investment target of Vision 2030. The World Council of Credit Unions nominated 18 Kenyan SACCOs as 20 leading SACCOs in SSA. Increasing use of mobile technology has placed Kenya's SACCOs as the highest growth achievers and the leaders of the industry in Africa (box 3.2).

This research shows that as long as access to and design of saving schemes are improved, people can change their saving behavior. The key finding from the research is that the poor attempt to make productive use of their resources in the environment in which they operate. Making the environment such that incentives are offered to remind people to save for investment in items with high payoffs, be it health, education, or improving agricultural yields, can lead to greater savings. Lowering the transaction cost for saving and having a diverse portfolio of saving opportunities is another way to stimulate saving, in particular for the poorest segments of the population.

Box 3.2. Kenya's Financial Inclusion

Kenya's financial inclusion is relatively high, which in turn encourages formal saving. The banking sector is well developed in geographical coverage and products. The use of banking accounts is widespread—more than in any peer country—with almost a quarter of the population saving at a financial institution (figure 3.10). Penetration of retail banking has accelerated in recent years: the number of deposit accounts in commercial banks increased from 4.7 million in 2007 to 21.1 million in September 2013. In addition, Kenya's mobile revolution has led to the establishment of mobile saving accounts (M-Shwari), which have recorded a steep increase since their inception.

Figure 3.10: Financial inclusion in Kenya is high relative to peer countries
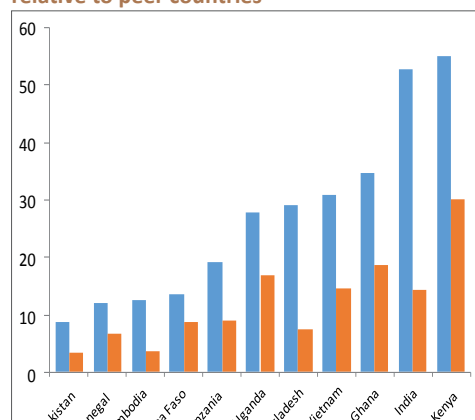
Source: Global Findex database.

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[71] Zollman (2014).

MANUFACTURING OR SERVICES: WHERE DOES THE KEY TO RAPID GROWTH LIE?

Introduction

Vision 2030's target of rapid and sustained growth is envisaged to rest on the development of agriculture, manufacturing, and services. However, as chapter 1 points out, Kenya's growth model since 2007—when Vision 2030 was put forward—has been led predominantly by a few booming services, fueled largely by growing private consumption and rising exports. Growth of agriculture and manufacturing has been sluggish, with sporadic success stories. Moving forward, the key question is to understand why the manufacturing sector has underperformed and whether there is potential to accelerate further the growth of services. Although it is one of the six priority sectors in Vision 2030, agriculture is not the focus of this chapter. Chapter 2 looks at the importance and potential of agriculture from the perspective of poverty reduction.

The high share of services is not what is peculiar about Kenya or Sub-Saharan Africa (SSA) in general; it is the low share of manufacturing that differentiates Kenya from other fast-growing, low- and middle-income economies. The growth story of East Asia and a few other successful economies has been that (export-oriented) industrialization was the main engine of growth. Kenya and SSA in general have not followed the same path; instead, services have been the main driver of growth, while manufacturing has been stagnant or declining.

Manufacturing is being held back. The paradox in the manufacturing sector is that high entrepreneurial dynamism does not lead to sustainable growth of firms. Many firms attempt to export, which is good, but most of them fail. Large firms do not seem to be expanding, especially in producing higher complexity goods. This situation is confirmed by export data, industrial firm surveys, and data from the export processing zones. The high dispersion in productivity within the same sector and the entry of lower productivity firms point to constraints to firm creation and growth. High costs of production, in particular energy, are a major obstacle, which is why more firms are being established in sectors with low energy intensity. Other constraints, such as the weak business environment, are discussed in chapter 5.

Services have followed an independent development path and hold the potential to achieve Kenya's objectives for growth and job creation. Services have been expanding independently of manufacturing, unlike in peer countries where services have typically been pulled by manufacturing. In addition to the boost from rising domestic demand, services exports have also been booming and will soon take over goods exports. New entrants in the services sector are more productive than existing ones, which adds to within-sector productivity, although, as with manufacturing, dispersion is high. Innovation seems to be high, although the type of innovation that Kenyan firms engage in is not as productivity-enhancing as in peer countries. In Kenya, innovation comprises mainly marginal improvements, while investment in research and development, for example, is lower than in the peers.

Evolving Roles of Industrialization and Services as Poles of Growth

Episodes of growth similar to what Vision 2030 sets for Kenya have been rare in the economic history of the past six decades (post World War II). The Growth Report (Growth Commission 2009) found only 13 episodes where countries managed to sustain an average 7 percent growth for 25 years or more, and only one of them (Botswana) is from the African continent. With few exceptions, including Botswana, which transformed natural resources into rapid growth, the main engine of growth in the majority of cases was (export-oriented) industrialization. This has been the story behind the growth in East Asia.

African countries have not been able to replicate the East Asian successes, and the primary reason lies in Africa's difficulties in developing manufacturing. Many countries in SSA, including Kenya, have witnessed an economic revival in this century that has been driven largely by the services economy. However, the huge importance of services is not exceptional to Africa. The average share of services in low- and middle-income economies is only slightly lower than that in Kenya. What is exceptional for Kenya, and the rest of SSA, is the low share of manufacturing and high share of agriculture (and extractives in some SSA countries) in the economy. Africa's manufacturing sector remains underdeveloped and very few countries have managed to diversify into export-oriented manufacturing that goes beyond the processing of raw materials (Gelb, Meyer, and Ramachandran 2013). Like in the peers in SSA, the agricultural sector in Kenya remains critical to the economy, and manufacturing is closely linked to it. Indeed, food production accounted for 32 percent of Kenya's total manufacturing output in 2013.

The disappointing outcomes in Africa's manufacturing sector are explained by high labor and external costs, which are also found in the case of Kenya, although they may in some cases be offset by high productivity. Wages in the manufacturing sector in Africa are relatively high compared with wages in other countries at a similar level of development. For example, the median labor cost in manufacturing in Kenya is almost four times as high (although productivity is even more so) as in Bangladesh, which has a similar income per capita (Gelb, Meyer, and Ramachandran 2013). Moreover, labor costs seem to be increasing: their share in the value added of manufacturing firms increased between 2009 and 2013, and so did their share in total sales for listed manufacturing firms at the Nairobi Stock Exchange. Part of this is explained by the fact that Africa's, and Kenya's, manufacturing sector is characterized by dualism: a few formal (high productivity) firms coexist with many informal (low productivity) firms. The formal productive firms face a steeper labor cost curve. The other reason, which is also very much relevant for Kenya, is that external costs, related to electricity, logistics, transport, and corruption, are higher than elsewhere (Eifert, Gelb, and Ramachandran 2008). As shown in a recent study by Iacovone, Ramachandran, and Schmidt (2014), infrastructure gaps and weak the business environment raise external costs and make it difficult for firms to grow.

Nevertheless, recent insights on the drivers of long-term growth show that ultimately productivity drives economic development, irrespective of which sector is behind the productivity growth. Productivity growth is the engine of sustainable development and can generally be driven by within-sector productivity gains or structural movement of labor and other resources across sectors. There is ample evidence that shows that market competition boosts firm-

level (within-sector) productivity. Kenya's product markets could be made more competitive. The Organisation for Economic Co-operation and Development's (OECD's) Product Market Regulations indicators and the Bertelsmann Foundation Transformation's market-based competition sub-index indicate that competition rules in Kenya are weaker compared with those in middle-income countries such as Brazil, China, India, and South Africa. Productivity gains can also occur through shifts of labor from lower to higher productivity sectors, even if sector productivity remains flat.

In Africa, and to a lesser extent in Kenya, labor has been moving to lower productivity sectors. MacMillan and Rodrik (2012) examined productivity trends in selected African economies since 1990 and found productivity improvements at the sector level, yet at the aggregate level these were offset by a large movement of labor toward lower productivity activities (growth-reducing structural change). Kenya's story is a bit more positive, as the economy has achieved within-sector productivity gains and a shift of labor to more productive sectors since 1990, although in recent years the bulk of labor market entrants has gone into the informal trade and hospitality sector (chapter 2 analyzes this in greater detail). In contrast, East Asian economies witnessed within-sector productivity growth and "growth-enhancing" structural change during their high-growth episodes.

For many low- and middle-income countries, including Kenya, services have been a primary driver behind productivity increase and growth over the past three decades. The past three decades unmistakably point to a change in the development path, a process defined by Rodrik (2013) as an early relative decline of industry, or premature de-industrialization. Basically, the economic data show that the point of time at which the share of industry (in total gross domestic product (GDP) or employment) peaks is happening earlier in the development process. For example, in 1988, for the world as a whole, the peak share of manufacturing was 30 percent and attained at a per capita GDP level of US$21,700. By 2010, the peak share of manufacturing had fallen to 21 percent and at a per capita GDP level of US$12,200. This change implies that services are increasingly becoming a lead engine of growth. Interestingly, Kenya and its peer group seem to be showing a de-industrialization trend at even lower levels of development: the share of industry rose in the 1990s, but has fallen since (Figure 4.1).

Figure 4.1: Declining share of manufacturing in Kenya's peer group
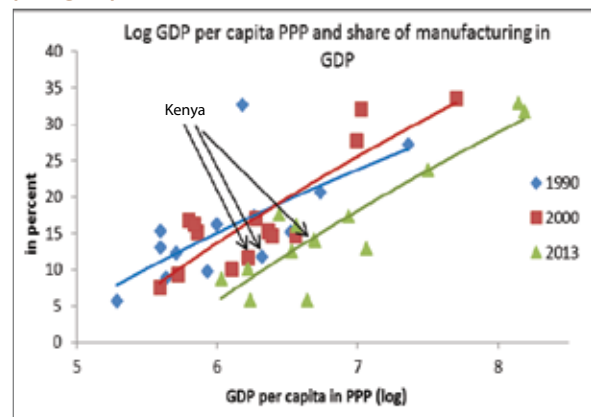
Source: World Bank World Development Indicators.
Note: GDP = gross domestic product; PPP = purchasing power parity.

Nevertheless, experiences from elsewhere can only be of limited help to policy makers devising a country's development strategy; policy reforms and growth poles are highly contextual. Kenya's context is such that manufacturing and services hold the potential to contribute to faster and sustained growth, as individual firms or subsectors, be it East African Breweries or Safaricom, have proven. Even in agriculture, examples such as cut flower exports demonstrate Kenya's potential. The remainder of this chapter examines the performance of manufacturing and services from macro and micro lenses.

Economic Complexity of Kenya's Manufacturing Sector

Economic complexity and income per capita display high correlation; hence, countries attempt to increase their complexity. Economic complexity reflects the amount of knowledge that is embedded in the productive capacity of an economy (Hausmann, Hwang, and Rodrik 2007). Economic complexity is a measure of the production capacity of a country's manufacturing sector: which products it can or cannot produce (box 4.1). Rich countries, excluding resource-endowed ones, display high economic complexity, while poor countries generally have lower economic complexity.

More important, economic complexity can be a driver of future economic performance. Countries that increase their complexity tend to grow faster in subsequent periods (Hausmann, Hwang, and Rodrik 2007). Countries that have relatively higher complexity, given their level of income, tend to grow faster than those countries that are "too rich" given their level of economic complexity.

Kenya's Manufacturing Sector Is Diversifying

Looking at Kenya's export structure beginning in the early 1990s, manufacturing showed positive signs of diversification toward higher complexity (value) goods. Kenya has traditionally been an agricultural commodity exporter, and the share of agriculture in total exports has increased since 2009 because of the rapid growth of tea and horticultural exports. Nevertheless, the non-agriculture part of exports showed signs of diversification and movement toward more complex products (including beer, plastic packaging, and pharmaceutical products) until the mid-2000s.

The manufacturing sector in Kenya is more diversified than that in other countries with similar income per capita. Kenya's concentration among manufacturing exports (measured by the Herfindahl Index) is relatively low (Figure 4.2), which implies a diversified manufacturing base.[72] A World Bank (2014)[73] report found that Kenya's manufacturing exports are highly diversified at the product level, relative to other African countries and other export powerhouses, such as

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Box 4.1. How is economic complexity measured and what does it (not) represent?

The economic complexity index (ECI) is measured using disaggregated export data (from UN COMTRADE), which are used as a proxy for the industrial structure of the entire economy. All products are mapped in terms of their linkages based on how similar they are in their complexity. The most complex products with the largest number of connections are located in the center or core of the network. There are many products in the periphery that are only weakly connected to other products.

The ECI is not a measure of export diversification or trade openness. The aim of the ECI is not to prescribe specific sectors that a country should develop, but to serve as a big picture examination of the potential of the economy. Data in the Atlas of Economic Complexity, which captures more than 120 countries, can be found at http://atlas.cid.harvard.edu/

Sources: Lall 2000; Hidalgo and Hausmann 2009.

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[72] Strictly speaking, the Herfindahl Hirschman Index is meant to measure firm concentration in a market and thus inform the assessment of competition in the marketplace. Nevertheless, the index is used extensively to measure the degree of concentration in other spheres: product exports and imports, trade partners, etc. In this particular case, it measures Kenya's concentration in manufacturing exports.

[73] Manufacturing export competitiveness in Kenya report by Farole and Mukim (2013).

Vietnam. Diversification comes with benefits for long-term growth, as it is associated with greater macroeconomic stability, lower vulnerability to shocks, and lower terms of trade volatility (Lederman and Maloney 2012).

Figure 4.2: Export concentration trend
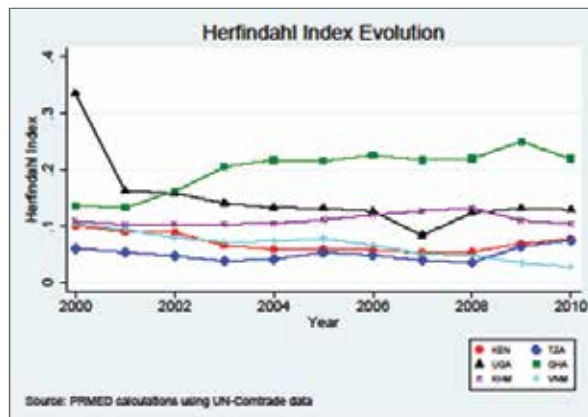
Source: PRMED calculations using UN-Comtrade data.

But Overall Economic Complexity Is Neither High nor Increasing

Kenya's economic complexity, as measured by its exports structure, is relatively low and not increasing. Kenya's economic complexity is higher than that of its peers in SSA as well as Bangladesh and Cambodia. But Kenya's export complexity is lower than that of its better performing peers, such as India, Pakistan, and Vietnam. The three peers from East Asia (China, Indonesia, and Thailand) had much higher complexity in 1995 (first year of available data) compared with Kenya's in 2012. More importantly, Kenya's manufacturing production capabilities have stagnated. Kenya is one of the few countries that have recorded a decrease in economic

complexity since 2005. This finding is supported by World Bank (2014), which found that although Kenya's (export-oriented) manufacturing sector is dynamic, (export) product survival is low.

It seems that although Kenya has a few firms that produce complex products, the majority of production is of low complexity. Kenya's top four exports by total value are among the least complex goods traded globally. Nevertheless, several manufacturing sectors, for example apparel or iron and steel, in which Kenya is strong, offer potential for expanding production to products that are similar in complexity to what is already produced. Hence, the well performing firms in this sector have room to grow and expand their product portfolio.

The Manufacturing Sector from a Micro Lens

Manufacturing firms in Kenya are relatively old, but entrepreneurship seems to have picked up over the past decade. According to the Kenya National Bureau of Statistics' industrial firms census (box 4.2), two-thirds of firms have been operating for more than 10 years. One-fifth of the firms are up to three years old, which allows comparing established versus entrant firms. Although no other census of this type has been conducted in the past three decades, the data point to intensified firm establishment after 2002: 50 percent more firms, of those still in existence in 2010, were established between 2002 and 2005 than between 1998 and 2001.

Box 4.2: Data source for analysis of manufacturing firms

The analysis in this section draws on the 2010 Census of Industrial Production conducted by the Kenya National Bureau of Statistics (KNBS). The data set covers 2,252 firms and 109 International Standard Industrial Classification four-digit product categories in manufacturing, mining, electricity, and water supply. These firms accounted for 324,841 jobs (including proprietors) in 2009, which implies that the data capture formal and informal workers in the sector, given that total formal wage employment in manufacturing was 270,000 in 2009 according to KNBS.

Another data source shows that Kenya saw a surge in (formal) entrepreneurial activity following the measures to open up the economy in the early 2000s. Between 2004 and 2008, the number of registered new (limited liability) firms rose threefold, from less than 7,000 new firms in 2004 to 18,000 in 2008 (Figure 4.3). Only Rwanda, among the peer group countries, witnessed a similar trend, which accelerated even further after 2008: by 2012 the number of newly registered firms was five times higher than in 2008. Data are not available for Kenya post 2008, although a similar trend is not expected, given the relatively weaker and more volatile performance of the economy post 2008.

