

ETHIOPIA

100592

PRIORITIES FOR ENDING EXTREME POVERTY AND PROMOTING SHARED PROSPERITY

SYSTEMATIC COUNTRY DIAGNOSTIC



Document of
The World Bank

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Report No: 100592-ET

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

**PRIORITIES FOR ENDING EXTREME POVERTY AND
PROMOTING SHARED PROSPERITY**

SYSTEMATIC COUNTRY DIAGNOSTIC

March 30, 2016

**International Development Association (IDA)
Country Department AFCE3
Africa Region**

**International Finance Corporation (IFC)
Sub-Saharan Africa Department**

**Multilateral Investment Guarantee Agency (MIGA)
Sub-Saharan Africa Department**



Republic of Ethiopia Government Fiscal Year
July 7 – July 6

Currency Equivalents
(Exchange Rate Effective as of November 2015)

Currency Unit = Ethiopian Birr (ETB)
US\$1.00 = 21 ETB

ABBREVIATIONS AND ACRONYMS

ADLI	Agricultural Development Led Industrialization
ATA	Agricultural Transformation Agency
CCSA	Cross-Cutting Solutions Area
CSA	Central Statistical Agency
DALY	Disability-Adjusted Life Years
DHS	Demographic and Health Survey
e-GDDS	Enhanced General Data Distribution System
EPRDF	Ethiopian People's Revolutionary Democratic Front
ETB	Ethiopian Birr
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross National Income
GoE	Government of Ethiopia
GP	Global Practice
GTP1	First Growth and Transformation Plan
GTP2	Second Growth and Transformation Plan
HCES	Household Consumption Expenditure Survey
HDI	Human Development Index
HICES	Household Income and Consumption Expenditure Survey
HOI	Human Opportunity Index
ICT	Information and Communications Technology
IDA	International Development Association
IFC	International Finance Corporation
IFRPI	International Food Policy Research Institute
ILRI	International Livestock Research Institute
MDG	Millennium Development Goal
MFI	Microfinance Institution
MIGA	Multilateral Investment Guarantee Agency
MW	Megawatts
PIM	Public Investment Management
PPPs	Purchasing Power Parity
PSNP	Productive Safety Net Program

SCD	Systematic Country Diagnostic
SME	Small and Medium Enterprise
SNNPR	Southern Nations, Nationalities and Peoples' Region
SOE	State-owned enterprises
SSA	Sub-Saharan Africa
TFP	Total Factor Productivity
TVET	Technical Vocational Education and Training
US\$	United States Dollar
WASH	Water Sanitation and Health
WDI	World Development Indicators

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Executive Summary

This Systematic Country Diagnostic (SCD) identifies the binding constraints to reducing extreme poverty and promoting shared prosperity in Ethiopia. Achieving those goals requires a two-pronged strategy of building on the strengths of past performance as well as introducing new elements. Progress in rural livelihoods drove poverty reduction in the past and will likely do so in the future. In addition, faster, and more inclusive, private sector-led structural change and ‘getting urbanization right’ are essential going forward. The report identifies two key challenges to sustainable progress: Ethiopia needs sustainably financed infrastructure that enables private investment to flourish and reduces reliance on public borrowing. It must also strengthen feedback mechanisms that inform policymakers of what works and what doesn’t so that the aspirations of a rapidly rising and better-educated working-age population can be met. The report is structured in two parts: Part A analyses the past and Part B identifies priorities for the future.

Part A: Analyzing the Past

Country Context

- 1. Ethiopia has achieved substantial progress in economic, social, and human development over the past decade; the challenge is to sustain this progress.** Growth was rapid and inclusive, averaging 10.9 percent per year since 2004. Extreme poverty fell from 55 percent in 2000 (one of the highest levels recorded internationally) to 33 percent in 2011. Low levels of inequality have largely been maintained. Non-monetary dimensions of wellbeing show strong improvement and, with two exceptions, Ethiopia attained the Millennium Development Goals.¹
- 2. Ethiopia is a large, landlocked, and diverse country.** It is the 11th poorest country in the world by income per person, and home to Sub-Saharan Africa’s second largest population of about 92 million people, the vast majority of which are rural dwellers. The natural resources base remains the foundation for most livelihoods, and is subject to considerable climate risks. Despite past progress, a historic legacy of underinvestment still bears its mark as more than half of the adult population is illiterate and the country’s infrastructure deficits remains one of the largest in the world. Ethiopia is undergoing a faster demographic transition than the rest of Africa and the rapidly rising working-age population presents opportunities as well as challenges.
- 3. The services and agricultural based economy is relatively stable, but the private sector remains nascent.** Agriculture accounts for most jobs and about 40 percent of output and exports. Services accounts for close to half of output and half of exports. Manufacturing shares of output, jobs and exports have remained stagnant at around five percent, but the sector holds the promise of a takeoff. The economy is relative stable though high inflation presents occasional challenges. Substantial external deficits arise largely as a result of very low exports and high public capital imports. Supported by a system of financial repression and other heterodox macro-financial policies, Ethiopia has the third highest public investment rate in the world, but the sixth lowest private investment rate. This reflects a fledgling private sector with state owned enterprises dominating several key services sectors.

¹ The exceptions are MDG 3 on ensuring gender equality and empowering women, and MDG 5 on improving maternal health.

4. **Ethiopia's development strategy is unique.** Agricultural development is prioritized as reflected by substantial budget allocations, which *inter alia*, supports one of the largest agricultural extension workforces in the world. Structural transformation, industrialization, and urbanization have been encouraged in recent years, particularly through the promotion of light manufacturing industrial parks with the support of foreign investors. Massive public infrastructure investment has been at the center of the country's economic strategy in order to address historic infrastructure deficits and provide the conditions needed for subsequent private sector growth. Although further progress is needed, Ethiopia was able to achieve a substantial expansion of energy, road, railway, and telecom infrastructure, financed by domestic and external public borrowing. An additional key feature has been the focus on equity, particularly addressing historic regional inequalities. Underpinning the strategy is a political commitment to achieving legitimacy from economic growth and poverty reduction.

Poverty and Shared Prosperity

5. **Agriculture was the main driver of rapid poverty reduction.** Using the international poverty line (US\$1.90/day in 2011 purchasing power parity (PPP)), poverty fell from 55.3 percent in 2000 to 33.5 percent in 2011. Within Sub-Saharan Africa, only Uganda reduced poverty faster. By the national poverty line, the reduction was from 44.2 percent to 29.6 percent. World Bank estimates suggest that poverty has continued to fall since the latest survey in 2011. While economic growth was more effective in reducing Ethiopian poverty compared to regional peers, it was less effective than the global average. In Ethiopia, each 1 percent of growth in Gross Domestic Product (GDP) resulted in 0.15 percent reduction in poverty. Agricultural growth was particularly potent in bringing down poverty as for every 1 percent in agricultural output, poverty was reduced by 0.9 percent. High prices, and good weather ensured that adoption of modern inputs brought high returns and poverty reduction for those well connected to markets. Yet, vulnerability of returning to poverty remains high, especially for rural livelihoods dependent on rainfed agriculture. High rates of forest depletion drive land and water degradation and increase water stress.

6. **Public investments in basic services provision such as education and health have also contributed to poverty reduction, as did rural safety nets.** It did so both through contributions to growth and by preferentially increasing the welfare of the poor. Education and health access and utilization have increased over the last decade as the number of primary health posts, health centers, and schools increased. Rural safety nets in the form of the Productive Safety Net Program (PSNP) help reduce poverty both directly and indirectly. The direct effect of transfers reduces the poverty rate by two percentage points, and the public works investments in water management and land productivity have increased yields in some program sites.

7. **While inequality remained low, the very poorest became poorer, posing a challenge to the goal of shared prosperity in Ethiopia.** Despite rapid growth, Ethiopia continued to be one of the most equal countries in the world, with a Gini coefficient that remained at 30 percent from 2005 to 2011. However, consumption growth of the poorest 40 percent was lower than the top 60 percent in 2005-11, and consumption growth was negative for the poorest 10 percent. This is in part explained by high food inflation affecting net buyers of food, including marginal farmers and urban unskilled workers.

8. **Fast growth in services and manufacturing did not contribute much to reducing poverty.** In Ethiopia, the services sector accounted for less than a tenth of poverty reduction from 1995 to

2011. In Uganda and Rwanda, by contrast, growth in the rural services sector alone accounted for one-third and one-sixth of poverty reduction, respectively. One reason was that rural-urban migration and shifts of labor from agriculture to non-agricultural sectors was relatively limited in Ethiopia, and those in the bottom 40 percent were even less able to move.

9. Poverty is just as prevalent in Ethiopia's two largest cities as in rural areas, and is strongly associated with unemployment. Poverty rates in the two biggest cities are close to 30 percent and unemployment in the capital is 24 percent. Unemployment is highly correlated with poverty. In addition, falling real wages (partly driven by public sector wage trends), have contributed to urban poverty. Additionally, the elderly, disabled, and female-headed households are particularly vulnerable in urban areas owing to weaker informal safety nets for this group.

10. Who are the poor and extreme poor in Ethiopia? Although most Ethiopians are rural dwellers and subsistence farmers, the poorest 40 percent tend to be even more likely to live in rural areas and engage in agriculture. While educational attainment among average Ethiopians is low, it is even lower for the bottom 40 percent (1.5 years) compared to the top 60 percent (2.8 years). Remoteness is also a defining characteristic as poverty rates increase by 7 percent for every 10 km from a market town. The poorest of the poor, the bottom decile, reflect similar characteristics, but to an even greater extent and are more likely to be marginal farmers.

11. Development has brought regional convergence in poverty rates though geographic determinants of wellbeing persist. Encouragingly, poverty reduction was faster in regions with the highest poverty rates resulting in a convergence in poverty rates of around 1 in 3 in all regions in 2011. A similar trend took place at the district level. The key drivers of convergence are similar to those of poverty reduction: agricultural growth, improvements in basic services, and safety nets. Nonetheless, the spatial dimension of poverty persists. Poverty is much higher in remote areas, and in the periphery and lowland, often pastoral, areas of the country. These border areas are also home to close to a million (predominantly long term) refugees, the socio-economic wellbeing of whom is not very well documented.

Economic Growth

12. Rapid economic growth was driven by public infrastructure investment and supported by a conducive external environment. Real GDP growth averaged 10.9 percent annually (8.0 percent per capita) in 2004-14, according to official data. This substantially exceeds historical averages for the country as well as the regional and low-income averages for the same period. Growth was concentrated in services and agriculture with a recent impetus from construction, while contributions from manufacturing were low. Regression analysis highlights the importance of high infrastructure investment facilitated by constrained government consumption, openness to trade, and educational expansion as well as high export commodity prices. Heterodox macro-financial policies (declining private credit, exchange rate appreciation, and inflation) held back some growth, but this effect was small. Structural change in the form of labor shifts from low-productivity agriculture to higher-productivity construction and services activities also contributed, as did the emerging demographic dividend arising from a rising working-age population. Strong political commitment, relative stability, and the absence of widespread drought during this period also helped.

13. To what extent is Ethiopia's high economic growth and underlying growth strategy sustainable? International experience, a country specific analysis of growth head- and tailwind factors, and simulation analysis suggest a likely range of growth for Ethiopia between 4.5 and 10.5 percent over the next decade. The challenge facing policymakers is to keep the pace of growth as close to the upper boundary as possible. This, as the Government recognizes in its new five-year plan, requires an increased emphasis on private sector development after the big push in the past decade on public investment to create an appropriate enabling environment.

14. Every growth strategy has its trade-offs and this is also true for Ethiopia's policy choices. First, allocations of rationed credit and foreign exchange primarily benefit public investment, but crowd out the domestic private sector. Low real interest rates also prevent effective savings mobilization causing financial disintermediation. Second, an overvalued real exchange rate cheapens public capital imports, but undermines external competitiveness. Third, substantial domestic and external public borrowing for public infrastructure investment is leading to increasing (but still manageable) debt levels, rising risk of external debt distress, and higher financing costs. Fourth, relatively limited progress on certain structural economic reforms is preventing the realization of associated efficiency gains. A change in strategy will be needed before the net benefits of the current strategy turn negative.

Part B: Identifying Priorities

Analytical Framework

15. Accelerating progress toward the goals of ending extreme poverty and promoting shared prosperity requires stronger rural livelihoods and faster, more-inclusive structural change. A sound analysis of the past provides the analytical basis for identifying priorities for the future and gives rise to two key insights. First, Ethiopia needs to continue what worked well in the past, namely progress in rural livelihoods for the bottom 40 percent. However, this alone will not be sufficient to reduce extreme poverty and promote shared prosperity, hence the second argument: Ethiopia needs faster and more inclusive structural change. The premise of these two recommendations is laid out below.

16. Improvements in rural livelihoods drove poverty reduction in the past and will likely continue to do so in the future. Although great strides have been made in investing in education and health and improving rural infrastructure, many households in Ethiopia and particularly in the bottom 40 percent are uneducated, without good access to health services, water, sanitation, and markets. Further investments are required. The predominance of agriculture as a source of income for Ethiopia's poor suggests that agricultural growth will remain an important driver of poverty reduction in the future. Going forward, strengthening rural livelihoods will require doing things differently than in the past in order to reach the extreme poor, including a focus on quality and constraints in access, greater emphasis on incentives for investments in agriculture, and reversing the trend of degradation of the natural resource base.

17. Structural change contributed to economic growth in the past, but it was not sufficiently inclusive and needs to contribute much more to poverty reduction in the future. Faster structural change is needed for several reasons. First, average and marginal productivity in agriculture is much lower than in other sectors suggesting that sectoral transitions will increase returns to labor. Second, the process of structural change offers the potential shift into export-

oriented light manufacturing activities. Third, urban demand plays an important role in achieving agricultural growth, as would growth in agro-processing industries. Fourth, further agglomeration as a result of urbanization will bring positive externalities that will encourage growth and help reduce poverty. Finally, structural transformation can help reduce vulnerability. More inclusive structural change is needed to ensure that non-agricultural growth reduces poverty going forward. In addition, increased urbanization will, inevitably, lead to the ‘urbanization of poverty’ so urban growth needs to be more inclusive.

18. Progress has to be environmentally, socially, and financially sustainable. Two main challenges to the sustainability of progress are identified. First, public infrastructure investment needs to be sustainably financed to promote sufficient private sector financing and mitigate debt risks. Second, government capacity and responsiveness is critical in a development model in which the state plays a leading role. This requires that adequate feedback mechanisms be in place for policymakers, so that they may learn what works, thereby enabling them to change strategy as needed. It is also important that the development strategy followed is environmentally sustainable, particularly with regard to Ethiopia’s dependence on natural resources and the risks associated with climate change as discussed throughout the report.

Prioritization

19. The objective of this SCD is to identify the most critical constraints and opportunities facing Ethiopia in accelerating progress towards the twin goals. These are referred to as binding constraints. The report examines the constraints to the two identified key drivers of progress: stronger rural livelihoods and faster, more-inclusive structural change. Constraints are discussed in light of the two challenges to sustainable progress: sustainable financing and government capacity and responsiveness.

20. There is a wide range of constraints to progress in Ethiopia, and identifying the most critical requires prioritization. Since Ethiopia faces challenges in many dimensions of development, the identification of binding constraints needs to be interpreted in a *relative* rather than *absolute* sense. In an absolute sense, many issues could be seen as a priority for Ethiopia. In a relative sense, some issues appear to warrant more attention than others.

21. The impact of the constraint on reducing extreme poverty and promoting shared prosperity is the criteria used to prioritize among constraints. To establish impact, the following questions are evaluated:

- **Do benchmarking exercises indicate that Ethiopia is underperforming on a particular dimension?** Two approaches to benchmarking are undertaken. First, a group of structural peers was developed for Ethiopia based on objective criteria (see Annex 1 for a discussion of the methodology). Ethiopia’s structural peers are Burkina Faso, Mozambique, Myanmar, Rwanda, Tanzania, and Uganda. Ethiopia’s performance on a given dimensions was compared to the performance of this set of countries. Second, cross-country regression analysis undertaken for the Development Economics Group’s Country Development Diagnostics was used to assess whether Ethiopia’s performance is above or below the level expected given its level of Gross National Income (GNI) per capita.

- **Does micro-econometric analysis indicate that removing this constraint would increase the incomes of the bottom 40 percent?** Studies that examined aspects of agricultural income growth, rural non-farm income growth, migration, urban employment, and firm productivity growth were reviewed to assess the evidence base for a given constraint being binding. Ethiopia is a well-researched country and many micro-econometric studies have been undertaken to assess drivers of income growth. Studies were included if they (i) used accepted methods to attribute causality between the constraint and income growth, and (ii) had been published in a peer-reviewed journal/discussion paper series or had gone through a Bank peer-review process.
- **Do cross-country regression analysis or Computable General Equilibrium (CGE) models indicate that addressing this constraint would help Ethiopia grow faster?** The report applies several cross-country regression models to link policies with economic growth and firm productivity. In addition, the team reviewed the extensive CGE literature on Ethiopia. All available studies on Ethiopia that used CGE published in peer-reviewed journals or undertaken by an institution were considered.
- **Does World Bank staff expert and country expertise suggest that this constraint is binding?** Each of the analytical approaches used helps to identify impact, but each has limitations: for example, lagging on a given indicator in comparison to peers does not mean it is necessarily an important constraint to poverty reduction; micro-economic analysis cannot help identify the impact of a constraint that is universally experienced by all households or firms; cross-country regression analysis cannot always control for other factors that might be driving the observed relationship and CGE models may not make appropriate assumptions about the nature of markets in a given economy. In addition, expert knowledge can identify gaps that are not always clear from quantitative analysis. A one-day retreat was held and included a staff member from each Global Practice (GP) and Cross-Cutting Solutions Area (CCSA). The evidence for the constraints was presented and discussed and voting was used to prioritize the most critical constraints.

22. Binding constraints are described as specifically as possible, even when this means identifying sub-constraints. When a given constraint that was identified was very large the relevant literature was reviewed to identify the key underlying drivers of this constraint. The focus is on prioritizing constraints not solutions.

Binding Constraints

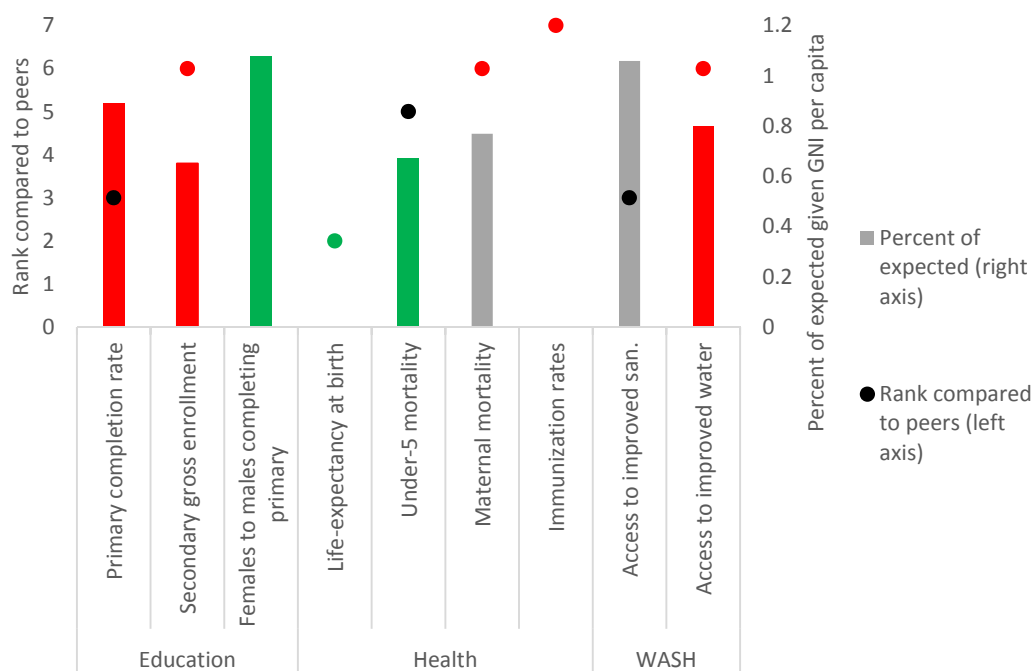
Strengthening Rural Livelihoods for the Bottom 40 percent

23. An asset framework for the rural poor helps analyze how rural livelihoods for the poorest 40 percent can be strengthened. Constraints to improving the asset base of the rural poor and constraints to increasing the returns to assets of the rural poor are discussed in turn.

24. Low human development (as indicated by low outcomes in education and health) is identified as a binding constraint. Ethiopia has improved human capital outcomes as a result of high levels of public investment in education and health. Together these sectors have accounted for a third of government expenditure (World Bank 2015a). However, Ethiopia started from a low

base and outcomes remain low, highlighting the need for continued health and education investments, and investments of increasingly high quality. Figure ES1 compares Ethiopia's rank to structural peers for a number of human capital outcomes and shows on which dimensions it ranks well (green) and poorly (red) compared to peers. It also compares Ethiopia's achievement to expected performance on each dimension given its GNI per capita. The figure shows that Ethiopia underperforms on a number of dimensions. This underperformance has implications for strengthening livelihoods as education and good health outcomes ensure that households are well placed to earn a productive income in agriculture and transition to new sectors. Agricultural growth has been driven by human capital gains in the past (Bachewe et al. 2015) and low human capital is the third most frequently cited constraint to rural income growth in the micro-econometric studies reviewed (Figure ES2).² Education (and skills) has also been found to be a key driver of rural to urban migration, urban labor market outcomes, and firm productivity (de Brauw 2014, World Bank 2015e and World Bank 2015i).

Figure ES1: Benchmarking human capital outcomes



Source: Gable et al. (2015), Find my Friends and World Development Indicators.

Note: Ranking ranges from 1 (best) to 7 (worst) among structural peers. Red/green indicates significantly worse/better. Grey/black indicates no difference from average.

² See Bachewe et al. 2015; Zerfu and Larson 2010; Endale 2011; Asfaw et al. 2011; and Melesse 2015 for the relationship between education and agricultural productivity; Dercon, Gilligan and Hoddinott 2009; Krishnan and Patnam 2013; Yu et al. 2011; and Berhane et al. forthcoming for the relationship between extension and agricultural productivity. Bezu and Barrett 2010 highlight the role of education in non-farm income growth.

Figure ES2: Literature review of determinants of rural income and welfare



Source: staff estimates from review of micro-econometric literature

25. Inequities in availability of services, lack of quality services, and constraints to household investments contribute to low education and health outcomes. Although equity of access has improved over time, substantial inequalities still remain. Lack of availability of services remains a constraint to both school attendance and health care utilization in some areas. In addition to access, constraints that limit how much households utilize available services need to be addressed. Although gains in primary school enrollment rates have been impressive, dropout rates are high, causing primary school completion rates and secondary school enrollment rates to fall well below peer countries. Children from poorer backgrounds make slower progress through school and are more likely to drop out without completing schooling. Although teacher absenteeism is not a major constraint, teacher qualifications are comparatively low, impacting attendance. Improving health and nutrition outcomes will similarly require more than improving access to services. Improving quality is key, as is addressing maternal education and autonomy to encourage service utilization.

26. Agricultural extension services provide an opportunity to address specific skill and knowledge gaps among adults in rural Ethiopia, but current investments may be too high. There is currently one extension agent for every 472 farmers, which is 30 percent higher than any other farmer ratio in the world. Extension has been shown to be very important in reducing poverty in part because of its role in increasing input use and will remain important. However, Krishnan and Patnam (2013) show that extension has diminishing returns: farmers learn from each other as much as from extension agents, suggesting that the resources committed to extension could be reduced. Continuing business as usual may result in overinvestment, putting pressure on the availability of resources for other investments in human capital in a constrained fiscal space (as discussed in Challenge 1). The focus going forward should be less on scale and more on quality and reaching marginal farmers such as women and pastoralists.

27. Unsafe water use in rural areas is a binding constraint to achieving good health and nutrition and to improving agricultural productivity among women. Although the proportion of the population with access to clean water doubled from 2000 to 2011, Ethiopia performs poorly in comparison to peers and also where it should be given its level of income (Figure ES1). Diarrhea

remains the highest disease burden in Ethiopia and contributes to poor nutrition outcomes. The Disability-Adjusted Life Years (DALY) of diarrhea in Ethiopia is 49, followed by respiratory disease (28 years) and malaria (10 years). A number of studies for Ethiopia have found that children with unclean hands and unsafe water access are more likely to be anemic or underweight.³ Treated water reduces diarrhea by 25 percent (Boisson et al. 2009) and Water, Sanitation and Hygiene (WASH) interventions reduce stunting by 12 percent (Fenn et al. 2011). Improved access to water may also reduce the labor burden faced by female farmers in fetching water and looking after sick children. This would help address the main constraint to female agricultural labor productivity: lack of labor (Aguilar et al. 2014).

28. Lack of resilience to drought is a binding constraint to increasing agricultural income.

Ethiopian farmers rely almost entirely on rain-fed agriculture and seasonal rainfall is volatile in large parts of the country. Although no major droughts were recorded during the high growth period of 2004 to 2014, over the last fifty years Ethiopia has experienced more droughts than its structural peers (15 drought episodes compared to an average of 9). Climate change is expected to increase this volatility in the future negatively affecting agricultural incomes and poverty (World Bank, 2015f). Drought has a direct effect on poverty⁴ and conversely good rainfall has been shown to be an important driver of agricultural growth and rural poverty reduction (World Bank 2015a). A moderate drought, defined as a rainfall shortfall of 30 percent, reduces growth in agricultural incomes by 15 percent on average and increases poverty by 13.5 percent (Hill and Tsehaye 2014). Volatility also constrains agricultural investment of farmers in profitable crops and technologies.⁵ As a result a review of micro-econometric evidence found vulnerability to rainfall risk to be the most cited constraint to rural income growth and welfare (Figure ES2).

29. Poor natural resource management, limited availability of irrigation, and the need for safety nets drive vulnerability to drought. Climate is only one factor in determining Ethiopia's vulnerability to drought. Over time, the depletion of forests has been contributing to increased water stress. Investments in sustainable land management in recent years have helped reverse these trends, and further investments in sustainable land management are needed along with actions to reduce pressures on deforestation by addressing household cooking needs more sustainably. Irrigation has the potential to reduce rainfall vulnerability, yet less than one percent of smallholder-cultivated land is irrigated. Investment in small-scale irrigation technologies is constrained by lack of knowledge and extension. In areas where shallow groundwater is not accessible, development of low-cost irrigation solutions is desperately needed. Reducing exposure to risk may not always be possible and an improved approach to disaster and climate risk management is also essential. Safety nets have been introduced in the most food-insecure areas and include scaling up mechanisms that allow support to increase when rains are bad, but they do not reach everyone, do not scale adequately, and need continued public financing. Private insurance markets could help, but are almost non-existent owing to weak rural retail infrastructure, poor quality of products, and lack of public financial support.

³ Mahmud et al. 2013; Mekonnen et al. 2005; Silva 2005; Teshome et al. 2009; Headey et al. 2014.

⁴ Dercon (2004); Dercon, Hoddinott, and Woldehanna (2005); Dercon and Porter (2013); Gilligan and Hoddinott (2007); Hill and Porter (2014).

⁵ Dercon and Christiaensen (2011); Alem et al. (2009); Zerfu and Larson (2010); Gebregziabher and Holden (2011); Berhane et al. (2015); Mahmud et al. (2009); Fufu and Hassan (2006); Cavatassi et al. (2010); Yu et al. (2011).

30. Poor market access for farmers is another binding constraint to rural income growth. Road infrastructure is a major, but not the only, constraint on market access. The national road network quadrupled in size from 1997 to 2015, but the road density in Ethiopia remains the lowest in Africa. Cross-country regressions predict that the best policy for growth going forward is continued infrastructure investments to address this deficit (Moller and Wacker 2015). Further road investments have the potential to accelerate poverty reduction for the poorest households who carry the largest burden of remoteness. Poverty rates increase by 7 percent with every 10 kilometers from a market town. From 2005 to 2011 agricultural growth caused poverty to fall by 4 percent for those far from urban centers compared to 26 percent for those living closer to cities (World Bank 2015a). If these results can be extrapolated, poverty would have fallen six times more quickly for remote households had their travel time to urban centers fallen. Efficient markets that allow farmers to purchase inputs at low prices and receive a fair price for the goods they produce and sell provide incentives for agricultural investment.⁶ Addressing remoteness also helps increase rural non-farm income growth. In sum, microeconomic evidence finds that remoteness is the second most cited constraint to rural income growth (Figure ES2).

31. Addressing the road connectivity deficit requires investment as well as selectivity and a better strategy for asset management. One of the key challenges to sustainability identified in the SCD is that infrastructure investment in the past was financed via a range of mechanisms that will begin to show their limits in the future. Selectivity in investments is needed, as well as exploring other financing modalities. The development of export trade corridors may particularly benefit some of the poorest households living in remote, border regions. Private sector service provision in cold storage, transportation logistics, and improvements in wholesale market infrastructure may also help.

32. Finally, limited credit for private investment is identified as a binding constraint to strengthening rural livelihoods. Low access to credit reflects low levels of financial inclusion in rural areas more broadly, as only one in five adults have formal financial access, much lower in comparison to regional peers. Limited access to credit constrains investments in non-agricultural activities and, although it is not as often found to be a constraint to rural income growth as the other constraints identified, does constrain agricultural investments for some households (Figure ES2).⁷ Low access is explained by both demand and supply side factors. Demand side reasons include strong perception among users that they own insufficient funds to use regulated financial services. Barriers faced by households in accessing financial services also reflect the obstacles faced by providers in supplying financial services, including lack of credit infrastructure, stringent collateral requirement and limited availability of credit for private investment (see discussion of Challenge 1).

33. Geographic variation in agro-ecological zones and access to services and markets will require a geographically tailored approach. Rainfall volatility may be a more binding constraint in some areas and access to markets more binding in others. Inclusive agricultural growth also necessitates increasing the productivity for pastoralist communities that rely on livestock as a main

⁶ Dercon et al. 2009; Hill and Tsehaye 2014; Stifel et al. 2012; Minten et al. 2012; Minten et al. 2014; Bachewe, et al. 2015; Zerfu and Larson 2010; Fufa and Hassan 2006; Cavatassi et al. 2010; Li et al. 2011; Melesse 2015; and Kedir et al. 2015.

⁷ Lack of credit constrains agricultural income growth: Bachewe et al. 2015; Matsumoto and Yamano 2010; Liverpool and Winter-Nelson 2009; Endale 2011; Melesse 2015. Lack of credit constrains growth in non-farm employment: Bhatta and Årethun 2013; Bezu and Barrett 2010.

source of income. Further analysis on the constraints to improved livelihoods in pastoral areas is needed.

34. There are two constraints to rural livelihoods that may emerge as binding constraints to progress in the future, but are not prioritized as currently critical.

- The current **rural land tenure system** has protected a relatively equal distribution of land. It could be argued that the lack of full ownership rights limit investments in the land that benefit agricultural growth, prevent land transactions that would allow helpful consolidation of small plots, and hinder households' ability to exit from agriculture and migrate. However, the evidence does not suggest this is currently the case in Ethiopia. The introduction of user-rights certification has increased agricultural investments and productivity and improved land rental markets, particularly for women.⁸ Appropriate second level certification of land-use rights is needed to ensure the long-term sustainability of land certification interventions but, taken as a whole the review of micro-economic literature does not suggest lack of certification is currently the most prevalent constraint to agricultural income growth or increasing agricultural productivity among women. Existing evidence suggests that improving the security of land tenure does not enable migration in Ethiopia (de Brauw and Muller 2013), instead land scarcity in some parts of the country has encouraged migration among youth (Bezu and Holden 2014) and educational and financial constraints have been found to be important constraints to migration (de Brauw 2014). The experience of China and Vietnam suggest that higher rates of welfare-enhancing urban migration are possible within the existing system of land tenure, however it is possible that land tenure may become a more important constraint to urban migration in the future. Land management practices are identified as a binding constraint to urban development and non-agricultural growth in urban areas as discussed below. In addition, large-scale land acquisitions raise the importance of developing appropriate land-related policies to ensure that smallholders and urban dwellers benefit from such investments.
- **Rural electrification** has the potential to strengthen rural livelihoods by enabling better education and health outcomes and increasing rural non-farm income. Electricity provides light in evening hours for studying and health care services, and allows vaccines to be refrigerated and more advanced health care equipment to be utilized. Although some evidence of these effects have been seen as a result of rural electrification, strong quantitative impacts have not yet been observed in rural Ethiopia, most likely as a result of the presence of other more binding constraints to utilization of education and health services outlined above and limited access to markets and credit required for non-farm income growth.⁹ However, as these constraints are addressed, the limits posed by low rural electrification rates will become more binding and this will emerge as a critical constraint. Unreliable electricity supply is already a binding constraint to structural change and urban economic growth as discussed below.

⁸ Deininger and Jin 2006; Holden et al., 2007; Holden et al. 2011; Deininger et al. 2011; Melesse and Bulte 2015.

⁹ Ethiopia has the second highest rate of electricity access among structural peers and fares well in comparison to where it should be given its income level (Gable et al. 2015). However rates of electricity access remain low in absolute terms with 23 percent of the population having access.

Fostering Faster and More Inclusive Structural Change

35. Fostering faster and more inclusive structural change in Ethiopia requires a healthy interplay between three main actors: firms, workers and the government. Productive and competitive firms are key to success because firms are able to organize labor in the most efficient manner, thereby raising productivity. Workers in turn must be healthy and possess the appropriate skills that firms need. Labor markets also need to be effective in intermediating the supply and demand for jobs, including by facilitating smooth migration patterns from rural to urban areas. The government, particularly urban planners, play a pivotal role in this overall process as they plan the urban space, delineating what is public and what is private and support investments and the provision of public services. Fast-paced structural change inevitably creates winners and losers and this needs to be monitored. This in turn requires increased government capacity to monitor, learn and respond as needed (see Challenge 2). Fast-paced structural change also has important implications for the environment and the natural resources base that need to be managed.

36. Limited credit for private investment is a binding constraint to productive and competitive firms, particularly to domestic firm growth. The private sector in Ethiopia is nascent. For instance, when measured through private sector credit to GDP, Ethiopia lags peers: private sector credit is only about 9 percent of GDP in Ethiopia compared to more than 20 percent in SSA (World Bank 2015e). In addition, the experience of East Asian developmental states including China, South Korea, and Vietnam, show that private firm growth is needed to lead the development process. In the Doing Business report, Ethiopia ranked 167 out of 189 economies on getting access to credit, much lower than its overall rank of 146 and lower than its structural peers. Ethiopian firms are more likely to be credit constrained than global comparators. This is a constraint that particularly affects domestic firm growth, as they do not have access to foreign sources of credit that foreign-owned companies have. Access to finance was consistently cited as a top-three business constraint across six available surveys with widely different scope and methodology (Table ES1). Firms that are fully credit constrained exhibit poorer performance and productivity with a 15 percentage point lower sales growth, 5 percent lower job growth and 11 percentage points lower labor productivity growth (World Bank 2014c). Growth regressions illustrate a considerable untapped potential for structural economic reforms, especially in domestic finance: if Ethiopia were to close the gap with SSA it could potentially increase its annual growth rate by 2 percent per year (World Bank 2015b). Increasing access to finance necessary for domestic firm growth requires reconsidering the current financing model as discussed in Challenge 1.

Table ES1. Most binding constraints to doing business in Ethiopia, various rankings

	Enterprise Survey 2011	Consultations on National Business Agenda 2015	Doing Business 2015	Global Competitiveness Index 2014-2015 Constraints	Ethiopia Socioeconomic Survey 2013/14	Large and Medium Scale Manufacturing 2012/13
1.	Credit	Taxes	Starting a business	Government Bureaucracy	Access to markets	Raw materials
2.	Land	Credit	Credit	Foreign exchange	Credit	Access to markets
3.	<u>Energy</u>	Land	<u>Trade logistics</u>	Credit	<u>Trade logistics</u>	Credit
4.	Taxes	<u>Energy</u>	Protecting minority investors	Corruption	Taxes	<u>Energy</u>
5.	<u>Trade logistics</u>	Unfair competition	Registering property	<u>Energy</u>		

Source: World Bank Doing Business Report (2016); Global Competitiveness Report (2014 and 2015); National Business Agenda (2014); World Bank Enterprise Survey (2011); Ethiopia Central Statistical Agency Large and Medium Scale Manufacturing Census (2012/13); Ethiopia Socioeconomic Survey (2013/14). Note: Language has been harmonized across surveys for ease of comparability. Credit in **bold**. Infrastructure underlined.

37. **Competitiveness is also a binding constraint to private sector growth.** Because this is a relatively broad concept, four specific constraints are identified. Strengthening consultations with the private sector will help ensure effective action in addressing these challenges and promote private sector growth. For example, the most economically successful provinces in Vietnam are those where the dialogue between the provincial government and business associations is most active. In Ethiopia the public-private sector dialogue can improve further (see Challenge 2).

38. **The key constraints to firm competitiveness are entry barriers to starting a business; access to reliable energy; trade logistics; and an overvalued real exchange rate.** These constraints were identified because they are the most frequently mentioned constraints¹⁰ by firms in a review of six surveys about entry level and operational business constraints (Table ES1). In addition, benchmarking exercises show Ethiopia to be lagging in this regard. Ethiopia ranks low in starting a business (176th out of 189 economies) and in trading across borders (166th) in the Doing Business report. Improving access to reliable energy and improving trade competitiveness is also critical to the country's ambition of promoting light manufacturing. Firm level simulations using cross-country firm regressions indicate the potential for improved performance if Ethiopia were able to achieve the same quality of services as in aspirational peers:

- Matching the electricity conditions of Vietnam would lead to an increase of 4.1 percent in labor productivity.
- Matching the transportation services of China would also increase the labor productivity of Ethiopian firms by 4.1 percent.¹¹
- A one percent devaluation of the real exchange rate is estimated to boost exports by ½ percent with larger effects in manufacturing (1 percent) than in agriculture (1/3 percent).¹²

¹⁰ Excluding credit which has already been identified as a binding constraint.

¹¹ Hollweg et al. 2015.

¹² Haile 2015.

39. **Although not yet considered binding, a constraint that may emerge to firm competitiveness in the future is telecom.** Ethiopia's Information and Communications Technology (ICT) sector ranks among the bottom decile in most international indices.¹³ ICT is an example of an area where, in absolute terms, Ethiopia could benefit from making progress. However, it does not emerge as a top priority to firm growth from a review of firm surveys, nor from the results of cross-country firm regressions. However, as other constraints to firm competitiveness are addressed, limited coverage, costly access and lack of local content and services will likely become a more binding constraint to firm growth. Anecdotal evidence suggests that while sub-par ICT quality can be a nuisance this does not necessarily imply that it is a key determinant of competitiveness in the industries where Ethiopia has a comparative advantage. Conversely, improved performance in this area could potentially open up new sectors, as the example of Kenya illustrates.

40. **Ethiopia also needs more inclusive structural change and this will require firm growth that creates quality jobs for unskilled or semi-skilled workers in manufacturing and services.** The urban labor market is evenly split between wage employed and self-employed workers. Workers with post-secondary education are in most demand followed by workers with just primary education. Results from a labor matching exercise suggest that there are not enough urban job opportunities for those with primary and secondary education.¹⁴ This points both to the need for growth in self-employment income and job creation for unskilled or semi-skilled workers.

41. **Challenges in addressing unemployment reflect the low human development and uncompetitive private sector binding constraints.** Skills shortages constrain productivity growth of some firms in the manufacturing sector as firms struggle to recruit candidates with appropriate technical and soft skills.¹⁵ Large foreign light manufacturing firms often prefer to hire high school graduates and train them in-house rather than hire Technical Vocational Education and Training (TVET) graduates. Low engagement between firms and TVET institutions is cited as a key reason affecting the quality of TVET graduates. High rates of unemployment among low skilled workers can be explained in part by low levels of labor productivity: wages for unskilled workers do not fall to match supply and demand for labor because lower wages would be below the subsistence levels of unskilled workers causing them to be unable to work.¹⁶ Low wages, in turn, reflect very low levels of labor productivity.

42. **Weak urban planning and land management is a binding constraint.** Ethiopia's prospects for structural transformation depend critically on urban planning. **If well managed, urbanization could be an important catalyst to promote growth, create jobs, and connect Ethiopians to prosperity. If not managed proactively, rapid urban population growth may pose a demographic challenge as cities struggle to provide jobs, infrastructure and services, and housing.** Integrated planning and improved land management to facilitate investments in infrastructure and services will be essential to ensure urbanization is better managed. Rigid and static land use planning, typical for many counties, is giving way to more market-responsive systems, and the current Ethiopian Urban

¹³ For example, the ICT Development Index of the International Telecommunications Union ranks Ethiopia as 162nd out of 166 countries (34th out of 38 sub-Saharan African countries); the Network Readiness Index of the World Economic Forum ranks Ethiopia as 130th out of 143 countries (24th out of 32 sub-Saharan African countries), and the web index of the World Wide Web Foundation ranks Ethiopia as 86th out of 86 countries (21st out of 21 sub-Saharan African countries).

¹⁴ World Bank 2015i.

¹⁵ World Bank 2014d.

¹⁶ World Bank 2015i.

Plan Preparation and Implementation Strategy already signals a positive shift. However, there is an urgent need to reform the system of land management to ease administrative and fiscal burdens, free land for development, and promote efficient urban forms, while maintaining the public ownership of land, which is enshrined in the Ethiopian Constitution. This would allow for population density to increase in central areas of cities which would in turn result in significant cost savings in the provision of urban infrastructure; and reduce search costs in labor markets which have been shown to constrain job search and matching (World Bank 2015c, World Bank 2015i).

43. Finally, **limited urban safety nets are a binding constraint to achieving *inclusive structural change***. The poverty rate in urban Ethiopia is almost as high as the rural poverty rate (85 percent). This is marked contrast to structural peers, for whom the urban poverty rate is about half of the rural poverty rate, and to aspirational peers for whom the urban poverty rate is a third of the rural poverty rate. Urban unemployment rates are also high in comparison to both structural and aspirational peers, and unemployment is strongly correlated with poverty.¹⁷ Those who are unable to work—the elderly and disabled—are poorer in comparison to their neighbors than their counterparts in rural areas, and more vulnerable. They are less likely to access a loan or gift from relatives when needed, reflecting weaker social structures, and receive no public safety net transfers, which are exclusively focused on rural areas. As urban areas increase, the need to strengthen urban safety nets will become an increasing priority to addressing poverty in urban areas. Simulations show that a modestly-sized urban safety net can halve urban poverty (Olinto and Sherpa 2014) and encourage income growth among recipients by increasing job search, increasing the productivity of the self-employed and encouraging some self-employed to graduate from necessity self-employment to wage employment (Franklin 2014, Poschke 2014).

¹⁷ The urban unemployment rate is 17 percent in comparison to 7 percent and 9.5 percent in Rwanda and Uganda respectively, and 3 percent in in Cambodia and Vietnam.

Challenges to Sustainability

Challenge 1: Ethiopia's Financing Choice--Public or Private Investment?

44. The current infrastructure financing model represents a risk to development outcomes. Given the design of Ethiopia's financial sector, domestic credit is a rationed resource allocated to competing uses. The rapid expansion of publically provided infrastructure and basic services was partly financed by allocating the bulk of domestic banking sector credit to this use while also rapidly building up external debt. If this model is continued, there is a risk that insufficient domestic credit will be made available for private investment projects that can enable high growth and job creation to be sustained. The Government of Ethiopia (GoE) recognizes that now that needed infrastructure investments have been made, greater attention to private sector development is needed. While foreign firms may benefit from external financing, the development of a striving domestic private sector is held back in the current credit environment. This may require additional analysis distinguishing between manufacturing and services activities. Finally, while debt levels and risks are currently moderate, they are increasing rapidly. In a future worst-case scenario where debt distress risks play out, past development progress would be undermined.

45. The economic and poverty impact of two policy options that can harness more private sector credit are evaluated in the report. The first option consists in maintaining the existing financial sector design, but shifting more credit to the private sector along the lines of what was done in developmental states such as South Korea. The second option involves interest rate liberalization with higher real interest rates to facilitate increased savings and credit for both public and private uses as savers are better remunerated. These reforms, particularly when combined, can yield a significantly positive impact on economic growth and in promoting structural change. Doubling the supply of funds to the private sector (from one-third to two-thirds of total credit) and allowing real deposit rates to be closer to market interest rate (from 0.01 to 0.025) generates a 15 percent increase in output and 182 percent increase in private investment (Lizarazo et al. 2015). However, if labor were unable to move from agriculture to non-agriculture sectors, the suggested reforms would increase poverty and inequality. If measures are taken to help households migrate between sectors this will facilitate household income growth and poverty reduction. Transitions take time, and so in the short run it may be necessary to expand safety nets to offset any negative impacts of the reforms. This expansion could be financed from the total net benefits of the reform.

46. Addressing the binding constraints requires continued infrastructure investment, but alternative financing options are need to make the financing model sustainable. Addressing the binding constraints entails continuing to address the infrastructure deficit that is currently the third largest in Africa. However, the past infrastructure expansion was financed via a range of mechanisms that will begin to show their limits in the future in terms of external debt sustainability and private sector crowding out in the credit and forex allocations. Going forward, Ethiopia needs more infrastructure, but it would need new mechanisms to finance it. There is a range of alternative financing mechanisms. Some options are consistent with current government strategy and thinking. This includes raising tax revenues, increased private sector involvement (including Public Private Partnerships), greater selectivity and prioritization of investments, and improved public investment management. Other options deviate from the existing paradigm, including: increasing domestic savings and developing capital markets via a higher real interest rate; securitization of infrastructure assets; and improved pricing, including higher electricity tariffs. The absence of a functioning capital market may become a constraint once real interest rates have

normalized. Short-term instruments characterize the current market, which does not match the long-term nature of nature of actual investment.