Figure 4.3: Kenya has witnessed rapid growth of formal business startups
(2004 = 100)
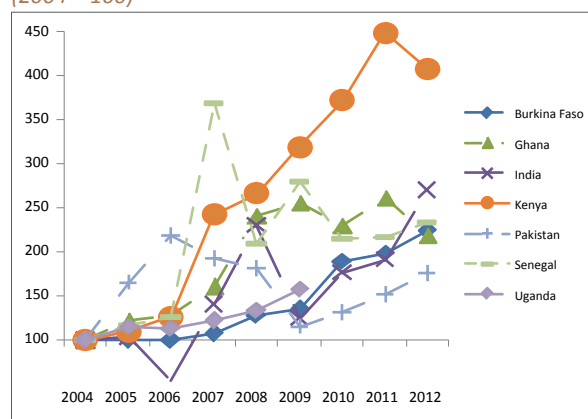
Source: World Bank Entrepreneurship Snapshot.

The majority of Kenya's manufacturing firms are located in low value-added sectors. Most of the large firms, in terms of number of workers, are in sectors with low value added. The largest share of employment in manufacturing is in food products (41 percent of total employment), followed by textiles (8 percent), wearing apparel (5.7 percent), wood and wood/cork products except furniture (3.7 percent), and leather and related products (2.5 percent). In contrast, the highest value-added sectors, such as manufacture of coke and refined petroleum products, employ very few workers (0.01 percent of total employment). Sectors such as beverages and tobacco and repair and installation of machinery and equipment also have a relatively high level of value added per worker, yet low employment numbers.

Kenya's manufacturing firms tend to be relatively capital intensive. In most industrial sectors, compensation per worker, that is labor cost, is well below the value added per worker, which implies high capital intensity. In food products—a low value-added sector—compensation per worker is 40 percent of value added per worker (Figure 4.4). This signals that formal manufacturing firms in Kenya tend to be capital intensive, a trend that is supported by the evidence of high costs of labor (relatively high salaries).

Figure 4.4: Kenyan manufacturing firms tend to be capital intensive
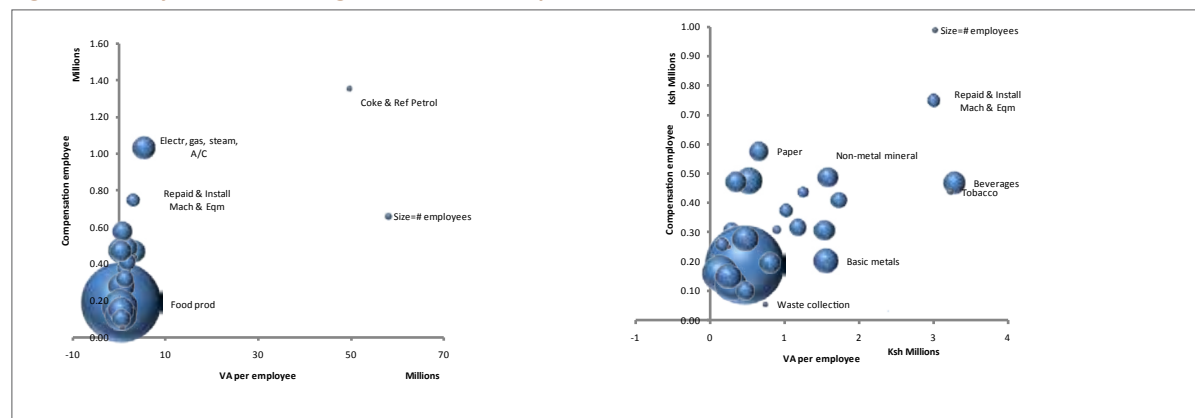
Sources: Kenya National Bureau of Statistics; World Bank.

The typical catching-up effect in firm productivity within a sector seems to be limited and productivity varies between and within sectors in Kenya. Within sectors there is a wide dispersion of firms in terms of productivity, whereas typically firms within a sector would be learning from each other and converge toward the productivity level of the more successful ones. Firm-level performance within the large sectors, such as food products, show great dispersion, and large firms are not necessarily on the productivity frontier. This pattern is consistent with the findings by Gelb, Meyer, and Ramachandran (2014) of slow convergence of productivity in SSA.[74] They find that SSA's formal manufacturing sector appears to be dominated by a limited number of larger firms with higher labor productivity that coexists with a long tail of lower-productivity firms.

Capital intensity varies significantly across firms within the same sector. This holds true across sectors, which is expected, but also among firms within the same sector (Figure 4.5). Looking at the largest sectors, food production is relatively capital intensive, while garments are on the low side. At the same time, these two sectors have relatively low dispersion in the capital-to-labor ratio, which may imply productivity convergence

among firms in these sectors. The dispersion is highest in sectors with relatively fewer workers, such as coke production.

The manufacturing sector shows relatively high churning, with 20 percent of all firms being entrants, although the newcomers do not seem to be raising overall productivity. Firms that were less than three years old had on average a lower value added, output, and compensation per worker than the established firms (Figure 4.6). This is true even if comparing entrants with established firms at the regional level (Nairobi, Central, Eastern, and Rift Valley). However, new entrants added more new jobs compared with old firms between 2009 and 2010.

Figure 4.6: Entrant firms are less productive
(value added, output, and compensation per worker, for entrants ages 0-3 years and established firms)
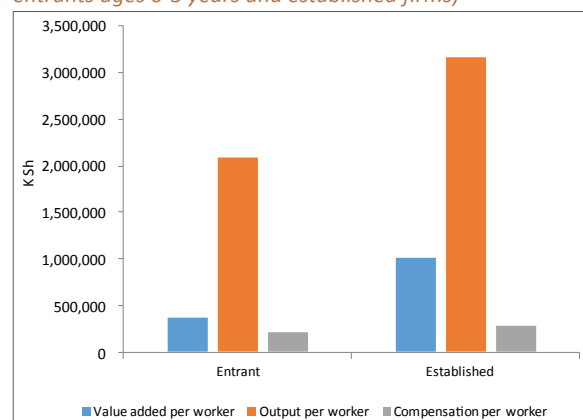
Sources: Kenya National Bureau of Statistics; World Bank.

Figure 4.5: Capital-to-labor ratio dispersion is high across most sectors, 2010
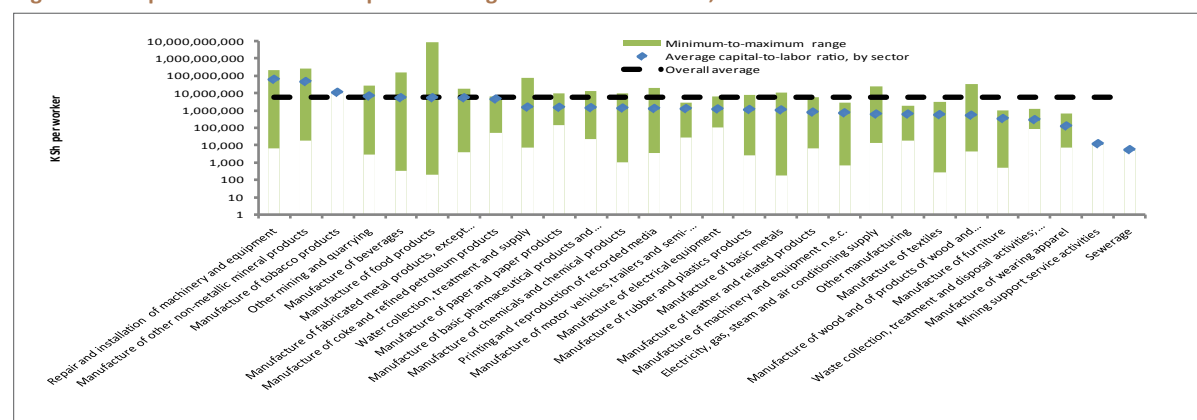
Source: Census of Industrial Production.

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[74] See Gelb, Meyer, and Ramachandran (2014). They find that, "to a large extent, SSA's formal manufacturing sector appears to be dominated by a limited number of larger firms with higher labor productivity that coexists with a long tail of lower-productivity firms."

Higher agglomeration attracts new firms. As shown in figure 4.7, Nairobi has the highest concentration of established firms and related employment (about 40 percent of both), and continues to attract significantly more new entrants (about 45 percent of new firms) and new jobs (just over 30 percent). Other regions with high concentrations of established firms are the more urban central region and Rift Valley, where the new entrants have provided a greater proportion of new jobs (21 and 17 percent, respectively). Unfortunately, historically marginalized regions have low concentrations of established firms and do not appear to be attracting significant numbers of new firms or employment. In addition to differing levels of infrastructure development, this trend may be explained in part by differences in the regulations for starting a business. According to the 2012 subnational Doing Business report, Nairobi had the fifth most business-friendly regulations for starting a business.

In terms of the inputs (other than raw materials) that Kenyan manufacturing firms use, transport, real estate, and energy matter the most. Overall, energy is the second largest cost for manufacturing firms (excluding raw material and labor costs). There is some variation depending on the sector, but for food products, which is the largest subsector, energy is also one of the largest (non-raw materials) costs (Table 4.1). The energy

Figure 4.7: Nairobi attracts new firms but more jobs are created in less urbanized areas
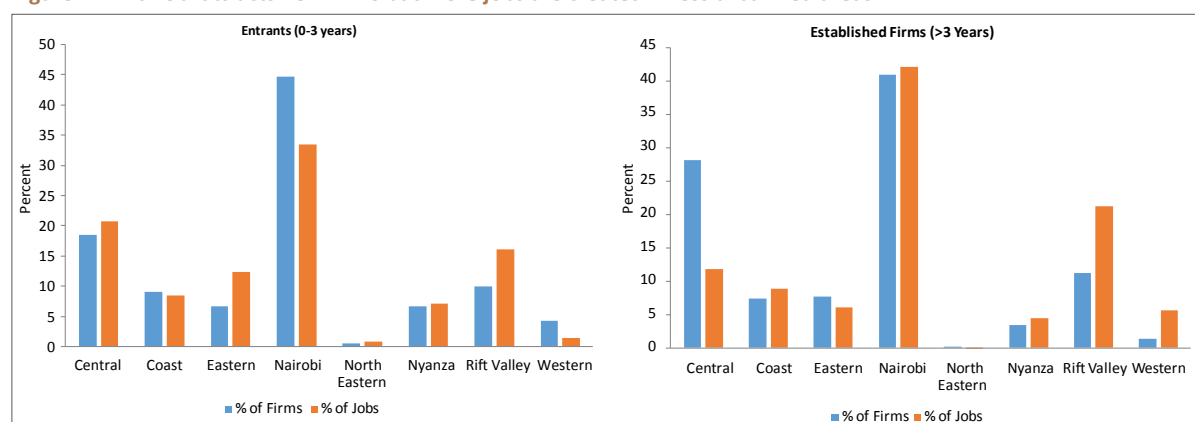
Sources: Kenya National Bureau of Statistics; World Bank.

Table 4.1: Top three most important upstream sectors for each downstream sector

Downstream sector	Top-3 upstream sectors excluding materials (percent of total expenditure by downstream sector)		
Mining and quarrying	Manufacturing of coke and refined petroleum products (53 percent)	Transportation (12 percent)	Repairs and maintenance (7 percent)
Manufacturing	Transportation and storage (18 percent)	Electricity (15 percent)	Real estate (15 percent)
Electricity	Manufacturing of coke and refined petroleum products (48 percent)	Electricity (22 percent)	Real estate (6 percent)
Water, sewerage, and waste management	Transportation (16 percent)	Electricity (14 percent)	Financial services (14 percent)

Source: Census of Industrial Production.

dependency of manufacturing contrasts with that of many of the services sectors, in particular the successful banking and telecommunications sectors. For example, a Kenyan spends less than 1 dollar a year on charging a smartphone, and less than 20 dollars a year on using a laptop. It comes as no surprise that four in 10 manufacturing firms in 2013 indicated energy as a major constraint to business (a slight improvement over 2007 when more than half of firms found it to be a major constraint).[75] Kenya's industrial electricity tariff, at more than US$0.30 per kilowatt hour, is higher than the tariff in many SSA countries and the non-Africa peers. Appendix table A1.1 shows for each manufacturing sector the decomposition of costs across utilities and services sectors (not including materials).[76]

Services as a Driver of Growth

Services are the largest and most dynamic part of Kenya's economy. As chapter 1 points out, domestic services have been behind the growth in domestic demand over the past decade. In addition, services exports have increased rapidly over the past decade. Exports of services have been growing faster than goods exports (Figure 4.8), and since 2005 services exports have

Figure 4.8: Services exports are rising much faster than exports of goods
(K Sh, millions)

Source: Central Bank of Kenya.

accounted for more than half of the increase in total exports. If the trends of the past four years continue, services exports will overtake goods exports by 2015.

Services have a direct contribution to exports as well as an indirect contribution, serving as inputs to production in other sectors. A new World Bank trade database (box 4.3) dissects the direct and indirect roles of services for the tradable part of the economy, which in turn allows measurement of the value chain linkages between services and the rest of the economy. This includes forward linkages, the contribution of a particular sector as an input to others sectors' exports. (Box 4.3 presents the definitions and methodology.)

Gross exports of services, as calculated in trade statistics, typically undervalue the total contribution (total value added) of services to a country's exports, and this is the case in Kenya. Services are embedded as inputs in exports of manufactured and agriculture goods, while the production of services does not necessarily involve a significant input from the latter two. Hence once considering services used as inputs, the ratio between total value added exports to gross exports is higher than one, and this is the case for Kenya and all other peer countries except the Arab Republic of Egypt (Figure 4.9). This characteristic—that services exports in value-added terms once considering forward linkages tend to be greater than gross exports—does not necessarily extend to the manufacturing sector; its ratio is well below 1.

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[75] Kenya enterprise surveys 2007 and 2013 (www.enterprisesurveys.org).

[76] Including materials would reduce the shares of all upstream sectors, as materials account for 36 percent of expenditure in mining and quarrying, 85 percent in manufacturing, 66 in electricity, and 60 percent in water supply.

Box 4.3: Measuring the value added in exports [a]

Exports (of goods and services) can be measured as the following:

Gross exports. The transaction value of a sector's exports, that is, what is published as exports in the balance of payments. Gross exports capture the value added embodied in the production of the export, as well as all (domestic and imported) intermediate inputs. Gross measures of trade statistics are registered in the balance of payments at the transaction value, that is, the price for the goods or services. For example, a business process outsourcing (BPO) company from India sells its services in Europe and India's gross exports of BPO services capture the invoice price of those services.

Direct value added of exports. This is a sector's domestic value added embodied in its own exports, measured as gross exports excluding inputs. This measure captures the value-added contribution of a sector in the sector's own exports. For example, an Indian BPO firm uses telecommunications services, from local providers and foreign owners of satellites, which are intermediate inputs.

Total value added of exports. This is a measure of the total value added of a sector's exports from a countrywide perspective. It captures the direct value added of a sector's exports and the value of the sector's inputs to other sectors' exports (forward linkages).

Forward linkages. These are the value added of a sector that is exported indirectly through exports of other sectors that contain inputs from the sector. For example, the BPO firm may be providing services to a domestic manufacturing firm that exports its products. The share of the BPO firm's input to the manufacturing good exports counts as a forward linkage.

a. The analysis in this section draws on a new World Bank Value Added Database (Saez et al. 2014) which contains data on both direct exports of services and indirect exports of services. The database uses input-output data from the Global Trade Analysis Project.

Figure 4.9: The contribution of services in countries' exports is undervalued
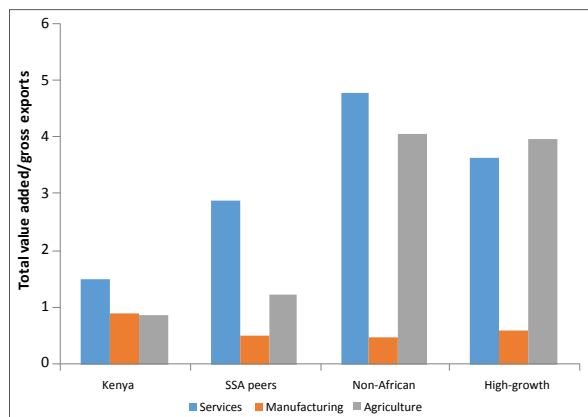
Source: Calculations using data from the World Bank Value-Added database.

Interestingly, services exports in Kenya have primarily a direct rather than indirect contribution to exports. The share of services in Kenya's exports is 25 percent when trade is measured in terms of gross value. This large share of services exports is somewhat expected, as tourism is major part of the economy (box 4.4). When measured in terms of direct value added, the share of services exports in total exports reached 34 percent, which is higher than in the comparator countries except Egypt. However, the forward linkages of services are relatively small: they add an additional 2 percentage points to the share in services value added in total exports of goods and services (Figure 4.10). This contrasts

with Kenya's peer countries, where the difference between direct to total value added services exports—an indication of forward linkages—is much larger.

The services sector in Kenya creates fewer forward linkages than is predicted by the country's income per capita level. Kenya outperforms other countries of similar income per capita in all three measures of services export shares (gross, direct, and total). However, forward linkages have a small role to play, given that Kenya's relative position drops when considering the total value added of services exports. This finding illustrates that some of the services sectors in Kenya, such as telecommunications, financial services, and transport, have prospered owing to an intrinsic development path rather than being pulled by other sectors through forward linkages. The fact that manufacturing exports have been stagnant (relative to GDP) confirms this finding.

Among those services that have forward linkages to the rest of the economy, information and communications technology and business services, distribution and trade, and financial services stand out. These three sectors are inputs to other exporting goods and services, that is, they have significant forward linkages with the rest of the economy. Interestingly, the transport sector, while important on its own, has limited forward linkages, which is probably explained by the high volume of transit goods (which count as gross exports).
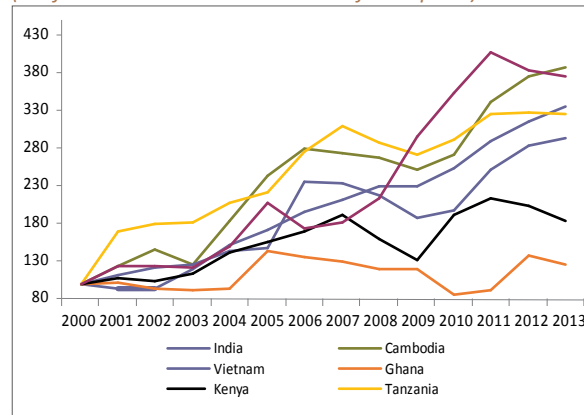
Kenya's high services exports are driven by the direct value added provided by transport and communications services. The total value-added contribution of transport and communications services to Kenya's exports is higher than that of all comparator countries as well as other countries with similar income per capita. This confirms the finding that these two sectors comprise firms that have established themselves in the regional market. Similar conclusions can be made for financial services where Kenya outperforms the peer countries. For the rest of the services economy, the export contribution is below or on par with other countries of similar income per capita. Distribution services, which in general are important for trade, is one sector in particular where Kenya underperforms, driven by the sector's low direct value-added exports despite its stronger linkages.

There are high expectations of the tourism sector, given the great success of the previous decade. International tourism took off in Kenya in 2003, and the growth has been remarkable, also compared to other emerging tourism destinations. Total receipts from foreign tourists jumped fourfold between 2000 and 2012, which was faster than the average for Sub-Saharan Africa (SSA), but not as fast as in Cambodia, Tanzania, or Vietnam (figure B4.4.1). In absolute terms, Kenya's US$2 billion of international tourism receipts were only a fraction of what the more established destinations earn. Egypt's receipts were five times larger, Morocco's four times larger, and Vietnam's three times larger.

Figure B4.4.1: Growth of tourism receipts has been solid *(2000 = 100)*
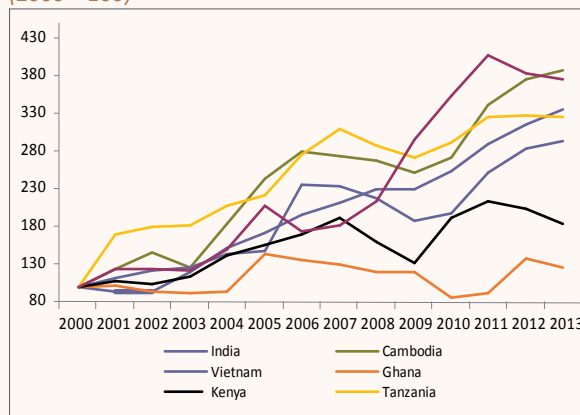
Source: wttc.org.

Tourism is one of the seven core sectors of Kenya's development model. The Second Medium-Term Plan (MTP-2) aspires to double the number of foreign tourists, to three million, by 2018. The impact on growth and employment would be astounding. Based on data from the World Travel and Tourism Council (WTTC), the total (direct and indirect) contribution of tourism reached 12 percent of Kenya's GDP in 2012.a Moreover, it created 230,000 jobs and an additional 360,000 jobs indirectly. If foreign visitors increase from the 1.7 million in 2012 to three million, the sector would add 10 percent to GDP and half a million more jobs.

Figure B4.4.2: Kenya is expected to invest less in the tourism sector relative to its peers
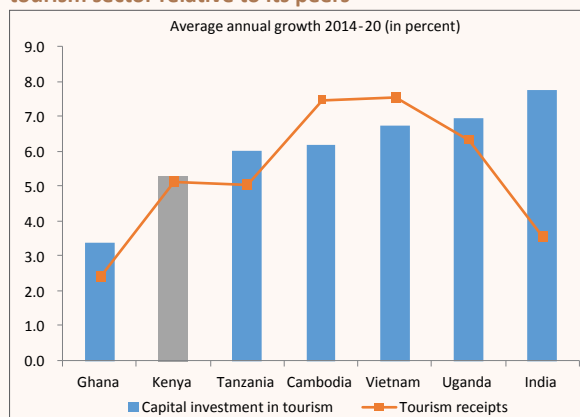
Source: wttc.org.

Although hopes for the future are running high, from an outsider's point of view the outlook is not that bright. WTTC projects Kenya's tourism receipts to rise slower than in the rest of SSA, and far from the needed rate to reach the three million visitors target. Even some of the more mature tourist destinations, such as Indonesia or Morocco, are expected to be more successful in attracting more visitors. The deteriorating security situation has already had a high toll on international visits, and will continue to be a drag on the sector. Disease epidemics, as the 2014 experience with Ebola has shown, can also have detrimental effects. Apart from these exogenous factors, another explanation for the relatively weaker outlook is low investment in the sector (figure B4.4.2). Over the past 12 years, investment in tourism development grew at an average of 7 percent annually in Kenya, while other countries were investing more rapidly.

Public policies related to tourism are a key pillar to successful development of the sector. First and foremost, infrastructure capacity has to be consistent with the strategy for tourism development. The airport in Nairobi has a design capacity of 2.5 million and has operated for years at overcapacity (reaching almost six million passengers per year). However, the government has been investing in the airport: a new terminal opened in 2014, and further expansion is ongoing. Other countries are taking similar steps: Vietnam's main airport, in Hanoi, will

open a new terminal this year and capacity will rise to 16 million, and Dar el Salaam's capacity is currently being expanded to six million passengers annually. Second, road infrastructure to key tourist destinations (coast and parks) also needs improvements. The utilization of national parks, Kenya's premier attraction, is unbalanced, with the top parks (Mara, Amboseli, and Nakuru) being overcrowded, while others, such as Tsavo or Meru, are underutilized. It seems that private reserves are more successful in attracting visitors compared with some of the public national parks. At the same time, the capacity to accommodate foreign visitors, which is a job of the private sector, seems to be there. Bed occupancy ratios have not crossed above 40 percent over the past few years, which is low by industry standards.

Services from a Micro Lens

Although Kenya has become known worldwide for some of its high-value services, be it M-Pesa or high-end luxury safari travel, most of the country's formal services workers are in low value-added firms. The largest services firms in terms of employment are in wholesale and retail trade, hospitality, public administration, and transport.

Unlike in manufacturing, services firms exhibit a stronger correlation between productivity and wages. Productivity, that is, output per worker, differs greatly across sectors, but more productive sectors tend to pay higher wages. Finance, ICT and real estate are the star performers in terms of value added and compensation per worker (Figure 4.12).

Figure 4.12: Higher productivity service activities have higher average wages but employ few workers
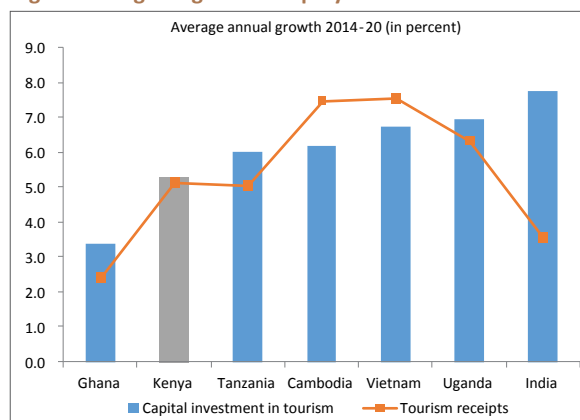
Source: Kenya National Bureau of Statistics.

Nevertheless, labor costs seem to be rising faster than sales, hence lowering the competitiveness of services firms. Looking at the services firms listed on the Nairobi Stock Exchange (sample of 11 companies with more than K Sh 300 billion in

Box 4.5: Integrated survey of services

For insight into the characteristics of services firms, this section draws on the 2011 Integrated Survey of Services. The Kenya National Bureau of Statistics conducted this survey of 3,191 formal services firms in 2011, covering firm behavior in 2009 and 2010. Although not intended for national accounts purposes, the results are indicative of firm performance with two important caveats. First, there are data limitations given the intended purpose of the survey, which was to derive input-output structure for supply and use tables rather than to calculate value added and the fact that only 2,300 firms have complete and consistent observations. Second, the timeframe of the survey is not ideal, as it occurred immediately after the global economic crisis, which resulted in a slowdown of growth in Kenya.

annual sales in 2013), labor costs are rising faster than sales, hence eroding their competitiveness. At the same time, their number of employees grew by only 10 percent between 2009 and 2013 compared with 60 percent increase in sales, a sign of increasing labor productivity; however, the fact that the labor cost-to-sales ratio is increasing presents a worrying trend.

The same as in manufacturing, there is significant dispersion of the productivity of firms within the same service activity. Dispersion is especially high in wholesale and retail trade, financial/ insurance, real estate, and public administration. The reasons for the high dispersion may be low technology diffusion, poor investment climate (inadequate access to finance for less productive firms), or political economy factors (existence of privileged firms).

Entrant firms seem to be leading the increase in within-sector productivity. Comparison of entrant firms against more established firms shows important differences in the characteristics. Entrants are more productive than established firms (Figure 4.13), but generally offer lower wages (and have lower labor costs). Entrants created fewer jobs between 2009 and 2010 than established firms. Apart from labor, entrants face higher costs than established firms. Established

firms with high productivity have greater market share in terms of value added.

Figure 4.13: Entrant firms are more productive but pay less per worker
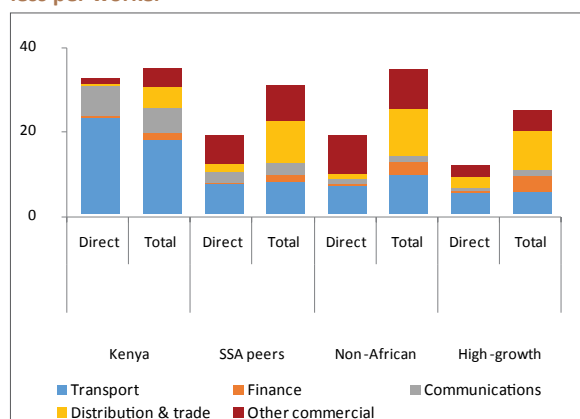
Source: Kenya National Bureau of Statistics.

To sum, services have been the star performer of the past decade. Macro and firm level data illustrate that services have outperformed manufacturing. Moreover, it seems that there is more dynamism in the services sector— entry of more productive firms—which signals that services will continue to grow faster than manufacturing. Since Kenya's development goals include job creation in addition to growth, chapter 5 discusses the relationship between growth and employment, as well as the barriers to job creation.

Enhancing Economic Complexity and Productivity through Innovation

Knowledge and Innovation

A critical element for economic development in the medium and long terms is the accumulation of knowledge. One key input to facilitate knowledge accumulation is innovation. At the aggregate level, theories of economic growth have put innovation at the core of the growth process since the seminal work of Solow (1957). The importance of the accumulation of knowledge was reinforced with the emergence of "new growth theory" (Aghion and Howitt 1992; Romer 1986).

At the firm level, which is where innovation occurs, a large empirical literature documents the importance of innovation for moving up the development ladder. Hall (2011) shows a robust, positive relationship between innovation and productivity; Harrison et al. (2008) illustrate the impact of innovation on employment; and Hall et al. (2011) study the link between innovation inputs, such as research and development (R&D), and productivity. Innovation fosters economic development, since it facilitates technology adoption, improves productivity, and as a result increases competitiveness, employment, and wages. Therefore, a critical predictor of countries' potential to grow is their investments in innovation activities.

Innovation Is Widespread in Kenya, but Innovation Is Small and Incremental

Analysis of the 2014 Enterprise Survey Innovation Module (ES-IM14)[77] suggests that the rate of innovation in Kenya is large compared with some emerging countries that have implemented national innovation surveys. Around 55 percent of the surveyed firms introduced a product or process innovation—defined as a substantial change in products or processes—during 2010–12 and 68 percent of firms introducing some marketing innovation. However, a much smaller share of firms introduced organizational changes (30 percent), or logistics and distribution changes (23 percent). The dispersion of innovation in Kenya is high compared with other countries that have implemented similar firms. On product and process innovation, Kenyan firms seem to be more innovative than firms in Brazil, China, Malaysia, and other higher-income economies (Figure 4.14). However, there are some caveats in the comparison of firm innovation across countries, because of the subjective nature of measuring innovation through surveys.

SPOTLIGHT 4

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[77] The ES-IM14 sample is a stratified sample by sector and location. It contains 549 firms, 51 percent of which are in manufacturing, and the remaining in services, mainly in wholesale and retail trade, 34 percent. The size composition includes 17 percent large firms, 33 percent medium firms, 43 percent small firms, and 7 percent micro firms.

Figure 4.14: Kenya does well in product and process innovation *(percent of surveyed firms)*

Percent of firms that introduced product or process innovation in year surveyed

Country	
Kenya	
Philippines	
Israel	
Malaysia	
Brazil	
China	
Uruguay	
South Africa	
Colombia	
Russia	
Egypt	
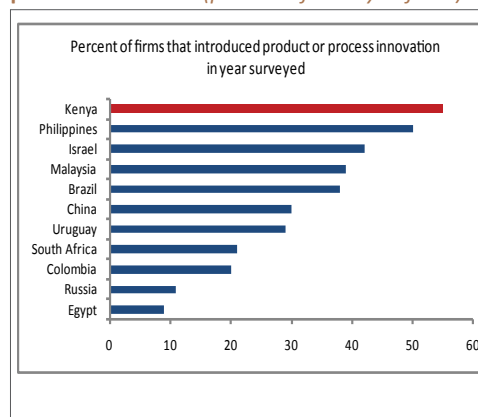
Source: Elaborated from World Bank Enterprise Survey data 2014.

Although these rates of innovation provide a subjective indication of whether substantial changes have been implemented, it is important to understand how substantial the changes are. One indicator of more radical innovation is whether the new products introduced are new to the national market. Although this is also subjective and relies on the interviewee's knowledge of the local market, it provides some weighting for the importance of innovation. In Kenya, only 12 percent of firms introduced such, more radical, innovations.

It seems the high innovation rates are likely to reflect small incremental innovations that are distant from the technological frontier. Another metric to understand the importance of the innovation on the firm is to analyze the impact of innovation on sales and performance more generally. For the median innovative firm, 20 percent of sales are new products and only

17 percent of firms' sales from new products exceed 20 percent of sales in a given year.

The innovative efforts lack enough knowledge accumulation to have a positive impact on productivity growth. The pattern of small incremental innovation can also be observed by analyzing the links between these innovations and productivity. The positive impact of innovation on productivity growth is a well-established empirical fact for OECD countries. An econometric estimation on the innovation premium on productivity[78] for the different types of innovation suggests that there are no statistically significant productivity differences between innovators and non-innovators, except for organizational innovations where innovators appear to be more productive.

Small Investments in Innovation Activities

Innovation outcomes depend on the size of the innovation investments and activities that the firms carry out and that determine the extent of knowledge accumulation. Table 4.2 provides a summary of innovation activities. Around 26 percent of firms in the sample carry out R&D, mostly intramural (within the firm) R&D, with 36 percent of the innovation related to worker training and 47 percent related to the purchase of new equipment for innovation. However, the intensity

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[78]   Labor productivity measures (value added per worker) and TFP measures based on a Cobb-Douglas function were regressed on a set of sector dummies, firm size dummies, and a dummy for the type of innovation. All coefficients for all specifications, except organization innovation, are not statistically different from zero.

Table 4.2. Innovation Activities, 2010–12

Measure	R&D	R&D intramural[a]	R&D extramural[b]	Training	Equipment	Purchase license, patents	Apply patent	Apply trademark
Share of firms	26%	25	5.9	36.3	47	3.3 %	5.2 %	9.3
Share of expenditure in total sales	0.5 %			0.7	3.8	0.4 %		

Source: Elaborated from World Bank Enterprise Survey data 2014.
a. R&D activities within the firm.
b. R&D activities contracted outside the firm.

of these investments is very small, especially the investments in R&D and training. R&D represents only half a percent of sales (more than 80 percent of all R&D expenditure in the sample is carried out by only one firm), training represents 0.7 percent, and new equipment represents 3.78 percent.

In addition, there is little purchase of licenses, patents, and trademarks, with only 3.3 percent of firms buying this form of technology transfer and representing only 0.4 percent of sales. Applications for patents and trademarks are small, although in line with countries of similar income per capita given the lack of innovation capabilities.

In global terms, Kenya's innovation activity—measured through actual investment in innovation rather than self-reporting—is less impressive. The share of firms spending on intramural R&D in Kenya is 40 percent lower than in Egypt or Ghana, and less than half of the share in South Africa (Figure 4.15). In addition, a relatively lower share of Kenyan firms acquire machinery, equipment, and software, and the same conclusion holds for spending on training.