Challenge 2: Increasing the Capacity and Responsiveness of Government

47. The government stakes its legitimacy on delivering results for citizens, requiring strong government capacity, adaptive learning, flexibility to adjust strategy, and ability to manage risk. Any weakness in the capacity of the state to effectively implement policies and programs introduces risk to the state-led approach. Certain features of the development model limit the role of important voices that can provide feedback on performance. Without specific action to improve policy monitoring and evaluation, and citizen and private sector engagement, the government has limited evidence available to learn how policies or state actions need to evolve. This poses a risk to the sustainability of progress in Ethiopia, as the government seeks greater development in new sectors (e.g. light manufacturing) where government implementation capacity is still on a relatively steep point on the learning curve.

48. Since the 1990s, Ethiopia gradually moved from being a conflict-affected state towards becoming a relatively effective state. As a result of public sector reforms and capacity building pursued in recent decades, Ethiopia now performs almost at par with aspirational peers according to the Global Governance Indicators (Kaufmann Kray). The government strengthened knowledge, capabilities, and systems for the civil service, although substantial gaps remain. Some government systems, including procurement, are still weak. Encouragingly, corruption is quite low and Ethiopia performs better in this dimension than aspirational peers, though the public infrastructure-led model brings additional risks in the context of relatively low real public wages.

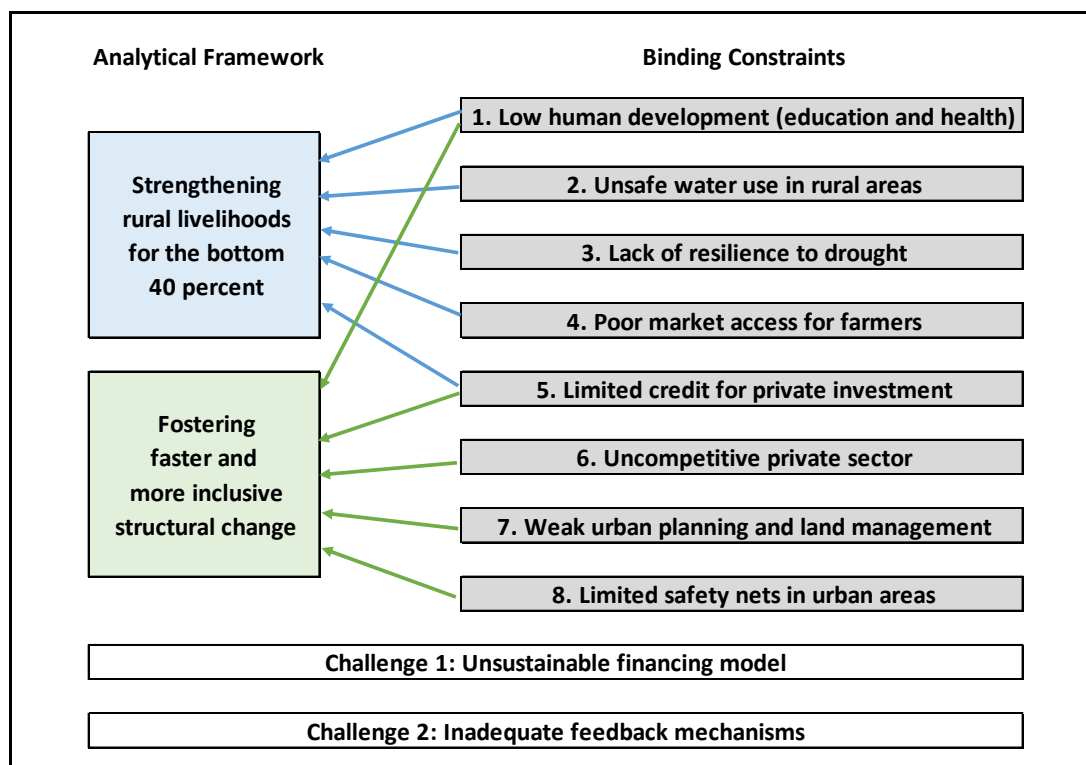
49. Developmental states excel at generating coherence and efficacy, but this model does not foster critical debate and evidence-based policy making to the same extent. In Ethiopia, there are limits to the set of policy choices that key decision makers are willing to contemplate, affecting for instance the degree to which market-based institutions can be introduced. There are several aspects of the party and political system that encourage evidence-based strategy and policy formulation, including: commitment to learning, the ability of non-party affiliated bureaucrats to hold influential positions, strong processes of consensus building, and self-evaluation. However, outside the system, there is little open discussion on policy direction. Consultations with the private sector and civil society are particularly limited compared to other developmental states such as China and Vietnam.

50. Although the current system contains a number of ways in which evidence informs policy implementation, further capacity and dialogue needs to be implemented. Capabilities for evidence-based evaluation are uneven across policy areas. The government has established formal feedback mechanisms at local levels and for specific services—this includes, for instance, Citizens’ Charters and the Woreda and City Benchmarking Surveys—though further investments in encouraging accountability and transparency at local levels is needed. Monitoring and managing social and environmental risks is also particularly important in the context of structural change. This requires increased capacity at all levels of government to monitor and safeguard the wellbeing of groups affected by government policy, especially in the context of resettlement.

Summary of Binding Constraints and Knowledge Gaps

51. **Eight binding constraints have been identified for Ethiopia’s progress on ending extreme poverty and promoting shared prosperity.** Figure ES3 illustrates these constraints and their link with the analytical framework. Table ES2 summarizes the evidence base underpinning their selection.

Figure ES.3 Analytical framework and binding constraints



52. **This SCD was prepared on a strong knowledge base, but gaps in understanding remain, which helps define the analytical agenda going forward.** In the area of rural livelihoods, more research is needed on pastoralist communities and livestock productivity, increasing rural non-farm growth, livelihoods in refugee camps, and availability of groundwater resources for irrigation. The inclusive structural change agenda would benefit from more detailed analysis of financial sector risks and the impact of SOE and endowment companies on household incomes. Knowledge gaps around sustainable financing relate: developing ways to raise tax revenues; improving public investment management; estimating the returns from public investment; and on the role of SOEs. Finally, to improve understanding of capacity and responsiveness of government, analysis around transparency, accountability, civil service capacity, and interactions between government and the private sector is needed.

Table ES2: Eight binding constraints: summary of evidence

Constraint	Evidence
Low human development: low educational outcomes and ill-health as a result of lack of access to services, poor quality and financial and gender constraints to investments	<p>Benchmarking: Ethiopia underperforms on:</p> <ul style="list-style-type: none"> • Primary completion, secondary education (Fig. ES1) • Maternal mortality, birth attendance, immunization (Fig. ES1) <p>Micro-economic evidence for Ethiopia shows that improving human capital can reduce poverty by:</p> <ul style="list-style-type: none"> • Increasing agricultural income: Bachewe et al. 2015; Zerfu and Larson 2010; Endale 2011; Asfaw et al. 2011; Melesse 2015; Dercon et al. 2009; Krishnan and Patnam 2013; Yu et al. 2011; and Berhane et al. forthcoming. • Increasing non-agricultural income in rural areas: Bezu and Barrett 2010 • Increasing the probability of rural-urban migration: de Brauw 2014 • Increases firm productivity and wages in urban areas: World Bank 2015e; World Bank 2015i.
Unsafe water use in rural areas	<p>Benchmarking: Ethiopia underperforms on access to safe water (Fig. ES1)</p> <p>Micro-economic evidence for Ethiopia shows that improving access to clean water reduces poverty by:</p> <ul style="list-style-type: none"> • Improving health and nutrition: Mahmud et al. 2013; Mekonnen et al. 2005; Silva 2005; Teshome et al. 2009; Headey et al. 2014; Boisson et al. 2009; Fenn et al. 2011. • Increase agricultural of productivity among women by reducing their time burden: Aguilar et al. 2014.
Lack of resilience to drought as a result of: (i) poor natural resource management; (ii) lack of irrigation; and (iii) need for rural safety nets	<p>Benchmarking: Ethiopia has frequent droughts (15 in the last 50 years compared to a peer average of 8).</p> <p>Micro-economic evidence for Ethiopia shows that reducing vulnerability to drought reduces poverty by:</p> <ul style="list-style-type: none"> • Reducing the direct effect of drought on poverty: Dercon (2004); Dercon, Hoddinott, and Woldehanna (2005); Dercon and Porter (2013); Gilligan and Hoddinott (2007); Hill and Porter (2014). • Directly contributing to agricultural growth and poverty reduction: World Bank 2015a. • Increasing income growth by encouraging agricultural investment: Dercon and Christiaensen (2011); Alem et al. (2009); Zerfu and Larson (2010); Gebregziabher and Holden (2011); Berhane et al. (2015); Mahmud et al. (2009); Fufu and Hassan (2006); Cavatassi et al. (2010); Yu et al. (2011).
Poor market access for farmers	<p>Benchmarking: road density per person is low (one of the lowest in Africa)</p> <p>Cross-country regression analysis: infrastructure investment is the best strategy for growth (Moller and Wacker 2015)</p> <p>Micro-economic evidence for Ethiopia shows that reducing remoteness by investing in roads can reduce poverty by:</p> <ul style="list-style-type: none"> • Removing a major constraint on agricultural income growth: Dercon et al. 2009; Hill and Tsehaye 2014; Stifel et al. 2012; Minten et al. 2012; Minten et al. 2014; Bachewe, et al. 2015; Zerfu and Larson 2010; Fufa and Hassan 2006; Cavatassi et al. 2010; Li et al. 2011; Melesse 2015; and Kedir et al. 2015. • Encouraging non-farm income growth: Bhatta and Årethun 2013; Jolliffe et al. 2014; Loening et al. 2008.
Limited credit for private investment	<p>Benchmarking:</p> <ul style="list-style-type: none"> • Households have lower access to formal financial institutions than among peers • Ethiopia ranks 167 out of 189 economies for firm access to credit on doing business, firms are more likely to be credit constrained than global comparators. <p>Micro-economic evidence for Ethiopia shows that lack of credit constrains:</p> <ul style="list-style-type: none"> • Agricultural income growth: Bachewe et al. 2015; Matsumoto and Yamano 2010; Liverpool and Winter-Nelson 2009; Endale 2011; Melesse 2015. • Non-farm entrepreneurship in rural (Bhatta and Årethun 2013; Bezu and Barrett 2010) and urban areas (Blattman and Dercon 2015). • Productivity and performance of firms: World Bank 2014c; review of firms surveys (Table ES1). • Migration (de Brauw 2014) and job search in urban areas once there (Franklin 2014). <p>Cross-country regression analysis shows that</p> <ul style="list-style-type: none"> • Matching China's access to credit would increase firm labor productivity by 8.1 percent (Hollweg et al. 2015). • Matching peers access to finance would increase the GDP growth rate by 2 percent (World Bank 2015b).
Uncompetitive private sector as a result of: (i) unreliable energy, (ii) poor trade logistics, (iii) an overvalued exchange rate and (iv) entry barriers.	<p>Benchmarking:</p> <ul style="list-style-type: none"> • Ethiopia ranks low in starting a business (176th) and trading across borders (166th) (Doing Business). <p>Micro-economic evidence for Ethiopia highlights these as major constraints to growth cited by firms (Table ES1).</p> <p>Cross-country regression analysis shows that:</p> <ul style="list-style-type: none"> • Matching the electricity supply of Vietnam would increase firm labor productivity 4.1 percent (Hollweg et al. 2015). • Matching transportation services of China would increase firm labor productivity 4.1 percent (Hollweg et al. 2015). • Devaluing the real exchange rate by 1 percent would boost exports by 0.5 percent (Haile 2015); International Monetary Fund (IMF) Article IV 2015.
Weak urban planning and land management	<p>Benchmarking: Ethiopia has a high share of population in rural areas (highest among structural and aspirational peers);</p> <p>Micro-econometric evidence: urban planning is a major constraint to better urban growth (World Bank 2015c);</p>
Limited safety nets in urban areas	<p>Benchmarking: Urban poverty rates are relatively high in Ethiopia: 85 percent of the rural poverty rate compared to 54 percent among structural peers.</p> <p>Micro-econometric evidence for Ethiopia shows that urban safety nets can:</p> <ul style="list-style-type: none"> • Halve urban poverty rates (Olinto and Sherpa 2014). • Encourage income growth among recipients (Franklin 2014; Poschke 2014).

Introduction

1. **This SCD aims to address the following question:** What are the most critical constraints and opportunities facing Ethiopia in accelerating progress towards the World Bank Group's goals in a sustainable manner? The goals are: (i) the eradication of extreme poverty globally; and (ii) promoting shared prosperity in each country.¹⁸ The time frame considered for the SCD is about ten years.

2. **Ethiopia has achieved substantial progress in economic, social, and human development indicators over the past decade.** The country has experienced rapid and inclusive economic growth, averaging 10.9 percent per year since 2004. Extreme poverty fell from 55 percent in 2000 (one of the highest levels recorded internationally) to 33 percent in 2011. Low levels of inequality have been maintained through this period of economic development. Non-monetary dimensions of wellbeing show strong improvement as well. Life expectancy, for instance, increased by one year annually over this period (from 52 to 63 years).

3. **Ethiopia's challenge is to sustain progress.** To achieve this, the country must build on the elements of its development strategy that worked well in the past and remain sustainable, including the promotion of agricultural growth, service delivery, safety nets, and natural resource management. In addition, policies that support faster and more inclusive structural change spearheaded by the private sector would also need to be promoted.¹⁹ This SCD also identifies two challenges to sustainability of existing and future progress towards reducing extreme poverty and promoting shared prosperity. First, while Ethiopia should continue high infrastructure investment it would need to find alternative ways of financing infrastructure expansion sustainably. Second, the government must pay close attention to 'what works and what does not' in order to ensure it can continue delivering the development progress upon which its political legitimacy rests.

4. **The report is structured as follows:** Part A provides relevant context and sets the stage for Part B which identifies priorities for poverty reduction. In Part A, Chapter 1 describes the key features of the country, economy and its development strategy. Chapter 2 reports on the patterns of poverty and shared prosperity. Chapter 3 reviews trends and determinants of economic growth. In Part B, Chapter 4 sets out an analytical framework to identify drivers of progress, prioritize among constraints to progress, and identify challenges to sustainability. Chapter 5 describes the first part of this framework emphasizing the importance of 'strengthening rural livelihoods for the bottom 40 percent.' Chapter 6 focuses on the second part of the framework related to 'fostering faster and more inclusive structural change.' The two subsequent chapters address the risks to sustainability of development outcomes. Chapter 7 evaluates Ethiopia's financing choices as it weighs the relative importance of the two growth and shared prosperity drivers: public infrastructure and private investment. Chapter 8 stresses the importance of government ability to learn quickly what works and adapt in a developmental state approach. Chapter 9 concludes.

¹⁸ Extreme poverty is measured as consuming less than \$1.90 2011 PPP a day, and eliminating extreme poverty globally will be reducing the global population living on less than \$1.90 a day to less than 3 percent by 2030. Shared prosperity is measured as the consumption growth of the bottom 40 percent. There is no country or global target; rather the goal is to increase the growth of the bottom 40 percent, in absolute terms and relative to the top 60 percent.

¹⁹ In this SCD, structural change is defined as movement of labor from low- to higher-productivity activities. Structural change is associated with urbanization as labor shifts into the industry and services sectors.

PART A: CONTEXT

1. Country Context

1.1 Geography and Population

5. **Land-locked Ethiopia is a large and geographically diverse country located in the Horn of Africa and is one of the poorest countries in the world.** It is home to Africa's second largest population (about 92 million in 2014)²⁰ of which less than one-fifth lives in urban areas. The country has the sixth largest economy in Sub-Saharan Africa though this is the product of a large population rather than high per capita income, which at US\$550 in 2014 places Ethiopia as the 11th poorest country worldwide.²¹ The economy is relatively closed both in terms of trade and trade policy and it has yet to join the World Trade Organization. Following the 1993 secession of Eritrea, Ethiopia lost access to the sea and today most trade-related cargo is shipped via neighboring Djibouti.

6. **The natural resource base remains the foundation for most livelihoods, and is subject to considerable climatic risk.** Ethiopia has experienced 15 drought events in the last 50 years, more than all other countries in Africa. The rural population is directly dependent on income and energy from land, forest, and water resources. Land is owned by the state and user rights are allocated equitably. Less than 1 percent of the land is irrigated. Deterioration of the natural resource base amplifies exposure to substantial environmental and climate risks that affect food and water security, energy, and human health. There is potential for mineral resources (gold, copper, potash, gemstones, oil, and gas) but compared to most African countries, there is yet limited information available on the country's mineral wealth.

7. **Human capital and access to infrastructure is very low.** Despite substantial gains in education enrollment, access to health care, water, sanitation, and roads, a historic legacy of underinvestment still bears its mark. Ethiopia's infrastructure deficit remains one of the largest in the world. More than half of the adult population is illiterate—the highest illiteracy rate in the continent outside of West Africa—and the maternal mortality rate is unacceptably high at 420 per 100,000.²²

8. **There has been a rapid shift in the age structure of the population.** According to UN data, the share of the working-age population started increasing in 2005. Having been constant since 1985 at about 50-51 percent, the working age population share increased to 52.3 percent in 2010 to 55.1 percent in 2015 with a projected peak of 67.5 percent in 2055. Ethiopia's demographic transition is taking place faster than in the rest of Africa owing to a more rapid decline in mortality and fertility. The rising working-age population presents opportunities as well as challenges for the country in the coming decades.

²⁰ The exact size of the population is unclear. The CSA estimates 88 million while the UN projects 96.5 million.

²¹ World Bank estimates of Gross National Income Atlas Method using UN population figures.

²² Education data from the forthcoming World Bank report: "*Poverty in a rising Africa*" using EDSTAT data.

1.2. Economic Context

9. **Services and agriculture are the most important economic sectors, while manufacturing lags substantially behind.** Agriculture accounts for more than three quarters of employment, 40 percent of output, and a third of total exports (90 percent of goods exports). Major agricultural exports include: coffee, sesame seeds and flowers. Services employ just 15 percent of the active labor force, but accounts for 45 percent of output and half of total exports (mainly air transport and tourism). The share of manufacturing in output, employment, and exports (textile and leather) is just 5 percent. The mining sector is currently small (1 percent of output, 0.5 percent of employment and 10 percent of exports), but it is growing fast and may hold future growth potential (World Bank, 2014a).

10. **Ethiopia's economy has remained relatively stable with occasional bouts of high inflation.** Strong economic growth, supported by expansionary monetary and fiscal policies, resulted in periodically high and volatile inflation over the past decade, especially during the global food and fuel price shocks in 2008 and 2011 when headline inflation reached the 35-45 percent range. In recent years, tighter monetary policy and lower commodity prices have helped contain inflation close to the government target of 10 percent.

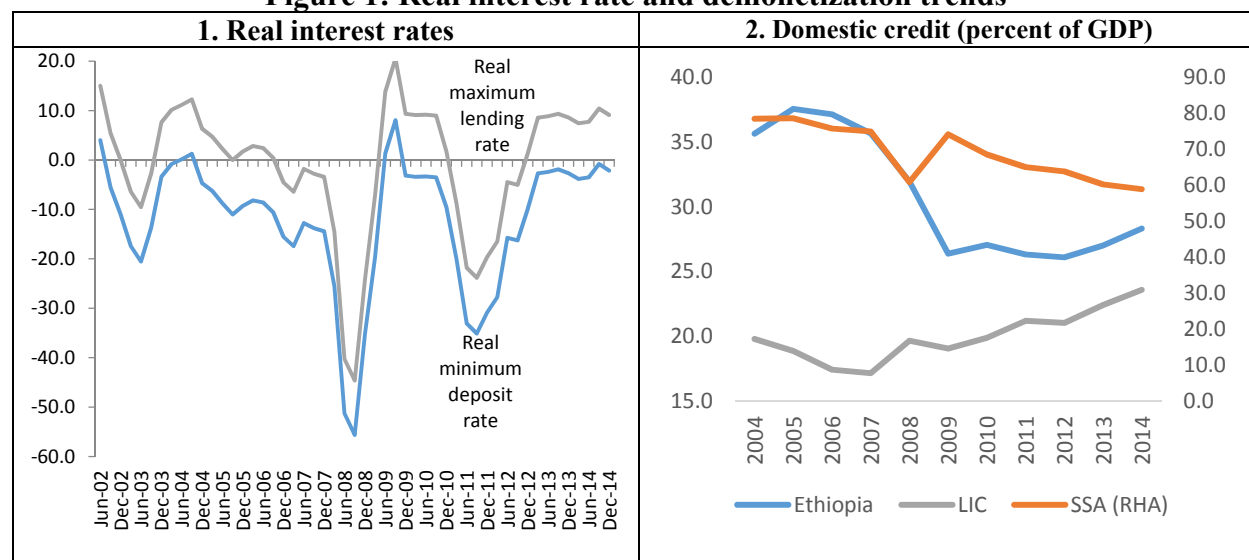
11. **The exchange rate and international reserves have remained stable.** The nominal exchange rate has followed a stable depreciation path against the US\$ of around 5 percent per year since 2010. This, however, led to a gradual build-up of real exchange rate overvaluation as domestic inflation exceeded foreign inflation. In this context, the authorities maintained international reserves relatively constant in dollar terms, while permitting scarcity of foreign exchange in the economy as opposed to drawing down reserves.

12. **Ethiopia has a structural and widening external current account deficit and, as a result, external public debt is rising rapidly.** Exports of goods and services declined to 10.0 percent of GDP in 2014/15. Imports, meanwhile, increased to 26.6 percent of GDP that year of which about a third were capital goods. This resulted in an external deficit of 14.7 percent of GDP, which is covered by public and private transfers, external borrowing and Foreign Direct Investment (FDI). The public debt-to-GDP has risen to 50 percent of GDP (half of which is external) in 2015 from 37 percent two years earlier. In just two years, the risk of external debt distress rating moved from 'low' to 'moderate.' The chief vulnerability relates to the external debt to exports ratio which has risen sharply owing to poor export performance. The sovereign risk rating is classified as 'highly speculative' (B1/B/B).

13. **State owned enterprise activity contributes to a twin deficit of structural fiscal and external imbalances.** While the central government deficit (including grants) remains contained at below 3 percent of GDP, the financing needs of state-owned enterprises (SOEs) increased to 7.4 percent of GDP in 2014/15, reflecting accelerated investment. The bulk of SOE investment finances public infrastructure development and may account for two-thirds of capital imports. As explained in Chapter 3, these investments have supported Ethiopia's recent growth acceleration.

14. **Ethiopia's banking sector is characterized by 'financial repression.'** Key characteristics include: below-market nominal deposit rates and allocation of the bulk of credit by state-owned banks, which account for two-thirds of the banking sector. Economists are divided as to whether financial repression is good or bad for economic growth (see World Bank, 2015b for a discussion). In Ethiopia, financial repression has been used to support high public infrastructure investment executed by SOEs, but at the same time insufficient credit has been made available for private investment: 62 percent of the domestic credit stock is for SOEs. Monetary savings have been discouraged by negative real interest rates resulting in a demonetization trend as domestic credit and broad money have declined as a share of GDP over the past decade (Figure 1). Private sector credit to GDP is only about 9 percent of GDP compared to more than 20 percent in SSA (World Bank 2015e).

Figure 1: Real interest rate and demonetization trends



Source: World Bank (2015b)

15. **SOEs remain an important part of the Ethiopian economy, but are not as important as in some other countries.** The public sector currently accounts for about 20 percent of GDP mainly through the activities of SOEs. To some extent, the presence of SOEs in the economy is a product of history following the late introduction of a market-based economy in 1991, with the GoE continuing to view them as key to economic growth. By comparison, SOEs accounted for 70 percent of China's GDP in the 1980s when it was at a similar stage of development as Ethiopia (measured by level of GNI per capita), and 30 percent in the early 2000s. In Vietnam, they accounted for 30 percent of GDP in the early 2000s (Nguyen and Nguyen 2015).

16. **The Ethiopian private sector, including the export sector, remains nascent.** The low private investment rate and low private sector credit share are the strongest indicators of this, but there are several others. Entrepreneurship in Ethiopia lags substantially behind: the country created 0.03 new registered businesses per 1,000 working age people in 2010, compared to rates of about 2.2 in countries such as Brazil and Malaysia (Ghani and O'Connell, 2014). This may be related to the red tape of 'starting a business,' which puts Ethiopia at a ranking of 13th from the bottom in

the 2016 Doing Business Report. The business environment also tends to favor incumbent firms and deter new entrants into export businesses, yet no multi-product, multi-country ‘export superstars’ are emerging (World Bank, 2014g). Relatedly, with a population twice as large, Ethiopia has half as many exporting firms as Kenya, and the exporter size is also small (measured by total value of exports in US\$ per firm). Finally, the domestic private sector faces challenges in terms of a low level of core business skills, especially in the Small and Medium Enterprise (SME) segment (World Bank 2014d).

1.3 A Unique Development Strategy

17. **Since 1991, Ethiopia has pursued a policy of Agricultural Development Led Industrialization (ADLI).** ADLI builds on the development theories from the 1960s in which smallholder agriculture needs to be developed first to facilitate demand for industrial commodities and inputs for industrialization. The policy aims to increase agricultural productivity to raise overall production, as well as invest in those industries with most production linkages to rural areas. Budgetary allocations for the agricultural sector are among the highest in Africa as is Ethiopia’s large agricultural extension workforce.

18. **Since the late 2000s, ADLI has been gradually complemented by efforts to support a process of structural transformation.** The First Growth and Transformation Plan (2010-15), GTP1, increasingly promoted light manufacturing in key sectors where the country has a perceived comparative advantage (e.g. apparel, leather, agribusiness, cement, and metal). This was supported by a two-pronged industrial policy: cross-cutting sectoral support in the form of tax incentives and preferential access to land, credit, and foreign exchange, and a reliance on industrial parks as a tool to attract FDI. The Second Growth and Transformation Plan (2015-20), GTP2, puts an even stronger emphasis on structural transformation, industrialization, urbanization, and export promotion, where progress in GTP1 had been modest.

19. **Massive public investment has been at the center of economic strategy since the mid-1990s to address the legacy of infrastructure and human capital deficits.** The public investment rate rose from about 5 percent of GDP in the early 1990s to 19 percent of GDP in 2011—the third highest worldwide. Power generation capacity increased from 473 megawatts (MW) in 2002 to 2,268 MW in 2014, and is projected to have reached 4,138 MW in 2015. By 2020, once major ongoing hydro, geothermal, and wind projects have been completed, available generation capacity will be more than 10,000 MW. Chief among these is the construction of Africa’s largest dam, the Grand Ethiopian Renaissance Dam at a cost of US\$4.2 billion. The federal and regional road network increased from 26,500 km in 1997 to 100,000 km in 2015. Railway lines connecting Addis Ababa with the Port of Djibouti are near completion and a Light Railway line in the capital is now operational. The customer base of EthioTelecom (a state monopoly) rose from 7 million mobile, fixed, and internet customers in 2011 to 40 million mobile customers in 2015, and projects to upgrade the existing networks are ongoing. Progress in addressing human capital deficits has also been substantial and is discussed in Section 2.2.

20. **Heterodox financing arrangements to support public investment were at the heart of the development strategy.** Despite low domestic savings (and taxes), Ethiopia was able to finance high public investment in a variety of orthodox and heterodox ways. The former include keeping

current government consumption low to provide room for budgetary public infrastructure investment as well as tapping external concessional and non-concessional financing. Three less conventional mechanisms stand out: First, a model of financial repression that kept interest rates low and directed the bulk of credit towards public infrastructure (at the expense of the private sector). Second, an overvalued exchange rate that cheapened public capital imports (but undermined external competitiveness). Third, monetary expansion, including direct central bank budget financing, which earned the government seignorage revenues (but created an uncertain business environment). The inherent trade-offs in these policies choices help explain why Ethiopia also has the sixth lowest private investment rate in the world.

21. Ethiopia has emphasized public investment with considerable success, but it has not emphasized the promotion of a vibrant private sector. International experience underscores the relevance of emphasizing public investment for growth because it expands the range of opportunities and returns on private investment. According to the Growth and Development Commission (2008): ‘No country has sustained rapid growth without also keeping up impressive rates of public investment—in infrastructure, education, and health. Far from crowding out private investment, this spending crowds it in. It paves the way for new industries to emerge and raises the return to any private venture that benefits from healthy, educated workers, passable roads, and reliable electricity.’ However, the same report also notes that ‘Government is not the proximate cause of growth. That role falls to the private sector, to investment and entrepreneurship responding to price signals and market forces ... Government provides the environment for growth, but it is the private sector that invests and creates wealth for the people.’ Ethiopia has successfully followed the first part of this advice (public investment), but now faces the challenge of the second (private investment). This is explicitly recognized by the government. Their focus on public investment has been motivated by a belief that sequencing is important and that high rates of public investment had to occur prior to private sector development. A greater role for private sector development and private investment is outlined in GTP2.

22. An additional key feature of the Ethiopia’s development strategy has been the focus on equity, particularly regional equity. The focus on equity emphasized spending on social sectors. Addressing regional inequalities through the development of historically disadvantaged groups and areas has been a priority for the GoE. A system of fiscal decentralization transfers funds for the provision of basic services in health, education, agriculture, and local infrastructure to local governments based on formulas applied at the federal and regional levels. A region’s level of development is a primary element of those formulas, with less developed regions receiving higher per capita transfer levels than more developed regions (Khan et al. 2014). Rural policy discussions have been framed around ‘three Ethiopias’—drought-prone highlands, moisture-reliable highlands, and pastoral lowlands—which influenced the targeting of development interventions. Safety nets were introduced to address vulnerability in the drought-prone highlands (and later in pastoral lowlands) while interventions in moisture-reliable highlands focused on improving agricultural productivity.

23. Ethiopia features a rare political commitment to achieve legitimacy from growth and poverty reduction. Comparatively high government effectiveness arises from a relatively strong technocracy, civil service, and hierarchy, along with the containment of corruption. While commitment to results is needed to maintain political control, it is also part of a broader agenda for achieving domestic and international legitimacy and support. High agricultural growth is driven by a need to achieve food security. Urban jobs are needed to ensure social cohesion and political

stability. The current leadership is also compelled to bring progress to a country and population largely ignored by its previous rulers. Major infrastructure projects, such as the Ethiopia Grand Renaissance Dam, are implemented also to symbolize a new and more modern era for the country. Undertaking such projects is facilitated by relative coherence and consistency in Ethiopia's system of governance.

2. Poverty and Shared Prosperity Patterns

2.1 Performance on the Twin Goals

24. **The pace of poverty reduction in Ethiopia has been impressive and particularly so when compared to other African countries.** In 2000 Ethiopia had one of the highest poverty rates in the world, with 55.3 percent of the population living on less than the international poverty line (US\$1.90 2011 PPP per day) and 44.2 percent of its population below the national poverty line.²³ By 2011, 33.5 percent lived on less than the international poverty line and 29.6 percent of the population was counted as poor by national measures.²⁴ Within Africa, only Uganda had a faster pace of poverty reduction (Figure 2.1).

25. **Ethiopia is one of the most equal countries in the world and low levels of inequality have, by and large, been maintained throughout this period of economic development.** Nationally, many measures suggest inequality has stayed quite stable from 2005 to 2011 (Figure 2.2).²⁵ Poverty fell at the same pace in rural and urban Ethiopia (World Bank 2015a). In addition, poverty reduction has been faster in regions where poverty was highest a decade and a half ago (see Section 2.5).

26. **However, the very poorest have experienced worsening consumption since 2005, posing a challenge to shared prosperity in Ethiopia.** Measures of inequality that give more weight to poorer households show national inequality has increased. In 2000-05 the growth in consumption of the bottom 40 percent was higher than the growth in consumption of the top 60 percent (Figure 2.3), but this trend was reversed in 2005-11 with lower growth rates observed among the bottom 40 percent (Figure 2.4). The highest growth rates were experienced by the fourth decile, but the poorest 10 percent experienced a decline in consumption. As a result, reductions in poverty rates were not matched by reductions in the depth and severity of poverty.

27. **World Bank estimates suggest that poverty has continued to fall, albeit with slower rural and faster urban poverty reduction than previously recorded.** Ethiopia has not collected national consumption data since 2010/11. The Ethiopia Household Consumption Expenditure Survey (HCES) underpins national poverty estimates with a five-year frequency and is currently being fielded. If growth continued to reduce poverty in the same manner post-2011 as it did prior to 2011, growth rates imply poverty is now about 25 percent. The sectoral decomposition of growth

²³ In 1999/2000 less than 10 percent of countries that conducted household surveys recorded a poverty rate higher than Ethiopia (staff calculations using povcalent).

²⁴ The national poverty line is set at 3,781 Birr per adult equivalent per year in 2011 prices which is equivalent to 1.24 USD PPP using the 2005 International Comparison Project. However, given the high rate of inflation in Ethiopia the national poverty line was just 1.12 USD PPP in 2000.

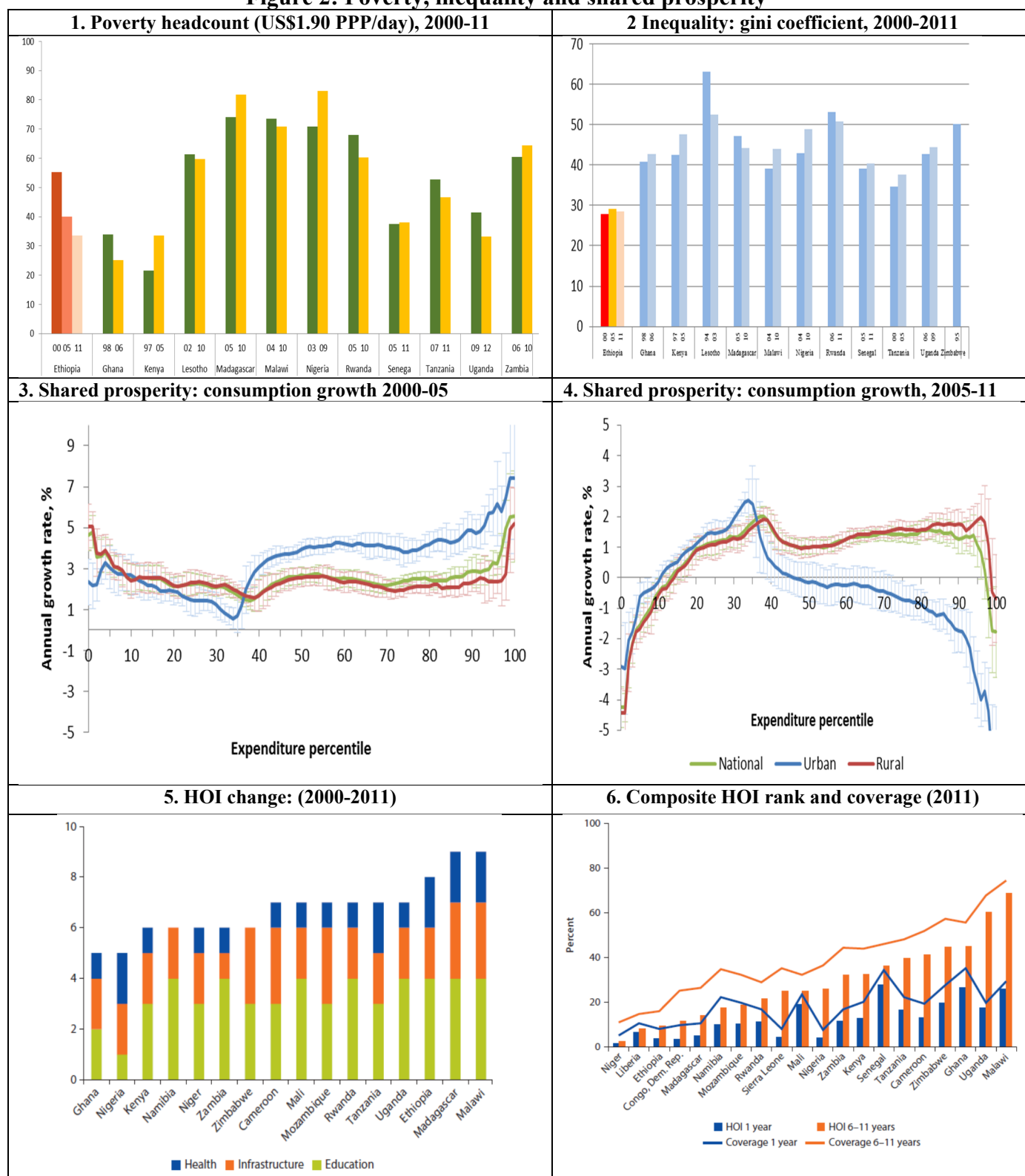
²⁵ World Bank 2015a.

shows slower agricultural growth and faster manufacturing growth in recent years than prior to 2011 suggesting that rural poverty rates have fallen slowly and urban poverty rates have fallen rapidly in recent years. The nationally representative Ethiopia Socioeconomic Survey was implemented in 2013/14 and collects data on household consumption and characteristics. Poverty imputation using these data suggest the same pattern: fast urban poverty reduction but slow or stagnating rural poverty reduction since 2010/11.

28. **Although progress has been substantial, poverty remains high and those that have moved out of poverty are vulnerable to falling back into poverty.** Many non-poor households in Ethiopia today consume only just enough to live above the poverty line making reductions in poverty vulnerable to shocks: 14 percent of non-poor rural households are estimated to be vulnerable to falling into poverty. Seventy percent of the population lives on less than US\$3.10 a day (2011 PPP).²⁶

²⁶ Povcalnet as of December 2015.

Figure 2: Poverty, inequality and shared prosperity



Source: 1-4: World Bank (2015a) using WDI, Household Income and Consumption Expenditure Survey (HICES) 2000, HICES 2005, and HICES 2011; 5-6: Dabalen et al. (2015).

29. **Continued dependence of rural livelihoods on rainfall-dependent agriculture keeps many rural households vulnerable to climate shocks.** Moreover, in urban areas sudden food price increases have become an increasingly important source of vulnerability. Agricultural output is vulnerable to poor rains given the predominance of rain-fed production and the dependence of yield-increasing technologies (such as fertilizer) on the weather. A moderate drought, defined as a rainfall shortfall of 30 percent, reduces growth in agricultural incomes by 15 percent on average and increases poverty by 13.5 percent (calculations using results in Hill and Tsehaye 2014). The current *el Niño* drought has increased the rural poverty rate by 3.3 percent, but has more than doubled the proportion of people living in poverty in zones that have been particularly affected, such as the food-insecure *woreda* of North Wollo where more than half of the population has been made poor or pushed further into poverty. A deteriorating natural resource base (forest and soil degradation and loss) increases vulnerability to weather risk.

2.2 Performance on Non-monetary Dimensions of Wellbeing

30. **Ethiopia's progress on non-monetary dimensions of wellbeing has also been impressive.** The average household in Ethiopia has better health, education and living standards today than in 2000 (see Table 1). Ethiopia is among the countries that have made the fastest progress on the Millennium Development Goals (MDGs) and the Human Development Index (HDI) ranking over the past decade. Between 2000 and 2014, Ethiopia's HDI value increased from 0.284 to 0.442, an increase of 55.6 percent.

Table 1: Ethiopia's progress on non-monetary wellbeing (selected indicators)

	2000	2011
Life expectancy (years)	52	63
Nutritional outcomes among children under 5 years of age		
Stunting	58%	44%
Wasting	12%	10%
Underweight	41%	29%
Net attendance rate: Primary education (7 -12 years of age)	30%	62%
Urban	74%	85%
Rural	24%	59%
Immunization Rates (BCG, DPT1-3, Polio, Measles)		
At least one shot	83.5%	85.5%
All vaccines	14.3%	24.3%

Source: World Bank (2015a)

31. **There were substantive gains in the areas of universal primary education, gender parity in education, child mortality, antenatal care, HIV/AIDS, and malaria.** The primary net attendance rate increased from 33.8 percent in 2000 to 62.4 percent in 2011.²⁷ The gender parity index for primary education increased from 0.7 in 1996 to 0.93 in 2011. Child mortality fell from

²⁷ Administrative data suggests much higher enrollment rates, 85 percent in 2011 and 93 percent by 2014.

72 per thousand in 2005 to 31 per thousand in 2014 (mini-Demographic and Health Survey (DHS) 2014). While only 10 percent of women in rural areas had completed four antenatal visits in 2000, this had more than tripled to 32 percent by 2014. The proportion of households with access to improved sanitation increased from 38 percent in 2005 to 66 percent in 2014. Life expectancy increased by one year annually since 2000 and is now at 63.6 years. And the proportion of households with improved living standards measured by electricity, piped water and water in residence doubled from 2000 to 2011, although from a low base.

32. High levels of public investment in education and health underpinned gains in human development. A quarter of general government expenditure is spent on education. In addition 7 percent is spent on health; 3 percent on urban development and housing; and 15 percent on agriculture, half of which is spent on safety nets (World Bank 2015a).

33. The poorest have benefited particularly and basic services gaps have diminished across income groups. Investments in basic services have resulted in poorer households improving faster than wealthier ones in school enrollment, antenatal care, and contraceptive prevalence rate (Khan et al. 2014). In 2000, children of those in the second to fourth decile were historically less likely to be in school: 28 percent of 6 to 12 year olds in the second to fourth decile were in school compared to 36 percent in the top 60 percent. However, by 2011, the historic disparity in enrollment rates between those in the second to fourth decile and wealthier households disappeared, across all groups 56 percent of 6 to 12 year olds were in school. However, barriers to enrollment are still significant among the lowest decile of households. In 2011 only 48 percent of 6 to 12 year olds in the bottom decile were in school.

34. Falling fertility rates have resulted in declining population growth. Declines in child and infant mortality rates started in the mid-1980s. The total fertility rate fell rapidly in the mid-1990s, partly in response to lower infant mortality rates. Population growth rates have declined as a result: from 3.4 percent in 1990 to 2.5 percent in 2014. In 1980, Ethiopia was doing worse on these indicators than the average Sub-Saharan African (SSA) country. The infant mortality rate (per 1,000 live birth) was 143 in Ethiopia in 1980 and on average in SSA countries 120. By 2010, Ethiopia was doing better than regional peers with an infant mortality rate of 51 in Ethiopia versus 66 for SSA countries on average (World Bank World Development Indicators (WDI)).

35. Despite improvements in access and equity of access, human capital outcomes remain very low reflecting a persisting gap in rural basic service provision. The World Bank Human Opportunity Index (HOI) measures children's access to education, water, sanitation, and nutrition while correcting for inequality in the distribution of access. Ethiopia has been one of the fastest improvers, but it still retains one of the lowest ranks in the region (Figures 2.5 and 2.6, Dabalen et al. 2015).²⁸ As an example, rates of stunting fell by 17 percentage points from 2000 to 2014, but still remain very high at 40.6 percent of children under 5 in 2014 (mini-DHS). While latrine coverage has increased to 66 percent in recent years, high levels of unhygienic latrines (62 percent of all latrines) and the practice of open defecation (37 percent) contributes to a continuing disease burden. Although substantial progress in primary enrollment rates was recorded, completion rates are very low at 70 percent and dropout rates are very high at 14 percent (according to

²⁸ The data used for Ethiopia is data from 2011 so does not reflect progress made since then.

administrative records in 2014). As a result, the secondary enrollment rate did not increase much over the decade and was recorded at 20 percent in 2014, according to administrative data. Table 2 indicates that gaps in service provision are predominantly a rural-phenomenon.

Table 2: Gaps in service provision in rural and urban Ethiopia

Proportion of household that...	Urban		Rural	
	2000	2011	2000	2011
Have school-aged children out of school	0.26	0.16	0.83	0.58
Do not have access to a health facility	0.02	0.04	0.62	0.32
Do not have clean drinking water	0.08	0.05	0.82	0.59

Source: World Bank (2015a)

2.3 Drivers of Recent Progress

36. **The main driver of poverty reduction from 1996 to 2011 has been growth, particularly in agriculture.** Regression analysis shows that for every 1 percent of growth in agricultural output, poverty was reduced by 0.9 percent (World Bank, 2015a). In comparison, each 1 percent of overall GDP growth resulted in 0.15 percent reduction in poverty. The growth elasticity of poverty reduction is -1.53 when using household consumption growth, significantly higher than the regional average of -0.69 but lower than the world average of -2.02 (Christiaensen et al. 2013).

37. **High prices and good weather together with adoption of modern inputs brought high returns and poverty reduction for those well connected to markets.** The positive impact of agricultural growth was only found close to urban centers of 50,000 people or more (World Bank 2015a). The poorest, most remote households did not benefit. This indicates that investment in roads and urban growth are essential complements to increasing agricultural output for rural poverty reduction. Increased adoption of modern input use in agriculture, such as fertilizer, has been important in reducing poverty but this has only increased agricultural incomes and reduced poverty for less remote households and when good prices and good weather have been present. It was growth in cereal production rather than cash crop production that drove poverty reduction.²⁹

38. **Although high food price inflation benefited poor households on average, it made the very poorest worse off.** The poorest in Ethiopia in 2011 were poorer than the poorest in 2005. In 2011 food inflation was 39 percent, three times the SSA average of 13 percent. Over time poor households have become increasingly self-sufficient in food (net sellers) so that higher food prices have helped the average poor household and reduced poverty. However, the very poorest rural households are marginal agricultural producers and purchase more food than they produce (net buyers). Rising food prices have hurt these households resulting in negative real income growth for the poorest. In urban areas, wages of unskilled workers—the types of jobs occupied by the

²⁹ The spread of mobile phones may have led to more efficient agricultural markets, but no major changes in agricultural pricing was observed among farmers with phone access (Bachewe et al. 2015; Minten et al. 2014; Tadesse and Bahiigwa 2015).

poorest—took time to adjust causing real incomes for these households to decline (Headey and Seyoum Taffesse 2012).

39. **Public investments in basic service provision such as education and health services have also contributed to poverty reduction.** It did so by contributing to growth and preferentially increasing the welfare of the poor. Education and health access and utilization have increased over the last decade, aided by substantial public investments increasingly financed from domestic resources.³⁰ From 2006 to 2013, the number of health posts increased by 159 percent and the number of health centers increased by 386 percent. From 2005 to 2011, the primary net attendance rate for 7-12 year olds increased from 42 to 62 percent. Estimates suggest the bottom 40 percent receive 58 percent of the benefits of spending on basic services (Khan et al. 2015).

40. **Income in Ethiopia is relatively equally distributed, prior to any redistribution by the state, but fiscal redistribution reduces inequality and poverty somewhat further.** Prior to any taxes or direct public transfers, the Gini coefficient is estimated at 0.32 (World Bank 2015a). After direct taxes and transfers the Gini coefficient falls to 0.30. The direct effect of transfers provided to rural households under the PSNP reduces poverty by 2 percentage points (World Bank 2015a). PSNP transfers have also been shown to increase agricultural input use among some beneficiaries (Hoddinott et al. 2012), and the public works investments in water management and land productivity have increased yields in some places, thereby supporting agricultural income growth and further poverty reduction among beneficiaries.

41. **Migration and sectoral labor transitions have occurred, but they have been limited.** From 2005 to 2013, the share of the workforce in agriculture fell from 80.2 percent to 77.3 percent (Martins 2015). About 1 in 10 rural workers migrates in Ethiopia, in contrast to 1 in 5 rural workers in China, which shows that physical transition, which is the precondition for labor to move between sectors is rather limited in Ethiopia. Only 23 percent of households have a non-farm enterprise, which is low by regional standards, according to a recent survey of seven SSA countries (Naude and Wagler 2014).

42. **Individuals experience significant welfare gains from migration and occupational change, but those in the bottom 40 percent have been less able to move.** Migration resulted in substantial gains in consumption (around 110 percent for those who migrate from rural to urban areas) even after controlling for differences in characteristics across migrants and non-migrants, however, not all gain equally (de Brauw, Mueller and Woldehanna 2013). A shift to technical and professional occupations has helped increase consumption at all levels, but it has contributed more to increases in consumption among the richest (Hassan and Seyoum Taffesse 2014). Households with lower levels of education, lower levels of liquidity, and agricultural productivity have been less able to migrate (de Brauw 2014). Female migrants experience about half of the consumption gain of male migrants and they are less likely to gain employment and more likely to be an unpaid family worker.

³⁰ Donors' share in the block grants that fund much of the basic services fell from 47 percent in 2006 to under 18 percent in 2015.

43. **Given limited movements of labor across sectors and locations, structural change has had little impact on poverty reduction in Ethiopia, even though it has contributed to growth.**³¹ Progress among rural, self-employed, agricultural households in Ethiopia accounts for the major share of poverty reduction (Figure 3.1). In Ethiopia the service sector (in rural and urban areas) accounted for one-ninth of national poverty reduction from 2005 to 2011. In Uganda and Rwanda, by contrast, growth in the rural service sector alone accounted for one-third and one-sixth of poverty reduction, respectively (World Bank 2014i, 2015o).

44. **Urban poverty rates are lower than rural poverty rates, but poverty is surprisingly high in large urban centers, and recent progress has been slower.** In Ethiopia, just as in other countries, poverty rates fall and inequality increases as city size increases (Ferré et al. 2010, World Bank 2015a). However, poverty rates in Addis Ababa and Dire Dawa (the two largest cities) are much higher than this trend would predict, at 28.1 percent and 28.3 percent respectively compared to the 25.7 percent average for urban Ethiopia. From 2005 to 2011 consumption growth was negative for many households in Addis Ababa, as wages did not immediately increase to compensate households for the rising food prices that they faced (Headey and Seyoum Taffesse 2013).

45. **Labor market outcomes in urban areas affect urban poverty to a great extent.** The unemployment rate is 17 percent in urban Ethiopia and 24 percent in Addis Ababa. Unemployment is strongly correlated with poverty (Figure 3.2) and is higher among those with lower levels of education: 11 percent of those with graduate degrees are unemployed, compared to 18 percent and 22 percent of those with primary and secondary education respectively. Although a significant proportion of poor people are looking for employment, a higher share are in low-paid jobs or marginal self-employment. Rates of self-employment are higher among the poor than the urban average (for example, in Addis Ababa, 24 percent of the urban poor are in self-employment compared to 21 percent of the urban workforce).

46. **Poor labor market outcomes—particularly falling real wages—contributed to high poverty rates and negative income growth for many urban households.** High rates of urban unemployment, particularly in larger cities, can help explain why poverty rates are so high in urban areas. The unemployment rate has been falling, but only marginally: in Addis Ababa it fell from 29 percent in 2004 to 25 percent in 2012. In addition, real wages were declining during this period contributing to negative income growth for many urban households (Figure 2.4).

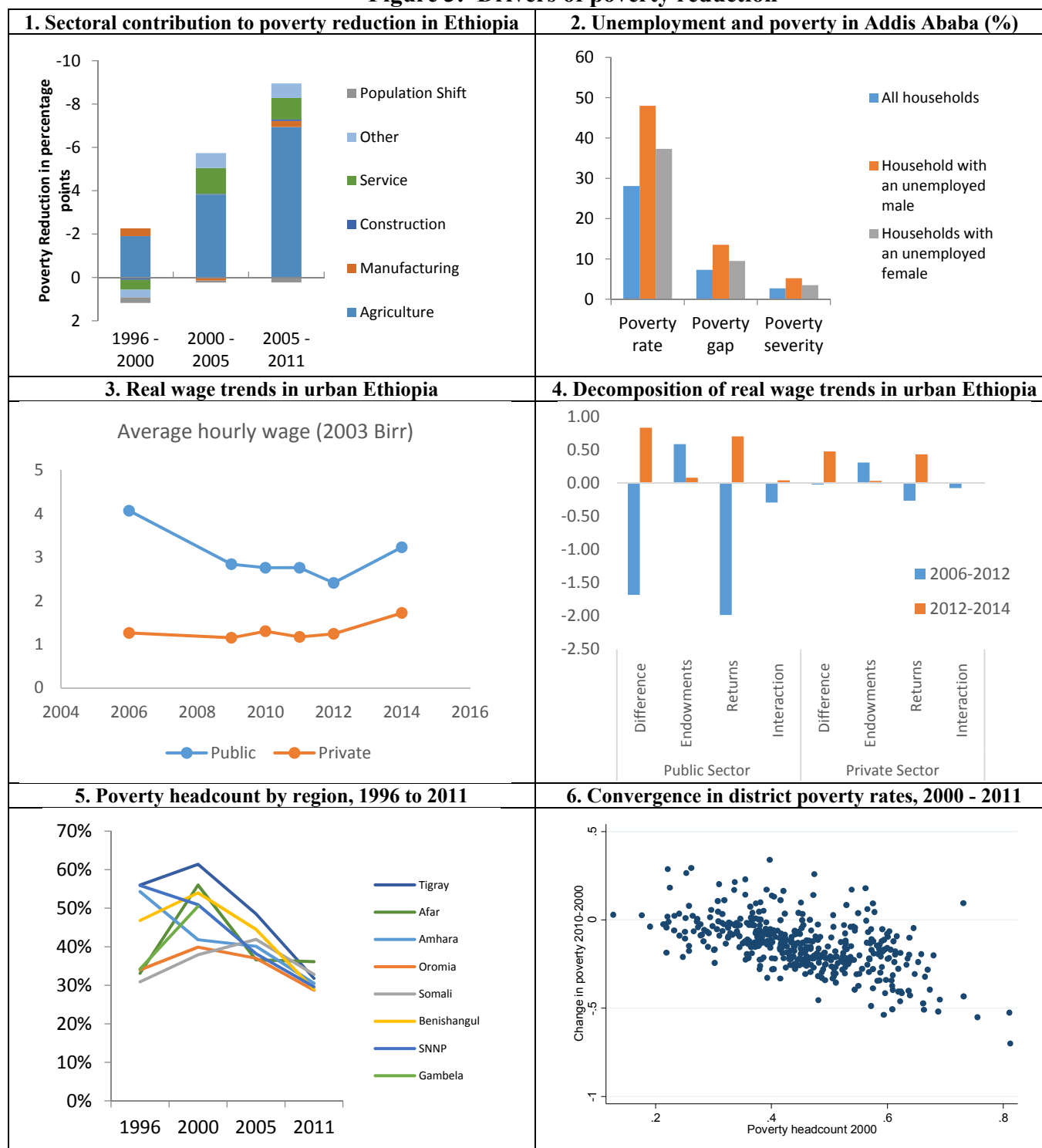
47. **Real wages declined from 2005 to 2011 in urban Ethiopia even as worker education improved.** Until 2012, average real wages were stagnant in the private sector and declining in the public sector (Figure 3.3). Workers became increasingly educated during this time (for example the share of employees with post-secondary qualifications more than doubled from 9 percent in 2003 to 23 percent in 2014), which should have resulted in continual real wage increases. Nearly all of the fall in real wages (and their subsequent increase since 2012) is explained by changes in returns to workers' characteristics (Figure 3.4).³² In the public sector fixed nominal wages and high inflation caused real wages to fall until 2012. In the private sector, it could be that any pressure for real wage growth on account of a more highly educated workforce was offset by the pressure

³¹ See Section 3.2 for a discussion of how structural change has contributed to growth.

³² Characteristics are defined as age, gender and education.

for wages to fall given high rates of unemployment (given the pool of unemployed was also becoming more educated during this time). Stagnant real wages in the private sector could also reflect limited labor productivity growth in manufacturing during this time. Real output per worker in manufacturing fell from 105,000 Birr per worker in 2006 to 95,000 Birr per worker in 2009 (World Bank 2014i).

Figure 3: Drivers of poverty reduction



Source: 1, 2 and 5: World Bank (2015a) using WDI and HICES 2000, HICES 2005, HICES 2011; 3 and 4: World Bank (2015i); 6: Sohnesen (2014). Note: population shift in Figure 3.1 refers to the contribution to poverty reduction coming from households changing their main sector of occupation. In Figure 3.4: “difference” refers to difference in real wages in a given sector during the period noted; “endowments” is the amount of this difference that can be explained by changes in worker characteristics; “returns” refers to the difference that can be explained by changes in the relationship between a given characteristic and the wage; and interaction captures the contribution of interactions between changes in endowments and returns.

48. **Those who are not able to participate in the labor market—the elderly, disabled and female-headed households—suffer particularly in urban areas and are vulnerable to shocks.** Households with an elderly head are 13 percentage points more likely to be poor in urban areas (in rural areas they are no poorer than the average rural household). Households with disabled members have poverty rates 19 percentage points above the urban average. This is a result of weaker informal safety nets and inadequate public safety nets. Households with elderly heads in urban areas are 5 percentage points less likely to be able to access 200 Birr in a time of need than households with elderly heads in rural areas, and urban households with disabled members are 7 percentage points less likely to be able to access 200 Birr when needed (World Bank 2015a). There is currently no safety net for poor households in urban areas. These households were particularly vulnerable to the food price increases that occurred in 2010 and 2011.

2.4. A Profile of the Poor

49. **Ethiopia has a rural, agricultural-based labor force and poor households are even more likely to live in rural areas and engage in agriculture.** Households in the bottom 40 percent have more members and have larger proportions of unpaid workers, children and dependents (see Annex 4, Table 1). They are predominantly engaged in agriculture and are more likely to be engaged in agriculture than households in the top 60 percent. As a result households in the bottom 40 percent are more likely to own agricultural assets, including livestock, cattle, sheep or goats. The relatively equal distribution of land in rural Ethiopia arises as a result of a land policy that allocates land according to need and makes the consolidation of land in the hands of a few relatively difficult. Most households (92 percent) have usufruct rights to land, which is ultimately owned by the state. As and as a result the majority of household labor spent on agricultural activities is undertaken on plots that the household has usufruct rights to. However, even with a relatively equal distribution of land, some farming households are operating plots that are not of sufficient size to provide adequate agricultural income.

50. **Human capital attainment is generally low in Ethiopia, and even lower for households in the bottom 40 percent.** The average number of years of schooling of a household head in the bottom 40 percent is just 1.5 years compared to 2.8 years in the top 60 percent. Households in the bottom 40 percent have household heads that are significantly older, more likely to be male, and more often married, than non-poor household heads (Annex 4, Table 1).

51. **Remoteness is still a defining characteristic of extreme poverty in Ethiopia.** Investment in roads has reduced remoteness and increased access to markets. However, poverty rates still increase by 7 percent with every 10 kilometers from a market town. Poorer agricultural households that are more remote have not gained from agricultural growth. They are less likely to use agricultural inputs (Minten et al. 2014), and are less likely to see poverty reduction from the gains in agricultural growth that are made (Hill and Tsehaye, 2014). This makes poverty reduction more challenging in remote locations.

52. **In many respects households in the bottom 10 percent reflect these patterns, with limited schooling, age, and dependency ratios increasing for these households as would be expected.** Given that the consumption of the bottom 10 percent worsened from 2005 to 2011, the

profile of the poorest decile is also examined. However, without nationally representative panel data it is not possible to say whether the bottom 10 percent in 2005 are the same households as the bottom 10 percent in 2011. Those in the bottom 10 percent have even lower levels of education, come from households that are larger in size, have more dependents, and are more likely to be headed by elderly heads than other households in the bottom 40 percent (Annex 4, Table 2).

53. **In terms of sector of occupation and remoteness, households in the bottom decile are no different from other households in the bottom 40 percent.** For example individuals in the bottom 10 percent are no more likely engaged in agriculture than others in the bottom 40 percent and as such are not likely to own more agricultural assets. They are no more remote than others in the bottom 40 percent.

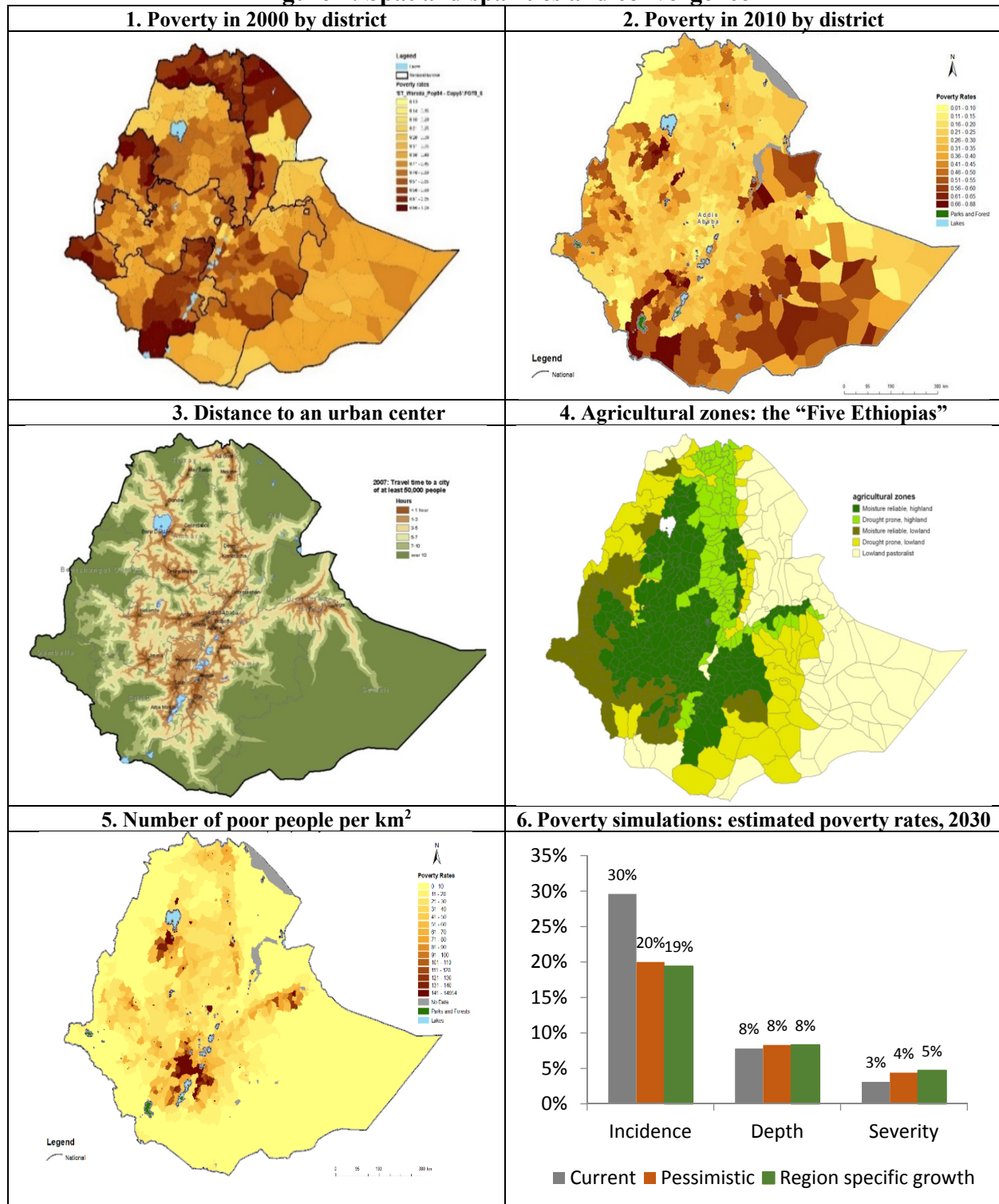
54. **The poorest decile has a significantly higher proportion of marginal agricultural producers and as a result they are more likely to experience welfare losses because of price shocks.** Thirty-one percent of agricultural producers in the bottom 10 percent produce less than 6 months of consumption. These households purchase more food than they produce even though they are agricultural households. As such the higher food prices of 2011 specifically hurt this group. Indeed the poorest 10 percent of households were more likely to report experiencing a food price shock compared to other households in the bottom 40 percent (23 percent compared to 18 percent).

2.5 Poverty and Regional Inequality

55. **Poverty and vulnerability in Ethiopia has often been understood in geographic terms and this has driven recent development policy.** This was the result of historic underdevelopment of peripheral regions and agro-ecological conditions. As described in Section 1.3, a key aspect of the recent development strategy has been to address this historical inequality and develop historically under-developed regions.

56. **Poverty rates have converged across regions because poverty reduction in Ethiopia has been faster in districts and regions where poverty was highest a decade ago.** In 2000 regions differed strongly in terms of poverty with 61 percent of the population in Tigray and 51 percent of the population of the Southern Nations, Nationalities and Peoples Region (SNNPR) living in poverty compared to 40 percent of the population of Oromia. Poverty reduction has been faster in those regions in which poverty was higher and as a result the proportion of the population living beneath the national poverty line has converged to around 1 in 3 in all regions in 2011 (Figure 3.5). Analysis using district estimates of poverty generated through small area estimation techniques for 2000 and 2011 shows that districts in which poverty was highest in 2000 are those that had the largest reduction in poverty between 2000 and 2010 (Figure 3.6). For every additional percentage point of poverty in 2000, poverty reduction was 0.75 percentage points faster between 2000 and 2011. The poverty maps for 2000 and 2011 in Figures 4.1 and 4.2 depict this trend.

Figure 4: Spatial disparities and convergence



Sources: 1: Sohnesen et al. 2015; 2 and 5: Sohnesen et al. 2014; 3: Schmidt and Kedir 2009; 4: Ethiopian Development Research Institute (EDRI) 2010; 6: World Bank 2015a.

57. **Improvements in health and education service provision have also been larger in historically more disadvantaged regions.** More than 50 percent of the *woredas* in the two most disadvantaged regions of the country (Gambella and Beneshangul-Gumuz) are among the top 5 percent of *woredas* when ranked on per capita government spending (Khan et al. 2014).³³ Spending has also favored some historically disadvantaged ethnic groups (such as the Anyiwak and Nuwer which receive ETB 770 and ETB 142 more per capita than larger groups), but the largest lagging group—the Somali—is not receiving the additional resources per capita warranted by its development status.³⁴ Substantial regional disparities in access to services and non-monetary welfare outcomes remain. For example, over half of the people living in the Somali region have to walk over 30 minutes to fetch water compared to just over 10 percent in SNNPR.

58. **Regional convergence from 2000 to 2011 can be explained by agricultural growth, improvements in basic services and safety nets.** Agricultural growth was particularly strong in Tigray and Amhara, and these regions also benefited from the introduction of the PSNP in 2005. Although SNNPR did not record high agricultural growth through this time, the introduction of the PSNP and substantial improvements in access to basic services and towns helped to reduce poverty. Oromia experienced both good agricultural growth and the introduction of the PSNP, but the magnitude of both improvements was smaller than in Tigray and Amhara and its overall poverty reduction was also lower. The pastoral regions of Afar and Somali did not experience agricultural growth and in Somali regions spending on basic services was lower than the national average. Although safety nets were introduced there this alone was not enough for these regions to realize strong gains in poverty reduction. Safety nets were not introduced in Beneshangul-Gumuz and Gambella.

59. **However, despite convergence, important geographic determinants of wellbeing remain.** Poverty rates are higher in the periphery of the country, even though this is no longer defined by historically peripheral regions, but selected lowland areas where market access is limited and service provision continues to remain poor. These are often border areas. Figures 4.3 and 4.4 illustrate variation in access to markets and agricultural zones across Ethiopia. A comparison of these figures to Figures 4.1 and 4.2 shows that the gains have been largest for those in highland areas and for those closer to urban centers. Section 2.3 shows that regression analysis confirms these findings.

60. **There is still substantial inequality in service provision across districts.** The net enrollment rate of the bottom 10 percent of the *woredas* is 19 percent, far below the national average of 83 percent. Skilled attendants attend only 2 percent of births in the bottom 10 percent of the *woredas*, compared to the national average of 20 percent (Khan et al. 2014).

61. **The majority of poor households still live in highland areas, but ending poverty in Ethiopia will also require inclusive development strategies for remote, lowland areas.** Few people live in remote, lowland areas, which means that although poverty rates are higher in these districts, the majority of the poor continue to live in highland areas (Figure 4.5). The last decade

³³ A *woreda* is the commonly used Ethiopian name for a district.

³⁴ The reason for this disparity appears to be that the Somali Region transfers a smaller share to *woredas* (49 percent compared to the national average of 73) percent which results in lower per capita spending rates.

saw much higher rates of poverty reduction in regions where more poor people live and continuing this pattern of regional growth will result in faster reductions in poverty than a strategy of equal rates of growth across all regions (Figure 4.6). However, ending extreme poverty will not be possible without understanding how to bring faster progress to some areas that have seen much slower rates of poverty reduction. Ensuring this is also essential to truly achieving shared prosperity in Ethiopia. However, faster progress cannot come at the expense of local consultation and prioritization to ensure locally appropriate development strategies are designed and owned by local communities.

62. Better strategies for remote, lowland areas will require better data and knowledge on poverty in the Afar and Somali regions. Levels of poverty and vulnerability in pastoral areas have been found to be lower than may have been expected. This may reflect the reality: the livelihoods atlas of Ethiopia attributes lower levels of vulnerability in pastoral areas to the high asset levels recorded in pastoral households. However, it is important to note that survey coverage has also been limited in Afar and Somali regions in recent years and expanding coverage may result in a different picture. The 2011 HCES covered all rural and urban areas of the country except the non-sedentary areas in Afar and Somali (three and six zones, respectively). Including these areas in surveys, and implementing comparable but appropriate survey instruments, is key to addressing this important knowledge gap.

63. Refugee camps are located in the poorest and most remote districts in Ethiopia. Ethiopia has the highest population of refugees in SSA (more than 800,000 people), and many refugees have been in Ethiopia for two decades. Most refugees live in camps that are located close to the sending country, and in a host community that shares ethnic ties with the refugees. There is almost no data on how the wellbeing of refugees has been changing over time (World Bank 2015l).

3. Patterns of Economic Growth

3.1 Trends

64. Economic growth has been remarkably rapid and stable over the past decade. Real GDP growth averaged 10.9 percent in 2004-2014, according to official data. By taking into consideration population growth of 2.5 percent per year, real GDP growth per capita averaged 8.0 percent per year in this period. This substantially exceeds per capita growth rates achieved in the first decade after the country's transition to a market-based economy (1992-2003: 1.3 percent), under the communist Derg regime (1974-91: -1.0 percent), and during monarchy (1951-73: 1.5 percent). Droughts and conflict produced volatile growth patterns prior to 2004, but growth has been rapid and stable since then—an impressive performance from a historical perspective (Figure 5.1). Ethiopia's growth rate also exceeded regional and low-income averages over the past decade. Since taking off in 2004, growth has consistently exceeded low-income and SSA averages as well as SSA5 (Figure 5.2).³⁵

65. Growth was concentrated in services and agriculture on the supply side and private consumption and investment on the demand side. More recently, there is evidence of a boom

³⁵ SSA5 is Burkina Faso, Mozambique, Rwanda, Tanzania, and Uganda.

in investment and construction activity. Figures 5.3 and 5.4 decompose growth and output into supply and demand side components. From this it can be observed that agriculture is no longer the major driver of growth. In 2004, about three-quarters of growth was due to agriculture. By 2014, less than a quarter of growth came from this sector. The recent rise of industry is due to a construction boom rather than a rise in the manufacturing sector, which remains very small at about 5 percent of GDP. The demand side decomposition shows a strong growth impetus from investment activity, mainly public infrastructure.

66. The agricultural sector has recorded remarkable rapid growth in the last decade. Agricultural growth was the result of strong yield growth and increases in area cultivated, which increased by 7 and 2.7 percent per year in 2004-14, respectively. A decomposition of yield growth reveals the importance of increased input use as well as total factor productivity growth (2.3 percent per year). A doubling in the adoption of improved seeds and fertilizer played a major role in sustaining higher yields (Bachewe et al. 2015).

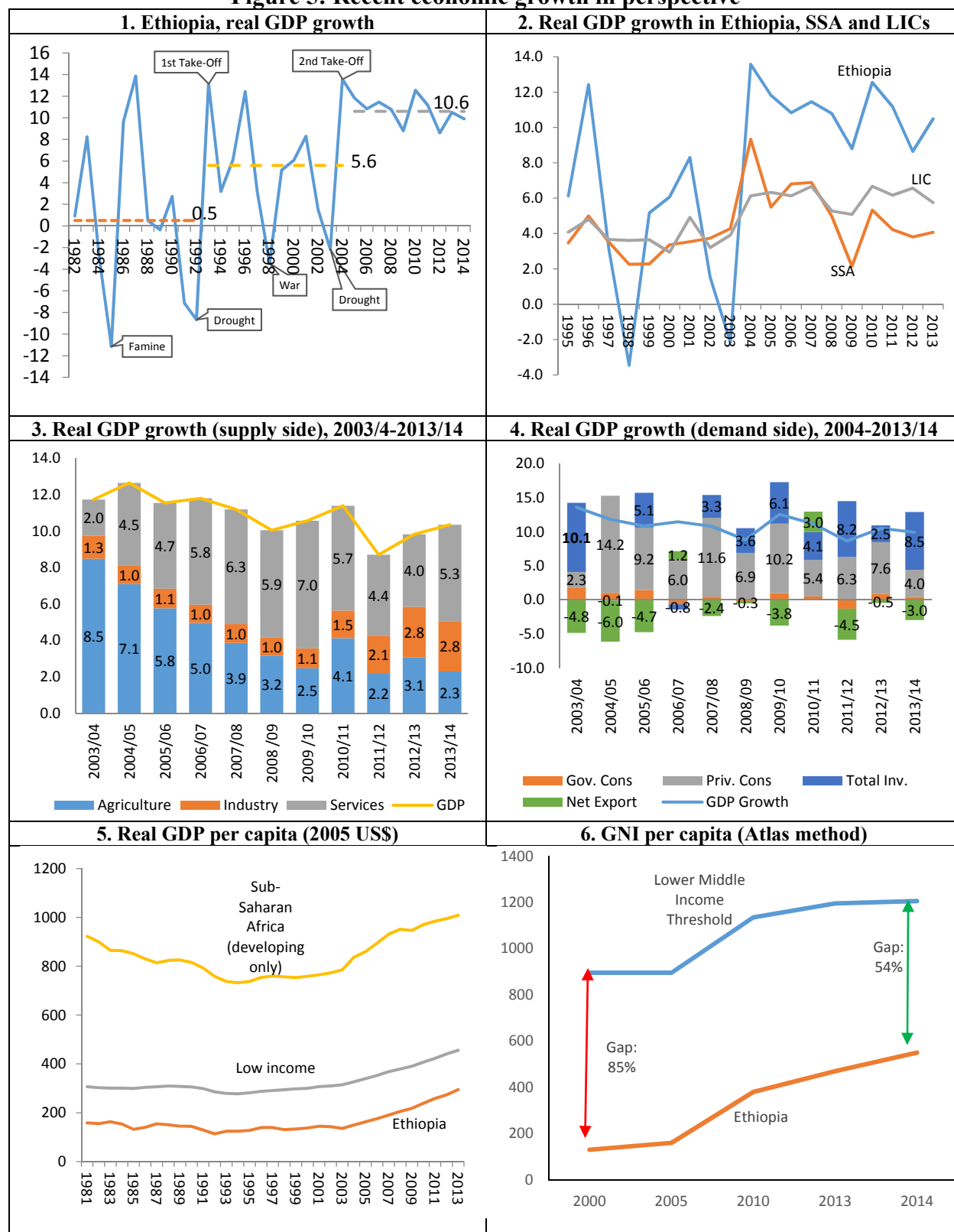
67. Ethiopia's real GDP has tripled since 2004 although it remains well below regional and low-income levels. Ethiopia has moved from being the 2nd poorest to the 11th poorest country in the world since 2000, according to GNI per capita (Atlas Method). This indicates some income convergence against regional and low-income peers (Figure 5.5). Ethiopia also moved closer to its goal of becoming a middle-income country by 2025 gradually narrowing the gap to the relevant income threshold (Figure 5.6).

3.2 Determinants

68. Strong political commitment to growth and comparatively effective governance compared to peers was a key enabling factor for economic progress. What sets Ethiopia apart from many countries at similar levels of development was its ability to regain political stability and successfully establish comparatively coherent and development-oriented decision-making processes. A shared vision, political determination, and long term planning were key elements of the economic growth strategy in Ethiopia. Empirically, sustained growth rates above 6 percent—required for ‘catching up growth’—are rare (Pritchett and Summers 2014). Where they have happened, this has been associated with governments that have had a clear development vision and that have been able to acquire better than average decision-making and implementation capacities.

69. High total factor productivity growth and factor accumulation account for most economic growth. Growth can come from two sources: using more factors of production or inputs (labor and capital) to increase the amount of goods and services that an economy is able to produce or combining inputs more efficiently to produce more output for a given amount of input. Decomposing into these two sources yields insights into the proximate causes of growth. As illustrated in Figure 6.1, the growth acceleration period (in this case: 2000-10) was characterized by substantially higher total factor productivity (TFP) growth and accumulations of capital and labor than during previous decades. TFP and accumulation of capital and labor contributed 41 percent and 55 percent of total growth respectively. The contribution of human capital, in comparison, was modest and did not increase in the 2000-10 period. TFP growth was particularly high at 3.4 percent.

Figure 5: Recent economic growth in perspective



Source: World Bank (WDI).

70. **Rising labor productivity was a major contributor to growth with positive contributions from structural and demographic change.** Figure 6.2 decomposes gross value added per person into four components: labor productivity gains within sectors, labor productivity gains between sectors, demographic gains, and increases in the employment rate. For the 1999-2013 period as a whole, more than 70 percent of growth is attributed to within sector labor productivity gains, especially in agriculture and commerce. The other three components contribute to varying degrees depending on the time period. The structural change and demographic effects are particularly pronounced in the later period (2005-13). The employment effect, in comparison, is negative owing to a rise in the student population.

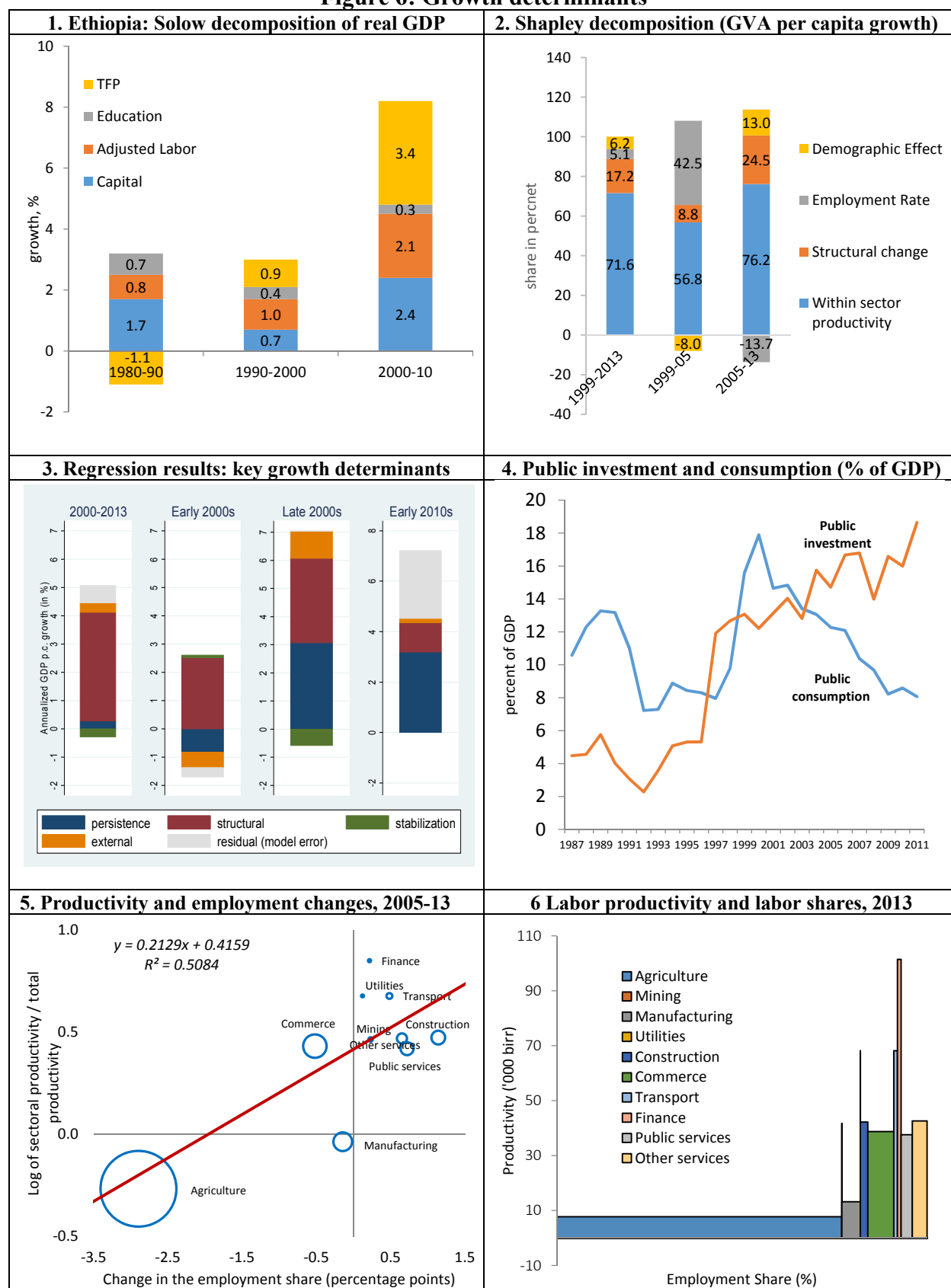
71. **A cross-country regression model helps identify key drivers of growth.** The approach taken by Moller and Wacker (2015) uses an existing regression model originally constructed to investigate growth elsewhere. The model is estimated on 126 countries for the 1970-2010 period, including low-income countries. Ethiopia's per capita real GDP growth rate is predicted using Ethiopian values of the underlying growth determinants for three different periods: Early 2000s, Late 2000s, and Early 2010s. It distinguishes between structural, external and stabilization factors. The model predicts Ethiopia's growth rate quite accurately thereby underscoring its relevance as a useful analytical tool.

72. **Economic growth was driven primarily by structural improvements.** When measured at Purchasing Power Parity, the model predicts a real GDP growth per capita rate for Ethiopia of 4.3 percent in 2000-13 compared with an observed rate of 4.8 percent. The contribution of structural factors is estimated at 3.9 percentage points (Figure 6.3). The positive effect of a conducive external environment was outweighed by the negative effects associated with macroeconomic imbalances (each accounting for 0.3 percentage points). The remaining growth impetus is explained by the spillover effect of improvements in previous periods.

73. **Public infrastructure investment made possible in part by low government consumption was the key structural drivers of growth.** In contrast to many countries in the region, the government deliberately emphasized capital spending over consumption within the budget and this was key for supporting growth (Figure 6.4). Declining military spending following the 1998-2000 war with Eritrea, which gave rise to a 'peace dividend,' facilitated this shift. Increased openness to international trade also supported growth as did the expansion of secondary education, though these structural effects were less pronounced.

74. **The strong contribution of infrastructure investment arises from a substantial physical infrastructure expansion combined with high returns to investments made.** Ethiopia stands out during the 2000s for having registered very rapid infrastructure development. Using the data for 124 countries over four decades, the country was among the fastest 20 percent in infrastructure development (fixed telephone lines, mobile phones, and roads) over the past decade. Although this is partly the result of starting from a very low level, these infrastructure growth rates also exceed those of fast-growing regional peers with comparable income levels. As the true economic return to infrastructure investment in Ethiopia is not known, their average returns are estimated from the country sample. Given that public investment was concentrated in providing basic infrastructure, such as energy, roads, and telecom, this growth effect seems plausible.

Figure 6: Growth determinants



Source: 1-2: IMF (2013); 3-4: World Bank (2015b); 5-6: Martins (2015). Note: GVA stands for Gross Value Added

75. **Sub-optimal macro-financial policies held back some growth, though the effect was small.** Based on the experience of other countries, the model predicts growth to fall when credit to the private sector declines, the exchange rate appreciates, and inflation is high. Ethiopia experienced all three trends in the late 2000s, and this gives rise to an estimated macro-financial ‘growth penalty.’ What stands out, however, is that the quantitative effect is quite small (growth is reduced by 0.5 percentage points). This result helps explain how Ethiopia was able to achieve high economic growth in the presence of seemingly sub-optimal macro-financial policies. In fact, it raises the question of whether growth was able to accelerate precisely because of this heterodox policy mix, which supported growth-inducing infrastructure investment. Although it is hard to conclude firmly either way, Ethiopia’s experience supports the impression that ‘getting infrastructure right’ at the early stage of development can go a long way in supporting growth.

76. **Government spending on agricultural extension and roads, as well as favorable prices and weather, largely explain high agricultural growth.** Several factors explain high growth: First, Ethiopia has built up a large agricultural extension system, with one of the highest extension agent to farmer ratios in the world. Second, there has been a significant improvement in access to markets owing to road construction. Third, improved access to education led to a significant decrease in illiteracy in rural areas. Fourth, high international prices of export products as well as improving modern input-output ratios for local crops have led to better incentives. Other factors played a role as well, including good weather (Bachewe et al. 2015).

3.3 Sustainability of the Growth Model

77. **To what extent is Ethiopia’s high economic growth and the underlying growth strategy sustainable?** As further explained below, there are a number of general and country-specific reasons to expect that Ethiopia’s growth may decelerate over the next decade. Some of those reasons relate to the growth strategy itself as it involves a number of policy choices that effectively promote public infrastructure investment, but which have important trade-offs that hold back the development of an externally competitive and dynamic private sector. Adjustments to strategy could potentially support the ongoing growth acceleration even better. While the timing of such an adjustment is hard to establish with great degree of certainty, policymakers would do well in erring on the side of adjusting earlier rather than later.

78. **The international experience with growth accelerations suggest caution in expecting that double digit growth can continue for long periods of time in Ethiopia.** According to Pritchett and Summers (2014), cross-country experiences of per capita GDP growth since the 1950s has been an average of 2 percent per year with a standard deviation of 2 percent. Episodes of per capita growth of above 6 percent tend to be extremely short-lived with a median duration of nine years. China’s experience from 1977 to 2010 is the only instance of a sustained episode of per capita growth exceeding 6 percent and only two other countries come close (Taiwan and Korea). In other words, these country experiences are statistically exceptional.

79. **A country specific analysis of growth head- and tailwinds suggest a balance of factors at play in Ethiopia.** These factors were derived on the basis of the stylized facts and conceived wisdom emanating from the most recent growth and economic development literature. The likelihood of continued high growth in Ethiopia is buoyed by five factors: productivity-enhancing structural change; within-sector productivity gains (including in agriculture); technological catch-

up; urbanization; and FDI. The demographic transition and a large domestic market offer important potential. These factors would need to be balanced against a number of ‘growth headwinds’ factors. Exogenous factors include geographical disadvantages and a slowdown of world trade. Endogenous factors include: low agricultural productivity, low export size and diversification, a small financial sector, low levels of human capital, and poor trade logistics. Most of these ‘inhibitors’ do not pose insurmountable hurdles but collectively they could dampen Ethiopia’s chances of maintaining its growth rate over the course of the next decade (Yusuf 2014).

80. **Cyclical analysis suggests that a slowdown is pending.** By the very nature of having experienced growth acceleration, Ethiopia’s real GDP per growth rate has exceeded the potential rate of GDP growth for the past decade. Potential GDP growth, in turn, is a function of capital, labor and TFP growth. Investment has been exceptionally high the past years and is thus likely to slow down. A rising working-age population provides some growth impetus, but total factor productivity growth will be hard to sustain at its current high levels. Additionally, economic activity has been strongly supported by a construction boom in the past three years (2011/12-2013/14). Even if government policy drives part of this boom, the private component is cyclical in nature and will not last indefinitely.

81. **Simulations indicate a growth slowdown under alternative policy scenarios.** A regression model is used to identify growth drivers and simulate three scenarios (Moller and Wacker 2015). The first assumes continued infrastructure investment that comes at the cost of private sector crowding-out in the credit market, the buildup of inflationary pressures due to supply constraints, and, a policy of continued real exchange rate appreciation (to keep capital imports cheap). The second scenario aims to promote accelerated private sector investment and reduce macroeconomic imbalances. Specifically, the pace of public infrastructure investment slows down but is partially substituted by private sector involvement. The third one basically accelerates public infrastructure investment at the cost of growing macroeconomic imbalances. All three policy scenarios yield comparable annual real GDP per capita growth rates of about 4 percent in PPP terms, which is well below the rate of 6.5 percent observed in the late 2000s.

82. **Alternative approaches suggest a likely range of GDP growth between 4.5 and 10.5 percent over the next decade.** The lower bound is given by international experience of growth accelerations and Ethiopia’s 1993-2004 growth rate. The upper bound is given by the maximum achieved in Ethiopia and elsewhere. A decadal growth projection based on Ethiopia’s level of Hausmann-Hidalgo concept of ‘economic complexity’ is at the lower range at 4.4 percent per year.

83. **The current economic strategy embodies a series of policy trade-offs that promote public infrastructure investment and hold back the private sector.** While the aforementioned policy simulations did not help identify a superior economic strategy going forward, they help shed light on a series of trade-offs embodied in the current strategy. First, allocation of rationed credit and foreign exchange benefit public investment through cheaper capital imports, but crowds out the private sector and low real interest prevents effective savings mobilization causing financial disintermediation. Second, an overvalued real exchange rate cheapens public capital imports, but undermines external competitiveness. Third, substantial domestic and external public borrowing to finance public infrastructure investment is giving rise to increased indebtedness and is also associated with a rising financing cost. Fourth, limited progress on structural economic reforms is preventing the realization of associated efficiency gains. To the extent that the costs start outweighing the benefits, the current strategy needs to be adjusted to avoid a slowdown in growth.

84. **What distinguishes successful economic performance from less successful ones is the ability of policymakers to adjust economic strategies over time.** Judged by the performance of the past decade, Ethiopia clearly was successful in defining and implementing a blueprint for economic growth and development. However, the experience of other countries, including in East Asia, clearly demonstrates that strong blueprints by themselves are not sufficient for a strong long-term performance. Economic strategies changed and evolved in light of changes in domestic and external circumstances. Further refinement to Ethiopia's existing strategy is therefore a natural element of ensuring long-term success.

85. **The timing of a shift in strategy is hard to establish with precision, but policymakers are encouraged to adjust sooner rather than later.** At the macro level, policymakers would want to evaluate the marginal return to public infrastructure investment and compare it with the marginal return to private investment. At the micro level, if public infrastructure investment is intended to enhance the productivity of private firms, then it must be the case that firm managers identify such constraints as being more important than access to credit.

86. **In addition, the high rates of agricultural growth that Ethiopia has experienced have been accompanied by environmental degradation, a trend that cannot be sustained.** The Food and Agriculture Organization (FAO) estimates suggest that nationally, 40 percent of crop and pastureland is degraded with another 20 percent now under degradation processes. Deforestation has been the largest driver of natural wealth depletion. Forests have been depleted at a rate of 1 percent per year as a result of both the expansion of cultivated areas (which grew at an annual rate of 2.7 percent since 2004/5) and the demand for wood for fuel.³⁶ If cultivated land continues to expand and demand for fuel wood continues to grow, 9 million hectares, from a total forested area of 15 million hectares, will be deforested between 2010 and 2030.

³⁶ Drivers of Deforestation and Forest Degradation (2015). Draft study for REDD+ Readiness; Bachewe et al. 2015.