In general, the data suggest a lack of investment in accumulating knowledge via innovative effort to converge to the technological frontier. This finding is also clear from the sources of information for innovation in figure 4.16, where in most

Figure 4.15: Kenya is not spending enough on research and development
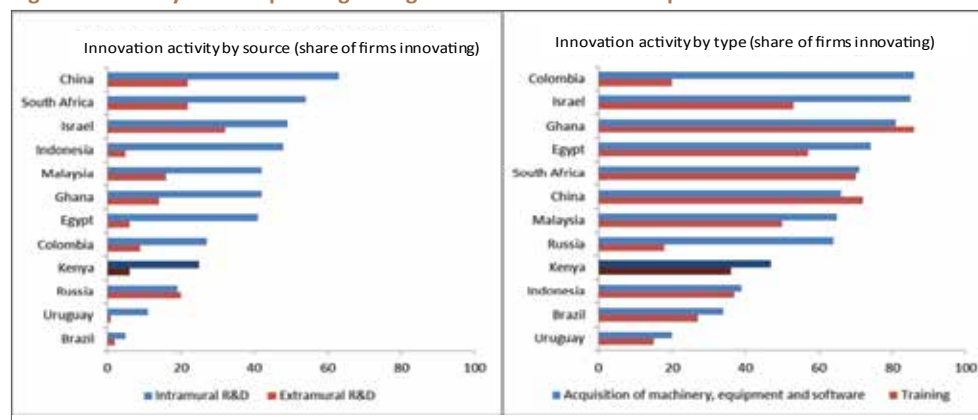
Sources: World Bank Enterprise Survey 2014 data; UNESCO 2014.

SPOTLIGHT 4

Figure 4.16: Kenya's main source of information for innovation is customer feedback and the internet
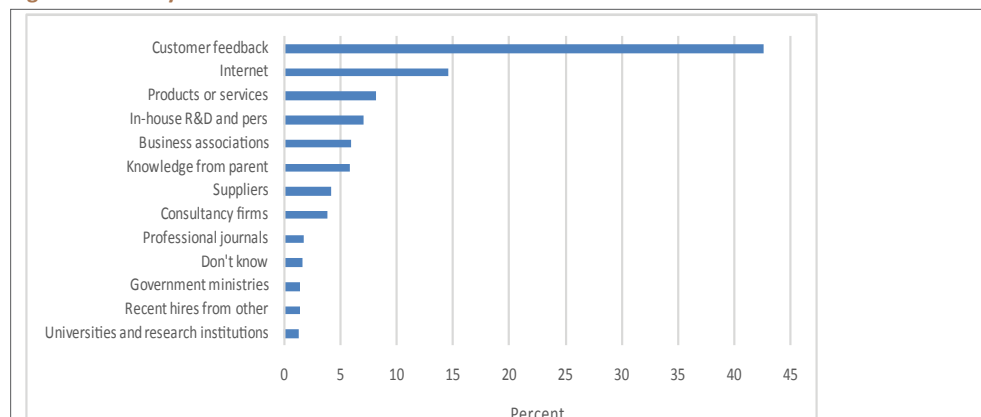
Source: Elaborated from World Bank Enterprise Survey data 2014.

cases information comes from clients or products and services, and very little is in-house. Internal sources of innovation within-firm or within-group is the largest source of information and innovation for countries such as Ghana, South Africa, and most emerging markets. Only about 15 percent of Kenyan firms rely on in-house research and development. This situation suggests the need for further development of internal capabilities.

Lack of Complementary Factors Is Critical

Managerial and technical capacity is often a bottleneck to investing in innovation; Kenya's endowment in this sense is relatively high. Innovation requires complementary technical and managerial capacity to absorb, implement, and manage product or process improvements. Most of the productivity differences observed in Kenya are between firms that implement organizational innovations and those that do not implement such innovations. This is consistent with recent evidence emphasizing the importance of managerial and organizational

capabilities for improving productivity. Kenya's managerial capacity is high, relative to its level of development, although there is still catching up to do. Figure 4.17 shows the management scores of medium and large firms in Kenya benchmarked with other countries using the index developed by Bloom and Van Reene (2010) to measure the quality of management. Although the score for Kenya is higher than for other African countries, management quality is still far from the "managerial" frontier represented by management practices in OECD countries such as Japan or the United States, and more importantly

Figure 4.17: Kenya has solid managerial capacity but still below the frontier
(index and income per capita)
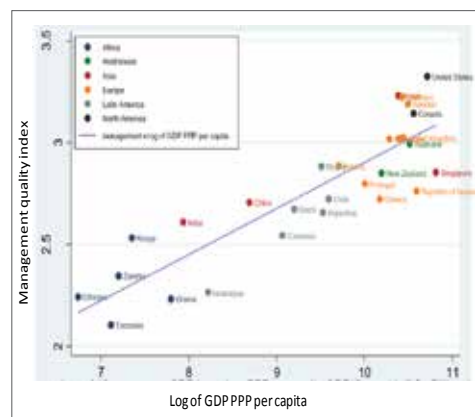
Source: Graph supplied by Renata Lemos.

below the managerial capabilities in most middle-income and emerging markets.

Overall, although innovation is widespread among Kenyan firms, the size and depth of these innovations appear to be limited and significantly constrained by lack of investments in internal capabilities and, to some extent, lack of management quality. Investments in improving internal capabilities, especially around management and organization, are critical to facilitate technological innovations that can substantially increase productivity and employment in the country.

SPOTLIGHT 4

NON-RENEWABLE RESOURCES FOR SUSTAINABLE DEVELOPMENT

Introduction

Kenya has high hopes to become an oil and gas exporter in a few years' time. A series of commercial oil explorations in northern Kenya have boosted prospects for Kenya's upstream oil industry.[79] Discovered reserves estimated at 600 million barrels were announced in February 2014, and follow-up explorations and appraisals have further de-risked the discovered resources.[80] In addition, several companies have acquired blocks and are drilling (or planning to drill) onshore and offshore. It will take several years before Kenya's oil and gas reserves have been assessed.[81] The current slump in oil prices does not accelerate this process; nevertheless, the authorities are already considering the policy and development implications of this discovery.

If used wisely, oil and possibly gas revenues can contribute to Kenya's transformation, and in particular to bridge the saving and investment gap. Natural resources have been discovered at a more or less appropriate stage of Kenya's development cycle: not too early as in many other Sub-Saharan African economies and not too late. The previous chapters observe that Kenya's savings is low, and at the same time the economy is facing infrastructure gaps that hamper competitiveness, especially of manufacturing firms. Thus, the natural resource revenues can help finance these gaps. This chapter presents scenarios on the fiscal and economic impacts of resource discoveries. Fiscal revenue projections are based on rule-of-thumb calculations using the production and tax profiles from a set of benchmark countries to estimate annual production and revenue.[82] Fiscal analysis compares the consequences of different spending patterns by using a multisector dynamic stochastic general equilibrium (DSGE) model tailored to the specifics of the Kenyan economy.

Resource discovery is not a guarantee for development, and whether it becomes a curse or a blessing depends primarily on the decisions taken related to three policy questions. The first decision to be made is on how much should be spent or saved, and the suggestion here is that a permanent income–based approach would best suit the Kenyan context. The consequent decision to be made is where to allocate the resources. This chapter argues for increasing the share of health expenditure in total development spending while maintaining the share of spending on education. As to how to implement these, an effective fiscal rule, accompanied by transparent decision making and a sovereign wealth fund with saving and stabilization objectives, would maximize the impact of resource discoveries on Kenya's development.

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[79] While Kenya also has significant non-hydrocarbon minerals, the analysis in the chapter focuses exclusively on recent developments in hydrocarbon sector and their economic implications.

[80] See the press release by Tullow Oil Inc., at http://www.tullowoil.com/index.asp?pageid=137&category=&year=Latest&month=&tags=84&newsid=878.

[81] Detailed information on field development, production plans, and fiscal revenue estimates are not yet available.

[82] These values are projected using production and capital cost aggregates by PWC (2015) and the time profile of the Jubilee field in Ghana, U.S. Energy Information Administration oil price projections, and the average of average effective tax rate profiles from comparable low- and middle-income countries as reported by IMF (2012).

Making the right decisions is only one part of the problem; managing expectations and resisting the political economy pressures are equally challenging. Benefits from natural resource wealth may not be realized immediately. Thus, the initial euphoria and excitement about the new found wealth could easily transform into resentment, suspicion, and public anger over a short time period. This is more likely when expectations are not managed, transparency is not established, and information is scarce. It is therefore extremely important for the government to establish a communication strategy to manage the expectations by spreading the information in a timely and reliable manner.

From Oil Reserves to Oil Revenues

In global terms, Kenya's discovered resources are relatively small. The country's 600 million barrel stock puts Kenya in the 47th position worldwide in terms of oil reserves, just ahead of Uzbekistan. This quantity constitutes a small fraction of the reserves in resource rich African countries like Algeria, Angola, Libya, and Nigeria, in absolute and per capita amounts (Figure 5.1). By comparison, Saudi Arabia produced about 11.5 million barrels of oil per day in 2012. At that speed of production, Kenya's reserves would be depleted in only 52 days. In practice, however, the production in Kenya will be spread over a

broader time frame, which reflects the time required to develop the fields and optimize the costs of production. Hence, based on the current exploration results, oil production will not be substantial and is unlikely to provide a global market niche for Kenya to specialize.

Figure 5.1: Proven oil reserves by region/country, 2013 *(thousand million barrels)*
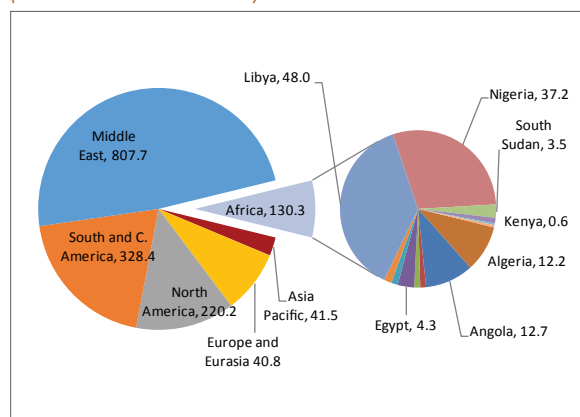
Source: Data from BP Statistical Review of World Energy 2013.

Nevertheless, oil and gas production is expected to have a non-negligible impact, especially on fiscal revenues. Kenya's possible recoverable reserves could reach about 1.4 billion barrels of oil and 1.7 billion barrels oil equivalent of natural gas (PWC 2015). The most recent estimates show that oil production will start in 2020-2022, and reach a plateau of about 77 million barrels a year soon after that (Figure 5.2). Starting in 2032, production will decrease gradually, reflecting

Figure 5.2: Estimates for oil production and fiscal revenues, 2020–75
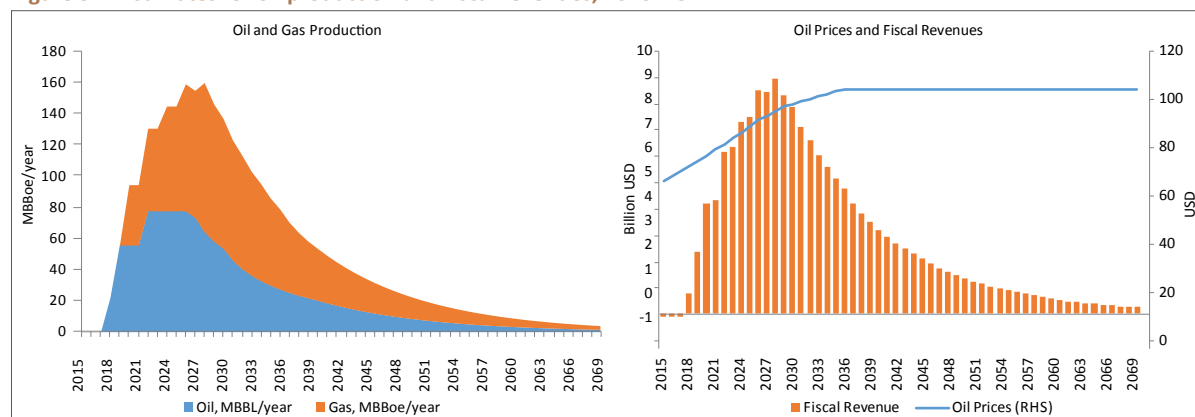
Sources: Authorities; USEIA price projections; World Bank staff calculations.

the maturing of existing fields. In comparison, the production of natural gas is estimated to start in 2025 and peak at 95 million barrels of oil equivalent per year in 2033. Calculating the fiscal revenues associated with these production profiles requires a detailed approach with information on cost profiles and the production agreements between the Government of Kenya and the producing companies. In the absence of such information, rough estimates, using World Bank oil price projections and general industry rules of thumb, show that Kenya's fiscal revenues from oil production are projected to peak at about US$8.9 billion in 2033. This is roughly equivalent to 16 percent of Kenya's 2013 gross domestic product (GDP).

Estimated fiscal revenues can help finance Kenya's infrastructure deficit. The previous chapters explain Kenya's saving gap, which in turn explains the relatively low levels of investment, as well as the weaknesses in terms of physical and human capital. The oil sector, if properly managed, can generate the needed revenue to bridge the infrastructure and skill gaps. As an example, the annual fiscal revenue at peak production under a baseline scenario would be sufficient to cover the total cost of the standard gauge railway from Mombasa to Nairobi that is currently being constructed.

A well-established oil and gas sector has other potential benefits as well. In addition to generating fiscal revenues, the hydrocarbon sector can also catalyze other economic activities in an indirect manner, which may be difficult to quantify at this early stage of development. For instance, the foreign direct investment inflows

could rise even faster than they have in the past couple years, and the infrastructure projects that are needed to establish access to international markets for oil could generate additional jobs for local communities. Moreover, the Government of Kenya has ambitious desires to transform Kenya into an oil and natural gas hub in East Africa by taking advantage of the scale of the oil and natural gas sector and the country's strategic position.

Any forecasts of future oil revenue must be looked at with caution, as oil prices are extremely volatile and unpredictable. Oil prices, and in turn oil production and revenue, tend to fluctuate significantly in short- and long-term time horizons. Figure 5.3 shows the evolution of oil prices between 1987 and 2015 and the associated volatilities. Although in the long term fiscal revenues from oil production in Kenya are expected to have a hump-shape, oil price fluctuations will make fiscal revenue volatile as well. In 2014, oil prices unexpectedly fell by more than half. This sharp drop is a reminder that projections may change significantly, but also that government policies should be isolated from such fluctuations.

Figure 5.3: Oil prices have been particularly volatile since 2000
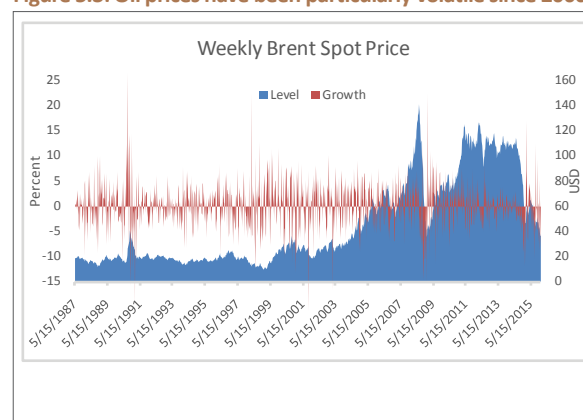
Source: Data from U.S. Energy Information Administration.

From Oil Revenues to Economic Development: What Will Determine If It Is a Blessing or a Curse?

Oil discovery is by no means a guarantee for the economic development of a country. On the contrary, the recent history outside Kenya points to many examples where resource discovery—be it oil, gas, diamonds, or other minerals—has led to economic demise and conflict, or has simply not lived up to its potential. The examples of Angola, the Democratic Republic of Congo, and Malaysia are perfect illustrations of this sad truth, as all three countries started from a similar level of development and oil production back in 1972 (Figure 5.4). The Democratic Republic of Congo and Angola increased oil production by 15 and four times, respectively, between 1972 and 2010, while their GDP per capita was practically the same as it was four decades earlier. In contrast, Malaysia quadrupled its GDP per capita during the same period, while its oil output increased only slightly compared with the oil boom in the other two countries. These examples show that oil is neither necessary nor sufficient for rapid and sustained economic development.

Figure 5.4: Different development trajectories: Angola, Democratic Republic of Congo and Malaysia, 1972–2010
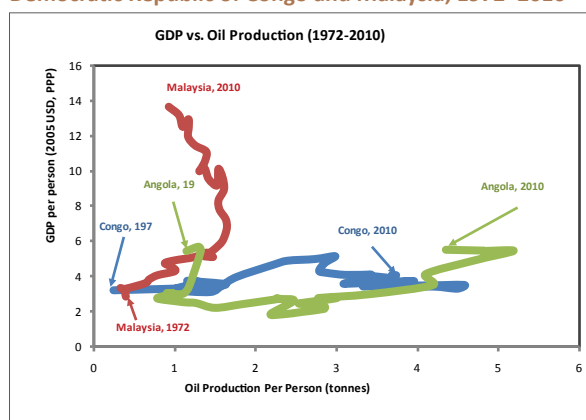
Sources: BP Statistical Review of World Energy; World Bank Word Development Indicators.

Resource revenues may actually harm the national economy if spending escalates too rapidly, because it is volatile, unpredictable, and finite. When oil revenues are injected into the economy directly, or spending from natural resources reflects the same intrinsic characteristics of the natural resource revenues, the economy may suffer short- and long-term consequences. A rapid increase in spending would lead to higher demand for goods and services, which typically translates into a hike in prices of non-tradable items. In parallel, the domestic currency could appreciate in response to high foreign currency inflows in the domestic economy. As a result, the competitiveness of domestic producers diminishes, which also implies long-term losses in potential output, a phenomenon known as Dutch disease. Volatile and unpredictable spending magnifies this impact by diminishing the risk-adjusted returns.

Another key determinant for making resources a blessing is the policy and institutional framework for managing resources. A comprehensive and clear legal framework, institutional structure, transparency mechanisms, and a sovereign wealth fund are suggested as most important for achieving positive outcomes. Managing the oil sector is a complex task that requires a proper legal framework that stimulates investment in the sector, adequate institutional setup, and administrative capacity related to monitoring oil production, collection, and use of oil revenue. Transparency (and oversight) is a critical pillar in the institutional framework, and although it cannot ensure the responsible use of resource revenues, without transparency, abuse is almost certain.[83] One step in this direction is to implement the Extractive Industries Transparency Initiative (EITI) standards.[84] Nineteen African countries,

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[83] Humphreys, Sachs, and Stiglitz (2007).
[84] EITI.org.

including neighboring Mozambique and Tanzania, have already subscribed to the EITI standards. In July 2015, the Kenyan authorities announced that a focal point for the EITI implementations would be established within six months. The authorities planned to adopt a transparent policy and legislative framework for the oil and gas sector, including the adoption of transparent processes of licensing and publication of contracts. Last but not least, having a sovereign wealth fund (SWF) has proven to be a good instrument for managing resource revenue, and such fund(s) may serve a saving or stabilization function. Global experiences illustrate that there are many solutions to the design and management of an SWF. The Kenyan authorities have been drafting an SWF bill since 2014, incorporating a broader policy framework for managing resources.

Improving policy coordination in resource management is crucial for the achievement of the expected outcomes from resource revenues. Policy decisions require careful analysis and deliberation, in particular for countries with multiple tiers of government that share responsibilities over the use of public resources. It is unclear if Kenyan policy makers' current legislative efforts are sufficient and aligned with the best practices for the development impact of natural resources. The Constitution of Kenya, especially articles 69 to 72, provides the broad foundation of obligations that regulate environmental and natural resource management. Some progress has been made to enact the necessary laws to operationalize these principles. For example, a mining law has been submitted to the Parliament and the drafting of legislation related to various resources, such as ore, oil, and gas, is being done. However, much is left to be desired. Legislative efforts are typically done in an isolated manner, whereas some of the policy issues, such as how to share resource

revenue among the levels of government, necessitate unified solutions. In addition, legislation has been proposed (for example, on mining) in the absence of a clear policy for the sector. Various policy proposals on critical issues, such as the one on revenue sharing, are being presented from different parties in the form of legislative proposals and driven by special interests, which makes consensus difficult. Legislative proposals are being drafted (for example, on the SWF) without in-depth analysis to guide the proposed legislative solutions. Unless the various stakeholders, in particular the central government, county governments, and Parliament, start making coordinated and informed decisions on the management of natural resources, the oil discoveries are at risk to become a curse rather than a blessing for the Kenyan people. Finally, inadequate attention is being paid to managing the expectations and needs of the local communities. Because oil happened to be discovered in Kenya's poorest and conflict-prone region, addressing the economic and social needs of the people in those areas is critical for avoiding unnecessary conflict. Kenya can learn from the mistakes of other oil producing countries in Africa and elsewhere to avoid falling into the same trap.

In the case of Kenya, the socioeconomic characteristics of Turkana County, where oil reserves were found, present new opportunities. Turkana is one of the poorest parts of Kenya; it has the highest poverty rate, with 94 percent of the population living under the poverty line (Kenya Open Data 2009). The territory of Turkana is arid with a difficult climate and terrain, and most of the population is nomad pastoralists whose livelihood depends on moving around in search of good pastures and water for their livestock. Three-quarters of Turkana's population are thought to depend on humanitarian and

food aid. Thus, the oil and gas sector provides an opportunity to revamp the Turkana economy and achieve significant development outcomes.

Traditionally, violent competition for scarce resources, such as water and arable land, has been common among groups in Turkana and across borders. The theft of livestock, known as raiding, is a traditional activity among the groups and in recent years it has become more violent and destructive. The proliferation of small arms in the area has been identified as a source of increased violence among pastoralist communities. The boundaries between Turkana and West Pokot counties have been particularly volatile and the recent discovery of oil in the border areas contested by these two counties has added to the controversy.

The devolution process that begun in 2013 increased Turkana county's fiscal resources as well as its participation in national politics. A previously sidelined county has now taken national notoriety, and the discovery of oil (and water) resources contributed to that process. In this context, managing expectations around the oil industry and ensuring an equitable distribution of the oil revenues are seen as critical factors in ensuring conflict-free oil development in Turkana.

A national communication strategy that helps to manage expectations, ensure transparency, and publicize new opportunities is warranted. It is extremely important to create clarity in the public's mind on how natural resources are being managed and how benefits are being allocated across the constituencies. In the case of Tanzania, Zeufack and Woodroffe (2013) suggested a communication strategy that informs the public about how the extractive industry in question works; what skills, goods, and services will be needed in developing the industry; and what support for relevant entrepreneurial activity,

financial or otherwise, would be made available. A similar approach could play an important role in preventing any potential conflict among various parties in Kenya.

So, is oil a curse or a blessing? The answer lies in the policies chosen. Whether Kenya's oil discovery will contribute to building a Kenyan economic miracle depends primarily on the policy decisions that will be taken on the management of the oil sector and oil revenue. Fiscal policy will play a particularly important role in ensuring effective and efficient use of resources as well as in minimizing the downside risks to the economy.

Translating the finite and volatile oil revenues into development outcomes will depend on how the Kenyan government responds to three questions related to the management of its oil revenue. As oil starts to flow from the ground and oil revenue begins to pour in, the Government of Kenya will have to decide on the following:

1. How much should the government spend of the oil revenues and how much should it save?

2. How should policy makers allocate the additional spending that is financed by resource revenues?

3. What institutional mechanisms to be used to implement the answers to the first two questions?

In principle, the answers to these questions should incorporate (i) the particular characteristics of the oil sector in the country, such as its size and the dynamic characteristics of the resource envelope; (ii) the economic and social returns associated with public expenditure; and (iii) the absorptive capacity constraints of the implementing agencies.

To Save or to Spend?

The decision of whether to save or spend the natural resource revenues is not only a moral problem—how much should current versus future generations spend—but also an economic and administrative efficiency issue. As in many economic decision making problems, optimal levels of savings and spending are determined by wishes and constraints. In the case of revenues from nonrenewable natural resources like oil, relying only on wishes would lead to a quick depletion of the natural assets without creating alternative income-generating processes, and create unintended negative consequences for the economy. Similarly, considering only on the constraints would cause inefficient allocation of resources and lost opportunities. Therefore, it is important to emphasize that saving is not only a moral obligation, but a condition determined by country-specific factors that helps to maximize the welfare of the constituents.

On the one hand, the need for spending is more pronounced in low- and middle-income countries with insufficient provision of public services. There is no doubt that public investments are essential for stimulating growth in low-income countries. For example, Eden and Kraay (2014) find that an extra dollar of public investment raises output by 1.5 dollars in a sample of 39 low-income countries. These results imply that returns on domestic physical assets could be higher than investing in financial assets abroad. In addition, productive investments raise the economy's growth potential, and hence benefit future generations as well. The issues raised by these arguments constitute the "wishes" part of the decision-making problem; however, several counterarguments put limits on the effective implementation of these wishes.

On the other hand, low- and middle-income countries also face tighter constraints against effective implementation of infrastructure spending. The returns to domestic investments are likely to decrease fast in countries with weak governance and low absorption capacity. Many projects that can be financed with resource revenues would require domestically produced inputs, both goods and labor. But the countries generally are not capable of responding to the rapid build-up of demand, creating supply bottlenecks in the economy. Therefore, an immediate boost in infrastructure spending is not necessarily optimal. The optimal level of spending from resource revenues is country-specific and is determined primarily by the infrastructure gap in the economy and the efficiency of public investment expenditures.

Despite the recent effort to scale up investments, Kenya's gap in physical infrastructure remains wide and is one of the key bottlenecks to the ambitious growth plans outlined in the Vision 2030. These gaps are particularly large in transportation, energy, and water infrastructures. Kenya produces less than a tenth of the electricity produced in middle-income countries on a per capita basis. Similarly, access to improved water sources in Kenya is lower than in any of the peer countries apart from Ethiopia. The road density in Kenya is far lower than in any of the richer countries in the peer group. The Government of Kenya has recently initiated aggressive infrastructure projects to address some of these gaps. The Lamu Port and Lamu-Southern Sudan-Ethiopia Transport Corridor and Standard Gauge Railway projects, when finished, could be important contributions in this regard. One aspect of infrastructure where Kenya has done well is telecommunications. Mobile phone penetration is high and, although lower than in

the richer peer countries, Kenyan citizens use mobile phones for payments and even saving, which is not the case in most other countries.

The quality of the country's human capital is mixed: improvements in education in recent years have closed the gap with peer countries, but health outcomes remain weak. The secondary school enrollment ratio in Kenya is lower than the middle-income country average and the ratio in the Arab Republic of Egypt, but the margins are relatively small. However, the gaps in health conditions are significant, as indicated by the near 10 year difference between the life expectancies in Kenya and middle-income countries. Overall, addressing these gaps by undertaking further public investments would be required to boost growth in the non-resource sectors.

Vision 2030 and the Second Medium-Term Plan (MTP-2) embrace an aggressive infrastructure investment strategy, but not all investment contributes to accumulation of public capital. Absorptive capacity constraints, which are already visible at the current levels of public investment, limit the economic impact of public investments. Between 2009/10 and 2011/12, the average budget execution rate for energy, infrastructure,

and information and communications technology projects was 82 percent, and for environmental and water projects about 80 percent. In comparison, budget execution in sectors with a large current spending component was higher. For education, for example, it reached about 95 percent. Another concern about scaling up public investments too rapidly is the efficiency of project selection and management. Dabla-Norris et al. (2010) provide an index of public investment management efficiency for a sample of 71 low- and middle-income countries (Figure 5.5). Kenya performs poorly on most aspects of public investment management, project management being the notable exception.

Consequently, an increase in public investments should be accompanied by capacity enhancements. Ideally, a spending plan should be in place even before oil revenue starts to flow. Such a plan would take into consideration time-varying revenue projections, public investment gap, and implementation constraints. The next section presents simulation exercises that compare alternative policy scenarios for savings and investment, and discusses the macro-fiscal outcomes in each case.

Figure 5.5: Public investment management efficiency index and sub-indexes *(Selection from a sample of 71)*
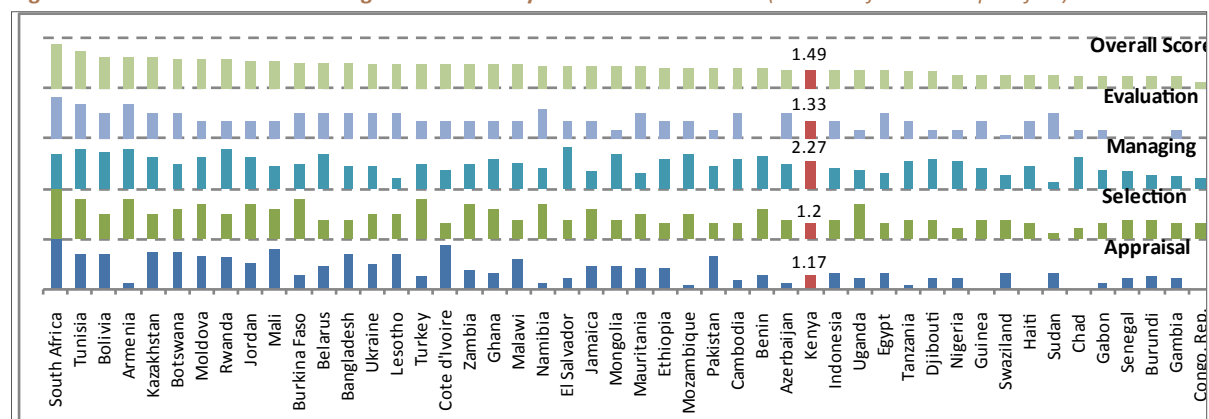
Source: Dabla-Norris et al. 2010.

Alternative Approaches to Scale Up Public Investments

It is important to compare the alternative saving and spending approaches by fully accounting for their implications. This section shows how alternative saving and spending decisions would affect the Kenyan economy through different channels in the long term. A DSGE framework is tailored and calibrated to reflect the Kenyan economy in 2015.[85] Public investment expenditures are defined broadly to include all productive public expenditures. These include infrastructure expenditures as well as social spending with direct impact on human capital. In the baseline, when public investment expenditures are scaled up using the resource revenues, all these components are scaled up proportionately. The results show the effects on public capital accumulation, non-resource GDP growth, sector composition of the economy, public debt stock, and savings in the wealth fund.

The simulations compare four alternative expenditure paths by holding fixed the composition of investments. To cover a range of possible fiscal policy options with different degrees of strategic decision making, the simulations for Kenya compare four alternative approaches (see box 5.1 on the formal definition and spending simulations for each approach). In all cases, the composition of investments is fixed at the levels given by the latest available data; however, the scale of investments is adjusted accordingly. These approaches are the following:

i. Spend-as-you-go (SAYG). This approach presents the least strategic policy stance. In this case, the entire flow of resource revenues is spent on additional public investment projects as the revenues become available.

ii. Permanent income hypothesis (PIH). This approach denotes a sustainable spending path that allocates the spending evenly over the time. Public investments are scaled up by an amount equal to the permanent income annuity implied by the present value of resource wealth.

iii. Bird-in-hand (BIH). This approach represents the most stringent spending stream. All revenues from the oil sector are accumulated in a sovereign wealth fund that invests abroad. Only the interest earnings from this fund are used to scale up public investments.

iv. Moderate frontloading (MF). This approach presents a case where public investments are scaled up rapidly in the beginning of the simulations. In principle, neither the flow nor the stock of the additional spending stream is linked to the resource wealth under this approach. However, in the long term, the amount that is used for additional public investments converges to the permanent income annuity to ensure sustainability.

Formal definitions of these approaches, and the corresponding spending simulations, are discussed in box 5.1.

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[85] The simulations described here do not provide forecasts for macroeconomic variables in the future; but show the marginal impacts of different spending trajectories on these forecasts. For more information on the model specifics, see appendix B and Levine, Melina, and Onder (2015).

Box 5.1: Alternative approaches to scaling up public investments

The simulation exercise in this section considers four approaches that define a wide range of policy stances regarding saving or spending of the resource revenues.

Intuitively, the permanent income (PIH) and bird-in-hand (BIH) approaches suggest spending only the financial returns on existing assets, and not the assets themselves. The main difference between the two approaches arises in the definition of assets. Whereas the PIH approach considers assets that are under the ground (oil and gas reserves) and above the ground (savings from past resource revenues), the BIH approach focuses only on the assets above the ground. In comparison, in the absence of anchoring the long-term target, the moderate frontloading (MF) approach would not be linked to the resource wealth.

Formal definitions of these approaches are listed below to provide a benchmark calculation for policy making in the future.

Spend-as-you-go (SAYG) approach: all oil and gas revenues are spent as they become available. Let E_t^{SAYG} be the spending from resource revenues and R_t be the oil revenues in year t, then expenditures are given by the following:

$$E_t^{SAYG} = R_t$$

Bird in hand (BIH) approach: all resource revenues are saved, and expenditures are equal to interest earnings on these savings. Let r be the interest rate on investments abroad and S_{t-1} be the resource revenue savings, then:

$$E_t^{BIH} = rS_{t-1}$$

Permanent income hypothesis (PIH) approach: permanent income annuity incorporates current and forward-looking information on revenues when assigning a steady stream of expenditures:

$$\bar{E}_t^{PIH} = rS_{t-1} + r\sum_{i=t}^{\infty}(1+r)^{t-i}R_i$$

where R_t is resource revenues in time t; S_{t-1} is the welfare fund balance in year $t-1$, and r is the real interest rate on welfare fund assets.

Moderate frontloading (MF) approach: this approach is mathematically characterized by a second-order delay function, where parameter values assign the speed of adjustment (k_1) to the long-term target and the degree of frontloading (k_2). Formally:

$$\frac{\Delta E_t^{MF}}{E_t^{MF}} = \bar{E}_t^{PIH}[1 + \exp(-k_1 t) - 2\exp(-k_2 t)]$$

where the PIH annuity is used as the long-term target in this case. The degree of frontloading could be chosen to maximize an objective function, such as the discounted sum of non-resource gross domestic product; however, this dynamic optimization problem is left for a future study.