PART B: PRIORITIES

4. Analytical Framework

87. **The analytical framework of this SCD consists of two drivers of progress and the identification of two challenges to the sustainability of progress.** The first argument is that Ethiopia needs to continue what worked well in the past, namely provision of basic services, rural infrastructure and agricultural growth. However, this alone will not be sufficient to reduce extreme poverty and promote shared prosperity, hence the second argument: to achieve this, Ethiopia needs faster and more inclusive structural change. The first section of this chapter sets out in greater detail these two lines of argument, and the evidence underpinning them. Progress has to be sustainable, and two main risks to the sustainability of development outcomes are identified. First, public investment needs to be sustainably financed. Second, adequate feedback mechanisms must be in place for policymakers, so that they may learn what works and what does not, thereby enabling them to adjust their strategy as needed.

88. **The remainder of this chapter explains the rationale for this analytical framework and identifies the criteria for identifying binding constraints.** Specifically, Section 4.1 presents evidence that motivates a focus on both rural livelihoods and structural change. Section 4.2 presents the criteria and tools for prioritization of binding constraints. Section 4.3 discusses the rationale for focusing on the risks of sustainable infrastructure financing and government capacity and responsiveness.

4.1 From Analyzing the Past to Identifying Future Priorities: Two Drivers of Progress

89. **Achieving the twin goals in Ethiopia will require continuing the successful approach of the past, namely a focus on strengthening rural livelihoods.** Agricultural growth and the expansion of basic services and rural safety nets drove poverty reduction in the past and it will likely also continue to do so in the future. Although great strides have been made in investing in education and health and improving rural infrastructure, many households in Ethiopia and in the bottom 40 percent are uneducated, without good access to health services, water, sanitation and markets. Further investments are required to ensure that Ethiopia continues to make further progress in living standards. Ethiopia remains a primarily rural country, more than four-fifths of the population live in rural areas, and rural households are particularly likely to be poor: 86 percent of the bottom 40 percent live in rural areas and 81 percent rely on smallholder agriculture as their primary source of income. Agricultural growth will remain an important driver of poverty reduction in the future even though its contribution to GDP growth has declined markedly.

90. **Strengthening rural livelihoods in the future will require more than repeating the past.** As detailed in Section 2.3, the approach of the past benefited poor households on average, but not the very poorest. Additional attention is needed to reach these households. In addition, the gains that were won from rapid expansion of basic health care, primary education, agricultural extension and the introduction of rural safety nets in the past cannot simply be earned again. Progress will entail modifying past approaches. For example, the progress of the past was accompanied by degradation of the natural resource base and this trend needs to be reversed for progress to be sustained.

91. **Chapter 5 considers the constraints to continued poverty reduction in rural areas.** It organizes the evidence around constraints to: (i) building the asset base of the rural poor—specifically human capital and natural resources; and (ii) increasing returns to assets for the bottom 40 percent, with a focus on agricultural productivity.

92. **However, this alone will not be enough to end poverty in Ethiopia. Faster, more inclusive structural change is essential.** Structural change involves a movement of labor from low to higher productivity activities, such as a shift from agriculture to manufacturing (industrialization) and it is associated with the process of urbanization. The speed with which this structural change takes place is the key factor that differentiates successful countries from unsuccessful ones (McMillan and Rodrik 2011). Structural change is inclusive when it creates jobs for those in the bottom 40 percent—in Ethiopia this entails creating unskilled or semi-skilled jobs—or when it provides the government with resources to redistribute to poorer households through transfers and additional services.

93. **Faster** structural change is needed for the following reasons:

- **Average and marginal productivity in agriculture is much lower than in other sectors suggesting that sectoral transition will increase returns to labor.** Figure 6.6 illustrates the average labor productivity differences calculated for different sectors in Ethiopia. Not only is the average productivity of labor in agriculture low, the marginal productivity is close to zero: Migration has had no negative impact on agricultural productivity, in that (post-migration) households that sent migrants were just as productive as households without a migrant (de Brauw 2014). This indicates that labor could be drawn out of the sector without reducing agricultural production. The constraint thus far has been whether there are enough good jobs for unskilled labor outside of agriculture. However, urban unemployment rates are falling, and the government is pursuing a light manufacturing strategy that offers the potential to create some of the many new jobs needed.
- **The process of structural change offers the potential of a shift into export-oriented light manufacturing activities.** Ethiopia's export sector is very small in a number of dimensions and needs to be boosted so as to maximize the economic returns to public infrastructure investment and to help repay the external loans that financed this expansion. At just 10 percent of GDP, exports of goods and services are well below the 'expected' value of 24 percent of GDP given its level of income per person (World Bank 2014g). Also, low and declining exports presents a challenge for Ethiopia's risk of external debt distress, which moved to moderate in 2015 owing to a rising external-debt-to exports ratio.
- **Growth in urban demand is needed to achieve agricultural growth, as is growth in agro-processing industries.** Ethiopia is a large country and increasing urban domestic demand can play an important role in sustaining agricultural growth and furthering welfare gains for many of the poorest who remain in agriculture (Minten et al. 2012). This is not only an opportunity but also a necessity. Ethiopia is the world's largest land-locked country and its neighbors are not large importers of cereals. The gap between import and export parity remains substantial in Ethiopia which means that local supply and demand are

crucial in determining prices and incentives to invest in agriculture. Indeed poverty reduction from agricultural productivity increases in the past has only occurred when prices have been good, and in places with access to domestic urban centers.

- **Further agglomeration through urbanization will bring positive externalities, which can be an additional source of growth and poverty reduction.** Ethiopia is urbanizing rapidly, albeit from a low base, and it is projected that by 2030 nearly 30 percent of the population will live in urban areas. The unprecedented urban growth that Ethiopia will face over the coming decades could create the agglomeration of people and economies that can help the country meet its long-term goals. Agglomeration has positive externalities that increase productivity in services and manufacturing and reduce the cost of delivering basic public services. However, if not managed well, it could also exacerbate existing stresses related to access to basic services, congestion, economic opportunity, and individual wellbeing.
- **Structural transformation can reduce vulnerability.** If successful, structural transformation in Ethiopia should result in the creation of more formal waged-job opportunities in its urban areas and subsequently an emergence of a nascent middle class of households. This can help improve the incomes of those in the third and fourth quintiles in Ethiopia, who are still poor (living on less than US\$3.10 2011 PPP per day) and subject to falling back into extreme poverty.

94. **Indeed, evidence suggests balanced development will bring the greatest progress in Ethiopia.** Analyses using Computable General Equilibrium (CGE) models for Ethiopia find that balanced development across economic sectors and between urban and rural areas brings the greatest growth and poverty reduction in the long run (Diao et al. 2007; Dorosh and Thurlow, 2012). This suggests a need to complement the focus on agricultural growth and rural development with one of emphasizing growth of modern economic sectors (industry and services), along with urban development.

95. **Faster structural change requires a stronger private sector.** The Ethiopian private sector is still nascent. For instance the share of private sector credit to GDP is about 9 percent in Ethiopia compared to more than 20 percent in SSA (World Bank 2015e). The realization of the vision of structural change depends on further strengthening of the private sector. Productivity gains and economies of scale can best be realized when workers are employed in competitive private firms. The experience from East Asian developmental states, including China, South Korea, and Vietnam strongly suggests the need for private investment to lead the development process (Nguyen et al. 2015).

96. **Getting urbanization ‘right’ is also essential to increasing the pace of structural change.** This requires putting in place the right policies, institutions, and investments to equip cities as attractive places to live and work, to ensure that Ethiopia capitalizes on the opportunity presented by urban population growth.

97. Structural change in Ethiopia needs to be **more inclusive** than it has been in the past:

- **The contribution of structural change to poverty reduction has been limited in Ethiopia thus far.** Manufacturing growth and urban employment did contribute to poverty reduction but not as much as agricultural growth. The impact of service sector growth on poverty reduction was small (Section 2.3). In Bangladesh (from 2000 to 2005) and in Cambodia in recent years, growth in light manufacturing accompanied agricultural growth and helped spur further poverty reduction. This has been absent from Ethiopia's recent history of poverty reduction.
- **Rates of urban poverty in large urban centers are only marginally lower than rural poverty rates and are falling slowly.** As Ethiopia urbanizes so too does poverty. In 2000, 11 percent of Ethiopia's poor lived in cities, but this rose to 14 percent in 2011. Poverty rates in large urban centers are only two percentage points lower than the rural poverty rate and a larger difference would normally be expected. Poverty has fallen more slowly in these cities than in the rest of the country.

98. **Chapter 6 considers the constraints to faster and more inclusive structural change.** It organizes the evidence around constraints to: (i) faster structural change, specifically constraints to private sector growth, job creation and better urban planning, (ii) more inclusive structural change, discussing the constraints to rural-urban migration, job matching, and urban safety nets, and (iii) environmentally sustainable structural change.

4.2 Criteria and Tools for Prioritization of Binding Constraints

99. **The objective of this SCD is to identify the most critical constraints and opportunities facing Ethiopia in accelerating progress towards the twin goals.** These are referred to as binding constraints. The report examines the constraints to the two identified key drivers of progress, namely, stronger rural livelihoods and faster, more-inclusive structural change. Constraints are discussed in light of the two challenges to sustainable progress: sustainable financing and government capacity and responsiveness.

100. **There are wide ranges of constraints to progress in Ethiopia, and identifying the most critical constraints requires prioritization.** This section describes the method used in prioritizing and selecting the binding constraints.

101. **The impact of the constraint on reducing extreme poverty and promoting shared prosperity is the criteria used to prioritize among constraints.** To establish impact, the following questions are evaluated:

- **Do benchmarking exercises indicate that Ethiopia is underperforming on a particular dimension?** Two approaches to benchmarking are undertaken. First, a group of structural peers was developed for Ethiopia based on objective criteria (see Annex 1 for a discussion of the methodology). Ethiopia's structural peers are Burkina Faso, Mozambique, Myanmar, Rwanda, Tanzania and Uganda. Ethiopia's performance on a given dimensions

was compared to the performance of structural peers. Second, cross-country regression analysis undertaken for the Development Economics Group's Country Development Diagnostics was used to assess whether Ethiopia's performance was as expected given its level of GNI per capita. In addition a group of aspirational peers was identified—Bangladesh, Cambodia, Ghana, Sri Lanka and Vietnam (see Annex 1)—and is referred to in discussions, but comparisons to this group were not systematically used in benchmarking as Ethiopia lagged behind aspirational peers in most dimensions considered.

- **Does micro-econometric analysis indicate that removing this constraint would increase the incomes of the bottom 40 percent?** Studies that examined aspects of agricultural income growth, rural non-farm income growth, migration, urban employment, and firm productivity growth were reviewed to assess the evidence-base for a given constraint being binding. Ethiopia is a well-researched country and many micro-econometric studies have been undertaken to assess drivers of income growth. Studies were included if they (i) used accepted methods to attribute causality between the constraint and income growth,³⁷ and (ii) had been published in a peer-reviewed journal/discussion paper series or had gone through a Bank peer-review process.³⁸
- **Do cross-country regression analysis or Computable General Equilibrium (CGE) models indicate that addressing this constraint would help Ethiopia grow faster?** The report applies several cross-country regression models to link policies with growth and firm productivity. In addition, the team reviewed the extensive CGE literature on Ethiopia. All available studies on Ethiopia that used CGE and were published in peer-reviewed journals or undertaken by an institution were considered.
- **Do World Bank staff experts and country expertise suggest that this constraint is binding?** Each of the analytical approaches used helps to identify impact, but each has limitations: for example, lagging on a given indicator in comparison to peers does not mean it is necessarily an important constraint to poverty reduction; micro-economic analysis cannot help identify the impact of a constraint that is universally experienced by all households or firms; cross-country regression analysis cannot always control for other factors that might be driving the observed relationship, and CGE models may not make appropriate assumptions about the nature of markets in a given economy. In addition, expert knowledge can identify gaps that are not always clear from quantitative analysis. A one-day retreat was held and included a staff member from each GP and CCSA. The evidence for the constraints was presented and discussed and voting was used to prioritize the most critical constraints.

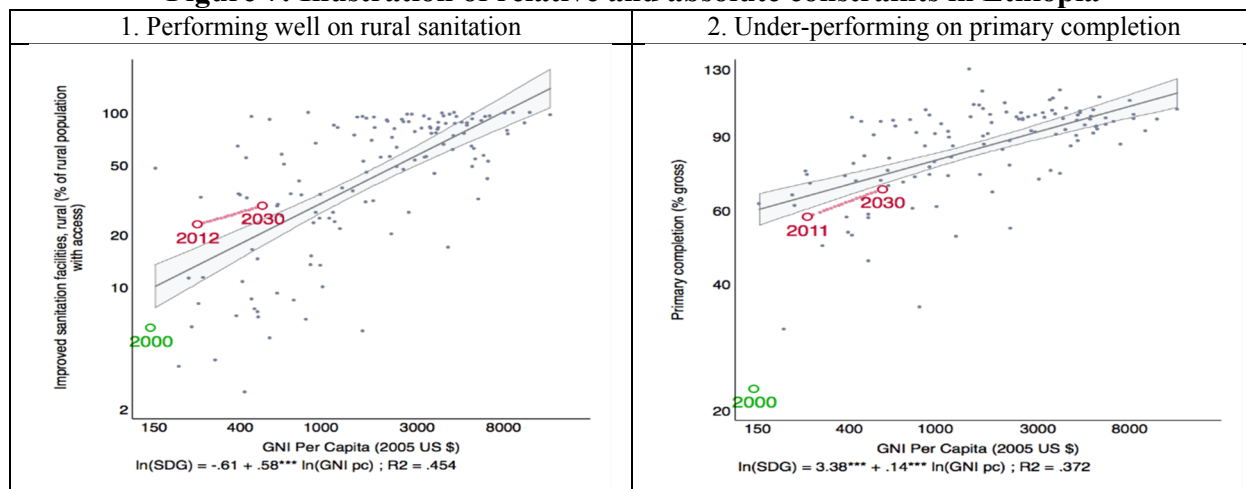
102. **Since Ethiopia faces challenges in many dimensions of development, the identification of binding constraints needs to be interpreted in a *relative* rather than *absolute* sense.** In an absolute sense, every issue seems to be a priority for Ethiopia. In a relative sense, some issues appear to warrant more attention than others. For instance, given its level of income per person, Ethiopia performs relatively well on ensuring access to improved sanitation facilities for its rural

³⁷ To be included, studies were required to control for confounders by using random assignment to treatment groups, using matching techniques to identify impact when comparing non-randomly assigned treatment and control observations, utilizing panel data methods to control for time-invariant characteristics, or including data on other observed characteristics in regressions.

³⁸ External papers were found through an EconLit search and complemented with papers additionally known to the SCD team. Papers published since 2005 were included.

population (Figure 7.1). On the other hand, it performs relatively poorly on primary completion rates compared to other countries at the same level of development (Figure 7.2). Although further progress is definitely needed in an absolute sense on sanitation, the challenge appears relatively larger in terms of primary completion. This suggests that primary completion rates are a relatively more binding constraint for Ethiopia's development than rural sanitation.

Figure 7: Illustration of relative and absolute constraints in Ethiopia



Source: Gable et al (2015)

103. **The evidence identification of constraints and evidence for their selection is presented in Chapters 5 and 6.**

104. **Binding constraints are described as specifically as possible, even when this means identifying sub-constraints.** The constraints were identified as specifically as possible. For example, low agricultural productivity was not considered a constraint, but the underlying constraints causing low agricultural productivity were. When a given constraint that was identified was very large the relevant literature was reviewed to identify the key underlying drivers of this constraint. The focus was on prioritizing constraints not solutions. The Country Partnership Framework will assess the appropriate solutions to address some of these constraints and detail the implications for the portfolio.

105. **The complementarity of the impact of addressing a given constraint was also considered.** A given reform area can be characterized by complementarities in that it improves the impact of interventions in other areas. Conversely, trade-offs between different reforms are sometimes present. This was taken into account. Budgetary implications were not considered directly but were addressed through an overarching consideration of the financing model.

4.3 Two Key Challenges to Sustainability

106. **Sustainable progress requires investments in infrastructure and basic services but also jobs created by private sector growth. This poses a critical financing choice:** Should the government continue to direct the bulk of domestic credit towards public spending on infrastructure and basic services or should it allocate more to support private investment?

Continued provision of basic services and infrastructure investment remains critical for growth and poverty reduction in Ethiopia, but it needs to be sustainably financed in a way that reduces trade-offs with private investment, which is equally critical for improving the wellbeing of the bottom 40 percent.

107. **The trade-off between public investment and the availability of private credit arises from key features of the Ethiopian financial sector.** The availability of credit is characterized by the following: below market-clearing interest rates; market dominance by a state-owned bank that prioritizes public investment projects; a closed capital account; and the absence of foreign banks operating in the Ethiopian financial sector.

108. **Chapter 7 addresses the challenge of sustainable financing.** It describes the trade-off between public and private investment in more detail and argues that Ethiopia needs to explore ways of financing private investment while also identifying complementary ways of financing infrastructure. This is because both infrastructure investment and private investment are needed, as the experience of high-growth economies, including those in East Asia, show.

109. **Ethiopia is a developmental state in which legitimacy is derived from growth and poverty reduction.** While this focus has clear benefits and helps explain the positive development trajectory the country is on, it also entails risks. Any weakness in the capacity of the state to effectively implement threatens its legitimacy. Delivering results also requires learning quickly what works and what does not, adapting, and managing risks as needed.

110. **Developmental states excel at generating coherence and efficacy, but may not foster critical debate and evidence-based policymaking to the same extent.** This poses a risk to the sustainability of progress in Ethiopia, particularly as the government seeks greater development in new sectors where change is faster-paced.

111. **Chapter 8 discusses this governance challenge in greater detail.** It shows that government effectiveness is strong in Ethiopia and that feedback mechanisms on the delivery of basic services have been greatly strengthened in recent years. However, it also highlights weaker systems for bringing evidence to inform some policy choices and private sector consultations. It also highlights key risks around a lack of capacity to monitor and mitigate unintended consequences of development interventions. This becomes a larger risk when structural changes become faster. Although corruption is currently low, it may emerge as a key risk in the future given the role and power of the state, and it requires monitoring.

5. Strengthening Rural Livelihoods for the Bottom 40 percent

112. **This chapter presents evidence on the constraints to strengthening rural livelihoods for the bottom 40 percent.** The discussion of these constraints is structured around an asset framework for the rural poor with constraints to improving the asset base of the rural poor discussed in Section 5.1 and constraints to increasing the returns to assets of the rural poor discussed in Section 5.2. A large microeconomic literature—46 papers—on rural consumption and income growth in Ethiopia was reviewed in order to assess the evidence for which constraints are most binding to rural livelihoods. The evidence on which dimensions Ethiopia lags peers is also presented. Where appropriate cross-country regressions and CGE analysis is referenced.

5.1 Building the Asset Base of the Rural Poor

5.1.1 Good Health and Education for All

113. **Health and education have intrinsic value as well as ensuring that individuals earn a productive income.** Good health and the ability to read, write, and acquire knowledge are key dimensions of a deprivation-free life. Although they are not included in the monetary measure of poverty and shared prosperity used in assessing progress to the twin goals, they are part of the spirit of ensuring freedom from poverty and shared prosperity for all.

114. **Ethiopia has improved human capital outcomes but started from a low base, and benchmarking exercises suggest outcomes are still too low.** After a history of underinvestment in education and health, progress in health and education for poor households over the last decade is impressive (see Section 2.2). This has been underpinned by high levels of spending on health and education that has been effective in increasing outcomes (World Bank 2015a; Khan et al. 2015). However, because Ethiopia started from a low base, levels of human capital remain low. In comparison to its structural peers and where it is expected to be given its income level, Ethiopia is underperforming on primary completion and therefore in secondary education outcomes (Figure 8.1). Ethiopia performs well on some health outcomes (life expectancy, child mortality), but underperforms in maternal mortality, skilled birth attendance, and immunization coverage. Access to improved water sources is very low.

115. **Utilization of health and education services remains particularly low for the bottom 40 percent.** Equity of use has improved for primary education and preventative health services, though there is little equity in utilization of curative health services and secondary and tertiary education. As a result, although public spending on primary education and preventative health care is progressive and pro-poor, this is not the case for secondary and tertiary education and curative health care (Figure 8.2 and 8.3). Similar inequities are observed in other services: access to clean water is only 28 percent for the bottom quintile but 91 percent for the top quintile.

116. Low educational outcomes and ill-health are identified as a binding constraint to stronger rural income growth among the bottom 40 percent. Low human capital is the third most frequently cited constraint to rural income growth in the micro-econometric studies reviewed (Figure 9.3).³⁹ An in-depth review of drivers of agricultural growth in Ethiopia highlights human capital gains from education and extension as two of the four main drivers of agricultural growth (Bachewe et al. 2015). In addition, as discussed in Chapter 6, de Brauw (2014) identifies the acquisition of education as a driver of rural to urban migration, and recent World Bank analysis has identified the role of skills in improving firm productivity (World Bank 2015e) and the strong relationship between education and urban labor market outcomes (World Bank 2015i). Good health is a key contributor to economic development through improved productivity and lower costs related to ill health, disability and premature mortality. Improved nutrition is a key determinant of early childhood and cognitive development.

117. The main drivers of low human capital outcomes among the bottom 40 percent are examined in the paragraphs that follow. The discussion draws on a review of twenty papers that assess constraints to the acquisition of human capital in Ethiopia and comparative evidence across peers where available. In addition, improving government capacity and feedback mechanisms is crucial for effective service delivery in education, health, water, and safety nets. Ethiopia has made great progress in increasing local feedback mechanisms on service delivery in recent years yielding impressive results, however more progress is needed and this is discussed further in Chapter 8.

118. Lack of availability of services is still a major constraint to both school attendance and utilization of health care. Distance to services was cited as a significant determinant of their use in a majority of health and education studies.⁴⁰ Regional inequalities in access to services were documented in Section 2.5 and there is also substantial variation in access at the *woreda* level, which suggests an important role for well-targeted funding to improve access. The net enrollment rate of the bottom 10 percent of the *woredas* is 19 percent, far below the national average of 83 percent. Compared to the national average of 20 percent, there are skilled attendants at only 2 percent of births in the bottom 10 percent of the *woredas* (Khan et al. 2014). There is very little data on the quality of service provision in refugee camps in some of the poorest *woredas*.

119. Well-targeted spending increases access. Service delivery has been effectively decentralized through the system of *woreda* block grants, and spending delivers results: every US\$1 of per capita health spending by rural *woredas* is associated with a 7.5 percent increase in the contraceptive prevalence rate, a 12.4 percent increase in deliveries by skilled birth attendants, and a 4 percent increase in antenatal care. Every US\$1 of per capita education spending is associated with a 3.7 percent increase in the net primary enrollment rate within that *woreda* (Wang et al. forthcoming; Khan et al. 2014).

³⁹ See Bachewe et al. 2015; Zerfu and Larson 2010; Endale 2011; Asfaw et al. 2011; and Melesse 2015 for the relationship between education and agricultural productivity; Dercon, Gilligan and Hoddinott 2009; Krishnan and Patnam 2013; Yu et al. 2011; and Berhane et al. forthcoming for the relationship between extension and agricultural productivity. Bezu and Barrett 2010, highlight the role of education in non-farm income growth.

⁴⁰ School attendance: Mani et al. 2009; Chaudhury et al. 2006; Weir 2011. Health and nutrition outcomes: Karim et al. 2013; Admassie et al. 2009; Shaw et al. 2015; Tesfahun et al. 2014; Headey et al. 2014.

120. **However a focus on access alone will not be enough: constraints to educational quality and student attendance also have to be addressed.** Although gains in primary school enrollment rates have been impressive, dropout rates are high. As a result rates of primary completion are very low and this, in turn, causes secondary school enrollment rates to fall well below peers. As physical access to services is increasingly improved, addressing quality and household level constraints to investment will become more important.

- **Quality:** Teacher qualification levels, the quality of school infrastructure and teacher motivation impact attendance and outcomes.⁴¹ Teacher absenteeism is not a major constraint (only 10 percent of teachers being absent on a given day compared to an average of 20 percent in other countries in SSA⁴²) but teacher qualifications are comparatively low. Only 44 percent passed an English literacy test and 25 percent of all teachers had a minimum understanding of pedagogical methods (Mekasha and Kelemu 2015).
- **Constraints to household investments:** Children from poorer backgrounds make slower progress through school and are more likely to drop out without completing schooling. Income shocks have been found to negatively impact completion rates, particularly for girls. It is the opportunity cost of being in school—a need for the child to work to contribute to the family’s wellbeing—that is the main problem. The direct costs of being in school are low.⁴³

121. **Agricultural extension services provide an opportunity to address specific skill and knowledge gaps among adults in rural Ethiopia, but current investments may be too high.** The GoE has devoted significant resources to expanding extension services in Ethiopia particularly since 2002 (Davis et al. 2010). Extension has been shown to be very important in reducing poverty in part because of its role in increasing input use.⁴⁴ Current rates of investment on extension are very high. There is currently one extension agent for every 472 farmers, which is the highest agent to farmer ratio in the world (30 percent higher than the next highest ratio in China). Krishnan and Patnam (2013) show that the impact of extension has diminishing returns and that neighbor effects are more important in stimulating technology adoption. Continuing business as usual may result in overinvestment, putting pressure on the availability of resources for other investments in human capital in a constrained fiscal space (as discussed in the challenge of fiscal sustainability in Chapter 7). The focus should be less on scale and more on quality and reaching marginal farmers such as women and pastoralists. Women receive significantly less and lower quality extension advice in high potential agricultural areas in Ethiopia, leading to less use of improved inputs and lower agricultural productivity (Ragassa et al. 2013; Aguilar et al. 2015).

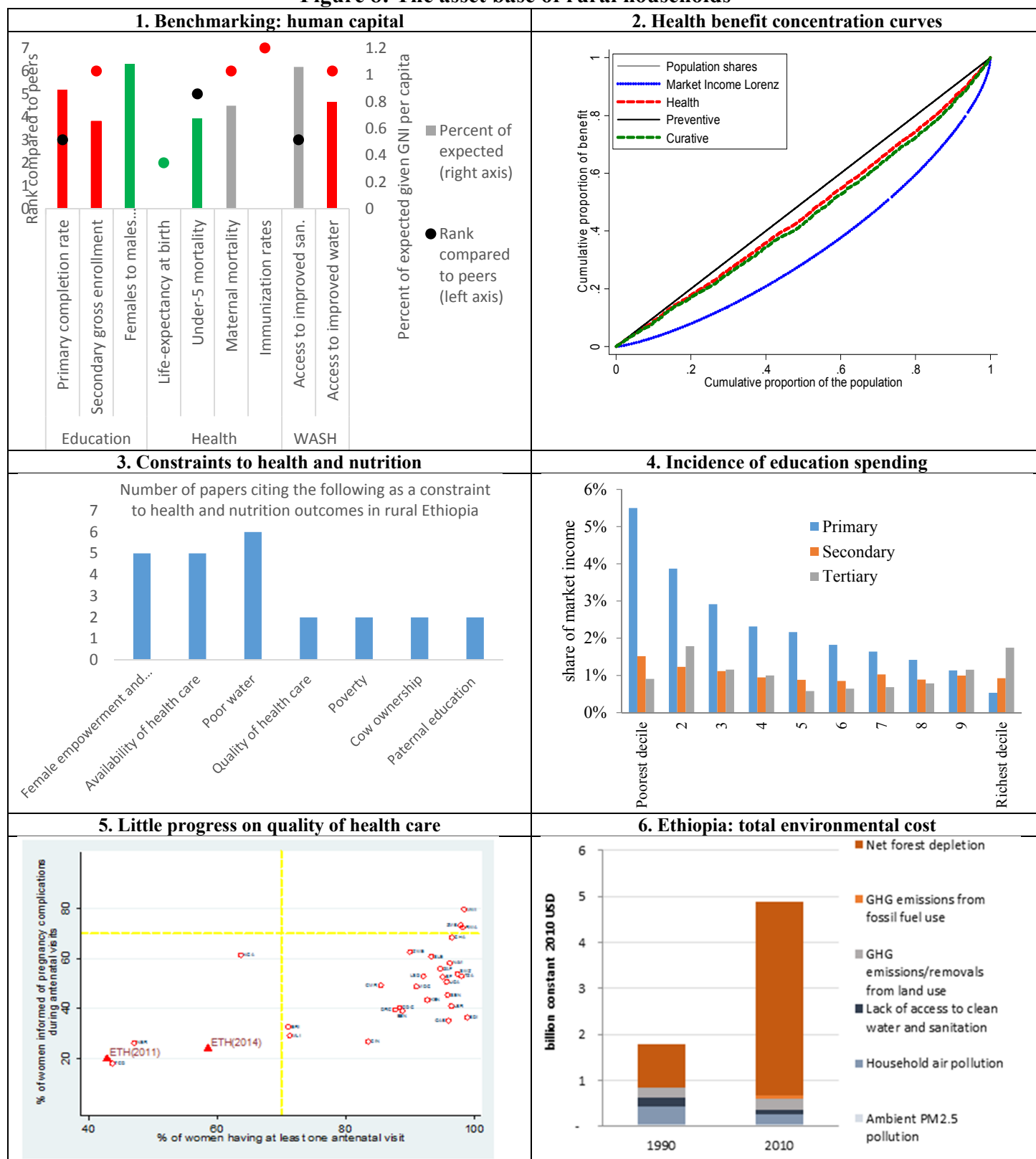
⁴¹ Chaudhury et al. 2006; Nega 2012; and Abebe and Woldehanna 2013

⁴² Comparable data collected for: Kenya, Senegal, Tanzania, and Uganda.

⁴³ Chaudhury et al. 2006; Weir 2011; Woldehanna et al. 2011; and Nega 2012.

⁴⁴ Dercon, Gilligan and Hoddinott 2009; Krishnan and Patnam 2013; Berhane et al. forthcoming

Figure 8: The asset base of rural households



Source: 1: Gable et al. (2015), Find my Friends and WDI; 2 and 4: World Bank 2015a; 5: Health GP staff calculations using most recent DHS; 6: World Bank, The Changing Wealth of Nations dataset. Note: All statistics shown are national.

122. Improving health and nutrition outcomes will similarly require more than improving access to services. In particular addressing maternal education and autonomy will be key. Low levels of maternal education and decision-making power are just as big a constraint to health and nutrition outcomes as poor access as indicated in the review of the literature on determinants of health care use and outcomes summarized in Figure 8.4.⁴⁵ Maternal education is negatively associated with immunization rates and is a main driver of inequality in maternal and child health outcomes, after wealth (Ambel et al. 2015). Maternal malnutrition was found to be twice as high among those reporting low and medium autonomy of household decision-making.

123. Poor quality of health services is a major challenge on which there has been little progress. Figure 8.5 shows that although Ethiopia has made progress in increasing access to maternal health, there has been very little increase in the quality of care and Ethiopia lags peers in this regard. While only three studies have documented the relationship between perceptions of service quality and utilization of health services, low quality of care will become an increasingly important constraint to improving health outcomes as access increases. Increasing capacity of health extension workers and health care employees, and addressing weaknesses in its laboratory network and surveillance system are important, especially in hard to reach areas.

124. The cost of accessing health care prevents individuals from seeking treatment. Community organizations are helping but more public support is needed. Ethiopia's fee waiver system waives user fees for the poorest, but very few are covered and fees can be impoverishing or cause care not to be sought. Traditional insurance groups and community-based health insurance schemes are stepping in to fill this gap for some⁴⁶ but increased public sector support to reduce the health-financing burden on households may be warranted.

125. Finally, lack of access to clean water is a critical constraint to achieving good health and nutrition and therefore a binding constraint to strengthening rural livelihoods. Ethiopia performs poorly in comparison to its peers and also to where it should be given its level of income in access to clean water (Figure 8.1), despite the proportion of the population with access to clean water doubling from 2000 to 2011. Diarrhea remains the highest disease burden in Ethiopia and contributes in turn to poor nutrition outcomes. The DALY rate (DALY per 1000 people per year) of diarrhea is 49. The second and third on Ethiopia's DALY list are Respiratory Disease and Malaria, which scores of 28 and 9.8 respectively. In fact the combined DALY rate of the diseases ranked 2-8 on the list are still less than that of diarrhea alone (World Health Organization 2009).

126. Improving access to clean water can improve health and nutrition in Ethiopia. Many of the papers reviewed highlight the relationship of better access to water to health and nutrition outcomes. Children with unclean hands, access to unsafe water, or living in villages where fewer households have access to clean water were more likely to be anemic or underweight.⁴⁷ Impact

⁴⁵ Tesfahun et al. (2014); Kedir et al. (2014); Admassie et al. (2009); Shaw et al. (2015); Headey et al. (2014).

⁴⁶ de Weerd et al. 2008; Hoddinott et al. 2008; Mebratie et al. 2015

⁴⁷ Mahmud et al. 2013; Mekonnen et al. 2005; Silva 2005; Teshome et al. 2009; Headey et al. 2014

evaluations found that treated water reduces diarrhea by 25 percent (Boisson et al. 2009), and WASH interventions reduce stunting by 12 percent (Fenn et al. 2011).⁴⁸

127. **Improved access to clean water may also help reduce the labor burden faced by female farmers.** Insufficient access to clean water is a particular burden on women and children who spend a significant amount of time accessing water. This contributes to the lack of labor among female-headed households, which reduces agricultural productivity. Female headed households in Ethiopia are 23 percent less productive than their male counterparts and half of this difference arises from differences in access to assets, and in particular less labor for farming (Aguilar et al. 2015). Easing the time burden of household responsibilities—such as through better access to water—would enable females to devote more time to productive farm activities.

5.1.2 The Importance of the Natural Resource Base

128. **The natural resource base is foundational for rural livelihoods** Access to productive land and water for the bottom 40 percent is essential for income growth, given that livelihoods depend so strongly on agriculture. Investing in the natural resource base is essential to ensuring access to productive resources are sustained in the long run.

129. **For many rural households in the bottom 40 percent, user rights to land are their biggest non-labor assets.** Nearly all rural households—92 percent—have user rights to land (the land is ultimately owned by the state), and land is distributed relatively evenly. Land cannot be sold which has prohibited distress sales and ensured that a relatively equal distribution of this important asset has been maintained. This has helped contribute to low levels of rural inequality and the maintenance of Ethiopia’s low Gini coefficient over time. It has also ensured that smallholder production dominates agricultural production nationally—smallholder farmers contributed 96 percent of total agricultural production in 2012/13—and that agricultural wage labor income is low in comparison to other countries.

130. **Ethiopia’s land tenure system is similar to that in some aspirational peers (e.g. Vietnam) and in other more developed countries (e.g. China).** The current land ownership system has implications for large-scale investors who are contemplating investments in the sector and are reliant on receiving land to use from the government. It could also be argued that lack of full-ownership rights limits investments in the land that benefit agricultural growth, prevents non-distress sales that would allow helpful consolidation of small plots, and hinders households’ ability to exit from agriculture and migrate. However the available evidence at the moment does not suggest this is currently the case in Ethiopia.

131. **Certification of usufruct rights to land has helped reduce tenure insecurity encouraging investments in the land and the development of land rental markets.** Introducing certification has increased agricultural investments and productivity and improved land rental markets, particularly for women.⁴⁹ Appropriate second level certification of land-use rights is needed to ensure the long-term sustainability of land certification interventions. There is currently

⁴⁸ This paragraph draws on a literature review undertaken for the ongoing Ethiopia WASH Poverty Diagnostic.

⁴⁹ Deininger and Jin 2006; Holden et al. 2007; Holden et al. 2011; Deininger et al. 2011; Melesse and Bulte 2015

little clarity on how certificates will be maintained or subsequent transactions registered. However, taken as a whole, the review of micro-economic literature did not suggest lack of certification was currently the most prevalent constraint to either agricultural income growth or increasing agricultural productivity among women. The relationship between the rural land tenure system and rural to urban migration is discussed in Section 6.3. Although the literature suggests this is not currently the primary constraint to migration, this may change over time. Land tenure security is thus not identified as a binding constraint even though it may emerge as a binding constraint in the future.

132. **Although land is relatively evenly distributed, some households have marginal land holdings that are too small to produce enough to cover basic needs.** In parts of the densely populated highlands land holdings are small and land constraints are becoming increasingly binding. Small plots in vulnerable rural environments such as the food insecure highlands or some parts of the lowlands in SNNPR give rise to marginal production in many years. These marginal farmers did not benefit from growth from 2005-2011 (see Chapter 2). Section 5.2 discusses how to improve returns to the land, but improving their asset base will also be key. Female-headed households have less access to land—their plot sizes are smaller by 41 percent on average—but other factors, not smaller plot sizes, contribute to their lower rates of agricultural productivity (Aguilar et al. 2015). Privatizing land would likely not result in a more equitable distribution of land and address these households' needs.

133. **Targeted interventions that help these households build their assets is warranted.** Safety net support can help meet immediate needs and provide households with the means to accumulate other assets, or the incentives to invest in the sustainability of their land. Ethiopia currently invests 1 percent of GDP in one of the largest safety net programs in SSA, the PSNP, which targets the most food insecure districts in rural Ethiopia. The PSNP is geographically well targeted. However although vulnerability to poverty in Ethiopia still has a geographic footprint, much vulnerability is not geographically determined and many asset-poor households live in rural areas where there is no safety net.

134. **Investing in the sustainability of land is vital.** Land is under threat from land degradation as a result of continued cultivation over many years and increased fragmentation as a result of population pressure in some areas. FAO estimates suggest that nationally, 40 percent of the land devoted to crop and pasture is degraded with another 20 percent now under degradation processes. The management of communal land—including pastoral land—and the protection of communal land rights is also critical for the return and sustainability of these resources. Ethiopia's sustainable land management program has shown that investments in natural assets can increase resilience and pull people out of poverty. This is considered further in Section 5.2.1.

135. **In addition to land, rural households depend directly on other natural resources—particularly forests—that have been deteriorating over time.** Rural households depend directly on natural resources for income, energy, food, building materials, and water. Wood fuel is the most important forest product consumed in Ethiopia and the high demand for wood is encouraging a 1 percent depletion in forested area per year (Figure 8.6). Annual wood fuel consumption is expected

to rise by 65 percent between 2010 and 2030, outstripping current supply and leading to forest degradation of more than 22 million tons of woody biomass (Ministry of Finance and Economic Development 2011). About a third is extracted illegally and unsustainably. Increasing urban demand for wood products (see Chapter 6) provides new opportunities for commercial wood production. Small-scale woodlots are increasing at 1.5 percent per year to meet this demand but commercial plantations are also needed (Unique Forestry and Land Use 2015). Allocation of land to these plantations needs to be done with the full participation of local communities as discussed in Section 8.2.

136. Addressing household cooking needs more sustainably would reduce deforestation as well as improve health and the availability of women's time. Commercialization of fuel wood production is not considered viable pointing to the need to reduce demand to address deforestation (Unique Forestry and Land Use 2015). Improving the efficiency and sustainability of energy sources, particularly in cooking (estimated to comprise 80 percent of energy needs), is needed to reduce demand. Given that many households with electricity have a preference for using wood fuel for cooking, overcoming constraints to the adoption of improved cooking stoves that use less fuel (and also non-wood sources) is key (Barnes et al. 2015). This would also help reduce the large health risks posed by indoor smoke pollution, and the time spent collecting firewood, both of which affect women and children in particular.

137. Rural electrification has the potential to strengthen rural livelihoods by enabling better education and health outcomes and increasing rural non-farm income. Benchmarking shows that Ethiopia does not perform worse on energy access than other countries at the same level of development (Gable et al. 2015), nor compared to its structural peers (it has the second highest rate of electricity access among peers), however rates of electricity access are low (23 percent of the population). Improving electricity access in rural areas has allowed rural health clinics to operate equipment, refrigerate vaccines, and provide treatment at night. Rural electrification has not impacted agricultural productivity (SMEC 2015) and is unlikely to, but it can increase overall household income by increasing income from non-farm activities. However the non-farm sector in Ethiopia is hampered by other more binding constraints to growth (see Section 5.2) that limit the income benefits of electrification; as a result no significant impact on non-farm incomes has been observed as a result of rural electrification. This corresponds to findings from a World Bank meta-review of 32 papers on the impact of rural electrification (14 from SSA) which showed substantial impacts on educational attainment, indoor smoke pollution, and health but not income. As some of the other constraints to rural non-farm income growth are addressed, lack of rural electrification is likely to be increasing constraint to non-farm income growth. Rural electrification also allows households to have light in the evening while reducing spending and time collecting energy by 8 and 9 percent respectively, and once other constraints to investments in rural education are addressed this can be expected to impact study time and education outcomes. Thus, although rural electrification is not currently identified as a binding constraint to rural income growth it may become one in the future.

5.2 Increasing Returns to Assets for the Bottom 40 Percent

138. **Agriculture is the predominant source of income in rural Ethiopia and is also an important driver of non-farm growth.** Only one in five rural households report deriving income from rural non-farm activities, about half the proportion as in other surveyed countries in SSA (Naude and Nagler 2014). The most commonly cited constraint to starting and operating non-farm enterprises is lack of demand constrained by strong seasonality in agricultural incomes and the localized nature of sales (Loening et al. 2008; Jolliffe et al. 2014). This suggests that non-agricultural income growth will come from increasing agricultural surplus.

139. **Agricultural growth requires increasing productivity, given the limited possibility of bringing substantial areas under production in the most populated parts of the country.** Ethiopia has experienced substantial yield growth in cereals in recent years, and yields now perform well in comparison to structural peers (Figure 9.1). Yet cereal yields remain significantly below what is possible given existing climatic conditions and available technologies (Figure 9.2).⁵⁰ Yields are lower compared to potential than they are for peers with comparable data. Fertilizer, along with improved seeds and production practices have the potential increase cereal yields in Ethiopia suggesting their increased use may reduce poverty further.⁵¹ Increasing production of other high-value crops and forest products (e.g. fruit, vegetables, timber) to meet a growing urban demand also offers potential for agricultural productivity growth.

140. **The evidence presented in this section suggests a slightly reoriented approach to increasing productivity, with more emphasis on incentives for investments, and less emphasis on information and training.** Policy focus has hitherto been primarily focused on the provision of inputs and extension for cereal production and less on developing inclusive and efficient markets for financial services, agricultural inputs, and outputs. Investments in roads improved markets, but also good luck (favorable weather and prices) meant that the incentives were right for households to make agricultural investments, and the strategy paid off (Sections 2.3 and 3.2). A review of the microeconomic literature shows that going forward, addressing vulnerability to drought, remoteness, and access to credit will be critical so that households continue to face the right incentives and have the means necessary to make investments (Figure 9.3). This section is structured around these three constraints, and the evidence for each constraint considered in turn.

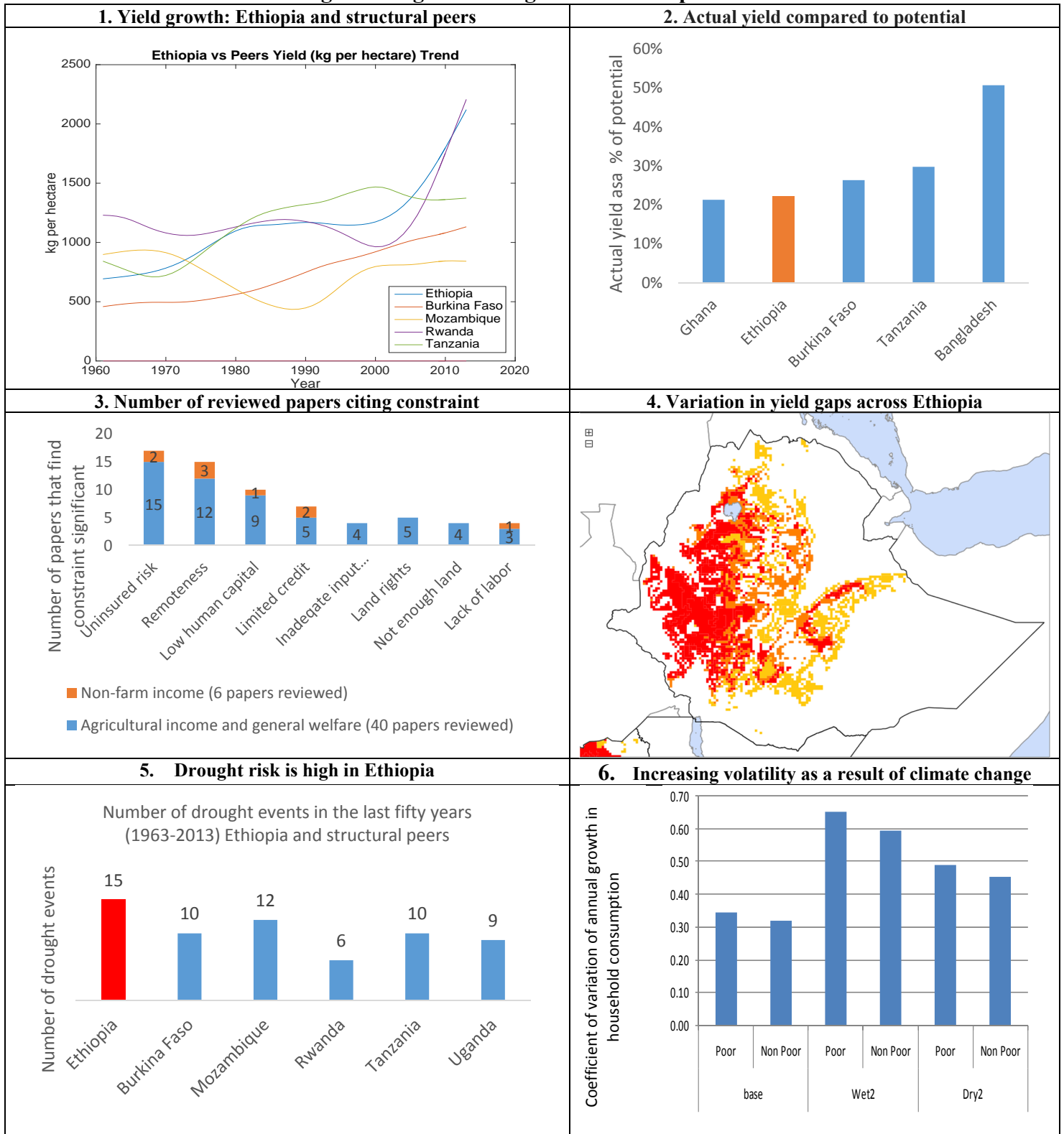
141. **Inclusive agricultural growth will require increasing productivity for pastoralist communities that rely primarily on livestock rearing as a source of income.** Ethiopia has the largest cattle population in Africa at 54 million, making it the fifth biggest livestock-producing

⁵⁰ Myanmar is a structural peer that has been left out of yield comparisons as it did not seem to be a good structural peer from an agricultural perspective—yields are twice as high in Myanmar than in all the other structural peers. Uganda has also been omitted on account of poor yield data.