At the beginning of a resource boom, the PIH leads to a deficit that needs to be financed externally. However, once the production of natural resources comes to an end, PIH and BIH imply an equivalent annuity that is equal to the returns on financial assets. Using the baseline revenue projections for Kenya from figure B5.1.1, and assuming a 2.7 percent real interest earnings on savings, annuities under each fiscal rule are calculated and shown in the figure.
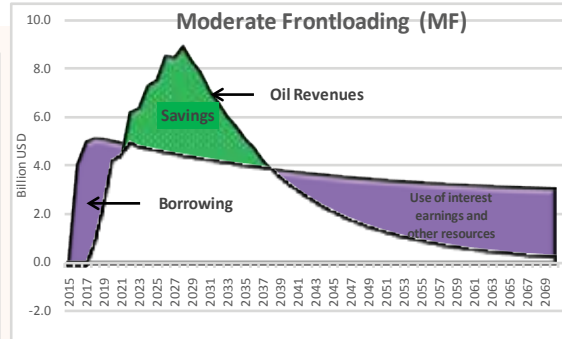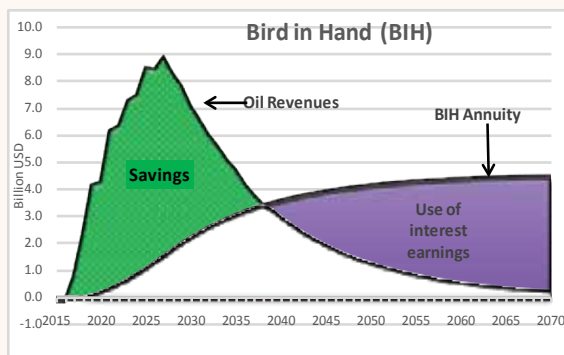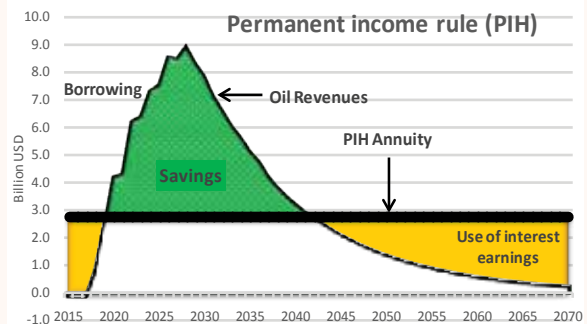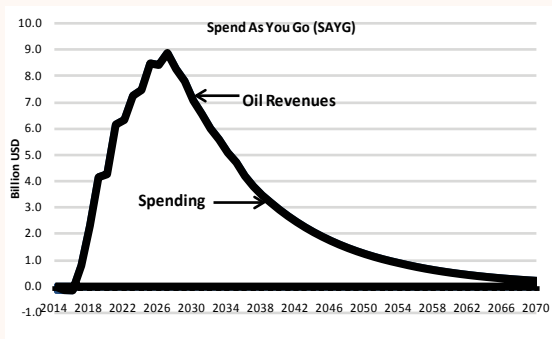
The SAYG approach does not lead to any savings; therefore, transfers to the budget from the resource boom diminish over time, following the resource revenue depletion. Under PIH, the government transfers about $2.7 billion to the fiscal budget annually (black line in panel b). In the short term, this is financed by borrowing from abroad (the first yellow shaded area), as resource revenues are relatively low at this stage. In the medium term, the resource revenues pick up and reach a peak of about $9 billion. The difference between revenues and transfers is saved in a sovereign wealth fund (green shaded area). Finally, as the revenues gradually die out, interest earnings on the welfare fund assets are used to supplement the transfers to the budget (second yellow shaded area). Under BIH, transfers to the fiscal budget are scaled up over time as resource revenues are saved in the sovereign wealth fund and interest earnings on wealth fund assets increase (black curve line in panel c). Until the early 2040s, resource revenues exceed the transfers; therefore, reserves continue to build up. Later in the projection horizon, accumulation comes to a halt and the BIH annuity reaches a plateau. Finally, the "big push" under the MF approach leads to investments that are financed by borrowings in the short term (first yellow-shaded area). In the medium term, resource revenues exceed spending; however, the difference is smaller than with PIH or BIH. Moreover, the spending converges to the PIH annuity in the long-term; however, spending remains above the PIH. Therefore, stabilization fund savings would be a lot smaller than the levels with PIH or BIH.

All the approaches assume an increase in public investments; the difference between them lies in the timing and scale of the increases. Figure 5.6 shows the evolution of investments under each approach using the baseline oil price projections. The SAYG approach mimics the dynamics of oil revenues illustrated by the inverted-U shape in figure 5.6, panel b; it thus leads to an aggressive scaling-up of public investment expenditures toward the middle of the projection horizon. In about two decades, this approach reaches a maximum, more than doubling public investment expenditures compared with the initial level. In comparison, the MF and PIH approaches bring about a permanent and relatively moderate rise at the outset. The MF approach increases public investment expenditures to a maximum of 100 percent relative to the initial level before it gradually approaches about 50 percent; the steady increase implied by the PIH. The BIH approach gradually scales up public investments, reaching SAYG only in the mid-2040s when the expenditures under the latter approach are reduced rapidly.

However, absorptive capacity constraints impose a "speed limit" on scaling up public investments in an efficient manner. The simulations show that higher spending does not automatically translate into a proportionate increase in public capital. In the short term, a rapid scaling-up under the MF approach leads to significant losses in average infrastructure efficiency. However, the loss is significantly larger under the SAYG approach. As a result, although the SAYG spends significantly more, the two approaches lead to similar levels of public capital accumulation (about 60 percent greater than the initial equilibrium) by the mid-2050s. This shows that the additional spending under the SAYG is wasted.

Non-resource GDP responds to higher public expenditure levels; yet, this impact is not sustainable under the SAYG approach. Although the speed limit reduces public capital accumulation under the SAYG approach, the large scaling-up of investments still has a significant medium-term impact on non-resource GDP. At its peak, non-resource GDP is about 13 percent greater than its initial equilibrium value. This is partially because higher expenditures not only increase the infrastructure investments, but also build up more physical and human capital, which do not suffer from absorptive capacity constraints. However, this impact is not sustainable, because the resource revenues are depleted toward the end of the projection horizon. In comparison, steady spending under the PIH and MF approaches brings the non-resource GDP close to or even higher than the SAYG value in the long term, with the MF exceeding it by more than 5 percentage points. The BIH approach, by contrast, keeps the non-oil GDP close to its initial levels for a long time before the interest earnings become large enough to have a significant impact on non-resource GDP, which occurs only around three decades after the revenue starts to flow.

The sector composition of the GDP shifts significantly under the different expenditure policies. All the approaches, apart from SAYG, lead to a gradual and relatively balanced expansion of non-resource GDP over the projection horizon. In contrast, the SAYG approach leads to more prominent Dutch disease–like symptoms. Under the MF and PIH approaches, the tradable and non-tradable sectors grow at a relatively stable rate. For the BIH approach, the growth rates in both sectors are relatively back-loaded, but they are balanced across sectors. In contrast, the SAYG approach leads to a rapid expansion of the

non-tradable sector early in the projections (up to 12 percentage points higher than the initial equilibrium), which is sustained for a prolonged period of time. The expansion of the tradable sector comes in the second half of the projection horizon, and is relatively short-lived. These differences in the sector compositions can be traced back to Dutch disease symptoms in the economy. The rapid escalation of expenditures under the SAYG approach leads to a significant and sustained appreciation of the domestic currency in the first half of the projection horizon. This leads to an erosion of competitiveness in the tradable sector. Currency appreciations under the PIH and MF approaches, however, are relatively short-lived and limited to the early years.

The PIH and BIH approaches lead to better and more sustainable fiscal outcomes. The simulations evaluate the fiscal implications by comparing asset and liability accumulations under each approach. The lowest debt-to-GDP ratio is generated by the SAYG approach, because there is no debt issuance for financing investments in this case. The debt-to-GDP ratio thus decreases from about 45 percent in the beginning of the projections to 42 percent by 2075. However, there is no accumulation of savings either. In contrast, the MF approach raises public debt the most because of the initial "big push." The debt-to-GDP ratio increases from about 45 percent to close to 60 percent over the projection horizon. At the same time, the oil revenue savings reach about 90 percent of the current GDP. However, the true winners for fiscal sustainability are the more conservative approaches. Under the BIH approach, the debt-to-GDP ratio decreases by about 2 percentage points, and stabilization

fund balances exceed four times the current GDP by 2075. Similarly, the savings under the PIH approach exceeds 3.5 times the GDP. A slightly smaller accumulation compared with the BIH approach reflects the borrowings to finance the initial escalation of public investments.

Overall, the baseline analysis suggests that the permanent income hypothesis approach best suits the characteristics of Kenya's economy. The most relevant criteria for Kenya in deciding on the optimal approach are the impacts on the non-resource economy, efficiency of spending, and sustainability of fiscal outcomes. The simulations show that spending resource revenues as they become available (as in the SAYG approach) are wasteful and incapable of delivering a better result than other approaches in promoting non-resource growth and sustainability in fiscal balances. Moreover, this approach is most likely to trigger Dutch disease symptoms in the medium term. In contrast, saving all the revenues (as in the BIH approach) is too stringent. Although this approach helps to build large quantities of fiscal buffers, it falls short of boosting the non-resource economy with much needed investments in infrastructure, education, and health. In comparison, the PIH and MF approaches facilitate non-resource growth; however, the PIH approach performs much better in fiscal outcomes. As the degree of front-loading increases beyond a certain threshold, absorptive capacity constraints limit the effectiveness of the MF approach just like in the case of the SAYG approach. Therefore, any attempt to frontload the investments should consider the PIH approach as a benchmark, and not deviate too far from it, to minimize waste.

Figure 5.6: Alternative expenditure scenarios
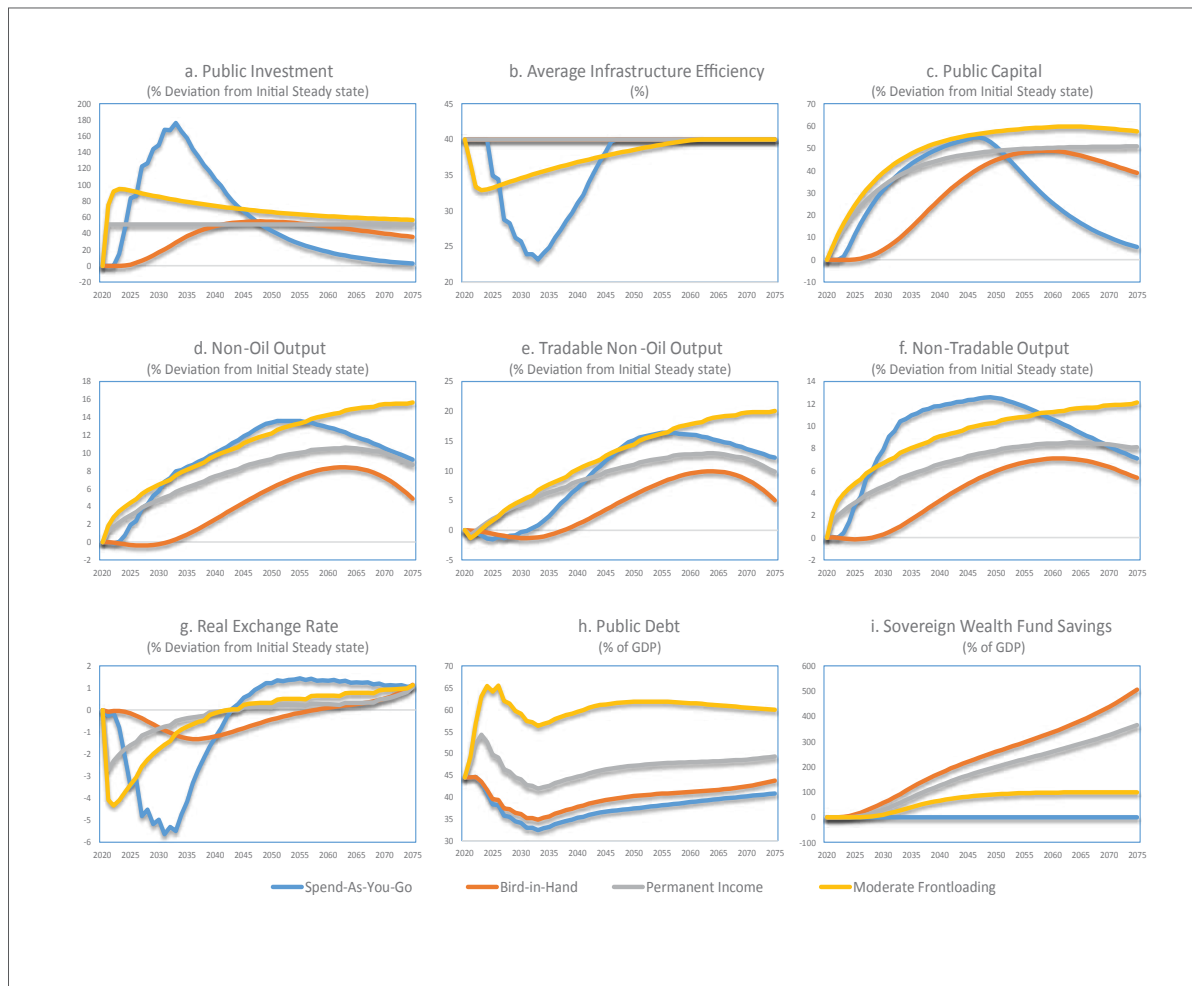
Source: Levine, Melina, and Onder 2015.
Note: SS = initial steady state. Infrastructure efficiency is assigned by a parameter in production function that is based on the ranking in figure 5.5.

Lower oil prices weaken the outcomes of the MF approach, that is, they favor less frontloading. A low oil price scenario for the simulations leads to a stronger separation between alternative approaches. A reduction in long-term oil price depresses spending under all the approaches except the MF approach. This is mainly because the MF approach is interpreted as commitment to a plan that is unlinked from variations in resource revenues. The balanced outcomes under the PIH and BIH approaches are also reinforced against the SAYG approach with adverse oil prices. Overall, the absorptive capacity constraints continue to restrict the impact of the SAYG approach, albeit to

a smaller degree in comparison with the baseline oil price scenario. The difference between long-term impacts on the non-resource GDP between the SAYG and PIH approaches remains same; however, it changes sign in favor of the BIH approach with adverse oil prices.

How to Allocate Investment?

The simulations in this section compare alternative compositions of public investments on the basis of their long-term implications. Actual investment paths for education, health, and infrastructure are determined by two forces

that are defined by policy decisions. The first one is the scale effect, which describes the changes in the level of total public investments. The public investment expenditure scenarios described in the previous section determine the magnitude of this effect. The second force is the composition effect, which describes the structure of spending.

What is the optimal composition of spending? To answer this question, the simulations in this section will assume the scale of expenditures as given by the PIH approach. Then, three alternatives to the allocation of spending on infrastructure, education, and health will be compared on the basis of their long-term growth and fiscal implications:

* Aggressive infrastructure-based composition (AIC). This approach keeps the shares of all components in total public investments fixed at their current levels. These shares are approximately the following: 70 percent infrastructure investments, 24 percent education, and 6 percent health. Total public investments are set as implied by the PIH approach; thus, the size and composition of the investments are kept constant throughout the projection horizon.

* Aggressive skill-based composition (ASC). The share of education in public investments is gradually increased from the initial level to about 40 percent at the expense of investments on infrastructure, whereas the share of health is kept constant.

* Balanced composition (BC). The share of health in public investments is gradually increased from the initial level to about 11 percent at the expense of infrastructure, whereas the share of education is kept constant.

For all types of investments, the scale effect dominates the composition effects. In the long term, education and health investments are higher than their initial levels under all three scenarios. Figure 5.7 shows that by the end of projection horizon, investments in education increase from about 2 percent of 2020 GDP to about 3 percent, and health investments increase from about 0.6 percent of 2020 GDP to about 0.8 percent, even when the AIC is chosen. The investments in each category never fall below the initial levels in these simulations, mainly because the additional investments generated by the PIH approach are large enough to compensate any potential losses if an unfavorable composition approach is chosen. This is particularly clear in the case of infrastructure investments: they increase from about 6 percent of GDP in 2020 to about 6.5 percent in the same period if ASC is chosen. Proportionately this increase is small because physical capital depreciates faster than education and health. Gross investments in this case are just large enough to offset the depreciation under the ASC.