⁵¹ Dercon and Hill (2011) review the agroeconomic literature on the returns from improved seeds and production practices in Ethiopia and suggest that increased use of improved maize seeds and production practices can bring about substantial yield gains in Ethiopia. One careful review of on-farm trials for wheat suggests that fields with optimal fertilizer application can produce between 42-109 percent more than fields without any fertilizer (Teklu et al. 2000). Vandercateelen et al. (2013) show returns of 2-17 percent are available for improved practices in the production of teff. Further technology development made possible through higher investments in research and development, particularly of more resilient and higher yielding varieties, would of course increase potential yield growth further.

country in the world. However, Ethiopia accounts for less than one percent of global meat exports, and the country is a net importer of dairy products. Agricultural growth will have a larger impact on poverty reduction if policy support targets not just cereals alone, but also growth in the livestock sector (Gelan et al. 2013). In addition to improvements in basic services, access to water and market access that are detailed in this chapter, policy will likely require targeted interventions to improve animal health and husbandry (particularly for accessing livestock export markets). Further analysis and a better understanding of constraints—including social and environmental—to livestock service provision, technology adoption and water is needed (see Chapter 9 for a discussion of key knowledge gaps).

Figure 9: Agricultural growth in Ethiopia



Source: 1: WDI; 2 and 4: The Global Yield Gap Atlas; 3: staff calculations from literature review; 5: Masih et al. (2014) using EMDAT; 6: Robinson et al (2011)

5.2.1 Vulnerability to Drought

142. **Ethiopian farmers rely almost entirely on rain-fed agriculture and seasonal rainfall is very volatile in large parts of the country.** Many households live in parts of the country where substantial rainfall losses are experienced on a regular basis. Figure 9.5 compares the historical frequency of drought in Ethiopia to its structural peers and shows that Ethiopia in the last 50 years has had 15 droughts in comparison to an average of 9 among structural peers. Rain-fed agriculture is thus a relatively risky business in Ethiopia.

143. **Climate change is likely to increase this volatility in the coming years.** Several studies indicate that economic losses related to environmental degradation, climate variability and/or climate change, and natural disasters result in annual GDP losses of 2-5 percent per year. By mid-century climate change might lead to a 20 percent increase in the extent of Ethiopia's dry lands (driest scenario), which would bring more people into environments where the range of resilience options is limited (World Bank 2015f). Local grazing resources are often insufficient to support herds; in the coming decades, feeding deficits are expected to occur in up to 80 percent of the years.⁵² Climate change is also projected to cause larger income swings among the poor (Figure 9.6).

144. **Drought has a direct impact on agricultural income and poverty.** Rainfall shortfalls result in losses in agricultural income and increases in poverty and malnutrition.⁵³ A moderate drought, defined as a rainfall shortfall of 30 percent, reduces growth in agricultural incomes by 15 percent on average and increases poverty by 13.5 percent (Hill and Tsehaye 2014). In the current *El Niño* drought affecting North Wollo, the poverty rate in North Wollo has increased by 28 percentage points, more than doubling the people living in poverty in that zone. Drought severely affects pastoralist areas causing human tragedy and loss of key livestock assets. When pastoralist households are left with less than 15 heads of cattle they are unable to support a pastoralist lifestyle and are left in a poverty trap, forced to reduce their livestock holdings further and enter a sedentary lifestyle of abject poverty (Lybbert et al. 2004).

145. **The risk of drought also constrains agricultural investment with many farmers choosing not to invest in profitable crops and technologies because of the uncertainty of returns.** When farmers are unable to protect their welfare from rainfall risk they choose not undertake high return but potentially risk-increasing investments. As a result they invest less in fertilizer and seeds and choose to grow safer but low return crops.⁵⁴ Gender differences in agricultural productivity have been found to arise in part because women are often engaged in low-risk low-skilled activities while men choose high-risk, high-value crops and engage in commercialization (Aguilar et al. 2014). It is not clear what drives these choices, but it could reflect underlying differences in access to insurance.

⁵² Estimates from the World Bank flagship report on Sub-Saharan dry lands (2015)

⁵³ Dercon (2004); Dercon, Hoddinott, and Woldehanna (2005); Dercon and Porter (2013); Gilligan and Hoddinott (2007); Hill and Tsehaye (2014); Hill and Porter (2014).

⁵⁴ Dercon and Christiaensen (2007); Alem et al. (2009); Zerfu and Larson (2010); Gebregziabher and Holden (2011); Berhane et al. (2015); Mahmud et al. (2009); Fufu and Hassan (2006); Cavatassi et al. (2010); Yu et al. (2011).

146. High rates of forest depletion drive land and water degradation and increases water stress. Deforestation has occurred at a rate of one percentage point a year for the last twenty years (GoE and World Bank 2015). This is the prime driver of land and water degradation. Where soil and water conservation have been improved through GoE programs dramatic improvements have been seen.⁵⁵ Successful measures have included: soil and water conservation (terracing, bunds); community-scale watershed management; and expansion and protection of forest cover to generate more and cleaner water and diverse livelihoods. Investments in irrigation and implemented by the Sustainable Land Management Project and the PSNP have contributed to higher agricultural productivity (Taffesse et al. 2014). As Section 5.1.2 details, reducing deforestation also requires reducing demand for wood in cooking through greater access to improved cooking stoves.

147. Less than one percent of smallholder-cultivated land is irrigated despite irrigation's potential to reduce rainfall vulnerability and increase yields in some areas. Ethiopia has a complex geology and water for irrigation may not be universally available, many farmers do have access to surface and shallow ground water suitable for irrigation. Most surface water potential is available in pastoralist areas, which are also some of the areas most affected by rainfall volatility. Assessing how to best develop this potential requires innovations in how best to support pastoralists' traditional lifestyles with increased access to reliable water supplies. Large-scale investments are constrained by limited technical capacity, and weak policy and institutional frameworks. Investments in affordable small-scale irrigation technologies are constrained by lack of knowledge and extension.⁵⁶

148. In areas where shallow groundwater is not accessible, development of low-cost irrigation solutions is desperately needed. The depth of access to groundwater in many parts of the country makes it expensive to use for irrigation purposes. The average cost of per hectare for groundwater development is two to four times higher than surface water irrigation (Awulachew et al. 2010). There are few low-cost solutions for deep groundwater irrigation, which limits the available technologies to rainwater harvesting and use of rivers and streams. There is also no comprehensive understanding of the nature of groundwater resources in Ethiopia due to Ethiopia's complex geology and a lack of studies. Filling this knowledge gap is important to understand the true costs of investments in irrigation for many households.

149. Reducing exposure to risk may not always be possible and an improved approach to disaster and climate risk management is also essential for achieving poverty reduction. The enactment of the National Policy and Strategy for Disaster Risk Management and the launch of the Disaster Risk Management Strategic Planning Investment Framework are very important steps from the GoE to move away from an 'emergency response oriented' system to a more 'proactive risk based' management system. The scalable rural safety net and the investments in land management that it encourages are a key part of this framework, but there needs to be more focus on improving the reach and timeliness of the scalable safety net and strengthening the existing

⁵⁵ Soil and water conservation measures in the Sustainable Land Management Program (SLMP) resulted in 40-189 percent crop yield gains in Tigray (Draft unpublished impact assessment by German Cooperation (2015) on the SLM Program phase 1), and soil and water conservation undertaken as part of the public works in PSNP has increased yields by 22-130 percent for cereals and pluses in some places (DFID unpublished cost-benefit assessment, April 2015)

⁵⁶ Awulachew et al. 2010, Mosello et al. 2015, Gebregziabher et al. 2014

early warning system so that it can indeed inform an early response. Investments in producing and analyzing weather and hydrological data that will inform strategies for vulnerability reduction; and consideration of risk financing to fund disaster related public expenditures may also be important.

150. Safety nets have been introduced in the most food-insecure areas and include scaling up mechanisms that allow support to increase when rains are bad. The regular transfers provided in the rural PSNP have improved beneficiaries' ability to smooth consumption (Gilligan, et al. 2010, Berhane et al. 2014) and have encouraged investments in agricultural technologies particularly when payments are large and reliable (Hoddinott et al. 2012). Scaling up mechanisms exist that allow transfers to increase in bad years, but there are no clear scaling up rules that allow farmers to know for sure they will be insured and early warning systems could be further strengthened. In addition the PSNP is not operational in all *woredas* and many vulnerable households live in *woredas* not covered. Targeting of emergency food aid is not as good as PSNP targeting, suggesting that spending on traditional food aid programs could benefit from being reoriented towards the PSNP (World Bank 2015a).

151. Private insurance markets are almost non-existent and are constrained by weak rural retail infrastructure, poor quality of products, and lack of public financial support. Many non-poor households that would not qualify to be in a safety net program are still vulnerable to falling into poverty should a bad drought hit; private insurance markets can help these households. There have been a number of weather index insurance pilots in Ethiopia in recent years but none have gone to scale.⁵⁷ Insurance companies do not have the network to sell these products in rural areas, and financial institutions that do have the network (such as microfinance institutions (MFI)s) may not have the incentive to offer products such as these that could be considered to undermine the repayment culture they are trying to build. Pilots suggest subsidies and improvements in product are also needed to encourage demand.⁵⁸ The relative merits of publicly subsidized agricultural insurance and scalable safety nets would need to be thought through. When households have bought insurance it has resulted in increases in fertilizer use (Berhane et al. 2014).

5.2.2 Remoteness and Market Access

152. Efficient markets that allow farmers to purchase inputs at low prices and receive a fair price for the goods they produce provide incentives for agricultural investment. Minten et al. (2012) show that improvements in market efficiency increased farmers' share of the final teff⁵⁹ retail price by 7 percent from 2001 to 2011. Improved road networks have led to a reduction of travel time between wholesale markets by 20 percent. More competition, a shift to bigger and cheaper trucks, and the introduction of mobile phones has also led to more efficient markets

⁵⁷ Weather index pilots have been implemented by the Ethiopian Insurance Company, Nyala Insurance Company, and the Oromia Insurance Company, supported by the World Bank, Oxfam, the International Food Policy Research Institute, the Food and Agricultural Organization, and the International Livestock Research Institute.

⁵⁸ Dercon et al. 2013, McIntosh et al. 2015, Berhane et al. 2014, Osgood et al. 2014

⁵⁹ Teff is one of the main cereals produced and consumed in Ethiopia.

(Minten et al. 2014). Developing efficient markets is important because low output prices and high input prices limit the profitability of inputs that can increase yields.⁶⁰

153. The national road network has expanded from 26,500 km in 1997 to 100,000 km in 2015, but road density, at 1 km per 1,000 people, is still one of the lowest in Africa. Sixty percent of the rural population remains without access to an all-weather road. Poverty rates increase by 7 percent with every 10 kilometers from a market town (World Bank 2015a). In addition there are highly productive areas that produce surpluses that are not served by good all-season roads, restricting the supply of agricultural inputs and access to markets at the right time.

154. Poor road infrastructure is still a major constraint to market access, reducing input use and crop sales. Work in a quasi-experimental setting in northern Ethiopia shows that remoteness and limited access to markets can have a substantial impact on transport costs, reducing net profits from agricultural sales. Transportation costs over a 35-kilometer distance, along a route mainly accessible to foot traffic only, led to marketing costs increasing from 6 percent to 23 percent of the market price. They also led to a 50 percent increase in the price of chemical fertilizer and a 75 percent reduction in its use (Stifel et al. 2012, Minten et al. 2014). Other studies have shown that inadequate access to markets is an important constraint to the use of inputs and agricultural productivity.⁶¹

155. Further road investments have the potential to accelerate poverty reduction for the poorest households who carry the largest burden of remoteness. Panel data analysis highlights a direct link between the investments that have been made in rural roads and poverty reduction (Dercon et al. 2009, Hill and Tsehaye 2014). From 2005 to 2011 agricultural growth caused poverty to fall by 4 percent for those far from urban centers compared to 26 percent for those living closer to cities. If these results can be extrapolated, poverty would have fallen six times more quickly for remote households had their travel time to urban centers fallen. Cross-country regressions indicate that continued investment to address infrastructure deficits offer the best policy for growth going forward (Moller and Wacker 2015).

156. Addressing the road connectivity deficit requires investment, but also greater selectivity in infrastructure projects, and a better strategy for asset management. As discussed at greater length in Chapter 7, Ethiopia financed infrastructure investment in the past via a range of mechanisms that will begin to show their limits in the future. Selectivity in investments is needed as well as exploring other financing modalities. The transport network needs to link areas of production with processing centers and markets and points of consumption or export. Analysis is needed to understand where investments are most likely to bring the highest benefits to growth and poverty reduction. Investment and recurrent expenditures in the transport sector need to be allocated to ensure that the different components of the transport network can operate effectively to meet the diverse demands that are placed on the sector.

⁶⁰ Dercon and Hill 2009, Matsumoto and Yamano 2010

⁶¹ Bachewe et al. 2015; Zerfu and Larson (2010); Fufa and Hassan (2006) Cavatassi et al. (2010); Li 2011; Melesse 2015; Kedir et al. 2015.

157. **Development of urban markets is just as important as the infrastructure to facilitate access for rural households.** It is not just better roads that are needed, but better access to urban centers that provide consumer demand and can facilitate access to inputs. Dercon and Zeitlin (2011) show that food prices rose more sharply in regions where urbanization was faster. This requires growth in urban centers, especially of secondary cities that are located close to rural households. This is discussed in Chapter 6.

158. **The development of export trade corridors may also benefit some of the poorest households who live in remote, border regions.** The development of export trade corridors is discussed further in Section 6.1. To the extent that they increase connectivity in some of the most remote border regions, they could bring about substantial gains for the households living in these regions who are particularly poor (section 2.5). Refugee camps also tend to be located in these areas. Better market integration would increase trade potential with refugee camps, and allow local inflationary pressures of increased demand from refugee camps to reduce.

159. **There are other, non-infrastructure-related constraints to improving markets, largely related to developing an increasing role for the private sector to provide services.** Input markets in Ethiopia are typically overly dependent on cooperative unions; the private sector agro-dealer market is small and underdeveloped. While there is no official input subsidy program, financial support to primary cooperatives for retail inputs, is an estimated US\$40 million per year since 2008. This has helped keep retailing margins low (Rashid et al. 2013). Increases are needed in the scale of operation and institutional capacity of primary cooperatives, or the private sector needs to be able to participate in retailing of inputs for inputs supply chains to be sustainable without subsidies. The development of urban markets and agro-processing for fresh fruit and vegetables may also benefit from increased private sector investments in cold storage and transportation logistics and improvements to wholesale market infrastructure.

160. **Lower oil prices also provide an opportunity for farmers if those prices help reduce marketing margins and encourage agricultural exports.** As oil prices fall the costs of exporting also fall, increasing the possibility of increased exports of agricultural goods. Over the last decade, the real value of agricultural exports (half of which is coffee and oilseeds) increased at an average annual rate of 9.6 percent. Further growth will likely require greater attention to improving product quality, grading, and standards. For instance one reason that an overwhelming share of pulses enter emerging markets, but not markets like the European Union or the United States is the inability of exporters to fulfill the high sanitary requirements of those markets. This requires improving the capacity of regulatory bodies to help exporters maintain and upgrade quality in general and redress deficiencies where inadequate quality standards are directly hurting export potential (World Bank 2014g).

5.2.3. Limited Access to Credit

161. **Limited access to credit constrains household investment, particularly in non-farm activities.** Relatively few papers that examine constraints to technology adoption find credit

constraints to be a significant determinant of adoption (Figure 9.3).⁶² In part this reflects the fact that the government has prioritized the provision of credit for input use in rural areas, first by providing credit through farmer cooperatives; and more recently through support to MFIs to develop lending for input use. However, a larger proportion of papers assessing constraints to non-farm income growth find lack of access to credit to be a significant constraint.

162. Low access to credit reflects low levels of financial inclusion in rural areas more broadly. Only 21.8 percent of adults have access to formal financial services compared to a regional average of 34.2 percent. Although Ethiopia's financial sector has broadened its outreach in recent years, key challenges remain for both the demand and the supply sides. From the demand side, by far the largest barrier cited by potential and current users (78 percent) was a strong perception of owning insufficient funds to use regulated financial services. This is much higher than the 40-50 percent reporting the same concern among structural peers. Since the majority of Ethiopian adults are saving, borrowing, insuring, and making payments outside of the regulated financial sector, financial institutions may not be appropriately tailoring their products, practices, or delivery channels to Ethiopians' locations, income, financial patterns, and economic lives (National Financial Inclusion Strategy 2015). Lack of awareness of products may also help explain this (Findex 2014).

163. Barriers faced by households in accessing financial services also reflect the obstacles faced by providers in supplying financial services. The discussion in Chapter 7 highlights that prioritizing public investment has resulted in constraints to the amount of credit that is available for private investors in rural areas. This binding constraint suggests that the challenge of sustainable finance of necessary public sector investment (such as that needed to address the binding constraint of remoteness) needs to be addressed. In addition, the lack of credit infrastructure such as high quality credit information may cause banks to require high-value collateral that most household businesses do not have, thus limiting access to appropriate financing tools. Stringent collateral requirements may also be caused by the poor quality of financial statements of household enterprises, high levels of informality, and poor business management practices. The causes of financial exclusion can be grouped into four areas: (i) underdeveloped financial infrastructure; (ii) inadequate supply of a range of suitable financial products, services, and access points; (iii) inadequate financial consumer protection; and (iv) low levels of financial capability and awareness.⁶³

5.3: Summary: Strengthening Rural Livelihoods

164. In summary, this section has presented evidence on the most binding constraints to strengthening rural livelihoods. Further improvements in education and health will improve the wellbeing of poor households, help them increase their incomes, and aid structural change. The GoE has invested a large share of the government budget in education and health in recent years and the analysis in this chapter suggests continued investment is needed. Two binding constraints

⁶² Alem et al. (2009); Liverpool and Winter-Nelson (2009); Matsumoto and Yamano (2010); Melesse (2015)

⁶³ This paragraph draws on the draft National Financial Inclusion Strategy 2015.

were identified in this regard. The first binding constraint identified is poor educational outcomes and ill-health as a result of (i) lack of access to services in underserved areas, (ii) low quality, and (iii) household barriers to the use of services—particularly financial constraints in the case of education and female empowerment in the case of health. The second binding constraint is lack of clean water, given this is a key constraint to good health, contributing to the main source of illness in rural Ethiopia. Reducing vulnerability to drought will have direct impacts on rural poverty and also help increase households investments and returns to assets. Vulnerability to drought is also identified as a binding constraint. This in turn is driven by: (i) poor natural resource management, (ii) limited irrigation, and (iii) the need for rural safety nets. Two further binding constraints to increasing returns for the rural poor are identified: limited access to markets for farmers and limited credit for private investment. Addressing both of these constraints requires finding a sustainable financing model that allows for both public investment in infrastructure and increased access to credit for private investment (see Chapter 7).

165. A key challenge to accelerating progress on poverty reduction and shared prosperity in Ethiopia is improving outcomes for the bottom 10 percent. The bottom 10 percent became poorer from 2005 to 2011 even though progress in reducing poverty was impressive during this time. Addressing the binding constraints identified can be expected to contribute to rural poverty reduction *and* improve outcomes for the bottom 10 percent. The poorest households are those with the worst human capital outcomes and the lowest investments in the education and health of their children. Increasing their access to quality services and helping them overcome the financial and cultural barriers to using these services will help ensure they have the assets to increase their incomes. The poorest households are also the most marginal farmers with the least amount of land and living in the most food insecure areas. Increasing the productivity and resilience of their land through improved natural resource management and irrigation would bring them gains, as would investing in their assets and increasing their resilience to drought through public safety net programs. The poorest farmers are also the most remote and addressing remoteness allows them to access services and markets that help them benefit from agricultural growth in a way that they did not in the past.

166. Variation in agro-ecological zones, access to basic services and access to markets will result in addressing the most important constraints, which vary across the country. No one constraint is universal across all parts of Ethiopia. As an example of this, yield gaps by climatic zone (for maize, although similar patterns are observed for wheat and sorghum) are presented in Figure 9.4 and indicate much larger yield gaps in the western part of the country. This can be compared to the maps presented in section 2.5 documenting differences in market access and volatility of rainfall.

6. Fostering Faster and More Inclusive Structural Change

167. **Fostering faster structural change in Ethiopia requires a healthy interplay between three main actors: firms, workers, and the government.** Productive and competitive firms are key to success, because firms are able to organize labor in the most efficient manner, thereby raising productivity. To ensure that firms are competitive, key constraints and opportunities affecting their performance must be identified and addressed. To be useful to firms, in turn, workers must be healthy and possess the appropriate skills that firms need. Labor markets also need to be effective in intermediating the supply and demand for jobs, including facilitation of smooth migration patterns from rural to urban areas. The government, particularly urban planners, play a pivotal role in this overall process as they plan the urban space, delineating what is public and what is private. They support investment in economic and social infrastructure and manage the provision of public services including education, training, health, and water/sanitation. This support sets the foundation for private investment in urban areas, which is essential for urban job creation. In this chapter evidence is presented to identify the constraints on these three agents in bringing about inclusive structural change.

168. **The chapter is structured as follows:** Section 6.1 identifies constraints to achieving on faster structural change, focusing on firms (6.1.1), workers (6.1.2), urban planning (6.1.3) and environment and natural resources (6.1.4). Section 6.2 analyzes the dimension of inclusiveness of structural change. It covers constraints to migration (6.2.1), labor market matching (6.2.2), and inadequate urban safety nets (6.2.3). Fast-paced structural change inevitably creates winners and losers and this needs to be monitored. This in turn requires increased government capacity to monitor, learn and respond as needed, which is discussed further in Chapter 8.

6.1 Faster Structural Change

6.1.1 Firm Competitiveness

169. **Firms depend on a range of high quality inputs to be competitive.** Macroeconomic and political stability together with a conducive business environment are some of the basic ingredients. Firms also become more productive with higher quality infrastructure such as roads, energy, telecom, and water. In addition, firms rely on a range of financial services, including access to credit, foreign exchange and insurance. They also need a range of business services (ICT, accounting, auditing, financial advice) to thrive. In addition, they depend on public services, including customs clearance and tax payments. At any point in time, one or several of these inputs will be the binding constraint that prevents a firm from growing or being competitive.

170. **Ethiopia's position in the Global Competitive Index is good compared to structural peers.** This index captures several of the above-mentioned dimensions of competitiveness. Ethiopia ranks 109th out of 140 economies in 2015/16, increasing its rank since 2013/14 when it was 127th out of 148 economies. It is now second among structural peers (after Rwanda). It scores highly in labor market efficiency (62nd), market size (68th), macro environment (76th), and institutions (83rd). Lowest scores appear in areas such as technological readiness (132nd), higher education and training (129th), infrastructure (121st) and financial market development (116th).

171. **However, the country fares poorly on theme-specific business regulatory measures as measured by the Doing Business Report.** Ethiopia ranks 146th out of 189 economies and second-to-last among structural peers (Myanmar ranks at the bottom). Four areas prove particularly challenging: Starting a business (176th), getting credit (167th), trading across borders (166th), and protecting minority investors (166th). Ethiopia does relatively better on dealing with construction permits (73rd), enforcing contracts (84th), paying taxes (113th), and resolving insolvency (114th).

172. **As a result the private sector in Ethiopia is nascent.** For instance, when measured through private sector credit to GDP, Ethiopia lags peers: private sector credit is only about 9 percent of GDP in Ethiopia compared to more than 20 percent in SSA (World Bank 2015e).

173. **Lack of credit for private investment is a key constraint to firm growth.** Table 3 draws upon six different surveys which shed light on the constraints to doing business in Ethiopia from the perspective of firms. Access to credit is mentioned as a greater concern or obstacle for doing business than infrastructure (energy and trade logistics) across all six surveys. Additional infrastructure investment may also only address firm needs partially. Good trade logistics outcomes is a function of ‘hardware’ (roads and rail), but also importantly of ‘software’ (e.g. customs procedures). Reliable energy supply for firms depends not just on total energy generation capacity, but also on investments and rehabilitation of the existing distribution network and the establishment of dedicated power lines to industrial parks.

Table 3: Most binding constraints to doing business in Ethiopia, various rankings

	Enterprise Survey 2011	Consultations on National Business Agenda 2015	Doing Business 2015	Global Competitiveness Index 2014-2015 Constraints	Non-Farm Enterprises 2013/14	Large and Medium Scale Manufacturing 2012/13
1.	Credit	Taxes	Starting a business	Government Bureaucracy	Access to markets	Raw materials
2.	Land	Credit	Credit	Foreign exchange	Credit	Access to markets
3.	<u>Energy</u>	Land	<u>Trade logistics</u>	Credit	<u>Trade logistics</u>	Credit
4.	Taxes	<u>Energy</u>	Protecting minority investors	Corruption	Taxes	<u>Energy</u>
5.	<u>Trade logistics</u>	Unfair competition	Registering property	<u>Energy</u>		

Source: World Bank Doing Business Report (2016); Global Competitiveness Report (2014 and 2015); National Business Agenda (2014); World Bank Enterprise Survey (2011); Ethiopia Central Statistical Agency Large and Medium Scale Manufacturing Census (2012/13); Ethiopia Socioeconomic Survey (2013/14). Note: Language has been harmonized across surveys for ease of comparability. Credit in **bold**. Infrastructure underlined.

174. **In Ethiopia, firms that are fully credit constrained exhibit poorer performance and productivity.** According to World Bank (2014c), firms in Ethiopia are more likely to be fully credit constrained than global comparators, including SSA countries. Nearly half of firms in Ethiopia are fully credit constrained.⁶⁴ For firms, being credit constrained means poorer

⁶⁴ Fully credit constrained firms are those without external financing and which were either rejected for a loan or did not apply even though they needed additional capital. It should be noted that credit constraints can be a function of both lack of overall credit in the system, and, a reflection of firm characteristics (some firms are not credit worthy).

performance and less productivity. In Ethiopia, a credit constrained firm has 15 percentage points lower sales growth, 5 percentage points lower employment growth, and 11 percentage points lower labor productivity growth than firms who are not credit constrained. Instead of relying on credit, investment decisions of manufacturing and services firms in Ethiopia are heavily dependent on cash flows and their own savings. Increasing access to finance necessary for domestic firm growth requires reconsidering the current financing model as discussed in Chapter 7.

175. **SMEs face unique credit constraints.** Ethiopia is characterized by a “missing middle” phenomenon, whereby small enterprises are more credit constrained than either micro or medium/large enterprises (World Bank 2014c). This may be explained by the lack of adequate business models to serve SMEs from financial institutions, which in turn reflects the lack of an SME finance culture (i.e. no harmonized SME definition nor SME specific strategy). Moreover, collateral requirements are excessively high and this often discourages SMEs from even applying for loans. The latter is being aggravated by SMEs having low levels of asset accumulation to collateralize and the added requirement for domestic borrowers to provide personal unlimited guarantees. This represents a key challenge because typically young firms are a great source of job creation but this trend is not seen in Ethiopia, where more established firms dominate the net job creation, suggesting that there is a lack of competitiveness and innovation in the private sector.

176. **Female-owned firms in Ethiopia in particular face weaker access to finance.** Access to credit is a top constraint reported by women-owned firms, which are even less likely than their male counterparts to own fixed assets such as houses or buildings, which can serve as loan collateral. As a result, many growth-oriented women entrepreneurs in Ethiopia are unable to graduate from group borrowing to larger, individual loans that can fuel business growth. When they do access credit and grow, women-owned enterprises are also more likely to hire female employees, reducing gender inequalities in the labor market (Strobbe and Alibhai 2015).

177. **Firm competitiveness is also a binding constraint to firm growth.** As this is a relatively broad concept, four specific constraints are identified. As a starting point, consideration is given to all constraints that are mentioned at least four times in Table 3. In addition to credit, which has already been discussed, this includes access to reliable energy which is mentioned as a top constraint in four of the six surveys. Trade logistics is included given its critical importance for large manufacturing firms that Ethiopia hopes to attract. In addition, a competitive real exchange rate is included as a key constraint in light of the strong empirical evidence on its links with exports and manufacturing performance. Finally, entry barriers to starting a business are included, given Ethiopia’s very low ranking in this DB dimension and because survey methodology prevents this important dimension from being captured in the five other surveys which focus on operational constraints. The following paragraphs consider further the evidence for the prioritization of these constraints. As discussed in Chapter 8, strengthening consultations with the private sector will help ensure effective action in addressing these challenges and promote private sector growth.

178. **Entry barriers hinder firm growth.** At firm entry, the business regulatory aspects, and land access are the critical constraints. Ethiopia scores poorly on the ‘Starting a Business’ indicator mainly because of the high paid-in minimum capital requirement, which is three times higher than the SSA average (Ethiopia is 138.9 percent vs. 45.1 percent for SSA according to the World Bank Doing Business Report, 2016). Complex licensing and permitting procedures, transaction cost of

dealing with government agencies and the broader issue of regulatory quality—including the preparation, coordination, consultation, transparency and enforcement of regulation—are consistently highlighted as burdensome. The need to obtain a competency certificate is particularly cumbersome. Domestic firms often face greater challenges than foreign ones. Only 5 percent of domestic firms investment are moving from pre-implementation to operations while Foreign Direct Investment conversion rate is high at one in three (World Bank 2015e, based on data from the Ethiopian Investment Agency).

179. The business environment favors incumbent firms and deters new entrants into export businesses. Ethiopia's export sector lacks dynamism in terms of firm entry and exit. Rather than increasing in scale, new entrants to the export market are already often relatively well established in other businesses such as trading. Limited access of credit, low entrepreneurship, and low regulatory quality in terms of promoting the private sector may explain this. Despite a favorable environment for incumbents, they are yet to emerge as multi-product and multi-destination export superstars (World Bank, 2014g).

180. Ethiopian firms face a host of different operational constraints depending on the nature of their business. Business constraints generally vary substantially depending on firm characteristics, including sector, firm size, age, location, and foreign/domestic ownership. In light manufacturing, for instance, constraints depend on firm size and sub-sector (Dinh et al. 2012). Trade logistics and skills form critical constraint for large apparel firms, but matters less in agribusiness. While location matters, it is interesting that manufacturing and non-farm enterprise firms in Addis, Tigray, Amhara, and SNNPR rank their top business constraints in largely the same order (World Bank, 2015n). Domestically owned SMEs perceive limited access to finance, land, unreliability of electricity, and the compliance cost of paying taxes as the top constraints (World Bank Enterprise Survey 2011).

181. Access to reliable energy is a frequently cited business constraint. While Ethiopia has made tremendous progress in investing in new power generation capacity, it paid insufficient attention to rehabilitating and upgrading the existing transmission and distribution grids and only recently started investing in this area. Although the GoE is now fully aware of this challenge, years of underinvestment in this area will continue to take its toll on firm performance in years to come. Key initiatives include the installation of dedicated power lines to the country's emerging industrial parks. Ethiopia has one of the lowest energy tariffs in the world. While attracting investors, low tariffs also undermine the country's ability to sustainably invest in making power more reliable. As a result, firms supplement their power supply with backup generators, which raises effective energy costs.

182. The government has invested substantially in hydropower generation, and these investments could potentially benefit from climate change. As the private sector grows, more electricity is needed. While the climate challenge is usually expressed in the added costs to growth, there are less known and not very well documented opportunities that could contribute to Ethiopia's growth momentum. Figure 10.4 shows deviations from the no-climate change cumulative hydropower production 2015-2050, estimated for 122 climate scenarios (ordered from the driest at the bottom to the wettest on the top). In about one third of the scenarios, production is less than in the no-climate change case; in the rest, production could be higher, provided adequate

investment is made in turbine generation and market arrangements for evacuating the excess power are established (World Bank 2015g). While this is, on balance, good news for the large-scale investments in hydropower that the government has been making it also shows that investments in other renewable energy sources, such as wind power, is also wise to mitigate climate risks.

183. Further progress on trade logistics stands out as a key challenge to enhance competitiveness, especially in light manufacturing. When judged by its performance in the Doing Business (Trading across Borders) indicators, Ethiopia has not shown much progress in the past four years.⁶⁵ The Logistics Performance Index, which captures the perception of freight forwarders, has shown some recent improvements, but even so the Government acknowledges the challenges it faces in this area and has begun taking steps towards improving the sector.⁶⁶ These include the issuance of a new Customs Proclamation that is in line with international standards; development of dry ports and other trade related infrastructure (including the railway line to Djibouti); provision of multimodal transport services and the development of a national logistics strategy. The Government is also considering additional reforms in regulations and administrative procedures and infrastructure, particularly ICT and connectivity in addition to the introduction of railways. Key structural bottlenecks in Ethiopia are the high costs of trade (delays and inefficiencies from Djibouti port and all the way inland and inefficiencies of the current multimodal system where the service provider is the Ethiopian Shipping and Logistics Enterprise—an SOE monopoly), a restrictive and complicated policy and regulatory environment (a burdensome documentation and permitting system, policy and institutional challenges in road, freight forwarding, shipping, transit, and trade finance, and lack of modern legislation in many trade-related areas including e-legislation) and although much improved but still poor infrastructure (along the nodes and facilities across the main corridor and ICT infrastructure and connectivity among the trade related agencies). Steps to reform policies and invest in infrastructure would deliver better outcomes by reducing trade costs and removing a key constraint to more diverse export-led growth.

184. Ethiopia's current exchange rate policy is not supportive of structural transformation. Various World Bank (2014g) and IMF (2015) studies indicate a real exchange rate overvaluation of 15 to 30 percent. The real effective exchange rate appreciated by more than 20 percent in FY15 owing to the appreciation of the US\$ to which the nominal exchange rate is pegged (at a 5 percent pace of depreciation). A weaker real exchange rate could help support a number of key policy objectives, including growth, exports, structural change and an improved external balance. In Ethiopia, a one percent devaluation of the real exchange rate is estimated to boost exports by ½ percent with larger effects in manufacturing (1 percent) than in agriculture (1/3 percent). Implementing this would require an appropriate monetary and fiscal framework and represents trade-offs with respect to the local currency value of public capital imports and external debt (Haile 2015).

⁶⁵ The ranking in the category Trading across Borders was 166 in 2016, 165 in 2015, 166 in 2014, and 165 in 2013 (World Bank Doing Business Reports 2016-2014)

⁶⁶ The Logistics Performance Index rankings for Ethiopia were 104 in 2014, 141 in 2012, and 123 in 2010 (World Bank Logistics Performance Index Country Scorecards 2014-2010).

Reform Opportunities

185. **What would be the implications of addressing these constraints for firm level productivity?** Cross-country firm regressions provide some insights (Hollweg et al. 2015). The impact of addressing constraints on labor productivity in Ethiopia is simulated by comparing it with Vietnam (an aspirational peer) and China. If Ethiopia were to match the access to finance and electricity conditions of Vietnam, its labor productivity would rise by 8.1 and 4.1 percent, respectively. If it could achieve transportation or telecom services similar to China, labor productivity of Ethiopian firms are estimated to rise by 4.1 and 3.1 percent, respectively.⁶⁷ These simulations are indicative that there is a strong link between the quality of services inputs to firms and their economic performance.

186. **One potential way of achieving these productivity gains would be to consider a gradual liberalization of the services sector.** Ethiopia exhibits high restrictiveness when considering five key services sectors: financial, professional, retail, telecommunications, and transport services. As illustrated in Figure 10.1, Ethiopia is completely closed in retail and telecom, and almost entirely closed in transportation, professional, and financial services.

187. **More broadly, Ethiopia may benefit from pursuing structural economic reforms.** As Figures 10.2 and 10.3 indicate, Ethiopia lags behind peers in most reform dimensions. In addition to services trade restrictiveness (including domestic finance), this is also the case for the current account and capital account restrictions. On the positive side, Ethiopia has done well in reducing trade tariffs and is at par with peers. What would be the impact on economic growth if Ethiopia closed the reform gap with its peers? To address this question, World Bank (2015b) performed a benchmarking exercise using the regression model developed by Prati et al. (2013) that links reform with growth.

188. **Even modest structural reforms that close gaps with peers would potentially have considerable impact on GDP growth.** The results presented are only indicative and do not constitute a comprehensive appraisal of reforms that have actually been introduced. If Ethiopia were to catch up with the average SSA country in terms of domestic finance, its per capita GDP growth rate would be boosted by 1.9 percentage points per year.⁶⁸ These substantial effects arise because this type of reform is highly potent for growth (the regression coefficient is sizeable) and owing to a substantial reform gap between Ethiopia and the SSA average. Chapter 7 considers this issue further in the context of Ethiopia's financing choice. Similar reforms of the current account and opening the capital account are estimated to increase real GDP growth rates by 0.8 and 0.7

⁶⁷ In the regression model, finance, transport and telecommunications are statistically significant at the 1 percent level. The coefficient for electricity, however, is not statistically significant.

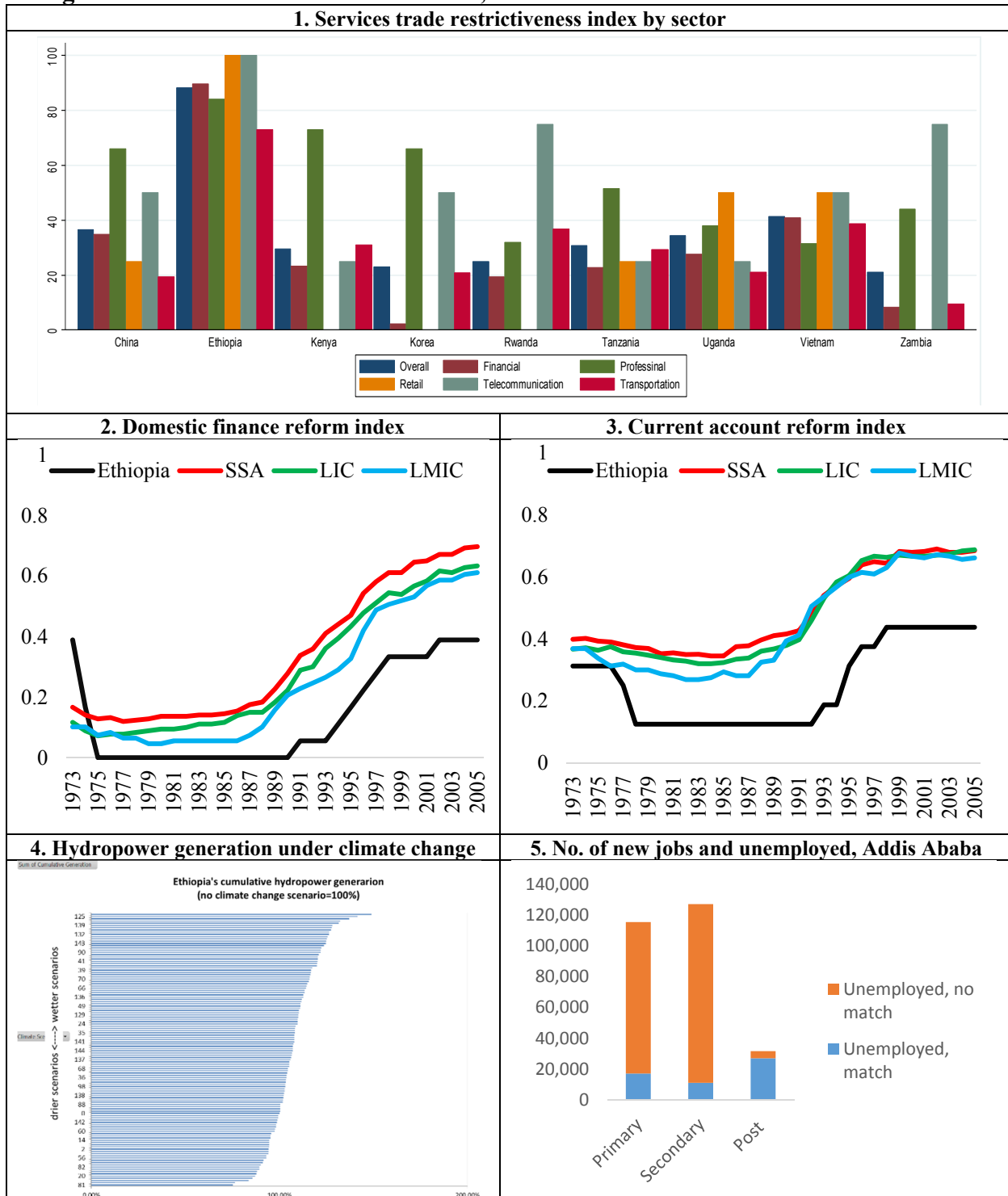
⁶⁸ Structural reforms in domestic finance refer to financial liberalization defined as a higher index value in six dimensions of financial sector reforms. Five of them involve the banking system: (i) credit controls, such as subsidized lending and direct credit; (ii) interest rate controls, such as floors or ceilings; (iii) competition restrictions, such as entry barriers and limits on branches; (iv) the degree of state ownership; and (v) the quality of banking supervision and regulation. The sixth sub-index focuses on the securities markets and measures the degree of legal restrictions on the development of domestic bond and equity markets, and the existence of independent regulators. The index of capital account liberalization measures the intensity of restrictions on financial transactions for residents and nonresidents, as well as the use of multiple exchange rates. Both the aggregate indicator of capital account reforms and the two sub-indices of external capital account openness are used for resident and nonresident. The two sub-indices capture the degree of legal restrictions on residents' versus nonresidents' ability to move capital in and out the country (see also World Bank 2015b).

percentage points, respectively. Simulated reforms in the electricity and telecom sector in the form of increasing competition and improving the regulatory quality yield negligible growth gains.

189. **Although there are economic benefits to reforms as well as an emerging consensus about their sequencing, the downside risks need to be monitored and managed.** While the average longer term net benefits seem to be positive, there is no guarantee that all countries will automatically benefit from reforms. Ethiopia has the added advantage of being in a position to learn the lessons of successful as well as painful experiences of other countries. Still, there are important pitfalls on the reform path (e.g. regulatory frameworks need to be well developed before liberalizing domestic finance) and these would need to be monitored were Ethiopia to re-initiate the structural reform agenda. This requires an increased capacity to monitor the impact of policy reforms and adapt strategies as needed (see Chapter 8 for a further discussion).

190. **While Ethiopia clearly needs to make further progress in developing ICT access to its population, including the bottom 40 percent, ICT was not identified as a binding constraint.** ICT does not emerge as a top priority to firm growth from a review of firm surveys, nor from the results of cross-country firm regressions. Anecdotal evidence suggests that while sub-par ICT quality can be a nuisance this does not necessarily imply that it is a key determinant of competitiveness in the industries where Ethiopia has a comparative advantage. Conversely, improved performance in this area could potentially open up new sectors as the example of Kenya illustrates. However, as other constraints to firm competitiveness are addressed, limited coverage, costly data access, and lack of local content and services will likely become a more binding constraint to firm growth. In sum, ICT is an example of an area where Ethiopia could benefit from making progress in an absolute sense (see Box 1 for a fuller discussion). However, in terms of relative priorities, this did not come out as one of the top constraints.

Figure 10: Services trade restrictiveness, structural reform indices and labor markets



Source: 1: World Bank Services Trade Restrictions Database. 2-3: Prati et al. (2013); 4: World Bank (2015g); 5: EDRI and Oxford University survey of firms 2014 and World Bank staff using the Urban Employment and Unemployment Survey data, 2014. Note: 1: The higher the value on the index the more restricted the sector is. For instance, Ethiopia is completely closed in retail and telecommunications, and almost entirely closed (with a score above 75 percent) in transportation, professional, and financial services.

Box 1. Ethiopia: towards improved ICT coverage, quality and pricing

The telecom and ICT situation in Ethiopia is one the most underdeveloped in the world, which has a negative impact on the poor. Ethiopia's ICT sector ranks among the bottom decile in most international ICT indices.⁶⁹ Only 4.5 percent of households own a fixed-line telephone and fixed-broadband is available in just 3.8 percent of households compared to 10.5 percent and 4.6 percent in Sub-Sahara Africa. By contrast 46 percent of the population use mobile services and mobile broadband is now a versatile technology owing to widespread smartphones. ICT can potentially help reduce extreme poverty and promote shared prosperity by improving the flow of information and services, decreasing the relevance of distance, expanding potential markets for business, providing opportunities for economic diversification, and as a source of job creation.

Four barriers for broadband access can be identified: (1) Coverage: 20 percent of the population are outside the reach of mobile communications services. (2) Affordability: The cost of one Gigabit of mobile data fell by 24 percent in 2016 and is now comparable to the average cost of data among structural peers. However at \$23 in US purchasing power parity it is still more expensive than all aspirational peers. (3) Digital illiteracy: Only half of the population above 15 years can read and write. In Addis Ababa 37 percent of the population struggle with digital literacy. (4) Lack of local content/services: There are 2,000 web sites registered with a .et domain name compared to Tanzania (8,000) and Kenya (45,000) with much smaller populations.