The simulations show that the limited scaling-up under the PIH approach saves the AIC from being punished heavily by the absorptive capacity constraint. A rapid scaling-up of public investments does not necessarily mean that public capital is scaled up quickly. Efficiency constraints in public investment projects bind most when infrastructure investments are scaled up rapidly as under the AIC approach. As a result, higher spending in this approach does not necessarily translate into faster capital accumulation if public investments are scaled up more rapidly than what the PIH approach suggests. However, when the PIH is chosen, this is not a problem. Thus, figure 5.7 shows that the gap between the public capital

Figure 5.7: Investment composition scenarios
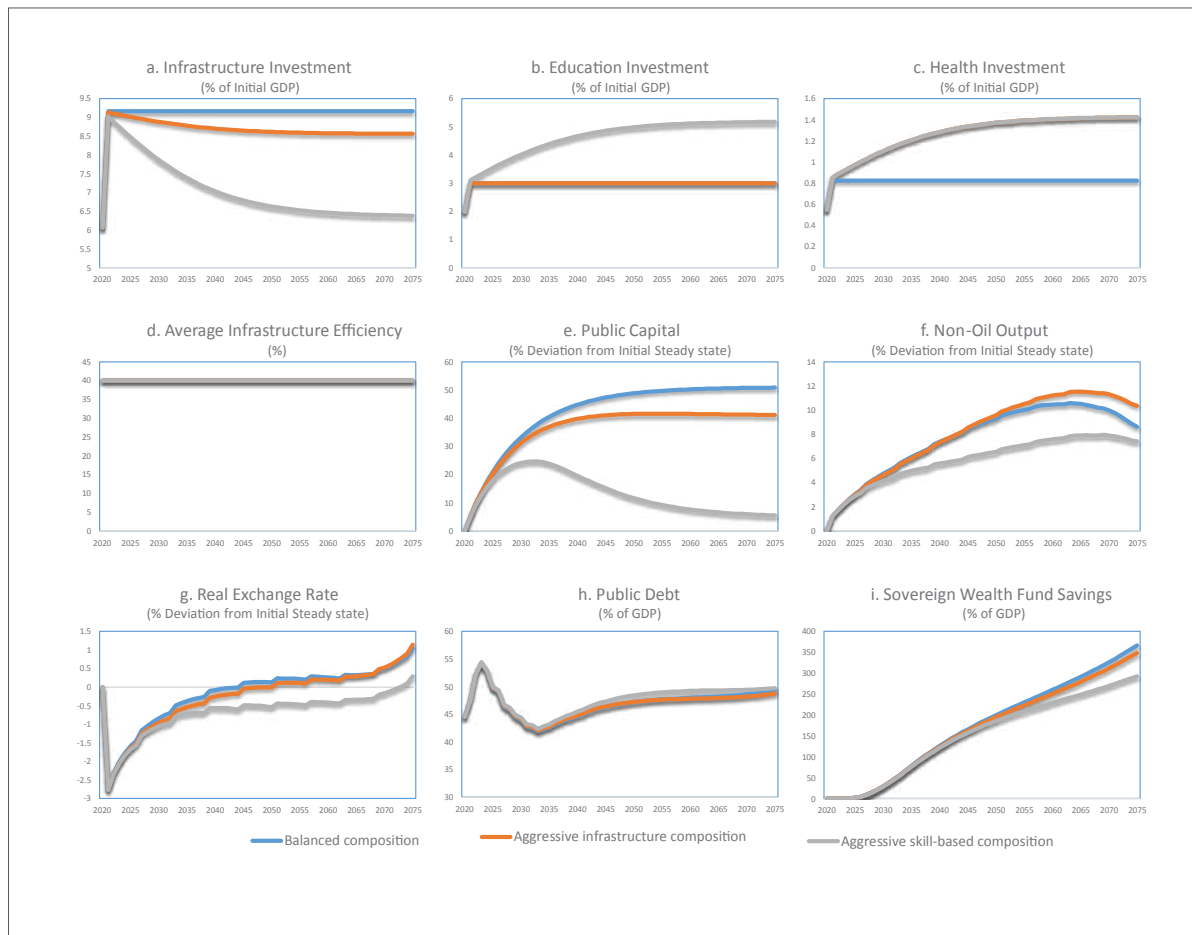
Source: Levine, Melina, and Onder 2015.

levels among the three approaches widens over time. By the end of the projection horizon, the gap between the AIC and BC is relatively small, whereas public capital shrinks toward its initial level under the ASC.

BC public investments translate into higher growth in the non-resource sector. Public capital stock under the BC approach is smaller than under the AIC in the second half of the projections. However, the human capital stock is greater. As a result, non-resource GDP under the BC approach grows more than it would under the AIC approach. This is mainly because infrastructure and human capital complement each other's productivity. With diminishing returns to each factor, this implies that increasing one factor at

the expense of the other one would eventually decrease the total output. The BC approach leads to a more balanced combination of physical and human capital, which is more conducive to long-term growth.

The three composition approaches bring about similar fiscal sustainability outcomes; however, the fiscal buffers are lower in the ASC case. Total public debt as a share of GDP remains similar in all the composition scenarios. In all cases, the public debt-to-GDP ratio climbs from about 45 percent in 2020 to about 55 percent in the medium term, and then stabilizes around 50 percent in the long term. Accumulation of savings in the stabilization fund exhibits significant differences. By the end of the projection horizon,

the BC and AIC approaches lead to savings that are about 350 percent of GDP. The savings under the ASC approach are about 290 percent of GDP. As the GDP under the ASC approach is lower than the ones under other approaches, the gaps in savings-to-GDP ratios imply greater differences in savings in nominal terms.

Overall, a balanced investment composition is expected to deliver the best long-term development results in Kenya. The simulations in this section show that a BC investment approach brings the highest boost to non-resource GDP and leads to favorable fiscal outcomes. This outcome is derived from the economic principle of diminishing returns to investment, which is especially true when there are implementation constraints. Therefore, even if public investments are scaled up rapidly, in the absence of accompanying improvements in public investment efficiency and matching buildup of private and human capital, resources are likely to be wasted.

While aiming for a balanced investment composition over time, it should be acknowledged that the optimal composition might change over time. Demography is one of the main factors that will influence the composition of investment. As Kenya's population pyramid changes over the next few decades, investment decisions will need to take into account the need to provide education to the large cohorts. Then, as these educated youths enter the labor market, the economy will benefit from infrastructure investment that would improve the economy's competitiveness and enable firms to grow and create jobs.

In practice, choosing the right decisions for the expenditure scale and composition are necessary but not sufficient for the optimal use of resources. The simulation exercises for investment composition and scaling-up have abstracted from a critical issue that is important in the actual implementation of these decisions. In the economic model, which defines the behavior of agents with mathematical approximations, Kenyan citizens are assumed to have perfect information about the policy makers' decisions in the short and long term. However, in practice this is rarely the case. Information is usually not available to everyone, and the credibility of the information may be far from perfect. As a result, investors and households may act in an inefficient manner to avoid private costs. These actions may establish a self-fulfilling prophecy where investors and households do not believe in the announced policies, and the announced policies fail to be implemented because investors and households do not believe in them and do not act accordingly. Therefore, the next step in using the natural resources for development is to establish a credible institutional mechanism for making and communicating policy choices on the use of resource revenue.

How to Implement Spending and Allocation Decisions?

Decisions for effective scale and composition of investments should be supported by establishing the right implementation framework to manage expectations. The recent oil discoveries have already led Kenyan citizens to expect immediate improvements in their livelihoods. If managed well, the resource revenues will translate into better livelihoods. However, the magnitude and speed of this translation may not match the expectations. This implies that making the right decisions is necessary but not sufficient to achieve the desired outcomes in Kenya. These decisions also need to be communicated in a convincing manner. Policy makers are advised to develop the right institutional and communications framework for effective management of expectations in government institutions and the public.

Experience has shown that weak institutions and powerful interest groups can lead to adverse development outcomes from resource discoveries. In the absence of strong institutions, interest groups such as rival ethnicities or subnational governments may lead to graft. Once the natural resource revenues start flowing into the economy, the competition between these groups leads to a reduction in the quality of investment in renewable capital such as physical and human capital. This "race to the bottom" would mainly be driven by the motive of appropriating the windfall revenues before other power groups do. This mechanism, known as the "voracity effect," turns the resource discovery into an impoverishing process. The solution to this problem lies in the policy makers' ability to commit to a policy framework that intends to work for all Kenyan citizens, and reduce the concerns regarding the possibility of being left out from the common pool.

The only way out from this bad equilibrium is to strengthen public institutions. The voracity effect deepens when policy makers cannot commit to a publicly known strategy that provides the required transparency and predictability. In this case, the fear of being left out from the benefits of a common pool would become self-fulfilling. As a result, re-establishing the policy credibility would become much more difficult compared with the periods earlier in resource boom.

Establishing fiscal rules early on and strictly committing to targets would serve well to enhance policy credibility. Fiscal rules impose long-lasting constraints on discretionary fiscal actions. These are publicly announced numerical targets, which aim to correct the distorted incentives, limit the voracity effect and other pressures to overspend, show the commitment of the policy makers to an economic and political

agenda, and enhance the credibility of public plans. Policy makers are advised to act swiftly and boldly in establishing clearly defined rules and mechanisms that ensure compliance. Box 5.2 discusses several examples of fiscal rules from other resource rich countries.

International practice has shown that effective fiscal rules have several common characteristics. A useful framework that summarizes the characteristics of fiscal rules is provided by Kopits and Symanksy (1998). The fiscal rules are the following:

* Clarity. The target instrument, coverage of the rule, and institutional responsibilities should be well defined. In the case of using oil revenues to finance development projects in Kenya, the amount of oil revenue transfers to the fiscal budget would provide a good target instrument. The chosen fiscal rule should clearly assign the trajectory of transfers independent of short-term price movements. Moreover, a legal framework that defines the flow of funds between the government agencies, responsibilities, and decision making criteria should be in place.

* Transparency. Operations and actions to ensure compliance should be transparent. The public should be able to understand the rule and decision making criteria and be informed on the flow of funds.

* Adequacy. The fiscal rule should be sufficient to achieve the designated targets. If the fiscal rule aims to provide accumulation of savings and macroeconomic stabilization, then the transfers to the fiscal budget should be disconnected from the short-term price fluctuations. PIH and BIH rules provide this aspect with the condition of no frequent revaluation.

* Consistency. The fiscal rule should be broadly consistent with the designated targets and be in line with other economic policies. Chosen mechanisms should avoid conflicting results between the stabilization and sustainability targets of the fiscal rule. One way of doing this is to anchor the reference oil prices to a slow-moving process, like long-term moving averages (structural prices).

* Simplicity. The rule should be simple, that is, easy to be understood and implemented. Fixed transfer rules, such as BIH and PIH, are relatively simple to communicate. Low-income countries should stay clear of complex rules that require a high degree of statistical and implementation capacity (such as the structural balance rule in Chile; see box 5.2).

* Flexibility. The fiscal rule can carry contingency options to facilitate long-term compliance without causing a breach. In exceptional circumstances, such as the global crisis of 2008, the fiscal rule should enable a certain degree of flexibility to cope with extraordinary hardships. However, this flexibility should be limited to rare events, and the procedures that trigger such escape clauses and terminate them should be clearly defined in advance.

* Enforceability. There should be clear mechanisms to enforce compliance. The designers of the fiscal rule and supporting institutional framework should be particularly careful in creating enforcement mechanisms. Conflict of interest among the agencies, such as the implementing agencies, by design, should be understood and the political and economic pressures should be minimized.

A first step in the right direction for transparency is to implement the EITI standard. Guided by the EITI principles established in 2003, the EITI standard promotes transparency in resource rich countries. To this effect, several requirements must be adhered by the member countries. These are (i) effective oversight by the multi-stakeholder group; (ii) timely publication of EITI reports; (iii) EITI reports that include contextual information about the extractive industries; (iv) production of comprehensive EITI reports that include full government disclosure of extractive industry revenues, and disclosure of all material payments to the government by oil, gas, and mining companies; (v) credible assurance process in applying international standards; (vi) EITI reports that are comprehensible, actively promoted, publicly accessible, and contribute to public debate; and (vii) multi-stakeholder group to take steps to act on lessons learned and review the outcomes and impact of EITI implementation. The Government of Kenya is recommended to become a member of the EITI, and go beyond these requirements to enhance institutional quality.

The other important issue in managing time-varying resource flows is accumulating the savings in a sovereign wealth fund. Resource rich countries typically use specialized funds to offset the difference between oil receipts and transfers to the budget as assigned by the fiscal rule. In the case of a surplus, which typically occurs with high oil prices, the excess revenues are transferred to a sovereign wealth fund to be invested in financial assets abroad. If the revenues fall short of the designated transfer amount, the funds flow in the opposite direction, from the sovereign wealth fund to the fiscal budget. Therefore, the sovereign wealth fund helps to accumulate national savings and isolate the economy from fluctuations in resource revenues by complementing the fiscal rule.

Box 5.2. Fiscal Rule Examples

The following experiences in other countries can serve as benchmarks for planning the institutional framework in Kenya.

Chile's Structural Balance Rule In 2006, Chile's Fiscal Responsibility Law institutionalized one of the most praised fiscal rules in effect today. The framework characterizes a complex set of mechanisms, including transfer rules and automatic stabilizers that enable long-term sustainability and short-term macroeconomic stabilization.

The structural balance rule limits government spending by structural revenues. In the case of natural resource revenues falling short of the target levels (or exceeding them), the differences are compensated by transfers between the two sovereign wealth funds and the fiscal budget. Each year, a minimum of 2 percent of the previous year's gross domestic product (GDP) is transferred to the Pension Reserve Fund, which accumulates national savings to cover long-term pension liabilities. This transfer can be increased by another 0.5 percent if the natural resource revenues exceed the structural target substantially. Any remaining surplus is transferred to the Economic and Social Stabilization Fund. In the case of a fiscal deficit, which may be driven by low growth performance or low resource prices, withdrawals from this fund cover the gap. In general, both funds invest only in financial assets abroad to avoid overheating the economy (World Bank 2014a).

The design and commitment of the Chilean government have turned this practice into a success story. However, implementation of such a complex rule requires strong institutional capacity. To estimate the structural revenues the authorities would need to project the long-term prices of natural resources, interest earnings on financial assets, and the trajectory of potential GDP going forward. In many low-income countries, a simpler rule could prove to be more transparent and implementable.

Norway's Bird-in-Hand
Starting in 2001, Norway's fiscal rule has limited the structural non-oil deficit by an amount equivalent to the real return on resource revenue savings. Accordingly, the revenues net of transfers to the budget are transferred to the Global Government Pension Fund, which serves stabilization and saving purposes by investing in financial assets abroad. As such, the fiscal rule in Norway enables spending to increase gradually without depleting the savings, which are crucial for fiscal sustainability in the long term.

For mature producers that are close to the end of their extraction cycle, the bird-in-hand rule enables a sustainable expenditure path. However, this requires substantial savings to be accumulated before the depletion. In Norway, these savings already exceed 100 percent of GDP. In comparison, in low-income countries with relatively young natural resource industries, the bird-in-hand rule may constrain spending on much-needed public goods in the earlier phases of the extraction cycle.

Kazakhstan's Modified Permanent Income Rule
Kazakhstan's sovereign wealth fund, the National Fund of the Republic of Kazakhstan (NFRK), serves a dual purpose of stabilization of the macro-economy and accumulation of national savings. It was established in 2000, and has been modified several times. The more recent modifications were implemented in 2007 and 2012. Since 2007, the NFRK receives all fiscal revenues from gas, oil, and four metals (chrome, zinc, lead, and copper), and makes disbursements to the budget, as enacted by law.

In 2012, the annual transfer of funds to the budget was changed from the previously fixed amount of US$8 billion to the flexible amount of US$8 billion plus or minus 15 percent (US$6.8 billion to US$9.2 billion), depending on the cyclical position of the economy. In 2012, it was decided that the next three budgets, subject to revision, will receive a transfer of US$9.2 billion, keeping the transfers pegged at the upper end of the range that has been specified.

Timor-Leste's Sustainable Income Rule
Timor-Leste's Petroleum Fund was established in 2005 with an objective of prudently managing the petroleum resources and mitigating the risks to the budget and economy from fluctuations in oil revenues. For this purpose, the Petroleum Fund collects all oil revenues, which constitute more than 70 percent of the economy (McKechnie 2013).

Transfers from the Petroleum Fund to the fiscal budget are determined by a modified permanent income rule called Estimated Sustainable Income. Accordingly, each year the Government of Timor-Leste calculates the country's petroleum wealth using conservative long-term oil price projections, existing Petroleum Fund savings, and the discounted sum of future productions. A maximum of 3 percent of this petroleum wealth is then transferred to the fiscal budget annually. Exceptions that involve transfers exceeding this ceiling are subject to parliamentary approval.

Although this rule has been applied successfully in Timor-Leste, it is sensitive to projection biases. Long-term averaging of the prices helps smooth the expenditures by preventing sharp movements. Similarly, limiting the expenditures to a fraction of total oil wealth provides a sustainable approach. However, frequent updates in long-term oil price projections based on current market data could also make public expenditures pro-cyclical. The Government of Timor-Leste has been careful by taking a conservative approach so far. In addition, transparency of the fund, clear definition of responsibilities, and effective management by the Central Bank have led independent evaluators to consider this a success story.

The institutional structure of sovereign wealth funds can be adjusted to the country's needs, and for most low- and middle-income countries, a single fund would be sufficient. Some countries have designed multi-layered organizational structures for sovereign wealth funds (box 5.2). Typically, these layers separate the saving and stabilization functions, which are reflected in their investment portfolio as well. In Chile and the Russian Federation, the savings funds are mainly responsible for long-term investments of savings that correspond to the long-term social security commitments of the government. Stabilization funds, by contrast, serve as a buffer zone between long-term savings and short-term needs by offsetting the fluctuations in resource revenues. Therefore, these funds invest in liquid assets. In comparison, the National Fund of the Republic of Kazakhstan combines the saving and stabilization purposes under the same roof; however, it also diversifies the investment portfolio into higher risk or more liquid assets as needed. Recent studies have shown that a single fund with a diversified role tends to perform better than a multi-layered structure (IMF 2012).