Lessons learned from other developing countries that achieved strong mobile broadband coverage:

1. **Market competition dynamics.** The introduction of competition in the mobile market with the licensing of private mobile operators and/or the privatization of former public monopolies is a key success factor. Introducing competition is not necessarily synonymous with privatization as the Chinese model shows. The country has 100 percent public competition between three state-owned companies. In Vietnam the mobile leader is itself 100 percent government owned.
2. **Involvement of Development Finance Institutions.** Several countries (Afghanistan, Bangladesh, Cambodia and Nepal) benefitted from the technical and financial assistance to achieve stronger mobile internet coverage.
3. **Network sharing deals.** Going further into rural and remote areas is often uneconomic because of lower population density and lower customer purchasing power. Operators can reduce their investment and operating costs by pooling together their mobile sites. Network sharing, of course, is only possible when there are multiple operators.

Possible scenarios for Ethiopia to improve telecom and ICT access for the poorest 40 percent.

1. **Introduction of additional mobile operators with the award of 'full' mobile licenses.** New operators can be public, private, or joint ventures (including state majority). Substantial public additional revenues can be earned from: (i) each license (about US\$250m); (ii) corporate tax, VAT, and customs duty; and (iii) regulatory fees. Social objectives can be met by enforcing strong coverage obligations. A drawback would be lower profits and market share for incumbent.
2. **Creation of a Single Wholesale Network of licensing of mobile retail operators.** Breaking up EthioTelecom with one part converted into a Single Wholesale Network operator, delivering wholesale access to several 'ServCo' retail operators (state-owned or joint ventures). GoE keeps full ownership and EthioTelecom focuses on investment and reaching remote areas. Consumer choice is increased by competition and tariff innovation at retail level.
3. **Involvement of Private Sector in EthioTelecom operations.** EthioTelecom partners with a private partner to enhanced its capabilities through a management contract thereby benefitting from private sector expertise to streamline its operations and better achieve rural coverage.

Source: ICT Background Note prepared for the SCD

⁶⁹ For example, the ICT Development Index of the International Telecommunications Union ranks Ethiopia as 162nd out of 166 countries (34th out of 38 sub-Saharan African countries); the Network Readiness Index of the World Economic Forum ranks Ethiopia as 130th out of 143 countries (24th out of 32 sub-Saharan African countries), and the web index of the World Wide Web Foundation ranks Ethiopia as 86th out of 86 countries (21st out of 21 sub-Saharan African countries).

6.1.2 Worker Skills

191. **Urban labor supply is expected to rise substantially in the coming decades owing to migration and demographic change.** Ethiopia's urban population share is low at 17 percent, well below the regional average of 37 percent (2012). But this is set to change dramatically. The Central Statistical Agency (CSA) projects the urban population to triple from 15.2 million in 2012 to 42.3 million in 2037, growing at 3.8 percent per year. World Bank (2015m) projects an even faster rate of urbanization of 5.4 percent per year. If so, by 2030 there would be 40 million urban dwellers, equivalent to 30 percent of the total population.

192. **Ethiopia thus faces a challenge of creating high quality jobs for unskilled or semi-skilled workers in manufacturing and services.** In addition to conditions on the labor demand side discussed above, workers must be equipped with the relevant education, training, and skills to be attractive to firms. They must also stay healthy and this depends on the quality of urban health, water, and sanitation services, as well as affordable housing as discussed in the subsequent sub-section. In this sub-section, we focus primarily on worker skills as a key constraint.

193. **The urban labor market is currently evenly split between those that engage in self-and wage employment.** Self-employment is more important for those with lower levels of education and for those living in smaller urban centers (Table 4). The government employs one-fifth of employees and almost half the wage employees. There has been little change in the structure of urban labor markets over time with new jobs being created equally by the private and public sector and in proportion with the existing sectorial composition of the labor force (Table 4 and World Bank 2015i).

Table 4: Urban labor market statistics

	2014	2003
<i>Proportion of urban labor force in ...</i>		
Wage employment	49%	48%
Public	21%	22%
Private	28%	26%
Self-employment	39%	42%
Manufacturing	12%	11%
Services	75%	76%

Source: World Bank (2015i) using Urban Employment and Unemployment Surveys

194. **Those with primary and secondary education comprise the largest share of the unemployed pool but firms are creating more jobs for those with post-secondary education.** Individuals with post-secondary education are most in demand, followed by workers with just primary education. However, those with secondary education comprise the highest number of unemployed and this is the group for whom the gap between demand and supply is largest, followed closely by those with primary education (Figure 10.5). The results from this artificial 'labor matching exercise' suggest that there are not enough job opportunities for those with primary and secondary education in urban Ethiopia. Financial and education sectors present the highest demand for skilled labor, accounting for 40 percent and 25 percent of the total demand for individuals with post-secondary education. The construction sector represents the highest demand (40 percent) for individuals with primary education.

195. **Growth in self-employment income is likely to be a source of income growth for many urban poor in the short run.** Lack of access to capital is cited as a constraint to entering and expanding self-employment activities. A recent impact evaluation suggests that provision of grants and some basic training on business planning can have a large impact on self-employment income (Blattman and Dercon 2015). Lack of space is a particularly binding constraint on self-employment in Addis Ababa as all businesses are required to register and have business premises.

196. **Challenges associated with worker skills in wage employment are a reflection of the ‘low education outcomes and ill health’ binding constraint. Skills shortages constrain productivity growth in the manufacturing sector, although this varies by firm characteristics.** Larger and foreign-owned firms are significantly more likely to cite poor skills as an impediment to increased productivity in the manufacturing sector (World Bank 2015n). This observation resonates with the findings of an analysis of light manufacturing in Ethiopia (Dinh et al. 2012), which also highlighted the poor supply of appropriately skilled labor as a major obstacle to improving the competitiveness of the manufacturing sector.

197. **Ethiopian firms struggle to recruit candidates with appropriate hard (technical) and soft skills. For employers the most common sought after worker skill relates to work ethic and commitment (World Bank 2014d).** Among all manufacturing firms regardless of size, the most desired skills are “soft” rather than technical. A reason for the high interest in work ethic and commitment could be that the Ethiopian manufacturing sector is still relatively underdeveloped and not heavily reliant on more technical production. Moreover assembly line production requires discipline, timeliness, and team coordination. Across all firm groups, almost a third of firms’ most desired skills are technical in nature (technical, computer, or information technology skills). However, positions in skilled production form proportionately the largest share of reported vacancies. Younger firms and large firms take much longer to fill vacancies than other companies, especially for positions requiring skilled production skills, managers, and professional qualifications. Addressing these skills deficiencies is critical.

198. **From the perspective of firms, the low engagement between firms and TVET institutions as a source of technical workers is one of the key constraints on increased productivity.** While there are a high number of vacancies for skilled production workers, only a minority of firms contact TVET institutions regarding vacancies. In a recent survey, only 14 of 60 firms surveyed reported contacting TVETs to fill outstanding technical positions (Ethiopia Skills Module 2013). In the same survey, only half of firms reported hiring TVET workers directly from an institution. **Despite an explicit policy of engaging the private sector to improve the TVET sector, mechanisms to facilitate integration of private sector needs into the TVET curriculum and operational standards have not been established.**

199. **To increase productivity of firms Ethiopia’s education sector will need to develop and supply the appropriate managerial, technical, and soft skills within the workforce.** But improving Ethiopia’s overall education profile will take many years, so promising sectors in light manufacturing

and agro-processing could be scaled-up by focusing on relatively modest skills development in the meantime. To this end, TVET programs and second-chance education programs—tailored to private sector needs—will be important instruments to upgrade managerial and technical skills, especially among small-scale operators already working in high potential sub-sectors.

6.1.3 Urban Planning⁷⁰

200. Ethiopia’s prospects for structural transformation depend critically, on urban planning. If well managed, urbanization could be an important catalyst to promote growth, create jobs, and connect Ethiopians to prosperity. If not managed proactively, rapid urban population growth may pose a demographic challenge as cities struggle to provide jobs, infrastructure and services, and housing. The central challenge for the Ethiopian Government is to make sure that cities are attractive places in which to work and live, while fostering ‘smart urbanization.’ This means putting in place the right policies, institutions, and investments now, when incomes and urbanization levels are fairly low.

201. The rapid urban population growth means large new needs for infrastructure and housing in cities. Despite progress made thus far, Ethiopian cities are still struggling to provide adequate infrastructure and services. Coverage for sanitation services is low, even by SSA standards, with a municipal sewerage system only in Addis Ababa, serving just 5 percent of the population. Ethiopian cities struggle to manage solid waste, which is often dumped into open areas, endangering public health. In this context, increased urbanization can result in increased prevalence of infectious diseases. Nowhere is the infrastructure challenge more pronounced than in water. Ethiopia cities are water stressed and population growth will require a six-to-nine fold increase in access to meet projected demand by 2035. The poor tend to suffer disproportionately from a lack of basic water services, poor water quality, and water-related illnesses. Compounding these challenges is the serious shortage of urban housing. An estimated 70-80 percent of the urban population live in what might be considered slums—one of the highest rates in Africa. The infrastructure-financing gap is considerable (see Chapter 7) and relying entirely on municipal own-source revenues will not result in the infrastructure and services required to build a strong business environment in cities, as well as making them attractive places to live and work.

202. Weak urban planning and land management is identified as a binding constraint. Integrated planning and improved land management to facilitate investments in infrastructure and services will be essential to ensure urbanization is better managed. Forward thinking and more market-responsive urban planning to better coordinate infrastructure and services has proven to reduce long term costs associated with retrofitting services to poorly planned and overcrowded urban areas. Rigid and static land-use planning, typical for many counties, is giving way to more market-responsive systems, and the current Ethiopian Urban Plan Preparation and Implementation Strategy already signals a positive shift. However, there is an urgent need to reform the system of land management to ease administrative and fiscal burdens, free land for development, and promote efficient urban forms, while maintaining the public ownership of land. This would allow for population density to increase in emerging urban centers, which would in turn result in significant cost savings in the provision of urban infrastructure.

⁷⁰ This Section draws upon World Bank (2015m).

203. Land management practices indirectly and unintentionally contribute to the problems that cities face in providing sufficient serviced land for people, firms, and public uses and services. Unsatisfied demand is well illustrated by land auctions in cities, where the number of bidders at land auctions has been 12 to 24 times higher than the number of plots for residential land and 3 to 7 times higher than available plots for commercial land. In 2011, more than one-quarter of companies in Ethiopia reported that access to land represents a major or severe constraint to doing business. And Ethiopian cities like Addis Ababa lag on measures—such as land allocated to streets and intersection density—that are essential for mobility, productivity, quality of life, and social inclusion. At the same time, prevailing practices of land management lack incentives for high utilization of existing formal land supply and result in low-density, spatially fragmented development and limited mixed-use development. This type of urban expansion is much more expensive and proves difficult for urban local governments to provide services and foster economic growth.

204. The government acts as the sole supplier of urban land for formal development. This is not a trivial task, especially given the multiple systems of property rights, combined with a complex system of land leasing. The government also faces an enormous financial burden in extending required basic services to those plots. Inability to satisfy demand for affordable land through formal channels, constrained by municipal governments' capacity and limited financial resources, drives informal development, especially in peri-urban areas far from jobs. Regulations on minimum lot sizes, coupled with limits on land plot coverage and building heights, discourage high-density development that could accommodate all income groups in closer proximity to jobs and services.

205. Local governments below the regional level, despite their importance, have limited capacity and autonomy. Decentralization has increased the role of local governments, which are tasked with the provision of “state services,” such as education, health, justice, and security—and “municipal services,” such as roads, drainage, sanitation, and solid waste collection and disposal. But they often lack the capacity and the authority to fulfill their responsibilities. Important powers are mostly retained at the regional level, particularly in municipal finance, land management, personnel management, and city operating practices— all making it harder for cities to carry out their mandates. More generally, many cities simply lack the human and financial resources to govern and deliver services.

206. Municipal finances are inadequate to fund urban development. Intergovernmental transfers and own-source revenues cover local expenditures but are insufficient to fully fund urban services and infrastructure. State functions are financed through regional transfers, often barely enough to cover recurrent needs. Municipal functions—including water, sanitation, local roads, and solid waste management—are expected to be funded from own local revenues, both for recurrent and capital spending. But revenues rarely meet demand for services. While municipal revenue growth has been robust in nominal terms, in real terms it has grown slower than inflation, GDP growth, and overall public revenue growth. Moreover, many cities lack control over rate-setting, while larger cities rely heavily on unsustainable land-lease revenues. Combined with the limited authority and capacity of local governments, these financial constraints make it much harder for cities to finance the necessary infrastructure and services to provide for rapidly growing

urban populations. The use of private sector operators under the regulatory framework and guidance of municipal governments could potentially help overcome some of these constraints.

207. Urbanization can be better managed through improvements in land management, government capacity and by addressing investment gaps. First, while maintaining the public ownership of land, the system of land management can be reformed to ease administrative and fiscal burdens, free land for development, and promote efficient urban forms. This can be done while still maintaining ownership of land by all Ethiopians, as enshrined in the Ethiopian Constitution and drawing from local success, such as the experience of Hawassa with land reallocations. Second, local government capacity and autonomy can be further strengthened. Federal and regional government tiers urgently need to focus their support on municipal finance mobilization at the local government level. Urban local governments must be able to raise enough revenues and manage them efficiently, including setting tax rates. Finally, to address investment gaps, national and regional government institutions can be reformed. In addition to strengthening capacity and responsiveness of government as discussed in Chapter 9, this will require a regular review of intergovernmental finance.

6.1.4 Faster Structural Change: Environmental and Natural Resources Implications

208. Fast-paced structural change presents risks as well as opportunities for the natural resource base and the environment that need to be managed. Ethiopia's growth plans imply important shifts in how land, forest, and water resources are used, how energy is generated and distributed, how air and water pollution are managed, where people live, where flashpoints of vulnerability lie and how climate challenges interact with all of the above. Addressing these issues requires predictable and sustained investment in the renewable natural resource base and the sectors that depend on good natural resource and environmental management.

209. Water and air pollution will, if not addressed, bring negative health impacts that undermine shared prosperity. According to a comprehensive environment, health, and safety audit on 96 Ethiopian industrial firms, 85 percent discharged their effluent directly into nearby streams and surroundings without any form of treatment. Mercury used in mining has also recently come to Ethiopia. Mercury exposure harms laborers, and discharges to streams contaminate water and fish which may be consumed by households. The magnitude of health impacts in Ethiopia is currently unknown, but have been detrimental in other African countries and in Asia where this practice is more common. On the other hand, the costs of environmental health impacts are relatively low from urban air pollution, indoor air pollution, water and sanitation, lead, ozone, and workplace environmental hazards, and actually declined from 1990 to 2010. However, pollution will be more affordable to address now rather than later, and smart investment in public goods such as regulation, monitoring, communication, and climate-resilient infrastructure is needed in tandem with smart private sector investments in clean technology.

210. As cities, the population, and the economy continue to grow, so does the demand for wood and non-wood products and efforts are needed to avoid rapid deforestation. One of the main environment costs to Ethiopia remains loss of forests, which are being depleted at an unsustainable rate of more than 1 percent per year. This loss is foreclosing on future economic growth opportunities and livelihood options for many rural poor, as demand for forest products

outstrips sustainable supply leading to net extraction of natural wealth and greater reliance on imported forest products. In addition to wood fuel, demand for furniture is also expected to grow substantially in the coming decades as Ethiopia grows richer and more urbanized. Balancing supply with demand would need to include efforts to shift to more sustainable energy sources and increasing the supply through tree planting and management. On the upside, housing and building construction sectors provide opportunities for developing production of wood based products and job creation.

6.2 More Inclusive Structural Change

211. **Urban growth in industry and services will not deliver substantial reductions in poverty, unless key constraints to the inclusivity of this growth are addressed.** Manufacturing and services output growth was not a significant contributor to poverty reduction from 1996-2011. In cities, for every 1 percent of growth in manufacturing output, poverty fell by 0.37 percent, which is lower than the 0.9 percent reduction in poverty arising from growth in agriculture. Although growth in urban areas has been strong (World Bank 2015c indicates that cities are estimated to contribute 38 percent of GDP), consumption growth was negative for the majority of households in Addis Ababa, which comprises one-fifth of Ethiopia's urban population.

212. **Households face several constraints in acquiring assets and accessing markets to fully benefit from structural change.** Section 6.1 highlighted constraints to the speed, nature, and quality of growth that needs to be encouraged to bring about inclusive structural change. This section discusses the constraints households face in acquiring assets and accessing markets that prevent them from switching sectors and gain the full benefits of non-agricultural growth. They point to constraints to migration, skill acquisition and inadequate urban safety nets.

6.2.1 Constraints to Migration

213. **There are clear welfare benefits that arise as a result of rural to urban migration.** Depending upon whether returns to migration are defined as per capita consumption or consumption per adult equivalent, the returns to migration appear to be between 83 and 113 percent (de Brauw, Mueller, and Woldehanna, 2013). Yet, as documented in Section 2.3, rates of rural to urban migration are relatively low in Ethiopia, suggesting that constraints to household migration exist.

214. **Ethiopia's land policy that has been so good for ensuring an equitable distribution of income in rural areas may act as a brake on migration flows.** It does so by prohibiting those planning on migrating from liquidating their land and using the proceeds to support them in their migration and job searching process. However, evidence suggests this may not be a major constraint. There is currently no evidence that improving the security of land tenure enables migration in Ethiopia (de Brauw and Muller 2013), instead land scarcity in some parts of the country has encouraged migration among youth (Bezu and Holden 2014). In addition, the experience of other countries with similar land sales restrictions suggests that land restrictions become serious obstacles to migration, urbanization, and structural transformation in the medium to longer term. China has the same land tenure system as Ethiopia and has rural migration rates that are twice as high: 1 in 10 rural workers migrates in Ethiopia, in contrast to 1 in 5 rural workers

in China. While it may not be the case that the current land tenure system is currently a binding constraint to migration and poverty reduction, these policies may limit the pace of structural change in the long run.

215. Individuals with the education and financial resources to conduct a successful job search are more likely to migrate, which points to educational and financial constraints to migration. Individuals with lower levels of education have migrated at much lower rates (Figure 11.1). The evidence is consistent with credit constraints also limiting migration at the household level. Wealthier households and households that are more agriculturally productive are more likely to have migrants suggesting that credit constraints are important (de Brauw 2014). The costs of migration can be large, comprising not just the costs of travel, but also the costs of supporting the migrant in the destination location until they are able to access employment. The majority of young migrants to Addis Ababa report being supported by their families as they search for work (Franklin 2014). A ten percent increase in agricultural income in a given year increased the probability of migration by 0.45 percent, all else equal.

6.2.2 Constraints in Matching Urban Workers to Good Jobs

216. Reducing rates of urban unemployment is key to increasing the inclusivity of Ethiopia's non-agricultural growth. Section 2.3 pointed to the high rates of unemployment present in large cities, and the strong correlation between unemployment and poverty. Urban unemployment rates are high in comparison to both structural and aspirational peers. The urban unemployment rate is 17 percent in comparison to 7 percent and 9.5 percent in Rwanda and Uganda respectively, and 3 percent in Cambodia and Vietnam. Although unemployment rates are falling over time, they are doing so only slowly.

217. High rates of unemployment reflect imperfections in urban labor markets. A public sector premium in both wages and job quality encourages queuing for public sector jobs among those with secondary and graduate education (Figure 11.2). These graduate job seekers fund queuing by temporarily entering into casual unskilled employment opportunities, crowding out unskilled workers better suited to employment in these activities (Mains 2012; Franklin 2014; World Bank 2015i). Wages cannot fall any further to clear the market for unskilled jobs, because they are already clustered below the food poverty line.⁷¹ Although there may be workers willing to work for a lower wage, firms will not offer lower wages as they know it will not be enough to provide the calories needed for workers to perform the required physical activities.

218. Addressing low wages among low skilled workers is key to reducing urban unemployment and this requires addressing low labor productivity. In the private sector, low wages reflect low rates of labor productivity. Analysis shows that real wages paid by manufacturing firms do, broadly, reflect changes in worker productivity, but by no means perfectly, with large differences in the ratio between the two values (World Bank 2015i). Ethiopia has some of the lowest rates of labor productivity in the world, which requires wages to be similarly low in order for firms to be competitive. Increases in wages since 2012, may in part reflect recent increases in worker productivity. Aiding firm competitiveness should help address this constraint,

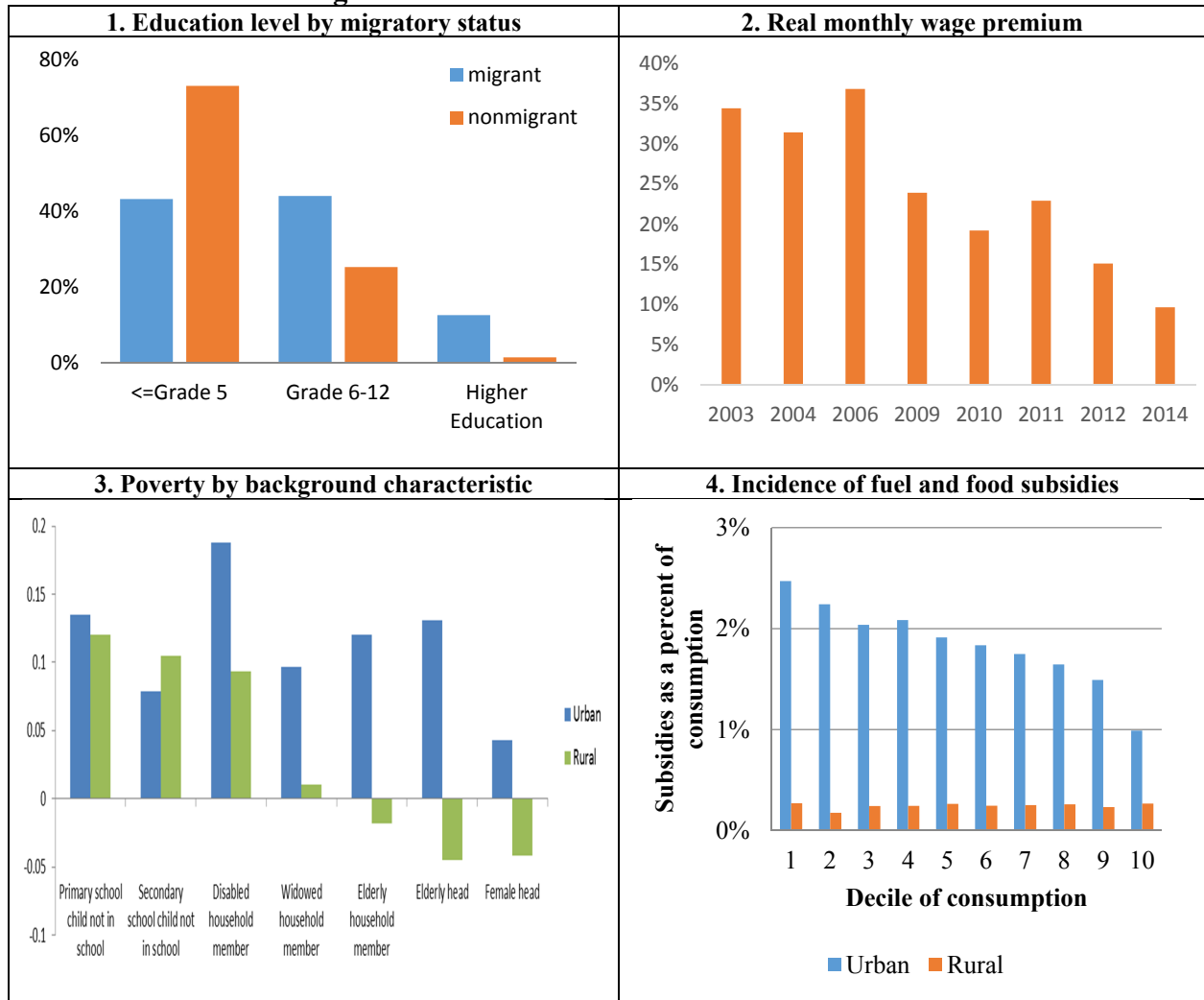
⁷¹ Wages cluster below the food poverty line for workers with low levels of education: 10.5 Birr per day, compared to the food poverty line of 13 Birr a day.

but equally crucial is improving the educational qualification of workers to increase productivity (Section 6.1).

219. **In addition, high job search costs further constrain job search and matching in urban centers.** Finding a job in Addis Ababa entails considerable investment in public transportation to job boards and interviews. After four months of job search, 83 percent of unemployed workers had stopped actively looking for a job because it was too expensive (Franklin 2014). This points to the presence of constraints that have been highlighted: poor urban planning which increases travel time and costs between residential and commercial areas; low wages which do not make the costs of search worthwhile; and limited access to credit markets for job seekers to help manage the costs of transition. Improving the use of ICT in job search would also help reduce job search costs.

220. **Women are less likely to engage in the labor market, and work in less skilled, informal and lower paying jobs when they do.** Female labor force participation rates in urban Ethiopia are 13 percentage points lower than male participation rates, female youth unemployment is particularly high (25 percent compared to 15 percent for men), and women are much more likely to be in informal employment than men. The most common reason given by women for not participating is the labor market is the higher domestic responsibilities they face (Franklin 2014). Labor market discrimination may also present, and certain types of employment may also not be seen as suitable for women. Highly educated women are more likely to work in lower paying and lower skilled jobs in the formal sector, while girls enrolled in technical and vocational education tend to be enrolled in courses that emphasize soft skills rather than in subjects such as science that are traditionally seen as male domains (GoE 2014). Labor market discrimination and cultural attitudes not only impacts women's access to higher paying jobs, but it may also impede Ethiopia's overall economic growth as it represents an aggregate misallocation of resources.

Figure 11: Urban labor markets and subsidies



Source: 1, 3 and 4: World Bank (2015a); 2: World Bank (2015i)

6.2.3 Reducing Poverty among the Urban Poor Unable to Work

221. **The urban poverty rate in Ethiopia is high.** The poverty rate in urban Ethiopia is 85 percent of the rural poverty rate when evaluated at the national poverty line. This is marked contrast to structural peers, for whom the urban poverty rate is about half (54 percent) of the rural poverty rate, and to aspirational peers for whom the urban poverty rate is a third (33 percent) of the rural poverty rate.

222. **Urban dwellers unable to access labor markets are particularly poor.** In urban areas households with an elderly member or an elderly head are 12-13 percentage points more likely to be poor. In rural areas, by contrast, households with an elderly member or head are less likely to be poor than other households (Figure 11.3). A similar pattern is observed for female-headed households who are less likely to be poor in rural areas and more likely to be poor in urban areas. The increase in poverty associated with disability is twice as high in urban areas: urban households

with disabled members have poverty rates 19 percentage points above the urban average, compared to 10 percentage points for households with disabled members in rural areas.

223. **Informal safety nets are weak for the elderly and disabled in urban areas.** Urban households with disabled members are 7 percentage points less likely to be able to access 200 Birr when needed than rural ones. Households with elderly heads in urban areas are 5 percentage points less likely to be able to access 200 Birr at a time of need than rural ones. This reflects weaker social structures in urban areas.

224. **Formal safety nets in urban areas are underdeveloped and so do not help close this gap.** The PSNP is exclusively focused on rural areas, and urban-focused social protection support programs are inadequate compared to the need, less systematic, and fragmented. Currently, the GoE's support to urban households is largely provided in the form of subsidies for wheat, energy, and housing. These programs absorb about 20 percent of social protection spending (World Bank forthcoming), yet the value of these subsidies is much lower than the value of direct transfers made in the PSNP and there is also considerable leakage in these programs because they are not targeted to the most vulnerable groups (World Bank 2015a). Urban households do benefit more than rural households from indirect subsidies in fuel and food, but these transfers are not large enough to compensate for the lack of direct transfers among the bottom percentiles (Figure 11.4).

225. **There is a role for targeted interventions that provide long-term support to the elderly and disabled and short-term support for the unemployed and working poor in urban areas.** Improving labor productivity, wages, and employment rates in urban areas will take time; there is a role for targeted interventions in the short-term to help address poverty among the unemployed and those in low-skill wage jobs in urban areas. Simulations show that a modestly sized urban safety net can halve urban poverty (Olinto and Sherpa 2014) and encourage income growth among recipients by increasing job search, increasing the productivity of the self-employed, and encouraging some self-employed to graduate from necessity self-employment to wage employment (Franklin 2014; Poschke 2014). Encouragingly, the GoE is keenly aware of this challenge and is currently working with the World Bank to develop an urban safety net.

226. **In summary, this chapter has argued that faster and more inclusive structural change is needed for Ethiopia to reduce extreme poverty and promote shared prosperity.** Faster structural change in Ethiopia requires a healthy interplay between firms, workers, and the government. The external competitiveness of Ethiopian firms is primarily constrained by access to credit, reliable energy, poor trade logistics, tax administration, and an overvalued real exchange rate. On the worker side, skills represent a major challenge owing to a generally low level of human capital, but also a lack of soft skills and inappropriate training institutions. Urban planners can help the urbanization process better if land management practices are improved, efficient urban forms promoted (including reducing job search costs), local capacity and autonomy strengthened and urban investment promoted. Making structural change more inclusive would require addressing several constraints related to migration, skills acquisition, and urban safety net programs.

7. Ethiopia's Financing Choice: Public or Private Investment?

227. **This chapter addresses one of two key challenges to the sustainability of development outcomes: sustainable infrastructure financing.**⁷² Given the design of Ethiopia's financial sector, domestic credit is a scarce resource with competing uses. The rapid expansion of publically provided infrastructure was financed by allocating the bulk of domestic credit to this use as well as external borrowing. If this path continues, there is a risk that insufficient domestic credit will be made available for private investment projects, with repercussions for sustaining high growth and poverty reduction. Chapter 6 presented evidence that firms appear more constrained in credit than in infrastructure. This chapter presents complementary empirical estimates indicating relatively higher marginal returns to private investment in Ethiopia. These results suggest that for firms to grow and create jobs it may be time for government to focus more on alleviating firm credit constraints.

228. **The trade-off between financing public infrastructure versus private projects arises from the way in which the Ethiopian financial sector is designed.** Key characteristics include: (1) below market-clearing interest rates; and (2) market dominance by a state-owned bank, Commercial Bank of Ethiopia, which effectuates a policy of giving public investment projects funding priority. In the economic literature, such a system is referred to as 'financial repression' (McKinnon 1973; Shaw 1973). The literature itself is divided as to whether financial repression is good or bad for economic growth (see World Bank (2015b) for a review of the literature). In addition, it is important to note that the capital account is closed and that there are no foreign banks operating in the Ethiopian financial sector.

229. **Few policy choices are more critical and more contested in Ethiopia than the allocation of domestic credit to public infrastructure and private use.** Ethiopia's system of financial repression lends itself to a relatively straightforward question: Suppose you had an additional unit of saving or credit and you wished to get the highest impact on poverty reduction. Should you finance public spending on a public infrastructure project, such as a power project, or, should you channel it to finance the expansion of capacity in a private firm? The power project may crowd-in private sector activity if an infrastructure bottleneck is alleviated for the firm. At the same time, it denies access to credit of another firm that is ready to invest, expand and create jobs. Striking the right balance is a delicate and challenging task.

230. **The chapter begins by stressing the importance of infrastructure development for Ethiopia's growth.** A key finding from the work of Moller and Wacker (2015) is that infrastructure has driven Ethiopia's growth in the past and will continue to be an important driver of growth in the future (Figure 12.1). This is because of the high economic returns to infrastructure and the fact that Ethiopia's infrastructure deficit is one of the largest in the world (Figure 12.2). However, a problem arises when infrastructure financing imposes a trade-off via domestic credit markets to private investment financing. This raises the question of whether Ethiopia's current level of infrastructure investment is optimal compared to the current level of private investment.

⁷² Chapter 8 addresses the second risk related to government capacity and responsiveness.

231. **The chapter is structure as follows:** Section 7.1 estimates the marginal return to public and private investment. Section 7.2 evaluates domestic finance reform options. Section 7.3 identifies alternative infrastructure financing options.

7.1 Public and Private Returns

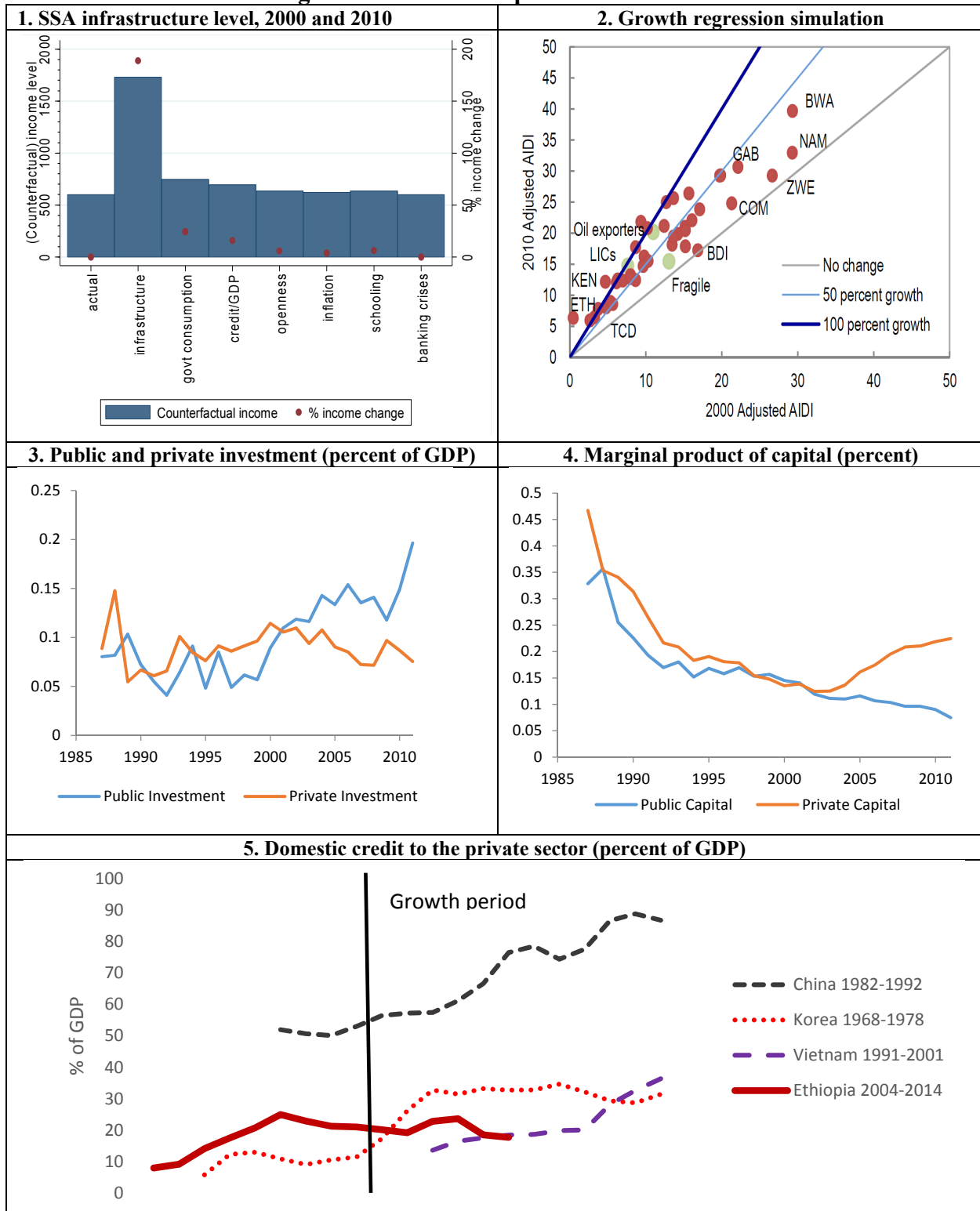
232. **The recent surge in public investment in Ethiopia has prompted renewed research interest regarding the optimal scope of public investment.** Is Ethiopia is investing too much in public capital or are other developing countries investing too little? Eden and Kraay (2014a) argue that both questions can be answered affirmatively: the vast majority of low-income countries are investing too little in public capital. However, it is likely that Ethiopia may be over-investing in public capital relative to the optimal level, which also takes into account the marginal returns to private investment (Eden and Kraay 2014b).

233. **An important aspect of this debate relates to the potential spillovers from public investment to private investment.** Part of the benefits of public investment may come from raising the productivity of private investment. However, public investment may also crowd out private investment, either by reducing the supply of savings or by directly substituting for private enterprises. While the relationship between public and private investment is important for determining the optimal scope of public investment, the relationship is more nuanced than simply crowding in vs. crowding out, which has tended to dominate policy discussions in Ethiopia.

234. **The empirical analysis finds general evidence of ‘crowding-in’ of public investment among low-income countries.** On average, in low-income countries, an extra dollar of public investment raises private investment by roughly two dollars and output by 1.5 dollars (Eden and Kraay 2014a). These results are derived from a two-stage least squares estimate that was subjected to various sensitivity tests. The calibrations show a strong degree of complementarity between public and private capital.

235. **From a policy perspective, the right question is whether the returns to public investment exceed the costs of financing.** Optimality requires that the return to public investment is equated with the interest rate, and this is true regardless of the effect of public investment on private investment. In Ethiopia, the supply of credit may be effectively fixed: the economy is relatively closed and the external borrowing constraint of the government is somewhat binding. Under a binding credit constraint, the government can be thought of as jointly choosing the bundle of public and private investment, subject to an external credit constraint. This is because the choice to increase public investment corresponds to a reduction in private investment through the increased availability of credit for the private sector.

Figure 12: Public and private investment



Source: 1 and 2: Moller and Wacker (2015); 3 and 4: Eden and Kraay (2014); 5: Nguyen et al. (2015). Note for 5: Graph considers the identified growth period of 10 years, and 10 years prior. The growth period appears to the right of the black line. Dates of the growth period vary as indicated in the legend.

236. **The estimated marginal product of private capital is substantially higher than public capital in Ethiopia.** Since the early 2000s, the public investment rate in Ethiopia has soared, while private investment gradually declined (Figure 12.3). The results from Eden and Kraay (2014a) can be used to compute estimates of the marginal product of public and private capital in Ethiopia. The marginal product reflects the effect on production from a one-dollar increase in either form of capital, expressed in percent. Figure 12.4 reveals that marginal products of public and private capital were roughly equalized in the 1987-2003 period, implying that an adequate balance was struck between public and private investment. Starting in 2004, as the Ethiopian economy took off, the marginal product of private capital increased substantially, while the marginal product of public capital continued to decline. In 2011, the marginal product of private investment was 22.5 percent compared to the marginal product of public investment of 7.5 percent.⁷³

7.2 Domestic Finance Reform Options

237. **This section considers the growth and poverty impacts of two policy options that could help alleviate the private sector credit constraint in Ethiopia.** The purpose of this analysis is to shed further light on the binding constraints for Ethiopia. One policy option would be to continue the existing model, but to direct more credit towards private firms at the expense of public infrastructure projects. Another policy option involves a gradual move towards a more liberalized financial system in which interest rates reflect the demand and supply for savings/credit. The latter approach does not necessarily imply opening up the domestic banking sector to foreign competition nor does it require liberalization of the capital account. It is also noted that the two policy reforms analyzed here can be considered as extremes on a continuum of policies and that they can be mixed as needed. More generally, it is important that changes to development finance policy are undertaken in a sustainable and inclusive fashion both in terms of sector coverage and conduits used (i.e. private sector banks).

238. **Financial repression with a strong private sector emphasis is a model that was effectively practiced by South Korea.** Like Ethiopia, the South Korean government intervened extensively in the pricing and allocation of credit. Unlike Ethiopia, the Koreans directed the bulk of the credit towards priority private sector activities. ‘Specifically, it ensured that priority sectors, mainly export-oriented industry such as steel, electronics, ship-building, automobile manufacturing etc., received preferential treatment as far as access to inexpensive bank credit was concerned.’ (Demetriades and Luntel 2001). While Ethiopia also favors some priority private sector activities, particularly in manufacturing such as textiles, leather, and agro processing, the bulk of total domestic credit is currently directed towards public infrastructure projects. As a result, Ethiopia’s share of private credit to GDP is much lower than that of Korea in the 1970s (Figure 12.5). To truly emulate Korea in this aspect, Ethiopia would need to shift more credit to priority private sector activities.

⁷³ Similar results can be obtained from a methodology that relies only on Ethiopia data (Eden 2015b).

239. **Dynamic general equilibrium simulations shed new light on the interlinkages between the economy, poverty, and the distribution of income.** These simulations were conducted specifically for the purpose of this SCD as joint work with the IMF. A reform that aims to increase competition and the size of the Ethiopian banking sector is analyzed. The tool of analysis is a dynamic general equilibrium model tailored to the Ethiopian economy (Lizarazo et al. 2015). The reform consists of: (i) freeing up resources for private firms and reducing them for public infrastructure investment; and (ii) increasing the interest rate on deposits.

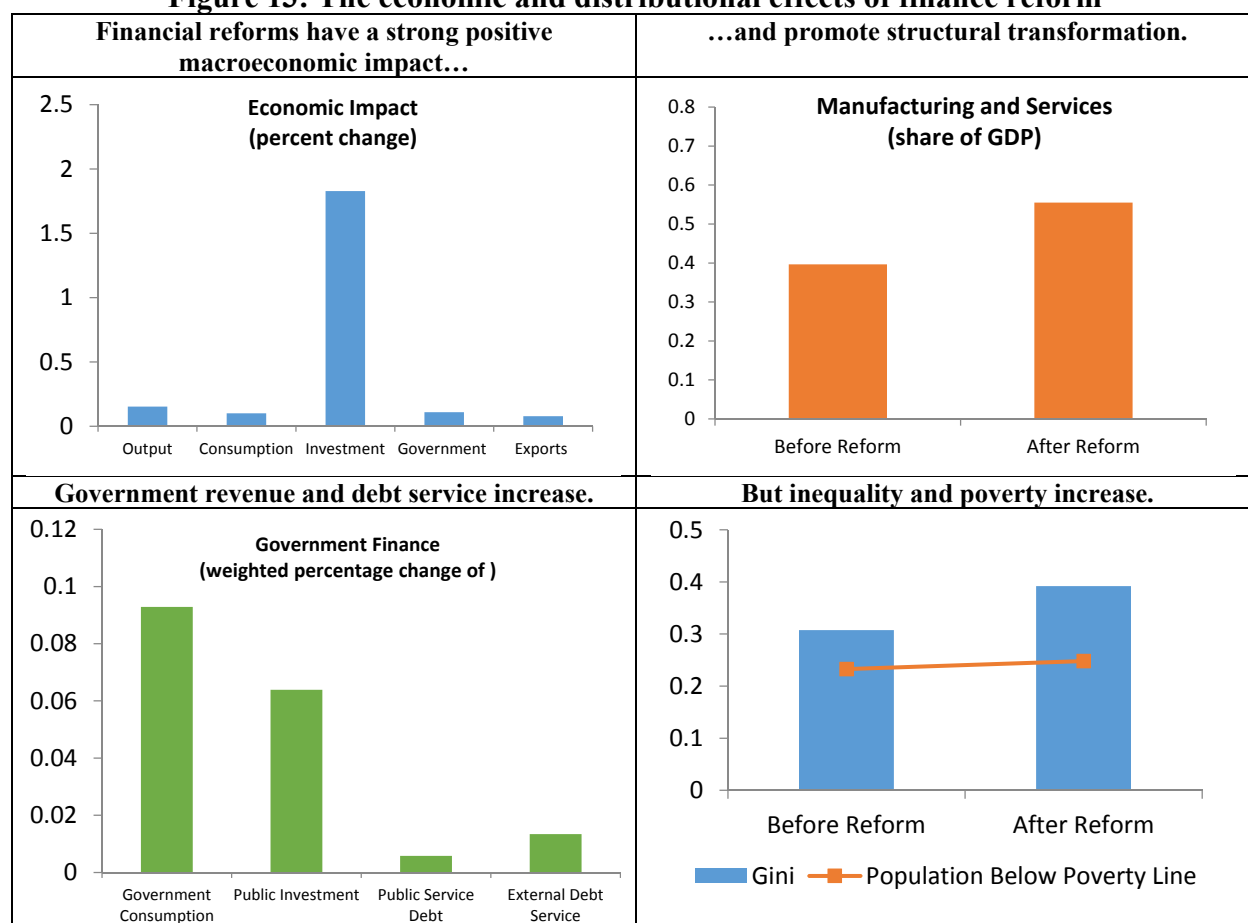
240. **Increasing credit to the private sector and allowing the interest rate on deposits to be closer to market rates have a significant impact on economic growth and structural change.** Table 5 and Figure 13 summarize the results. The quantitative analysis indicates that doubling the supply of funds to the private sector (from one-third to two-thirds of total credit) and allowing real deposit rates to be closer to market interest rate (from 0.01 to 0.025) generate a 15 percent increase in output and 182 percent increase in private investment. After the reform, households save more, because the deposit rate is higher, and banks lend more to the private sector. As a result, private lending rates decrease from 12.7 percent to 5.6 percent, which boosts private investment, manufacturing, and leads to higher economic growth.

241. **The increase in tax revenue associated with a more dynamic and larger private sector is substantial and permits the government to keep financing infrastructure.** An important result from the analysis is that the boost in manufacturing generated by the reform increases government revenue by 11 percent. This additional revenue is sufficient to continue financing government investments in infrastructure. As a result all government projects that were financed using resources from private banks are now financed directly by the government.

242. **After the reform the government faces a higher cost of borrowing.** The cost of financing domestic debt increases, because interest rates on deposits increase by 150 percent, which increases the cost of financing domestic debt by 77 percent. Although the reform increases the cost of financing domestic debt, overall it does not affect debt sustainability. The reason is that the increase in revenue is more than enough to cover the higher cost of debt.