However, sovereign wealth funds alone do not guarantee savings and stabilization unless they are complemented by a firm fiscal rule. Just as opening a bank account does not ensure savings for households, establishing a sovereign wealth fund itself would not deliver savings and

stability without fiscal discipline. International evidence has been mixed about the success of sovereign wealth funds. However, it has been clearly shown that the saving and stabilization functions of the sovereign wealth funds have been more successful in countries with sound macroeconomic management and a strong commitment to fiscal discipline (Fasano 2000). In the absence of a legal and regulatory framework that clearly defines the conditions under which revenues can flow in and out of the fund, the fund would typically become subject to pressures to underwrite unjustified projects.

As with the fiscal rule, proper institutional arrangements are crucial to operate the sovereign wealth fund efficiently. In low- and middle-income countries, management of the sovereign wealth fund is generally provided by the central bank under clearly defined roles and responsibilities. This is mainly because the financial management capacities of the central bank are the highest among all government agencies. However, proper coordination with fiscal and monetary policies and selection and implementation of the most appropriate fiscal rules will also require an improvement in the capacity of other government units.

Taking into Consideration the Institutional Constraints: The Case of Stabilizing a Resource Rich Economy

Volatility

Volatility of resource revenues, if transmitted to the economy, can destabilize the economy and lead to permanent damage. Van der Ploeg and Poelhekke (2009) estimate that if resource rich economies in Africa could reduce their macroeconomic volatility to the levels observed in the East Asian Tigers, the economies of Africa would gain 3 percentage points in annual growth rates on average.[86] Kenya is one of the African economies that have seen increasing volatility over the past decade.

Regulating the injection of resource revenues into the economy can improve macroeconomic stability. In practice, this can be done by committing to fiscal rules that disconnect public expenditures from movements in resource revenues. In countries with institutional capacity constraints, these rules are recommended to be simple, transparent, and easily communicable.

In several cases, policy makers have assumed a more pro-active position to stabilize the economy. Kazakhstan, for instance, introduced 15 percent flexibility in the permanent income annuities to enable countercyclical actions using discretionary policies.

Although countercyclical policies are desirable in principle, Onder and Ley (2013) emphasize an important limitation against the implementation of such policies: the policy makers may not reliably observe the cyclical position of the economy in real time.[87] This limitation is more prominent in countries with low institutional capacity and high informality.

Estimating the Output Gap Is Easy; Getting It Right Is Not So Easy

Accurately assessing the cyclical position of a non-resource economy in real time is a very challenging task. This can be shown by contrasting real-time predictions with the final data for the output gap. Figure 5.8 displays the result of such an exercise by using International

Figure 5.8: Predicted output gaps in real time versus actual output gaps, 175 countries, 1990–2011

Source: Elaborated from World Bank Enterprise Survey data 2014.

SPOTLIGHT 5

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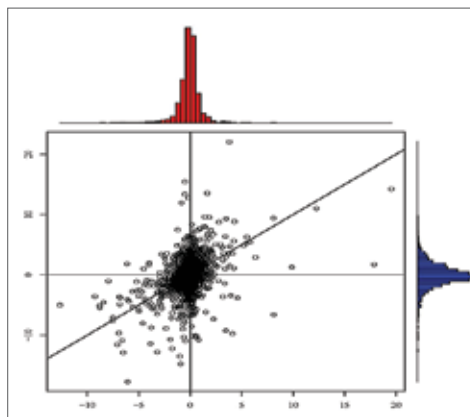
[86] Van der Ploeg and Poelhekke (2009).
[87] Onder and Ley (2013).

Monetary Fund World Economic Outlook (IMF-WEO) data for a cross-section of countries, which cover more than two decades. For each year, the predictions correspond to the projections in the previous year's fall IMF-WEO. These predictions are subsequently revised and the final numbers correspond to the most recent vintage in the data set (IMF 2011).

If the predictions were reasonably good, scatter plots would lie along the diagonal, as predicted values would be equal to actual values. However, as the figure shows, the dispersion is very large. The correlation between the final and predicted gaps is less than 0.4, and deteriorates further as income per capita decreases. In more than one-third of the cases, the predicted output gap has the opposite sign of the final output gap estimates. In other words, when the economy was estimated to be underperforming and resources to be idle, in fact, the economy was overheating (and vice versa). These are the points in the northwest and southeast regions in the figure.

The next question is about the extent to which these measurement errors affect the success of countercyclical fiscal policies.

With Biased Assessments, Policies Can Affect the Cycle, but Not Necessarily As Intended

If output gap estimates are significantly biased, then countercyclical policies may actually increase the volatility of an economy instead of decreasing it. To elaborate on this point, Onder and Ley (2013) run a Monte Carlo simulation using a two-sector model with uncertainty concerning the precise cyclical position of the economy. The model is calibrated for a resource rich economy. According to this framework, shocks cause the output to deviate from its trend, which, in turn, triggers the natural stabilizing forces in the economy. The fiscal authority may consider the adjustment speed too low in this case, and wish to use discretionary fiscal policies to accelerate the recovery. The efficiency of such policies (the size of the fiscal multiplier) depends on the size of the actual output gap. However, the actual position of the economy along the cycle is unknown in real time, and the policy maker uses its estimate to calculate the appropriate level of countercyclical fiscal intervention.

Table 5.1 shows the volatility in the non-resource sector under three policy options: a no policy case (fixed rule), a moderately limited policy case, and a loosely limited policy case.[88] As the degree of limitations loosens, the government's degree of flexibility to counteract the cycle increases. This exercise is also repeated for two different long-term allocation rules (PIH and BIH) under two different fiscal multiplier assumptions (baseline and high). In all cases, average volatility increases as greater levels of countercyclical policies are allowed.

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[88] The measure of volatility reported here is the standard deviation of variation around long-term potential GDP growth.

Table 5.1: Predicted output gaps in real time versus actual output gaps, 175 countries, 1990–2011

Approach	Fixed rule	Moderate limits	Loose limits
Permanent Income Hypothesis	0.27	0.36	0.47
Bird-in-Hand Rule	0.27	0.36	0.48
	High Fiscal Multiplier Scenario		
Permanent Income Hypothesis	0.28	0.29	0.29
Bird-in-Hand Rule	0.27	0.31	0.32

Source:

Automatic Stabilizers

This analysis shows that institutional capacity is an important factor in implementing countercyclical policies. Low-income countries, particularly those that are at the early stages of the resource cycle, may face more problems in implementing these policies, as they exhibit larger measurement errors. In these cases, countercyclical policies that are less prone to discretion errors are found to be more effective. Anchoring the policies by using rigid fiscal rules and enhancing the automatic stabilizers, such as a progressive tax system and social benefits, can go a long way in providing policy credibility and smoothing the cycles at the same time.

SPOTLIGHT 5

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The applied method for examining the size and lag effects of exogenous and endogenous shocks on the economy is based on the work of Raddatz (2007). It begins by identifying the economies that unilaterally influence Kenya's economy (no significant reverse impact). The list includes Kenya's major exogenous export partners, the European Union, India, Pakistan, and the United States. Foreign effective demand for Kenya (GDP growth rates of the aforementioned economies) is constructed with normalized weights that sum to one, computed according to the average export share of Kenya's exports of goods and services in 2009–12. Then, foreign effective inflation is constructed (consumer price index--based inflation) using the same approach, this time using the main exogenous partners from which Kenya imports goods and services, China, the European Union, India, Japan, South Africa, and the United States.

The assessment of the transmission of the shocks is based on impulse response functions and variance decomposition methods for which bivariate vector autoregression (VAR) models are employed. VAR is one of the most frequently used methods in the empirical literature for examining the size and the time-lag of the reaction of one variable to a shock in another. Because the core aim of the analysis is to assess the transmission of the exogenous shocks, by following the approach of Cushman and Zha (1997) and Raddatz (2007), the so-called block exogeneity assumption is imposed in the VARs.[89] The selection of the VAR models is done according to the common approach in the literature.[90]

The same methodological approach can be utilized to assess how domestic (endogenous) shocks affect the economy. To this end, the impacts of shocks from the following factors were examined: investment (gross and fixed investments, and net foreign direct investment inflows), fiscal policy outcomes (total government expenditure, final government consumption, budget deficit, and public debt expressed as ratios of GDP), domestic inflation, population growth, and human capital variables (average years of schooling and gross secondary school enrollment). The analysis is again based on bivariate VAR models, but without the imposition of the block exogeneity assumption due to endogeneity issues.

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[89] The imposition of the block-exogeneity assumption in the VARs means that the two-side effects of the variables that are included in the model are restricted. For example, in the usual VAR framework the two-way causation is assessed between the variables used (X and Y), whereas the block exogeneity assumption allows only the one-way impact of the variables to be assessed, that is, from the exogenous (X) to the endogenous (Y) variable, but not the other way around, as is allowed under the usual VAR framework.

[90] First, the lag length of the variables is chosen by the information selection criteria (Akaike (1974, 1976), Schwarts (1978), and Hannan and Quinn (1979)), and then the residual diagnostic tests are conducted for serial correlation, normal distribution, and autoregressive conditional heteroskedasticity. After the model has been specified, the impulse response functions are estimated with bootstrap confidence intervals of 100 repetitions.

Table A.1. Summary of the Results of the Impulse Response Functions and Variance Decomposition of the Impact of Shocks on Kenya's GDP per Capita Growth and Inflation

	GDP per capita growth of Kenya		
	Impulse response functions		Variance decomposition
	Size of the impact (in percentage points)	Time horizon	Explaining the variance of GDP per capita growth
Exogenous variables: Foreign effective GDP per capita growth	0.6	0 to 1 years	Between 13% and 15%
Endogenous variables: Government final consumption (1st diff)	0.6 to 1.5	1 to 3 years	Between 15.5% and 20.9%
Gross investment (1st diff)	0.7 to 2.5	1 to 6 years	Between 35.3% and 36.2%
Inflation	-1.1 to -1.6	1 to 2 years	Between 23% and 24%
	Inflation in Kenya		
	Impulse response functions		Variance decomposition
	Size of the impact (in percentage points)	Time horizon	Explaining the variance of GDP per capita growth
Foreign effective inflation (CPI-based inflation)[a]	6.1 to 9.2	0 to 4 years	Between 70% and 71%
World food price inflation[b]	2.4 to 10	2 to 10 quarters	Between 31% and 67%

Sources: Calculations based on data from World Bank World Development Indicators, IMF World Economic Outlook, and Kenya National Bureau of Statistics.
Note: CPI = consumer price index; GDP = gross domestic product; IMF = International Monetary Fund.
a. Foreign effective inflation is calculated as a geometric average of the CPI-based inflation from the exogenous importing partners of Kenya.
b. World food price inflation is based on the inflation of food price index published by the IMF Primary Commodity Prices database.

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[89] The imposition of the block-exogeneity assumption in the VARs means that the two-side effects of the variables that are included in the model are restricted. For example, in the usual VAR framework the two-way causation is assessed between the variables used (X and Y), whereas the block exogeneity assumption allows only the one-way impact of the variables to be assessed, that is, from the exogenous (X) to the endogenous (Y) variable, but not the other way around, as is allowed under the usual VAR framework.

[90] First, the lag length of the variables is chosen by the information selection criteria (Akaike (1974, 1976), Schwarts (1978), and Hannan and Quinn (1979)), and then the residual diagnostic tests are conducted for serial correlation, normal distribution, and autoregressive conditional heteroskedasticity. After the model has been specified, the impulse response functions are estimated with bootstrap confidence intervals of 100 repetitions.

The simulations in chapter 5 were performed by using a dynamic stochastic general equilibrium model developed by Levine, Melina, and Onder (2015). The model builds on Melina and Xiong (2013), Melina, Yang, and Zanna (2014), Berg et al. (2013), and Buffie et al. (2012), which analyze the public investment and growth nexus together with debt sustainability and natural resource revenue management in low- and middle-income countries. In addition to the modeling framework developed in these papers, the framework developed for Kenya incorporates the analysis of expenditure composition in public investments, which involves human capital components such as health and education spending as well.

In particular, the framework is a small-economy model with limited asset market participation to capture the presence of agents that do not have access to financial markets in low- and middle-income countries. The production side of the model exhibits (i) a traded goods sector featuring learning-by-doing externalities to capture the effects of the Dutch disease that may arise because of natural resource booms; (ii) a non-traded goods sector; and (iii) a natural resource sector.

A typical firm in the traded (T) and non-traded (N) goods sectors produces output, $y_{j,t}$, $j = \{T, N\}$ according to the technology

$$y_{j,t} = z_j \, {}^{`}k_{j,t-1}{}^{j^{1-\alpha j}} \, {}^{`}A_{j,t}L_{j,t}{}^{j^{\alpha j}} \, {}^{`}k_{G,t-1}{}^{j^{\alpha G}}$$

where z_j is a total factor productivity scale parameter, $k_{j,t}$ is end-of-period private capital, $k_{G,t-1}$ is end-of-period public capital, α_j is the labor share of sectoral income, and α_G represents the output elasticity with respect to public capital. Labor productivity $A_{j,t}$ is given by:

$$A_{j,t} = z_{\alpha,j}e_t{}^{\beta_{j,e}}h_t{}^{\beta_{j,h}}$$

where e_t represents the average education of the labor force, and h_t represents the average health status of the labor force.

The model also features inefficiencies and absorptive capacity constraints for public investment and a time-varying depreciation rate of public capital to capture lack of maintenance, in line with the empirical literature for low- and middle-income economies (see Gupta et al. 2011, among others). To reflect this, effective investment is assumed to take a particular functional form to enable the deviations of government investment expenditure from the initial steady state more than a threshold lead to a decrease in efficiency of the additional investment proportional to the size of the deviation. This mechanism captures absorptive capacity constraints in Kenya and comparable countries.

Saving/spending scenarios are chosen on the basis of the policy options. These are determined by the country's plans as documented by strategic documents such as Vision 2030 and the Medium-Term Plans, as well as alternative scenarios that are commonly observed in other countries. Public investment can be frontloaded and the degree of the frontloading is linked to the degree of investment inefficiency.

As far as fiscal policy is concerned, the model has a fund where any positive difference between inflows (including natural resource revenue) and outflows (including investment expenditures) is saved and the lower bound of this fund is a policy choice. The fund is drawn down when such a difference is negative. However, when the fund reaches a chosen lower bound, then one or more fiscal instruments react to close it either instantaneously or by temporarily allowing accumulation of public debt and satisfying the government intertemporal budget constraint in the long run. In the case of Kenya—where natural resource exploitation is a recent phenomenon and virtually no fiscal buffers have been accumulated yet—a lower bound of zero is set for the fund, which effectively becomes a non-negativity constraint for government assets. The model allows four fiscal instruments to close the fiscal gap (consumption tax, labor income tax, government consumption, and government transfers). For simplicity, where needed, only the consumption tax is allowed to stabilize debt in the long run and the other instruments are left at their initial steady state. Although the use of other instruments, combined or in isolation, implies somewhat different macroeconomic dynamics, the bottom-line of the results outlined below is robust to such choices.

For complete details of the model, derivation of the equilibrium conditions, and calibration to Kenya, see Levine, Melina, and Onder (2014.

The estimation of the potential growth rate is based on a Cobb-Douglas production function that estimates potential output (Y) as a function of the stock of physical capital, human capital–adjusted labor (H), and a given technology (A), that determines the total factor productivity (TFP). This can be presented with the following equation:

$$Y = A(K^{\alpha} H^{1-\alpha})^{\gamma} \qquad (C.1)$$

The superscripts α and $1-\alpha$ indicate the share of physical and human capital–adjusted labor in the output, respectively, whereas the superscript γ measures the returns to scale of the inputs. For example, γ can be equal to 1, greater or less than 1, suggesting constant, increasing or decreasing returns to scale, respectively. The human capital–adjusted labor (H) is calculated as a function of the labor force adjusted for employment and participation rates and the level of human capital that is estimated as a function of return on education and the average years of schooling.

In estimating the potential growth rate of Kenya's gross domestic product, the values of the parameters of the model, α, γ, returns to education, and capital depreciation rate, need to be assumed. In addition, for the forecasting period, the initial and final values of the input variables (working age population ratio, participation rate, unemployment rate, TFP growth rate, gross capital formation, and average years of schooling), need to be exogenously determined. The initial values of the input variables refer to the last available data for the variables used or a historic average of a certain variable for a specified period of time. The final values of the input variables refers to their expected values at the end of the forecasting period (2020), which are usually exogenously set.

The baseline scenario assumes no structural shift in the economic relations (the parameters). The parameters of the model are assigned values that are already pre-defined in the economic literature. The pre-defined parameters and initial and final values of the input variables used are presented in table C.1.

Table C.1. Assumed Values of the Parameters and Initial and Final Values of the Input Variables in the Model

Parameter[a]	Value	Input variable	Initial value (2015)	Final value (2020)
Share of physical capital (α)	35%	Working age population ratio	55%	56.7%
Share of human-adjusted capital ($1-\alpha$)	65%	Participation rate	70.3%	70.3%
Returns to scale of the inputs (γ)	1	Unemployment rate	13.4%	13.4%
Return of education	5%	TFP growth rate	1.7%	1.7%
Capital depreciation ratio	5%	Gross capital formation	29.2%	31.8%
		Average years of schooling	6.7 years	7 years

a. The values of the parameters are taken from the economic literature in this area: Ghosh and Kraay (2000) and Kuepie, Nordman, and Roubaud (2009).

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