243. **However, if labor is unable to move from agriculture to non-agricultural sectors, the reform increases poverty and inequality.** If there are frictions that prevent the movement of labor out of agriculture, and if there is as little movement of labor out of agriculture as in the past, the Gini coefficient would increase by 6 percent points and the share of the population below the poverty line increases by 1.5 percent points. By increasing the supply of funds to the private sector, the manufacturing sector benefits the most. Hence, both manufacturing workers and entrepreneurs are better off after the reform. With more resources available to invest, entrepreneurs switch from exporting agricultural commodities into more manufacturing. This lower demand for agricultural inputs is more than enough to compensate for the higher demand of households, so that the overall demand decreases. As a result, the price of agricultural goods goes down and with it rural households' incomes—and poverty increases. If the impact on agricultural prices is less than the model predicts the negative impact on poverty and inequality will be lower.

Figure 13: The economic and distributional effects of finance reform



Source: Lizarazo et al. (2015).

Table 5: Predicted effects of finance reform

Predicted effect (Percent change with respect to the benchmark)	(1) Increase private sector credit (from 1/3 to 2/3 of total)	(2) Interest rate liberalization (increase deposit rates from 0.01 to 0.025)	Combined reform (1) + (2)
Private investment	116.5	29.6	182.8
Public investment	4.51	-1.81	5.78
Total investment	32.8	6.14	50.55
Savings	8.30	29.64	41.40
Financial repression revenue	-6.3	-1.02	-7.39
Tax revenue from private activity	7.47	0.74	10.98
Rents of savers	0.09	2.52	2.85
Debt service to GDP	0.00	0.14	0.04

Source: Lizarazo et al. (2015).

244. **If measures are taken to help households move out of agriculture into growing sectors, this will facilitate household income growth and poverty reduction.** It is thus crucial that barriers that have prevented households from migrating to urban areas and moving into growing

sectors (such as discussed in in Section 6.2) are addressed at the same time as reforms such as these are implemented. Helping the poorest transition is essential to ensure these reforms aid income growth and poverty reduction (as documented in Hellwig et al. 2015 using the same model). In addition, measures that reduce the potential impact of the switch to manufacturing on domestic prices, such as encouraging growth in agro-processing or reducing trading margins by improving marketing efficiency will also help. Transitions take time, and so in the short run it may be necessary to expand safety nets to offset any negative impact of the reform.

7.3 Complementary Infrastructure Financing Options

245. Public investment in basic services and infrastructure remains essential to reducing poverty, but the current financing model is not sustainable. Low domestic resources mobilization, including savings and tax revenue, is a chief vulnerability. To overcome it and deliver high public investment in the past, policymakers engaged in a series of creative financing mechanisms. Public and external indebtedness are gradually rising, as is the cost of financing and risks of debt distress. The lack of access to credit and foreign exchange of the private sector holds back an important driver of growth. An overvalued exchange rate hurts external competitiveness. At some point one of these constraints will become binding and limit Ethiopia's ability to deliver public investments with the current model. Going forward, Ethiopia needs more infrastructure, but it would need new ways to finance it.

246. This section briefly reviews the range of alternative public investment financing options available to Ethiopian policymakers. The work distinguishes between policy proposals that are broadly in line with existing government strategy and thinking and policy options that would require a change in policy (Table 6). When possible, the analysis briefly discusses the extent to which these options are a constraint in Ethiopia.

Table 6: Alternative infrastructure financing options

Consistent with current strategy and thinking	Options that would require a change in policy
1. Raising tax revenues 2. Increasing private sector financing of infrastructure investments and maintenance 3. Improving public investment management 4. More selectivity and prioritization of investments	5. Increasing domestic savings and developing capital markets via higher real interest rates 6. Securitization of infrastructure assets 7. Improved pricing of infrastructure services, such as electricity

247. Ethiopia's tax revenue-to-GDP ratio is low compared to peers and there is substantial scope for raising it further. At 12.4 percent of GDP, tax revenues in Ethiopia are on the low side given its level of development, suggesting that this is a constraint. Encouragingly, the new five year Government plan, GTP2, has a target to raise the tax-to-GDP ratio by 4.3 percent over five years. The country urgently needs a revenue-enhancing tax reform that broadens the base and increases the tax rates. Consistent with Ethiopia's lagging performance in terms of reforms, the last major tax reform can be traced back to 2002/03 when the sales tax was replaced by the Value Added Tax. In addition to concerns about low levels of tax collection, there is also the heavy reliance on foreign taxes, which account for almost a third of tax revenues. If Ethiopia decides to

take forward additional trade reforms, then such revenues would gradually diminish. In light of the country's high appetite for public infrastructure investment, it is hard to justify the current low levels of revenues. Further analysis would be needed to identify concrete policy recommendations. That said, a good place to start could be through an examination and evaluation of existing tax incentives and subsidies, currently resulting in forgone tax revenues to the tune of 4 percent of GDP (World Bank 2015b). Some of these so-called 'tax expenditures' may provide good value for money, while the costs of others may outweigh their benefits.

248. Increased involvement of the private sector in infrastructure provision and maintenance can help reduce financing requirements of the public sector. Ethiopia has made recent progress in this direction. The most prominent example is the 1,000 MW, US\$4 billion geothermal energy project at Corbetti, where a private foreign investor consortium will sell energy to the national grid according to a Power Purchasing Agreement. More private producers would be attracted to invest in Ethiopia if energy tariffs would be higher. An agreement on an oil pipeline project financed by Black Rhino was also recently signed. Aside from direct provision of infrastructure, there are also recent examples of private user contributions in road projects, such as the Addis-Adama Toll Express Way. Further potential for bringing in the private sector exists in housing finance. Ethiopia currently does not have Public Private Partnership or Independent Power Producer Frameworks in place, which prevents a holistic approach to addressing the challenge.⁷⁴ The establishment of a proper and transparent regulatory framework in the targeted sectors will help build the confidence required to reduce the risk for long term engagement by the private sector. Public Private Partnerships or pure private solutions are important alternatives to public provision of infrastructure that must be kept in mind. At the same time, private sector involvement has limits in a low-income country such as Ethiopia where expected levels of demand may not always be high and revenue from user fees would be expected to be low. It is therefore likely that all but the most attractive projects will require some degree of government financial support as well.

249. Improved public investment management can help ensure that Ethiopia gets as much infrastructure as possible for the public money that it spends. Since weakness in public investment management can negate the core argument that impressive rates of public investment are necessary for a country to sustain rapid economic growth, attention to the processes that govern project selection and management is critical. Encouragingly, Public Investment Management (PIM) in Ethiopia may be better than expected given its level of development, suggesting that this is not a serious constraint. An international comparison of PIM capacity across a sample of 71 poor and middle-income countries conducted by the IMF and World Bank, places Ethiopia at the median, while it is the eleventh poorest country in the world (Dabla-Norris et al. 2010). Of the four dimensions measured in the study, Ethiopia scores above the median in 'management' and 'appraisal,' at the median in 'evaluation,' and below the median in 'selection.' On the other hand, such indices may lack precision about individual countries, must be interpreted with a great deal of caution, and should not be a cause for complacency. To illustrate, Ethiopia continues to register significant time and cost overruns in many public infrastructure projects compared to peers (World Bank 2013c). A detailed country study of Ethiopia's PIM performance is currently not available,

⁷⁴ The Ministry of Finance and Economic Cooperation is establishing a Public Private Partnership framework with support from development partners, including AfDB, DFID, and the World Bank. In addition to a Public Private Partnership framework, the adoption of an open bidding process is also important.

though some partial information is available.⁷⁵ In all cases, further progress in all four dimensions of Ethiopia's PIM capacity would undoubtedly enhance the positive economic returns expected from publically financed projects.

250. Selectivity and prioritization in public investments. In theory, the Government should finance the projects with the highest expected economic return, but in practice such calculations are seldom available. Based on the limited information that is publicly available, most public investment projects would potentially have an important positive long-term impact on exports and growth. However, not all projects (whether infrastructure or productive) have an equally compelling merit of financing. The GoE is prioritizing the completion of existing infrastructure investments to ensure that they deliver the return envisioned; and is selecting new projects carefully to ensure that they support private sector growth and wealth creation. To free overall resources for priority infrastructure investment, the government could reduce financing of marginal projects that do not have a demonstrable strong economic rationale.

251. Further resources could be raised through domestic savings mobilization and the eventual establishment of capital markets, though this would require higher interest rates. While domestic savings have increased as a share of GDP in Ethiopia, the country has experienced a decline in the credit to GDP ratio, suggesting that increased savings are not entering the formal banking system. The government has been actively aiming to raise domestic savings, among others through bank branch expansions. As documented in World Bank (2013c), bank branch expansions have indeed had a demonstrable effect on domestic savings in the formal banking system. However, as shown in the same analysis, a key determinant of domestic savings is the real deposit interest rate. Since this rate is currently negative, households have strong incentives to channel monetary savings into informal savings mechanisms. A negative real interest rate is also a major obstacle for the development of a secondary market for treasury bills, as investors would not earn a sufficient return for voluntary purchase of such assets.

252. In fact, the absence of a functioning capital market may not be a binding constraint now when real interest rates are negative, but may become such a constraint once real interest rates have normalized. Since there are substantial needs for long-term financing in local currency both by the public and private sectors, a well-functioning capital market, (particularly the bond market) is essential to the long-term development of the Ethiopian economy. The current market is characterized solely by short-term treasury instruments of up to one year, which does not match the long-term character of the actual investments. In addition, the money market is not functioning with virtually no existing inter-bank lending. However, there is an active informal market for equities, particularly for banks' and insurance stocks, which in turn indicates that there is demand for services of a typical capital market. Failure to establish such a market may mean that future projects could not be financed in an ever-more developed economy. Yet, such a development takes time and a comprehensive but targeted approach is required given its current nascent state.

⁷⁵ To illustrate, a recent Bank study of the road sector revealed that construction costs have remained constant in real terms over the past ten years and that unit rates are comparable to regional peers (World Bank, 2015).

253. **Securitization of infrastructure assets is another potential source of public investment financing.** Ethiopia has a series of prominent, successful, and profitable State Owned Enterprises, including Ethiopian Airlines, EthioTelecom, and Commercial Bank of Ethiopia. These enterprises are currently 100 percent owned by the government. Securitization refers to a process whereby a small share of these assets is sold to the general public. For instance, the Government could sell 5 percent of Commercial Bank of Ethiopia and use the proceeds to finance public investment. This approach has been successfully used in countries such as China and Colombia. The GoE is starting to explore securitization of some assets.

254. **A final proposal includes the cost-based pricing of infrastructure services, such as electricity.** Households and firms currently pay energy tariffs that are below the cost of providing such services. At the same time, Ethiopia is investing billions of dollars in new energy generation and upgrading of the existing power grid. By charging more for energy services, consumers could help finance such energy investments. Businesses may be inclined to pay higher tariffs if there are prospects that this would help make energy more reliable. Moreover, raising household tariffs would be a progressive policy, as it is the better-off households that currently have access to electricity and benefit from the implicit subsidy currently in place. Today, the richest 30 percent of the population receive 65 percent of electricity subsidies. Meanwhile, the poorest 30 percent who live below the poverty line obtained only 10 percent of the subsidy for electricity (See World Bank 2015a) for more details).

255. **Further analytical work would be needed to evaluate the alternative infrastructure financing options more carefully and identify the best options going forward.** The alternative options discussed are likely to differ substantially in terms of their financial impact, which would need to be quantified and studied further. For instance, opening infrastructure to more private funding may generate more resources than, say, selling 5 percent domestically of an SOE to the Ethiopian public. Thus, while it is true that all options help expand the overall resources envelope, some may be more effective in doing so than others. At the same time, it is important to be cognizant about the fact that some options are more politically palatable than others.

256. **In summary, this Chapter has argued that to sustain high growth, Ethiopia needs to explore ways of financing private investment while also identifying complementary ways of financing infrastructure.** This is because both infrastructure investment and private investment are needed, as the experience of high-growth economies show. Ethiopia's financing choice currently has a clear bias in favor of public infrastructure investment. Infrastructure investment enhances the productivity of the private sector, but only when infrastructure itself is constraining firm level growth. Ethiopian firms appear to be more constrained in credit and empirical estimates suggest that, at the margin, credit could yield better growth returns if directed to the private sector. To ensure continued support for infrastructure finance, the chapter presented various policy options for consideration. Low tax revenues, low domestic savings, and low pricing of energy were highlighted as constraints.

8. Increasing the Capacity and Responsiveness of Government

257. **The government stakes its legitimacy on delivering results for its citizens, which requires having the capacity to deliver.** While this results focus has clear benefits and helps explain the positive development trajectory the country is on, it also entails risks. First, any weakness in the capacity of the state to effectively implement introduces considerable risk to the state-led approach. In this approach a great degree of state intervention, channeling of investments, and ‘guidance’ to the private sector is undertaken with the aim of promoting economic growth and structural transformation. Although weaknesses in the state’s ability to deliver can be seen, on balance, Ethiopia performs well in this regard and is able to deliver as will be discussed in Section 8.1. Corruption is not yet a major risk, but may emerge as it has in other countries where the state plays a leading role in channeling investments and guiding the private sector.

258. **Delivering results also requires learning quickly what works and what does not, adapting, and managing risks as needed.** Certain features of the development model limit the role of important voices that can provide feedback on performance. Without specific action to improve policy monitoring and evaluation along with citizen and private sector engagement the government has limited information available to learn how policies or state actions need to evolve. Relatedly, without this type of engagement and investments in grievance redress mechanisms the ability to identify and manage the risks—and protect the potential losers—of fast-paced change will also be limited. As discussed in Section 8.2, there have been impressive improvements in citizen engagement in recent years, although this is largely limited to how services are delivered at local levels. Space for evidence-based decision making on other issues, such as how best to promote private sector development, or much larger issues such as the appropriate balance between private and state engagement in some sectors appears to be more limited. This poses a risk to the sustainability of progress in Ethiopia, particularly as the government seeks greater development in new sectors (light manufacturing rather than agriculture) where their experience of what works is weaker and where change is faster paced.

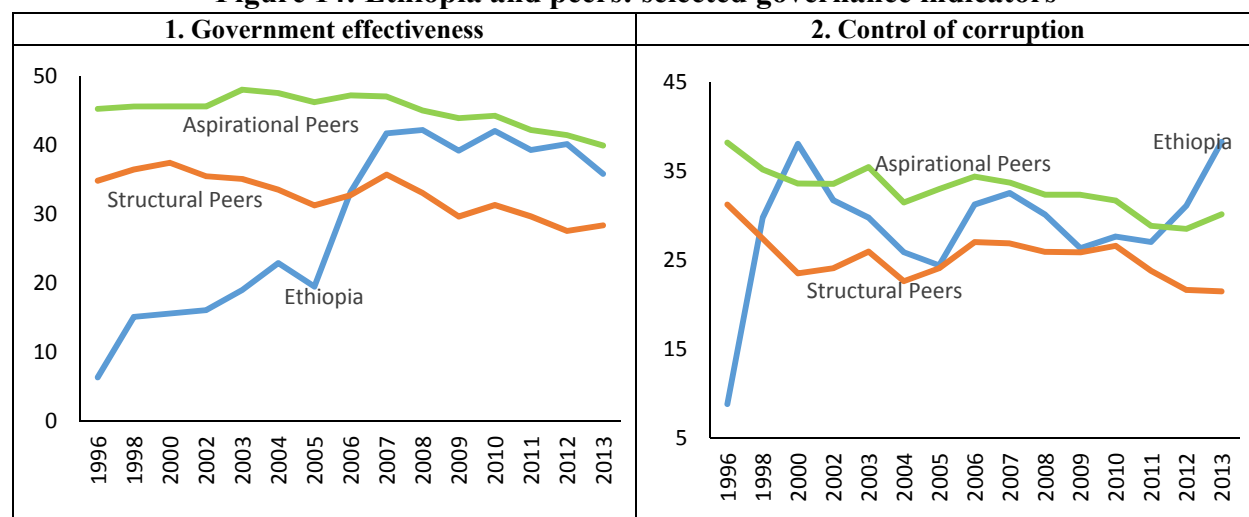
8.1 Government Effectiveness

259. **Since the 1990s, Ethiopia gradually moved from being a conflict-affected state towards becoming a relatively effective state.** This involved a substantial strengthening of sub-national levels of government and a sizable expansion in the number of public servants, in particular for service delivery, while keeping the public wage bill contained (see Section 3.2).⁷⁶ To strengthen effectiveness, the Government pursued significant public sector reforms and capacity development over the past decade. Under the National Capacity Building Program launched in the early 2000s, it reformed: the civil service; tax administration; the justice sector; district decentralization; urban management; and information and communication technology. The World Governance Indicators show a dramatic improvement in government effectiveness in Ethiopia during the 2000s to a level that is better than structural peers and close to aspirational peers (Figure 14.1). Ethiopia also outperforms other countries at its level of income in public

⁷⁶ The public sector employment to population share rose from 0.5 percent in 2004 to 1.2 percent in 2013. Ethiopia has one of the lowest public wage bills according World Bank Comparative Wage Bill Data (2015) of 86 countries (all income levels).

financial management, currently ranking third in SSA behind South Africa and Mauritius (PEFA 2007, 2010, 2014/15).

Figure 14: Ethiopia and peers: selected governance indicators



Source: World Wide Governance Indicators. Note: Rated on a scale from 1 (lowest) to 100 (highest).

260. **The government has sought to strengthen knowledge, capabilities, and systems for the civil service.** The share of civil servants with college and university degrees increased from 24 percent to 62 percent between 2003 and 2014 (World Bank 2015i). The civil service college has been scaled up and expanded into a university, alongside the expansion of technical training facilities. Public sector processes have been made more efficient through successive reform initiatives (World Bank 2013d). However, the importance of continuously ensuring political loyalty can affect the speed and the ability to take and implement decisions throughout the administrative chain (Mirtus and Asfaw 2014; Abebe 2014).

261. **The capacity of the civil service has improved over time, but there are still substantial gaps.** Training and expertise are still lacking in some key areas. For example, 76 percent of the staff involved in procurement tasks do not have training in procurement; oversight and accountability is also an area of weakness that needs to be strengthened. Despite persistent public sector premiums, staff turnover remains high, with civil servants moving from one public position to another (as opposed to leaving for the private sector) and a number of institutions struggle with constantly training new staff (World Bank 2015h).

262. **In addition, some government systems are still weak and require further strengthening.** Over half (53 percent) of the government budget is expended through procurement and the latest procurement value chain analysis has shown that it takes the government (on average) 294 days to clear a works contract and 220 days for a goods contract. Such delays require strong remedial action if the government machinery is to work efficiently and effectively. Internal audit systems and arrangements, accounting and reporting systems, oversight functions, and capacity building also need substantial improvements. Generally, as development progress is achieved, government will continuously need to upgrade capacity and skills in a range of areas.

263. **Corruption is currently low, albeit increasing, and thus potentially posing a risk to Ethiopia's developmental model that requires monitoring.** Ethiopia fares very well on the control of corruption surpassing both structural and aspirational peers (Figure 14.2). However, recent increases in corruption deserve monitoring. The concentration of power in the current political system, modest civil service remuneration and the high rates of public infrastructure investment potentially conspire to create a fertile ground for corruption. Domestic surveys and a review of corruption by sector (World Bank 2012b) indicate that in social service delivery corruption may be gradually increasing from low levels, while it appears to be more prevalent in globally corruption prone sectors such as construction, mining, and land.

264. **A number of developmental states have relatively substantial rates of corruption and seek to contain it.** The large role of the public sector does make corruption a potential risk to future development. Although it may not currently be a major risk to progress, it may emerge as one and requires monitoring. Corruption can be particularly harmful to the legitimacy of a government if it seeks to promote a development model that requires short run sacrifice from many citizens with the promise of future shared benefits.

8.2 Learning, Adapting, and Managing Risks

265. **A critical area for the Government's ability to successfully manage social and economic transformation is its ability to encourage and use information on 'what works.'** Developmental states excel at generating coherence and efficacy, but they may not foster critical debate and evidence-based policy making to the same extent. When private sector and professional groups are weak they provide too little critical information on the effectiveness of policies to decision-makers. In the absence of open and critical public debate, there is a need to further strengthen feedback mechanisms and government capacity to learn quickly what is working and what is not. The following subsections discuss strengthening evidence-based policy design and implementation.

8.2.1 Evidence-based Policy Design

266. **There are limits on the set of policy choices that key decision makers are willing to contemplate.** These limits arise from the commitment to a developmental state and the premise that a strong dominant party is needed to maintain accelerated development (and vice versa). This particularly affects calls for extensive liberalization, moving towards a more fully market/private sector-based economy, and privatization of what are considered strategic government enterprises. The overall course of action is set within the political leadership, negotiated between the prime minister's office and senior party officials.

267. **One party dominates key government positions.** Membership of the Ethiopian People's Revolutionary Democratic Front (EPRDF) was about 6 million in 2011, or about 12 percent of the adult population which is very high compared to party membership in similar political systems (in Vietnam 6 percent of the adult population are members and in China 8 percent). It has very rapidly expanded from a much smaller membership a decade ago (0.8 million in 2005). The party and the

state administration are closely interwoven. As in other party-dominated states, the structure creates incentives for people with career ambitions to join and be loyal to senior party figures.

268. **On the one hand, there are several aspects of the party and political system that encourage evidence-based strategy and policy formation.**

- **First, the party considers itself a ‘learning organization’ and technical expertise among senior leaders is considered valuable.** Selected senior advisors or leaders are being given time to study in Ethiopia or abroad, while the scale of broad-based technical training has been greatly expanded. The party is constantly assessing its performance and the environment in which it operates, and willing to change course where appropriate. The shifts it has made over time may not always have been evidence-based. However, they were based on a detailed study of the experience of other developmental states and regular self-reflection.
- **Second, the senior party leadership and government are overlapping, but not identical.** To illustrate this point, there are a small number of seasoned technocrats who have been promoted to influential positions within the administration without being members of the party, again reflecting the value that is placed on technical expertise.
- **Third, the strong process of consultation and consensus formation within the government encourages competition and prevents elite capture.** The GoE strategy is the result of a domestically owned policy process led by a ruling party within which norms of ‘democratic centralism’ and consensus formation are relatively highly advanced (Vaughen 2012). National agreements are reached within a relatively rigorous and detailed consultation framework. The fact that consensuses are adapted and evaluated at each level of government under the federation means that the risk of capture by individual interests is being contained. There is a healthy level of competition of ideas. Preserving these measures of consultation and consensus building is essential to ensuring policies continue to adapt as needed.
- **Finally, the party evaluates government officials and their performance in office.** The key instrument in this regard is a method of ‘criticism and self-criticism’ known as *gemgema* which consists of meetings between party members in which an individual’s record is scrutinized and opened to criticism. The process is not transparent to outsiders. External observers who have attended an EPRDF *gemgema* have described the criticism voiced in the sessions as direct, unfiltered, and with little regard to the formal status of the individual in question. However, it does not appear to be a systematic, evidence-based review of targets achieved or missed, but rather an airing of opinions often based on information gathered by internal party intelligence.

269. **Government has fostered structures for economic research and analysis, and relevant institutes also draw on international inputs.** The foremost economic policy think tank in Ethiopia is the Ethiopian Development Research Institute (EDRI) under the Federal Government, with a direct advisory link to the Prime Minister’s Office. Through EDRI, Government also collaborates with a range of external research bodies and the research arms of development

partners, including the International Growth Centre, the International Food Policy Research Institute (IFPRI), the National Graduate Institute for Policy Studies (Japan), and others. The Government has also fostered the development of sectoral research capacity, notably for agriculture. Vietnam and China both have similar government-run institutes to provide research and analysis on economic development, i.e. the Development Strategy Institute in Vietnam, and the Development Research Council in China, complemented by a range of other research institutes. The Government also relies on the World Bank's Analytical and Advisory Services to provide feedback and lessons from other countries.

270. **The CSA generates data on economic activity and household wellbeing.** The CSA has also increasingly undertaken impact evaluations of large government programs and donor-funded projects. Over time it has become increasingly easier to access (with delay) and analyze the available data and many of the micro databases are robust to econometric analysis.

271. **On the other hand, outside the system, however, there is little open discussion on policy direction.** Parliament lacks opposition representatives as the EPRDF won all 547 seats in the national parliament in the May 2015 elections. Non-government think tanks such as the Ethiopian Economics Association exist, but have played a more marginal role. Owing to the restrictions of the Charities and Societies proclamation and associated directives, only about 1,000, or one-third of civil society organizations that were active in the pre-proclamation period, are now active. By contrast, Kenya, with a third of Ethiopia's population, has over 9,000 civil society organizations operative.

272. **In comparative perspective, policy consultations are less developed than in some other developmental states.** Public stakeholder consultations are held but there is no legal framework outlining specific provision on public consultations, impact assessment, and monitoring and evaluation. A training document on legislative drafting used in Ethiopian law schools thus mentions the need for research and consultations in the drafting process, but in a more non-committal language (different stakeholders “could,” “should” be consulted, etc., Sileshi and Gebrehiwot 2009). In contrast, over the past decade Vietnam has developed a system for proactive publication of draft legislation and a formalized public consultation process on draft laws (formalized in a 2008 Law on Laws, revised in 2015). An example of a particularly extensive policy consultation was that for the development of a new Land Law in 2013.

273. **In particular, consultations with the private sector are considerably less developed.** In China, an intensified dialogue between the public and the private sector started in the 1990s and has grown further since the 2000s; and this has become an integral part of the country's rapid development path. In Vietnam, there is evidence that the economically most successful provinces are those where the dialogue between the provincial government and business associations is most active. In Ethiopia, consultations between the government and private sector are strained. This becomes a more binding constraint, as the development strategy requires that the private sector plays an increasingly larger role.

274. **In summary, key policy decisions rely heavily on the expertise, availability, and cohesion of political leaders, as well as the capacity of the civil service.** Where these are

insufficient, there is a risk of ill-informed policy decisions with potentially substantial economic, social, and environmental costs.

8.2.2 Monitoring and Managing Risks of Policy Implementation

275. **There is considerable appetite for understanding what policies are working and how the effectiveness of given policies can be improved.** Evidence-based dialogue is easier on policy areas that do not contest the choice of economic model or policy questions related to how, rather than what (Vaughan 2012). There is a growing appetite for information where policies are being implemented.

276. **Capabilities for evidence-based evaluation are uneven across policy areas.** One aspect that stands out is that Ethiopia has sought to invest in policy research on agriculture as well as on industrialization. The Agricultural Transformation Agency (ATA) has been able to promote evidence-based policy making for the agricultural sector and there is some success in linking information analysis and improving implementation with further improvements still to be achieved. The structures for specific industrial policies are still more weakly developed at this stage. Similarly, analytic and policy capabilities for addressing challenges associated with urbanization and services sectors (finance, logistics) are still at early stages and may need to expand as the importance of these issues for Ethiopia's continued development grows.

277. **The government has established several formal feedback mechanisms at local levels and for specific services.** This includes, for instance, Citizens Charters and the Woreda and City Benchmarking Surveys. The Promoting Basic Services program, supported by Ethiopia's development partners has introduced social accountability and financial transparency tools and grievance redress mechanisms, which have helped to strengthen overall public services. These reflect the government's recognition that good governance systems are essential to good service delivery. Correlating information on local consultation mechanisms and on service delivery performance shows that *woredas* where transparency on budgets and other policy information is higher also perform better in terms of service delivery (education and health).

278. **Further investment in encouraging accountability and transparency at local levels is needed.** Despite recent progress in improving formal feedback mechanisms, the overall demand side of accountability is relatively weak due to long-standing historical traditions of deference to hierarchies as well as current forms of control. Establishing more critical, open debate on the delivery of services will take time.

279. **Monitoring and managing economic, environmental and social risks is also particularly important in the face of large structural change.** This SCD has argued for faster structural change, something the government would also like to see. However, periods of fast paced change inevitably carry economic and social turbulence, winners and losers, and periods of uncertainty for some households. Where policy implementation is rigid and insensitive to evolving situations, this poses risks of social conflict and environmental degradation as well as incomplete implementation and exploding budgets. Monitoring and managing these risks is essential.

280. **This requires increased capacity at all levels of government to monitor and safeguard the wellbeing of groups potentially harmed as a result of government policies.** There is a risk that, because public opinion is not being heard during policy design, government action will result in outcomes that harm local communities or the environment. This requires building capacity at the local level to identify where development is increasing social exclusion and vulnerability among some groups; and to put in place mechanisms to safeguard the wellbeing of these groups.

281. **In particular, large-scale land acquisition poses risks that need to be monitored.** Large-scale infrastructure investments or the conversion of land currently used for smallholder agriculture into large-scale commercial enterprises can result in many households losing ownership of land to which they currently have usufruct rights. It is essential that losers be appropriately compensated, in a manner that respects their agency and preferences. The risks faced by these groups on account of their loss of land need to be monitored in the short and long run. Consultation of local groups in planning these developments is also important, particularly in more remote regions where it may not always be clear to local groups how they will benefit from large scale infrastructure investments that are part of a national development strategy that they feel they have little ownership of.

282. **In some cases, new policies may be required to meet the needs of groups that have not gained as much from fast-paced structural change.** An encouraging step in this regard is the government's concern that very poor groups are not benefiting from urban growth in recent years. To address this concern, the government has committed itself to the development of an urban safety net to meet the needs of this group and ensure they are not excluded from the potential benefits of urban economic growth.

283. **In sum, although the current system contains a number of ways in which evidence informs policy implementation, further capacity and dialogue needs to be developed.** This becomes increasingly important as the nature of policymaking is changing from areas in which the government has built expertise over time (e.g. rural service delivery and increasing agricultural productivity) to areas that are less well known and potentially faster paced (e.g. service delivery in rapidly expanding towns, attracting FDI, and encouraging growth of domestic private firms).

9. Conclusion: Summarizing the Binding Constraints and Remaining Knowledge Gaps

9.1 Summarizing the Binding Constraints

284. **Eight binding constraints have been identified in the previous pages.** Table 7 summarizes the eight most binding constraints (in roughly the order in which they were introduced) and Figure 15 shows their relationship with the analytical framework established in Chapter 4.

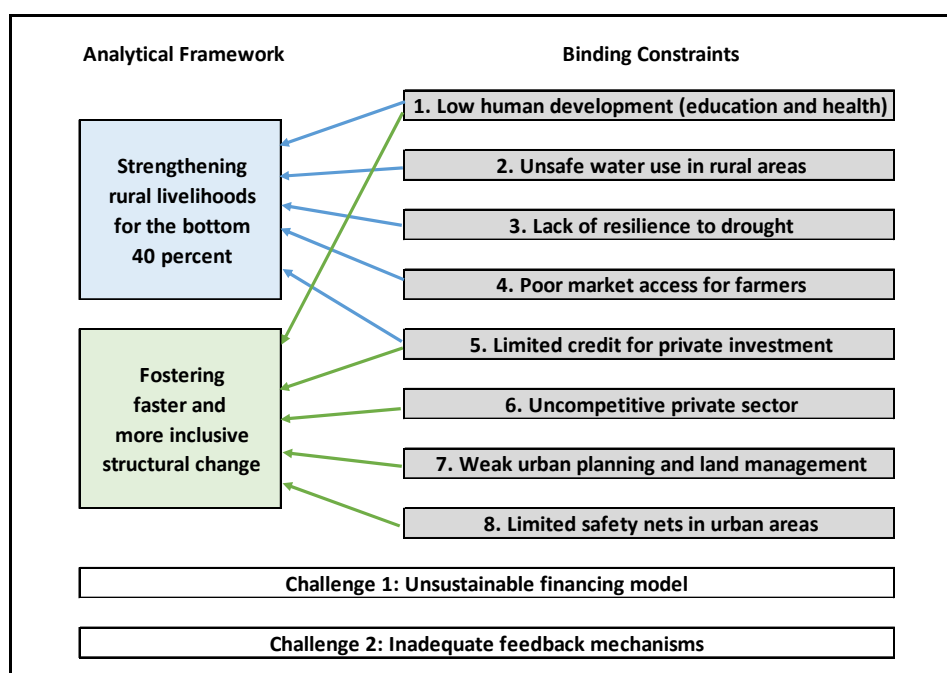
285. **Chapter 5 highlighted the binding constraints to strengthening rural livelihoods for the bottom 40 percent.** It showed that despite substantial progress in delivering education and health services in the last decade, further improvements in education and health are needed to improve the wellbeing of poor households and help them increase their incomes. The first binding constraint identified is low human development as a result of lack of access to services, poor quality and financial and gender constraints to investments. Lack of access to services is still a major constraint to good education and health, particularly in underserved areas. As access improves, addressing low quality and household barriers to the use of services becomes increasingly important. Key household barriers are financial constraints in the case of education and female empowerment in the case of health. Lack of clean water was identified as a second binding constraint given its essential role in improving health and increasing the availability of time for rural women. Three additional binding constraints to rural income growth were identified: lack of resilience to drought in turn driven by poor natural resource management, limited irrigation, and the need for safety nets; poor market access for farmers; and limited credit for private investment.

286. **Chapter 6 examined the binding constraints to achieving faster and more inclusive structural change.** Limited credit for private investment was again identified as a binding constraint, this time given its role in constraining firm entry and growth. Another binding constraint to faster structural change is uncompetitive private sector primarily driven by entry barriers to starting a business; unreliable energy; trade logistics; and an overvalued real exchange rate. Finally, weak urban planning and land management was identified as a constraint for planning the urban space that will facilitate structural transformation. Making structural change inclusive also requires addressing the constraints to rural-urban migration, matching workers to good jobs, and reducing poverty among the urban poor unable to work. For the most part this requires addressing constraints already identified: facilitating migration by improving rural education and access to credit; and improving labor markets by investing in skills, enabling firms to be more competitive, and better urban planning. However, high rates of poverty among the urban poor unable to work—the elderly and disabled—were found to reflect limited safety nets in urban areas, which is identified as the eighth binding constraint.

Table 7: Binding constraints

Constraint	Description of key drivers of the constraint	Section
Low human development: low educational outcomes and ill-health as a result of lack of access to services, poor quality and financial and gender constraints to investments	Lack of access to basic health and education services in underserved communities; low quality of educational services provided (school and technical) particularly to women; household financial constraints and limited female empowerment that limit school attendance and health care utilization.	5.1 / 6.1
Unsafe water use in rural areas	Inadequate water infrastructure in rural areas; poor hand washing and hygiene practices.	5.1
Lack of resilience to drought as a result of: (i) poor natural resource management; (ii) lack of irrigation; and (iii) the need for rural safety nets	Poor natural resource management; institutional and technical constraints to irrigation adoption; need for public safety nets; limited development of private insurance markets.	5.2
Poor market access for farmers	Limited physical access to markets as a result of poor road infrastructure and transport services; limited development of secondary towns located in rural areas.	5.2
Limited credit for private investment	A financial sector model that avails limited credit to the private sector; limited retail network of financial institutions.	5.2 / 6.1
Uncompetitive private sector as a result of: (i) unreliable energy, (ii) poor trade logistics, (iii) an overvalued exchange rate and (iv) entry barriers	Firms that are not able to function efficiently as a result of unreliable energy; firms that are not able to export competitively as a result of trade logistics inefficiencies and an overvalued exchange rate. High costs of starting a business that prevents firm entry.	6.1
Weak urban planning and land management	Weak capacity at federal, regional and local governments to plan productive and sustainable cities and provide basic services; an inefficient land management system in urban areas.	6.1
Limited safety nets in urban areas	High rates of poverty among elderly and disabled households given limited social protection and weak informal safety nets in urban areas; long and costly search process that constrain migration and labor market matching.	6.2

Figure 15: Analytical framework and binding constraints



287. **A summary of the evidence underpinning the prioritization of the binding constraints is presented in Table 8.** As discussed in Chapter 4 the evidence base for prioritizing these constraints includes benchmarking, a comprehensive review of the micro-economic and CGE literature, and cross-country regression analyses.

288. **Two challenges to making sustainable progress in accelerating poverty reduction and shared prosperity were identified.** Public infrastructure investment needs to be sustainably financed (Chapter 7) and government capacity and responsiveness are critical in a development model in which the state plays a leading role (Chapter 8). These are challenges to sustainable progress because they affect Ethiopia's ability to address the binding constraints identified. For example, improving access to markets for farmers will still require substantial infrastructure investments, but this has to be done while also making more credit available for private investment. Addressing both of these constraints requires finding a sustainable financing model that allows for both infrastructure investment and increased availability of private credit. Improving government capacity and feedback mechanisms is crucial in delivering education, health, water, and safety nets. Ethiopia has made great progress in increasing local feedback mechanisms on service delivery in recent years yielding impressive results, however more progress is needed. Improving feedback mechanisms is also crucial in addressing the constraints faced by firms. This has traditionally been an area where feedback mechanisms are weak and greater progress going forward will require a stronger public-private dialogue. This is also an area where bringing progress may be more complex and require faster adaptation, creating additional demands on government capacity.

289. **There are some constraints to progress that, although not currently binding, may become critical in the future.** The current **rural land tenure system** has protected a relatively equal distribution of land and the certification of user rights has encouraged private investments. Although there is little evidence that the current land system hinders rural to urban migration, it could become a more important constraint in the future. **Rural electrification** has the potential to strengthen rural livelihoods by enabling better education and health and increasing rural incomes, and as other constraints are addressed low access to electricity in rural areas will likely become a more critical constraint. Ethiopia's **ICT** sector ranks among the bottom decile of many international ICT indices. As other constraints to firm competitiveness are addressed, constraints to firm growth posed by limited ICT coverage, and costly and slow data access will likely become more binding.

290. **Addressing the binding constraints should accelerate improvements in welfare for the bottom 10 percent which is key to progress on poverty reduction and shared prosperity.** The poorest households are those with the worst human capital outcomes and the lowest investments in the education and health of their children. Increasing their access to quality services and helping them overcome the financial and cultural barriers to using these services will help ensure they have the human capital needed to increase their incomes. The poorest households are also the most marginal farmers with the least amount of land and living in the most food insecure areas. Increasing the productivity and resilience of their land through improved natural resource management and irrigation would bring them gains, as would investing in their assets and

increasing their resilience to drought through public safety net programs. The poorest farmers are also the most remote; addressing remoteness allows them to access services and markets that help them benefit from agricultural growth in a way that they did not in the past. Finally, establishing an urban safety net would improve welfare for the bottom 10 percent that reside in urban areas. It would also provide them much needed protection against food price shocks that were so detrimental to their welfare in the past.

Table 8: Eight binding constraints: summary of evidence

Constraint	Evidence	Bank Staff Vote
Low human development: low educational outcomes and ill-health as a result of lack of access to services, poor quality and financial and gender constraints to investments	<p>Benchmarking: Ethiopia underperforms on:</p> <ul style="list-style-type: none"> • Primary completion, secondary education (Fig. ES1) • Maternal mortality, birth attendance, immunization (Fig. ES1) <p>Micro-economic evidence for Ethiopia shows that improving human capital can reduce poverty by:</p> <ul style="list-style-type: none"> • Increasing agricultural income: Bachewe et al. 2015; Zerfu and Larson 2010; Endale 2011; Asfaw et al. 2011; Melesse 2015; Dercon et al. 2009; Krishnan and Patnam 2013; Yu et al. 2011; and Berhane et al. forthcoming. • Increasing non-agricultural income in rural areas: Bezu and Barrett 2010. • Increasing the probability of rural-urban migration: de Brauw 2014. • Increases firm productivity and wages in urban areas: World Bank 2015e; World Bank 2015i. 	Yes
Unsafe water use in rural areas	<p>Benchmarking: Ethiopia underperforms on access to safe water (Fig. ES1)</p> <p>Micro-economic evidence for Ethiopia shows that improving access to clean water reduces poverty by:</p> <ul style="list-style-type: none"> • Improving health and nutrition: Mahmud et al. 2013; Mekonnen et al. 2005; and Silva 2005; Teshome et al. 2009; Headey et al. 2014; Boisson et al. 2009; Fenn et al. 2011 • Increase agricultural of productivity among women by reducing their time burden: Aguilar et al. 2014 	No
Lack of resilience to drought as a result of: (i) poor natural resource management; (ii) lack of irrigation; and (iii) need for rural safety nets	<p>Benchmarking: Ethiopia has frequent droughts (15 in the last 50 years compared to a peer average of 8).</p> <p>Micro-economic evidence for Ethiopia shows that reducing vulnerability to drought reduces poverty by:</p> <ul style="list-style-type: none"> • Reducing the direct effect of drought on poverty: Dercon (2004); Dercon, Hoddinott, and Woldehanna (2005); Dercon and Porter (2013); Gilligan and Hoddinott (2007); Hill and Porter (2014). • Directly contributing to agricultural growth and poverty reduction: World Bank 2015a . • Increasing income growth by encouraging agricultural investment: Dercon and Christiaensen (2011); Alem et al. (2009); Zerfu and Larson (2010); Gebregziabher and Holden (2011), Berhane et al. (2015); Mahmud et al. (2009); Fufu and Hassan (2006); Cavatassi et al. (2010); Yu et al. (2011). 	Yes ^{a,b}
Poor market access for farmers	<p>Benchmarking: road density per person is low (one of the lowest in Africa)</p> <p>Cross-country regression analysis: infrastructure investment is the best strategy for growth (Moller and Wacker 2015)</p> <p>Micro-economic evidence for Ethiopia shows that reducing remoteness by investing in roads can reduce poverty by:</p> <ul style="list-style-type: none"> • Removing a major constraint on agricultural income growth: Dercon et al. 2009; Hill and Tsehaye 2014; Stifel et al. 2012; Minten et al. 2012; Minten et al. 2014; Bachewe, et al. 2015; Zerfu and Larson 2010; Fufa and Hassan 2006; Cavatassi et al. 2010; Li et al. 2011; Melesse 2015; and Kedir et al. 2015. • Encouraging non-farm income growth: Bhatta and Årethun 2013, Jolliffe et al. 2014, Loening et al. 2008 	Yes ^{a,b}

Constraint	Evidence	Bank Staff Vote
Limited credit for private investment	<p>Benchmarking:</p> <ul style="list-style-type: none"> Households have lower access to formal financial institutions than among peers Ethiopia ranks 167 out of 189 economies for firm access to credit on doing business, firms are more likely to be credit constrained than global comparators. <p>Micro-economic evidence for Ethiopia shows that lack of credit constrains:</p> <ul style="list-style-type: none"> Agricultural income growth: Bachewe et al. 2015; Matsumoto and Yamano 2010; Liverpool and Winter-Nelson 2009; Endale 2011; Melesse 2015. Non-farm entrepreneurship in rural (Bhatta and Årethun 2013; Bezu and Barrett 2010) and urban areas (Blattman and Dercon 2015). Productivity and performance of firms: World Bank 2014c, review of firms surveys (Table 3). Migration (de Brauw 2014) and job search in urban areas once there (Franklin 2014) <p>Cross-country regression analysis shows that</p> <ul style="list-style-type: none"> Matching China's access to credit would increase firm labor productivity by 8.1 percent (Hollweg et al. 2015). Matching peers access to finance would increase the GDP growth rate by 2 percent (World Bank 2015b). 	Yes
Uncompetitive private sector as a result of: (i) unreliable energy, (ii) poor trade logistics, (iii) an overvalued exchange rate and (iv) entry barriers.	<p>Benchmarking:</p> <ul style="list-style-type: none"> Ethiopia ranks low in starting a business (176th) and trading across borders (166th) (Doing Business) <p>Micro-economic evidence for Ethiopia highlights these as major constraints to growth cited by firms (Table 3)</p> <p>Cross-country regression analysis shows that:</p> <ul style="list-style-type: none"> Matching the electricity supply of Vietnam would increase firm labor productivity 4.1 percent (Hollweg et al. 2015). Matching transportation services of China would increase firm labor productivity 4.1 percent (Hollweg et al. 2015). A 1 percent devaluation of the real exchange rate would boost exports by 0.5 percent (Haile 2015). 	Yes ^b
Weak urban planning and land management	<p>Benchmarking: Ethiopia has a high share of population in rural areas (highest among structural and aspirational peers).</p> <p>Micro-econometric evidence: urban planning is a major constraint to better urban growth (World Bank 2015c).</p>	Yes ^b
Limited safety nets in urban areas	<p>Benchmarking: Urban poverty rates are relatively high in Ethiopia: 85 percent of the rural poverty rate compared to 54 percent among structural peers.</p> <p>Micro-econometric evidence for Ethiopia shows that urban safety nets can:</p> <ul style="list-style-type: none"> Halve urban poverty rates (Olinto and Sherpa 2014). Encourage income growth among recipients (Franklin 2014; Poschke 2014). 	No

9.2 Key Knowledge Gaps

291. **Analytical work undertaken by the Bank in the last three years generated a considerable body of knowledge upon which the SCD was based.** Chief among these are the 2014 Poverty Assessment as well as the 'Ethiopia's Great Run' report on growth (2015). These were complemented by the 2015 Urbanization Review and the Economic Update Series (2012-15) with a focus on exports, competitiveness, and light manufacturing. To fill additional knowledge gaps in the process of preparing the SCD, studies were conducted on government feedback mechanisms, financial sector liberalization, telecom reform and a comparison of the Ethiopian growth model to East Asian models.

292. **The SCD also benefitted from a rich body of economic and development literature on Ethiopia generated by a vibrant research community.** This literature was reviewed in order to

help distill general development lessons and identify binding constraints. This included a review of sixteen articles using Computable General Equilibrium Models that covered broad as well as topic-specific policy questions. This was complemented by a review of the micro econometric literature totaling a number of close to 80 papers, with a heavy bias towards agriculture.

293. While a lot is now known about Ethiopia’s development performance and current challenges, the lack of data on poverty and living conditions in pastoralist communities was challenging. There is no official household survey data collected on pastoralist communities. Often there are security concerns in collecting this data—which are not negligible—but more can and should be done to address this important knowledge gap. Increasingly techniques are being developed that allow household survey data to be collected in conflict-affected areas (Pape et al. 2015), and to conduct sampling in the absence of a good sample frame (Himelein et al. 2014). Lessons could perhaps also be learned from analytical work conducted by the International Livestock Research Institute (ILRI) in pastoral communities in Ethiopia and Northern Kenya. In addition to household surveys, more analysis on the nature of constraints to income growth and livestock production in pastoralist areas is needed in order to understand how to design programs to meet these constraints.

294. An additional data challenge in conducting the SCD was the lack of poverty data since 2010/11. Ethiopia has consistently collected comparable household surveys every 4-6 years for the last twenty years, which makes tracking and analyzing progress on poverty reduction possible. Conducting household surveys every five years on average was good practice for Ethiopia in the past, but it is no longer considered international best practice (this is every three years) and it is no longer frequent enough given Ethiopia’s rapid growth and development in recent years.

295. In addition, there are still gaps in understanding that can be addressed. The knowledge gaps are structured around four major categories following the logic of the SCD storyline. This includes the following:

Agricultural growth, expansion of basic services and rural safety nets

- **Livestock productivity in highland areas.** The SCD has highlighted that improving livestock productivity will contribute to poverty reduction. However, a better understanding of constraints to animal health and production in highland areas is needed.
- **Increasing rural non-farm growth.** Urbanization will take time and encouraging faster structural change in rural areas seems warranted. What are the options to increase non-farm growth and its contribution to poverty reduction in rural areas?
- **Improving incomes for those in refugee camps.** Ending extreme poverty reduction in Ethiopia will require increasing economic opportunities in some of the long-established refugee camps in Ethiopia’s border regions. Further analysis is needed to understand how income growth and economic independence can best be facilitated for refugees?

- **Developing a comprehensive understanding of the nature of groundwater resources.** The SCD has highlighted that filling this knowledge gap is important to understand the true costs of investments in irrigation for many households.

Faster and more inclusive structural change

- **Detailed reform analysis.** There are potential benefits of re-initiating the structural reform agenda but further detailed analysis would be needed to tailor the reform program to Ethiopia's special circumstances and ensure beneficial impacts on poverty and inclusion.
- **Financial sector risks.** Ethiopia's banks are well-capitalized, profitable, and non-performing loans are low. While initial work has been undertaken to understand its complex web of flows, a Financial Sector Assessment Program is pending.
- **The impact of SOEs and endowment companies on household income growth.** The existence of SOEs and endowment companies has implications on the entry of other firms and the quality, price, and quantity of goods and services provided. A better understanding of the implications of these impacts on competition, growth and poverty is needed.

Sustainably financed infrastructure

- **Raising tax revenues.** GTP2 has a bold goal of raising the tax-to-GDP ratio by 4 percent of GDP over a five-year period. There is a need for a detailed study that can help identify the most efficient, fair, and effective way of meeting that goal.
- **Improving public investment management.** Relatively little is known about how GoE identifies, selects, implements, and evaluates public investment projects. Given the high public investment rate, the potential for improvement is substantial.
- **Public infrastructure investment return analysis.** Although it is reasonable to infer that the returns to infrastructure investment in Ethiopia have been high, understanding remains limited. Sector specific analysis would be very welcome.
- **SOE management and fiscal risks.** SOEs play a substantial role in the Ethiopia economy, but relatively little is known about this sector. How are SOEs managed by GOE? What are the fiscal flows between them and GOE and the fiscal risks?

Capacity and responsiveness of government

- **Transparency and accountability:** investing further in understanding how effective transparency and feedback mechanisms are across levels of government will be important.

- **Civil service capacity, institutional effectiveness and integrity:** improving understanding of what has been achieved in terms of skills and institutional performance, current key bottlenecks, and options for strengthening capacity, effectiveness, and integrity
- **Responsiveness and interaction with the private sector:** identify challenges, bottlenecks, and opportunities in the interaction between the public and the private sector with regards to policy formulation and policy implementation.

Annex 1. Definition of Peer Countries

In order to compare Ethiopia's performance and structural features, the team identified Ethiopia's structural and aspirational peers using the 'Find Your Friends' tool. To the extent that data is available, the SCD Document (though not the Concept Note) will benchmark Ethiopia's performance against these peers in addition to using the standard Low Income Country averages and SSA averages. Finally, the SCD will, at times, compare Ethiopia with East Asian developmental states, which GoE often looks to for policy inspiration.

Structural Peers

Under this classification, the team selected countries with similar economic characteristics to Ethiopia. Thus, the following criteria were set:

- a. Population greater than 10 million people.
- b. GDP per capita below \$600.
- c. GDP growth higher than 5 percent.
- d. Investment to GDP ratio higher than 15 percent.
- e. Non-resource rich and non-conflict countries.

These criteria deliver the following group of countries:

	Region	Population (million)	Land locked?	Credit rating	GDP growth	GDP per capita	Inflation	Investment to GDP ratio
1. Burkina Faso	SSA	17.4	Yes	B	5.9	463	2.6	17.9
2. Mozambique	SSA	26.5	No	B+	7.4	366	9.7	26.9
3. Uganda	SSA	38.0	Yes	B+	6.7	415	7.6	21.8
4. Rwanda	SSA	11.1	Yes	B	7.8	411	7.1	19.2
5. Tanzania	SSA	47.7	No	N/A	6.8	445	7.7	26.4
6. Myanmar	EAP	51.4	No	N/A	9.9	570	15.8	14.2
Ethiopia	SSA	91.0	Yes	B	8.7	263	13.5	24.1

Aspirational Peers

Under this classification, the team wanted to select countries that could be used as good examples of development for Ethiopia and that Ethiopia may emulate. Thus the following criteria were set:

- a. Population greater than 15 million people.
- b. GDP per capita between \$600 and \$2,000.
- c. GDP growth higher than 5 percent.
- d. Investment to GDP ratio more than 15 percent.
- e. Credit rating below BB+.
- f. Natural resources export below 10 percent.

These criteria deliver the following group of countries:

	Region	Population (million)	Land locked?	Credit rating	GDP growth	GDP per capita	Inflation	Investment to GDP ratio
1. Bangladesh	SAR	158.2	No	BB-	5.9	624	6.4	25.8
2. Cambodia	EAP	15.3	No	B	7.9	606	4.6	20.5
3. Ghana	SSA	26.2	No	B	6.7	1028	15.2	23.2
4. Sri Lanka	SAR	21.0	No	B+	5.4	1752	9.9	26.6
5. Vietnam	EAP	91.0	No	BB-	6.6	970	7.9	33.1
Ethiopia	SSA	91.0	Yes	B	8.7	263	13.5	24.1

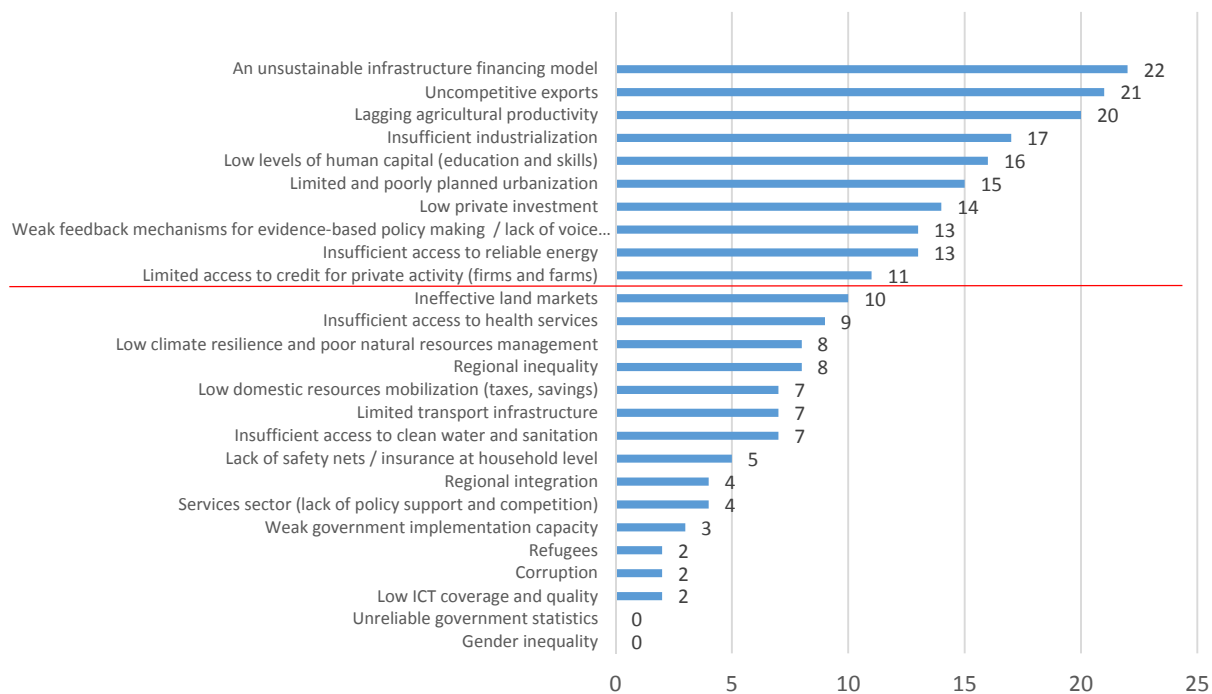
Notes: SAR stands for South Asia Region, EAP for East Asia and the Pacific, and SSA for Sub-Saharan Africa.

Annex 2. Consultations

1. **In the preparation of this Systematic Country Diagnostic, a series of external and internal consultations were undertaken.** Subsequent to the Regional Operations Committee Meeting on the Concept Note, the team consulted with a wide range of stakeholders in Ethiopia in July and August 2015. This included Federal Government and Regional Governments through four events, in Addis, Bahir Dar, and Hawasa. These consultations potentially offered civil servants from all the regional governments an opportunity to comment on the emerging storyline and provide inputs.⁷⁷ In addition, consultations were held in Addis Ababa with academia, private sector representatives, and civil society.
2. **External stakeholders largely agreed with the SCD storyline.** They highly appreciated the analysis and the opportunity to comment upon it. Agreement with the SCD storyline can be explained by the substantial overlap between government strategies, as articulated in the Growth and Transformation Plans (1 and 2), and the SCD storyline. At the same time, disagreements with the storyline was often linked to elements in the SCD that are not currently part of GoE strategy. Some of the major discussions related to the relative importance of agriculture and industry, including issues of sectoral balance and the process of transition and its needs, including education and training. The balance between public infrastructure and private investment drivers of development was particularly contentious. Many stakeholders were of the view that it is natural for a country at the early stages of development to emphasize the former even if it is at the expense of the latter. There was also considerable surprise about the sustainability of infrastructure financing messages of the SCD, although most participants appreciated this point. Messages about land policy reform were substantially challenged across a broad set of stakeholders (government officials as well as private participants) suggesting the strong historical sensitivities. In a similar vein, there was strong skepticism among stakeholders that an appreciated real exchange rate may be holding back export performance and competitiveness. Finally, participants wondered the extent to which GoE would be responsible for development activities of refugees who have spent many years in camps.
3. **An internal SCD prioritization workshop was held with the participation of all GPs.** About 25 participants from the GPs and CCSAs were nominated by their respective Practice Managers to participate in a one-day SCD workshop. Following the presentation of the SCD storyline and the analytical tools underpinning it, staff worked in groups to identify the most pressing priorities for Ethiopia. This was followed by a series of group voting exercises that were subsequently refined and discussed. The results of the voting are summarized in Figure A.2.1

⁷⁷ A consultation event in Mekele unfortunately had to be cancelled for logistical reasons. This cancellation prevented officials from five regional governments from participating in the consultation process.

Figure A2.1 SCD Prioritization Workshop: Ethiopia's Top Constraint – Voting Results



Note: Each staff represented a department (GP, CCSA, IFC) and was given 10 votes to allocate across different options. Up to 3 votes per voter per topic was allowed.

Annex 3: Ethiopia Data Diagnostic

Section 1: General Information about the Statistical System	
Legal status of National Statistical Office	Government agency of Ministry of Finance and Economic Cooperation (see http://www.csa.gov.et/index.php/about-us/6-about-the-organization)
Statistical Legislation	Central Statistics Agency Establishment Proclamation No.442, 2005
National Strategy for the Development of Statistics / Statistical masterplan	2009/10 – 2013/14, expired

Section 2: Micro data								
Type of census/survey	Latest year	Frequency	Comparable?	Representativeness	Data Accessibility	Disaggregation		Comment
						Gender	Region	
Censuses								
Population census	2007	Every 10 years	Yes	National	With permissions	Yes	Yes	
Agriculture census	2011/12	Every 10 years	Yes	National	With permissions	Yes	Yes	
Business / establishment census	2014/15	Annual	Yes	National	With permissions	Not applicable	Yes	Medium and large firms
Surveys								
Household Survey on income / consumption	2010/11	Every 5 years	Yes	National	With permissions	Yes	Yes	
Household survey on education	2010/11	Every 5 years	Yes	National	With permissions	Yes	Yes	A mini DHS was conducted in 2014
Household survey on health	2010/11	Every 5 years	Yes	National	With permissions	Yes	Yes	
Household survey on labor only	2013	Every 5 years	Yes	National, urban/rural	With permissions	Yes	Yes	
Business / establishment survey	2014/15	Annual	Yes	National	With permissions	Not applicable	Yes	This is the census
Urban labor force survey	2014/15	Every 2 years	Yes	urban	With permissions	Yes	Yes	
Agricultural sample survey	2014/5	Annual	Yes	rural	With permissions	Yes	Yes	

Section 3: Macro data				
Does the country subscribe to the IMF Special Data Dissemination Standard or participate in the enhanced General Data Distribution System (e-GDDS)?	Yes			
If eGDDS:	Periodicity		Timeliness	
	e-GDDS	Country	e-GDDS	Country
National accounts: Gross Domestic Product by Production and Expenditure at Current and Constant Prices.	Q	A	1Q	3M
Consumer price index	M	M	2M	1W
Central government operations	Q	M, Q	1Q	2M
Balance of payments	Q	A, Q	1Q	3M
External debt				
Merchandise trade	M	A	12W	1M
Production index	M	A	12W	1Y
Employment	A	A	3Q	N/A
Unemployment	A	10Y	3Q	6M

Notes: Q stands for Quarterly, M for Monthly, A for Annually, W for week and Y for year.

Section 4: Compliance with the World Bank Group's core data standards		
	Standard	Compliant
Household survey of income or consumption	One every 3 years	No
PPP price survey	One per year	No
CRVS	<ul style="list-style-type: none"> • 80% of births registered • 70% of children with birth registration have been issued certificates • 60% of deaths registered with cause of death 	7% Births

Annex 4: Annex Tables

Annex Table 1: Profile of the Bottom 40 Percent

	Bottom 40% (mean)	Top 60% (mean)	Significance of difference
<i>Education and demographics</i>			
Years of schooling of household head	1.55	2.78	***
Number of household members	6.68	5.36	***
Proportion of dependents	0.54	0.49	***
Highest years of schooling in household	4.71	5.25	***
<i>Location</i>			
Household lives in an urban area	0.14	0.18	***
Household more than 2km to all weather road	0.66	0.58	***
<i>Occupation</i>			
Occupation of household head: agriculture	0.81	0.74	***
Occupation of household head: manufacturing	0.02	0.02	
Occupation of household head: construction	0.01	0.02	
Occupation of household head: mining/energy	0.00	0.01	*
Occupation of household head: services	0.09	0.15	***
Proportion of unpaid workers	0.20	0.17	***
<i>Agricultural assets</i>			
Household owns livestock	0.86	0.81	***
Household owns cattle	0.67	0.65	***
Household owns sheep or goats	0.55	0.49	***
Household owns chickens	0.56	0.54	
Household owns beehives	0.15	0.14	
Household owns land	0.94	0.90	***
<i>Agricultural income</i>			
Months covered by crop production for agricultural household: 10+	0.50	0.59	***
Months covered by crop production for agricultural household: 7 to 9	0.22	0.19	*
Months covered by crop production for agricultural household: 4 to 6	0.18	0.15	***
Months covered by crop production for agricultural household: 0 to 3	0.10	0.07	**

Source: CSA Household Income and Consumption Expenditure Survey 2011. Significance levels are defined as follows: * 10%, ** 5%, *** 1%

Annex Table 2: Differences in Characteristics Between Consumption Percentiles

Variable	1996		2000		2005		2011	
	Bottom 10% vs. bottom 40% ⁺	Bottom 40% ⁺ vs. top 60%	Bottom 10% vs. bottom 40% ⁺	Bottom 40% ⁺ vs. top 60%	Bottom 10% vs. bottom 40% ⁺	Bottom 40% ⁺ vs. top 60%	Bottom 10% vs. bottom 40% ⁺	Bottom 40% ⁺ vs. top 60%
Age of household head		+++		+++	+	+++	++	+++
Household head is male						+++		
Household head is married						+++		+++
Years of schooling of household head					---	---	---	---
Number of household members		+++	+++	+++	+++	+++	+++	+++
Highest years of schooling in household						--	--	---
Proportion of unpaid workers		+++		+++	+++	+++		+++
Proportion of children (<12)	++	+++		+++		+++		+++
Proportion of dependents	+	+++	++	+++		+++	+	+++
Proportion of children (6-18) in school			-	--		---	---	
Proportion of children (6-12) in school				---	--	---	---	
Proportion of children (13-18) in school							---	
Occupation of household head: agriculture		+++	-	+++		+++		+++
Occupation of household head: manufacturing				---				
Occupation of household head: construction			---				---	
Occupation of household head: mining/energy		--	++					-
Occupation of household head: social services				---		--		---
Occupation of household head: professional services		---		---		---	---	---
Occupation of household head: services and trade		---	++			---		---
Household lives in an urban area	+	---		---		---		---
Floors in households made of hard/solid material								
Household has a private toilet				---	--	---		
Household owns livestock								+++
Household owns cattle			---		--	+	-	+++
Household owns sheep or goats			-	+		+++		+++
Household owns chickens			--			+++		
Household owns beehives								
Household owns land			---	+		+++		+++
Household located between 1-2km to all weather road								
Household located more than 2km to all weather road				++				+++
Food gap of at least 9 months						+++		+
Food gap of 6-8 months					+	+++	++	+
Food gap of 3-5 months					+++	+++	+	+++
Food gap < 3 months					---	---	---	---
Household shock: drought					++	++		
Household shock to food prices (price rise)							++	
Household shock: illness or death of member								
Non-agricultural household						---		---
Months covered by crop production for agr. hh: 10+			---	---	---	---	-	---
Months covered by crop production for agr. hh: 7 to 9			--					+
Months covered by crop production for agr. hh: 4 to 6				+++	+++	++		+++
Months covered by crop production for agr. hh: 0 to 3			+++	+++		+++	++	++

Source: staff calculations using HICES 2000, HICES 2005 and HICES 2011. Notes: Grey boxes indicate lack of data for estimation. +, ++ and +++ indicate a significant positive difference for the poorer group at a significance level of 10%, 5% and 1%. -, -- and --- denote negative differences accordingly. *Bottom 40% refers to those in the bottom 40% of the consumption distribution, without including the bottom 10%. The food gap refers to the number of months during which the household faced a food shortage during the last 12 months.

Bibliography⁷⁸

Prepared by the World Bank

- World Bank. forthcoming. 'Ethiopia Public Expenditure Review 2015.'
- World Bank. 2015a. 'Ethiopia Poverty Assessment 2014.'
- World Bank. 2015b. 'Ethiopia's Great Run: The Growth Acceleration and How to Pace It.'
- World Bank. 2015c. 'Ethiopia Urbanization Review.'
- World Bank. 2015d. 'Forest Sector Review. Technical Assistance under the CRGE Facility TA support task.'
- World Bank. 2015e. '4th Ethiopia Economic Update: Overcoming Constraints in the Manufacturing Sector.'
- World Bank. 2015f. 'Sub-Saharan Dry lands.' Flagship report.
- World Bank. 2015g. 'Enhancing the Climate Resilience of Africa Infrastructure: the Power and Water Sector.' Africa Development Forum series.
- World Bank, 2015h, 'Staff Turnover Study.'
- World Bank. 2015i. 'Urban labor market study.'
- World Bank. 2015j. 'Integration of Services and Manufacturing in Ethiopia.'
- World Bank. 2015k. 'Review of Costs of Road Construction Projects in Ethiopia'
- World Bank. 2015l. 'Eastern Africa HOA Displacement Study: Forced Displacement and Mixed Migration in the Horn of Africa'
- World Bank, 2015m, 'Ethiopia Urbanization Review.'
- World Bank. 2015n. 'Regional Investment Climate II.'
- World Bank. 2015o. 'Rwanda Poverty Assessment.'
- World Bank. 2014a. 'Strategic Assessment of the Ethiopian Mineral Sector.'
- World Bank. 2014b. 'Staff Turnover in Ethiopia.'
- World Bank. 2014c. 'SME Finance in Ethiopia – Addressing the Missing Middle.'
- World Bank. 2014d. 'Skills for Competitiveness and Growth in the Manufacturing Sector in Ethiopia.'
- World Bank. 2014e. 'Investment Climate from Perspective of Regions'
- World Bank. 2014f. 'ICT as an Enabler of Transformation in Ethiopia.'
- World Bank. 2014g. '3rd Ethiopia Economic Update: Strengthening Export Performance through Improved Competitiveness.'
- World Bank. 2014h. 'Strategic Assessment of Ethiopia's Mineral Sector.'

⁷⁸ This non-exhaustive bibliography lists a number of selected Ethiopia-specific reports and papers deemed relevant for this Systematic Country Diagnostic.

- World Bank. 2014i. Africa Pulse. Volume 10, October 2014.
- World Bank. 2013a. Extended Governance Review.
- World Bank. 2013b. 'Ethiopia's Tourism Sector: Strategic Paths to Competitiveness and Job Creation.'
- World Bank. 2013c. '2nd Ethiopia Economic Update' Laying the Foundation for Achieving Middle Income Status.'
- World Bank. 2013d. 'ICR for PSCAP.'
- World Bank. 2012a. 'Secondary Education in Ethiopia – Supporting Growth and Transformation.'
- World Bank. 2012b. 'Diagnosing Corruption in Ethiopia: Perceptions, Realities and the Way Forward for Key Sectors.'
- World Bank. 2012c. 'China FDI Survey'
- World Bank. 2012d. 'Building the Developmental State.'
- World Bank. 2011a. 'Ethiopia Enterprise Survey.'
- World Bank. 2011b. 'Economics of Adaptation'
- World Bank. 2011c. '1st Economic Update: Overcoming Inflation, Raising Competitiveness.'
- World Bank. 2011d. 'Wood-Based Biomass Energy Development for Sub-Saharan Africa.'
- World Bank. 2006. 'Ethiopia: Managing Water Resources to Maximize Sustainable Growth.'
- Aguilar, A., N. Buehren and M. Goldstein. 2014. Gender disparities in Agricultural Production. Background Paper prepared for the Ethiopia Poverty Assessment.
- Ali, Daniel Ayalew, 2015, 'Household responses to shocks in rural Ethiopia: livestock as a buffer stock.' *Policy Research Working Paper 7244*. Washington, D.C. World Bank Group.
- Barnes, Douglas, Raluca Golumbeanu and Issa Diaw. 2015. Beyond electricity access: output-based aid and rural electrification in Ethiopia. Mimeo, August 2015.
- de Brauw, Alan, 2014. "Migration, Youth and Agricultural Productivity in Ethiopia" Background Paper prepared for the Ethiopia Poverty Assessment.
- Dinh H., V. Palmade, V. Chandra, and F. Cossar, 2012, 'Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs', World Bank.
- Eden, M. and A. Kraay, 2014b, 'Crowding in and the Returns to Government Investment in Low-income Countries: Policy Implications for Ethiopia', processed.
- Franklin S. 2014. "Work, Unemployment and Job Search among the Youth in Urban Ethiopia" Background Paper prepared for the Ethiopia Poverty Assessment.
- Ghani, E. and S. O'Connell, 2014, 'Can Service Be a Growth Escalator in Low Income Countries?', World Bank Policy Research Working Paper 6971.
- Haile, Fiseha. 2015. "The Exchange Rate: Why it matters for Structural Transformation and Growth in Ethiopia". World Bank Addis Ababa.
- Hill, R. and E. Tsehaye, 2014, 'Growth, Safety Nets and Poverty: Assessing Progress in Ethiopia from 1996 to 2011' Background Paper prepared for the Ethiopia Poverty Assessment.

Jolliffe, Dean, Gbemisola Oseni, Ilana Seff and Alemayehu Ambel, Julia Kowalski, Alina Lipcan, Katie McIntosh, Remy Smida, Signe Jung Sørensen. 2014. Nonfarm Enterprises in Rural Ethiopia: Improving Livelihoods by Generating Income and Smoothing Consumption? Background Paper prepared for the Ethiopia Poverty Assessment, World Bank.

Khan, Qaiser M., Jean-Paul Faguet, Christopher Gaukler, and Wendmsyamregne Mekasha. 2014. Improving Basic Services for the Bottom Forty Percent: Lessons from Ethiopia. World Bank, Washington, DC.

Martins, P., 2014, 'Structural change in Ethiopia – an employment perspective', *World Bank Policy Research Working Paper* 6749.

Martins, P., 2015, 'Structural change in Ethiopia – an update using 2013 LFS data', Background Paper.

Moller, L and K. Wacker, 2015, 'Ethiopia's Growth Acceleration and How to Sustain It - Insights from a Cross-Country Regression Model', Background Paper for the Growth Study.

Mukim M. (2015), 'Which Cities create Jobs? Evidence from Ethiopia.' Processed.

Poschke, M., 2014, 'A Model of Entrepreneurship and Employment in Ethiopia: Simulating the Impact of an Urban Safety Net.' Background Paper prepared for the Ethiopia Poverty Assessment.

UNIQUE forestry and land use 2015. Ethiopia Forest Sector Review: Focus on commercial forestry and industrialization. UNIQUE forestry and land use / CONSCIENTIA. Technical Report to the Ministry of Environment and Forest (MEF), financed by World Bank. Addis, October 2015

Vaughan, S., 2012, 'PSCAP Social Appraisal II, Ethiopia's Growth Acceleration', Background .'

Yusuf, S., 2014, 'Sustaining Ethiopia's Growth Acceleration', Background Paper.

Government of Ethiopia Reports

GoE. 2011. 'Growth and Transformation Plan (2011-15).'

CSA. 2012. 'Ethiopia Demographic and Health Survey (2011).'

CSA. 2014. 'Ethiopia Mini Demographic and Health Survey (2014).'

GoE. 2011 and 2012. 'Ethiopian Environment Review.'

Ministry of Education. forthcoming. 'Education Sector Development Program V.'

Ministry of Finance and Economic Development. 2011. Climate Resilient Green Economy Strategy.'

Government of Ethiopia and World Bank. 2015. 'Drivers of Deforestation and Forest Degradation (2015).'

The Government of Ethiopia. 2014. National Report on the Implementation of the Beijing Declaration and Platform for Action (1995) and the Outcome of the 23rd Special Session of the United Nations General Assembly (2000).

Non-World Bank Reports

Bachewe, F., G. Berhane, B. Minten, and A.S. Tafesse. 2015. 'Agricultural Growth in Ethiopia (2004-14)', International Food Policy Research Institute, Draft Background Paper.

Blattman, C. and S. Dercon. 2015. More Sweatshops for Africa? Pilot Results from an Experimental Study of Industrial Labor in Ethiopia. Mimeo

- Cropper, M. and S. Khanna. ‘How Should the World Bank Estimate Air Pollution Damages?’ Resources for the Future.
- Dorosh, P., and Shahidur R. (Eds.). 2012. ‘Food and Agriculture in Ethiopia: Progress and Policy Challenges’ Philadelphia: University of Pennsylvania Press.
- Ethiopia Chamber of Commerce. 2014. ‘Ethiopia’s National Business Agenda.’
- Harvard University, ‘Ethiopia: Growth Challenges and Opportunities.’
- Headey, D. 2014. ‘An analysis of trends and determinants of child undernutrition in Ethiopia, 2000 - 2011.’ Ethiopia Strategy Support Program Working Paper; no. 70. Washington, DC: IFPRI.
- IIED Research Report, ‘Public Policy Responses for a Climate Resilient Green Economy in Ethiopia.’
- IMF (various years). Article IV reports
- Nathan Associates. 2015. ‘Development of a National Logistics Strategy for Ethiopia.’
- Sawyer, B., & N. Minot, (2013), ‘Agricultural production in Ethiopia: Results of the 2012 ATA Baseline Survey’, Washington, DC: IFPRI.
- Sisay N., M. Kassie and E. Mungatana, 2009, ‘Forestry Resources Accounting: The Experiences of Ethiopia. Environmental Economic Policy Forum for Ethiopia (EEPFE), Addis Ababa.
- Spielman, D. J., Byerlee, D., Alemu, D., & Kelemework, D. 2010. Policies to promote cereal intensification in Ethiopia: The search for appropriate public and private roles’, *Food Policy* 35(3):185–194.
- ODI. Forthcoming. ‘Building Adaptive Water Resources Management in Ethiopia’
- PEFA Assessments: 2007, 2010, and 2015.
- SMEC. 2015. Economic and Social Impact Evaluation of the Universal Electrification Access Program in Ethiopia: Final Interim Report, August 2015.
- USAID. 2014. ‘Finding the Binding Constraints on Sustained and Inclusive Growth in Ethiopia.’
- USAID. 2014. ‘Resilience in Action: Changing Horizon’s in Ethiopia’s Drylands.’

References

- Abay, Tsegabirhan Weldegiorgis. 2013. “Dysfunctional Institutions in the Delivery of Primary Education in Ethiopia.” *Journal of African Development* 15 (1): 247–69.
- Abebe, Workneh, and Tassew Woldehanna. 2013. *Young Lives Working Paper 103. Teacher Training and Development in Ethiopia: Improving Education Quality by Developing Teacher Skills, Attitudes and Work Conditions*. Young Lives, Department of International Development at the University of Oxford.
- Admassie, Assefa, Degnet Abebaw, and Andinet D. Woldemichael. 2009. “Impact Evaluation of the Ethiopian Health Services Extension Programme.” *Journal of Development Effectiveness* 1 (4): 430–49.
- Aguilar, Arturo, Eliana Carranza, Markus Goldstein, Talip Kilic, and Gbemisola Oseni. 2015. “Decomposition of Gender Differentials in Agricultural Productivity in Ethiopia.” *Agricultural Economics* 46 (3): 311–34.
- Akalu, Girmaw Abebe. 2014. “Higher Education in Ethiopia: Expansion, Quality Assurance and Institutional Autonomy.” *Higher Education Quarterly* 68 (4): 394–415.

- Alem, Yonas, and Måns Söderbom. 2012. "Household-Level Consumption in Urban Ethiopia: The Effects of a Large Food Price Shock." *World Development* 40 (1): 146–62.
- Alem, Yonas, Mintewab Bezabih, Menale Kassie, and Precious Zikhali. 2010. "Does Fertilizer Use Respond to Rainfall Variability? Panel Data Evidence from Ethiopia." *Agricultural Economics* 41 (2): 165–75.
- Alemayehu Azeze, Ambel, and Wei-chiao Huang. 2014. "Maternal Education, Linkages and Child Nutrition in the Long and Short-Run: Evidence from the Ethiopia Demographic and Health Surveys." *International Journal of African Development* 1 (2).
- Asfaw, Solomon, Bekele Shiferaw, Franklin Simtowe, and Mekbib G. Haile. 2011. "Agricultural Technology Adoption, Seed Access Constraints and Commercialization in Ethiopia." *Journal of Development and Agricultural Economics* 3 (9): 436–77.
- Awulachew, Seleshi Bekele, Teklu Erkossa, and Regassa Namara. 2010. "Irrigation Potential in Ethiopia Constraints and Opportunities for Enhancing the System." International Water Management Institute.
- Bachewe, F, G Berhane, B Minten, and A.S. Taffesse. 2015. "Agricultural Growth in Ethiopia (2004-2014): Evidence and Drivers." International Food Policy Research Institute (IFPRI) Ethiopia Strategy Support Program (ESSP).
- Berhane, G., T.A. Woldu, A.S. Taffesse, and F. Tadesse. n.d. "Understanding Ethiopia's Extension System." ESSP Discussion Paper. IFPRI.
- Berhane, Guush, Daniel O. Gilligan, John Hoddinott, Neha Kumar, and Alemayehu Seyoum Taffesse. 2014. "Can Social Protection Work in Africa? The Impact of Ethiopia's Productive Safety Net Programme." *Economic Development and Cultural Change* 63 (1): 1–26.
- Bernard, Tanguy, Alemayehu Seyoum Taffesse, and Eleni Gabre-Madhin. 2008. "Impact of Cooperatives on Smallholders' Commercialization Behavior: Evidence from Ethiopia." *Agricultural Economics* 39 (2): 147–61.
- Bernard, Tanguy, and David J. Spielman. 2009. "Reaching the Rural Poor through Rural Producer Organizations? A Study of Agricultural Marketing Cooperatives in Ethiopia." *Food Policy* 34 (1): 60–69.
- Bezabih, Mintewab, Zenebe Gebreegziabher, Liyousew GebreMedhin, and Gunnar Köhlin. 2010. "Participation in Off-Farm Employment, Rainfall Patterns, and Rate of Time Preferences: The Case of Ethiopia." Discussion Paper 10-21. Resources For the Future.
- Bezu, Sosina, and Stein Holden. 2014a. "Are Rural Youth in Ethiopia Abandoning Agriculture?" *World Development* 64: 259–72.
- Bezu, Sosina, Christopher B. Barrett, and Stein T. Holden. 2012. "Does the Nonfarm Economy Offer Pathways for Upward Mobility? Evidence from a Panel Data Study in Ethiopia." *World Development* 40 (8): 1634–46.
- Bhatta, Bharat P., and Torbjørn Årethun. 2013. "Barriers to Rural Households' Participation in Low-Skilled off-Farm Labor Markets: Theory and Empirical Results from Northern Ethiopia." *SpringerPlus* 2 (1): 97.
- Boisson, Sophie, Wolf-Peter Schmidt, Tsegahiwot Berhanu, Henock Gezahegn, and Thomas Clasen. 2009. "Randomized Controlled Trial in Rural Ethiopia to Assess a Portable Water Treatment Device." *Environmental Science & Technology* 43 (15): 5934–39.
- Brau, Alan de, and Valerie Mueller. 2012. "Do Limitations in Land Rights Transferability Influence Mobility Rates in Ethiopia?" *Journal of African Economies* 21 (4): 548–79.
- Cavatassi, Romina, Leslie Lipper, and Ulf Narloch. 2011. "Modern Variety Adoption and Risk Management in Drought Prone Areas: Insights from the Sorghum Farmers of Eastern Ethiopia." *Agricultural Economics* 42 (3): 279–92.
- Chaudhury, Nazmul, Luc Christiaensen, and Mohammad Niaz Asadullah. 2006. "Schools, Household, Risk, and Gender: Determinants of Child Schooling in Ethiopia." CSAE Working Paper Series 2006-06. Centre for the Study of African Economies, University of Oxford.

- Christiaensen, Luc, Punam Chuhan-Pole, and Aly Sanoh. 2013. "Africa's Growth, Poverty and Inequality Nexus – Fostering Shared Prosperity." World Bank, 2013, mimeographed.
- Commission on Growth and Development, 2008, 'The Growth Report - Strategies for Sustained Growth and Inclusive Development', World Bank, Washington. D.C.
- Dabalen, Andrew, Ambar Narayan, Jaime Saavedra-Chanduvi, and Alejandro Hoyos Suarez, with Ana Abras and Sailesh Tiwari. 2014. Do African Children Have an Equal Chance? A Human Opportunity Report for Sub-Saharan Africa. World Bank Report.
- de Brauw, Alan, Valerie Mueller, and Tassew Woldehanna. 2013. "Does Internal Migration Improve Overall Well-Being in Ethiopia?" ESSP working paper 55. International Food Policy Research Institute (IFPRI).
- Deininger, Klaus, Daniel Ayalew Ali, and Tekie Alemu. 2011. "Impacts of Land Certification on Tenure Security, Investment, and Land Market Participation: Evidence from Ethiopia." *Land Economics* 87 (2): 312–34.
- Dercon, Stefan and Zeitlin, Andrew. 2011. Rethinking Agriculture and Growth in Ethiopia: A Conceptual Discussion. Paper prepared as part of a study on Agriculture and Growth in Ethiopia
- Dercon, Stefan. 2004. "Growth and Shocks: Evidence from Rural Ethiopia." *Journal of Development Economics* 74 (2): 309–29.
- Dercon, Stefan, and Luc Christiaensen. 2011. "Consumption Risk, Technology Adoption and Poverty Traps: Evidence from Ethiopia." *Journal of Development Economics* 96 (2): 159–73.
- Dercon, Stefan, and Ruth Vargas Hill. 2009. "Growth from Agriculture in Ethiopia: Identifying Key Constraints." Paper prepared as part of a study on Agriculture and Growth in Ethiopia.
- Dercon, Stefan, Daniel O. Gilligan, John Hoddinott, and Tassew Woldehanna. 2009. "The Impact of Agricultural Extension and Roads on Poverty and Consumption Growth in Fifteen Ethiopian Villages." *American Journal of Agricultural Economics* 91 (4): 1007–21.
- Diao, Xinshen, Alemayehu Seyoum Taffesse, Paul A. Dorosh, James Thurlow, Alejandro Nin-Pratt, and Bingxin Yu. 2012. "Ethiopia," in Xinshen Diao, James Thurlow, Samuel Benin, and Shenggen Fan (eds.), *Strategies and priorities for African agriculture: Economy-wide perspectives from country studies*, Chapter 5, pp. 107-140, International Food Policy Research Institute (IFPRI).
- Eden, M. and A. Kraay. 2014a. 'Crowding in and the Returns to Government Investment in Low-income Countries', World Bank Policy Research Working Paper 6781.
- Falco, Salvatore Di, Marcella Veronesi, and Mahmud Yesuf. 2011. "Does Adaptation to Climate Change Provide Food Security? A Micro-Perspective from Ethiopia." *American Journal of Agricultural Economics* 93 (3): 829–46.
- Fenn, Bridget, Assaye T. Bulti, Themba Nduna, Arabella Duffield, and Fiona Watson. 2012. "An Evaluation of an Operations Research Project to Reduce Childhood Stunting in a Food-Insecure Area in Ethiopia." *Public Health Nutrition* 15 (9): 1746–54.
- Franklin, Simon. 2015. "Location, Search Costs and Youth Unemployment: A Randomized Trial of Transport Subsidies in Ethiopia." CSAE Working Paper Series 2015-11. Centre for the Study of African Economies, University of Oxford.
- Fufa, B., and Rashid M. Hassan. 2006. "Determinants of Fertilizer Use on Maize in Eastern Ethiopia: A Weighted Endogenous Sampling Analysis of the Extent and Intensity of Adoption." *Agrekon: Agricultural Economics Research, Policy and Practice in Southern Africa* 45 (1).
- Gebreeyesus, Mulu. 2008. "Firm Turnover and Productivity Differentials in Ethiopian Manufacturing." *Journal of Productivity Analysis* 29 (2): 113–29.

- Gebreeyesus, Mulu. 2009. "Innovation and Microenterprises Growth in Ethiopia." MERIT Working Paper 053. United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT).
- Gebregziabher, G., and S. Holden. 2011. "Does Irrigation Enhance and Food Deficits Discourage Fertilizer Adoption in a Risky Environment? Evidence from Tigray, Ethiopia." *Journal of Development and Agricultural Economics* 3 (10): 514–28.
- Gebregziabher, Gebrehaweria, Meredith A. Giordano, Simon Langan, and Regassa E. Namara. 2014. "Economic Analysis of Factors Influencing Adoption of Motor Pumps in Ethiopia." *Journal of Development and Agricultural Economics* 6 (12): 490–500.
- Gilligan, Daniel O., John Hoddinott, and Alemayehu Seyoum Taffesse. 2009. "The Impact of Ethiopia's Productive Safety Net Programme and Its Linkages." *Journal of Development Studies* 45 (10): 1684–1706.
- Gondo, Tendayi. 2010. "Municipal Asset Management or Mismanagement? A Six 'Whats' Perspective on Current Practices and Challenges in Ethiopia's Urban Water Sector." *Economia: Serial Management* 13 (1): 27–42.
- Gray, Clark, and Valerie Mueller. 2012. "Drought and Population Mobility in Rural Ethiopia." *World Development* 40 (1): 134–45.
- Gurara, Daniel Zerfu, and Donald F. Larson. 2013. "The Demand for Fertilizer When Markets Are Incomplete: Evidence from Ethiopia." In *An African Green Revolution*, edited by Keijiro Otsuka and Donald F. Larson, 243–59. Springer Netherlands.
- Hagos, Hosaena Ghebru, and Stein Holden. 2013. "Links between Tenure Security and Food Security: Evidence from Ethiopia." IFPRI discussion paper 1288. International Food Policy Research Institute (IFPRI).
- Haidar, Jemal. 2010. "Prevalence of Anaemia, Deficiencies of Iron and Folic Acid and Their Determinants in Ethiopian Women." *Journal of Health, Population, and Nutrition* 28 (4): 359–68.
- Hassan, Ibrahim Worku and Alemayehu Seyoum Taffesse. 2014. Decomposing the Growth of Household Consumption Expenditure to Identify the Contribution of Wellbeing Covariates in Ethiopia" ESSP Working Paper, forthcoming.
- Hausman, R., D. Rodrik, A. Velasco. 2008. 'Growth diagnostics' in *The Washington Consensus Reconsidered: Towards a new global governance*. ed. By J. Stiglitz and N. Serroa, New York: Oxford University Press.
- Headey, Derek D. 2014. "An Analysis of Trends and Determinants of Child Undernutrition in Ethiopia, 2000-2011." ESSP working paper 70. International Food Policy Research Institute (IFPRI).
- Headey, Derek, Fantu Bachewe Nisrane, Ibrahim Worku, Mekdim Dereje, and Alemayehu Seyoum Taffesse. 2012. "Urban Wage Behavior and Food Price Inflation: The Case of Ethiopia." ESSP Working Paper 41
- Hirvonen, Kalle, and John F. Hoddinott. 2014. "Agricultural Production and Children's Diets: Evidence from Rural Ethiopia." ESSP working paper 69. International Food Policy Research Institute (IFPRI).
- Hoddinott, John, Guush, Berhane, Daniel O Gilligan, Neha Kumar and Alemayehu Seyoum Taffesse. The Impact of Ethiopia's Productive Safety Net Programme and Related Transfers on Agricultural Productivity. *Journal of African Economies* 21 (5): 761-786.
- Holden, Stein T., Klaus Deininger, and Hosaena Ghebru. 2009. "Impacts of Low-Cost Land Certification on Investment and Productivity." *American Journal of Agricultural Economics* 91 (2): 359–73.
- Karim, Ali Mehryar, Kesetebirhane Admassu, Joanna Schellenberg, Hibret Alemu, Nebiyu Getachew, Agazi Ameha, Luche Tadesse, and Wuleta Betemariam. 2013. "Effect of Ethiopia's Health Extension Program on Maternal and Newborn Health Care Practices in 101 Rural Districts: A Dose-Response Study." *PLoS ONE* 8 (6): 65160.

- Kedir, Haji, Yemane Berhane, and Alemayehu Worku. 2014. "Magnitude and Determinants of Malnutrition among Pregnant Women in Eastern Ethiopia: Evidence from Rural, Community-Based Setting." *Maternal & Child Nutrition*.
- Krishnan, Pramila, and Manasa Patnam. 2014. "Neighbors and Extension Agents in Ethiopia: Who Matters More for Technology Adoption?" *American Journal of Agricultural Economics* 96 (1): 308–27.
- Legese, G., H. Teklewold, D. Alemu, and A. Negassa. 2008. "Live Animal and Meat Export Value Chains for Selected Areas in Ethiopia: Constraints and Opportunities for Enhancing Meat Exports." Discussion Paper 12. ILRI.
- Li, J., R. Gorham, and M. Nuru. 2012. "Road Development, Agglomeration and Agricultural Growth in Ethiopia: An Empirical Analysis." Transportation Research Board 91st Annual Meeting 12-4291.
- Liverpool, Lenis Saweda O., and Alex Winter-Nelson. 2010. "Poverty Status and the Impact of Formal Credit on Technology Use and Wellbeing among Ethiopian Smallholders." *World Development* 38 (4): 541–54.
- Lizarazo, S., L. Moller, A. Peralta-Alva, M. Tavares. 2015. "The Macroeconomic and Distributional Impact of Financial Liberalization in LICs."
- Loening, Josef, Bob Rijkers, and Mans Soderbom. 2008. "Nonfarm Microenterprise Performance and the Investment Climate: Evidence from Rural Ethiopia." Policy Research Working Paper Series 4577. The World Bank.
- Mahmud, Mahmud Abdulkader, Mark Spigt, Afework Mulugeta Bezabih, Ignacio López Pavon, Geert-Jan Dinant, and Roman Blanco Velasco. 2013. "Risk Factors for Intestinal Parasitosis, Anaemia, and Malnutrition among School Children in Ethiopia." *Pathogens and Global Health* 107 (2): 58–65.
- Matsumoto, Tomoya, and Takashi Yamano. 2010. "The Impacts of Fertilizer Credit on Crop Production and Income in Ethiopia." GRIPS Discussion Paper 10-23. National Graduate Institute for Policy Studies.
- Mebratie, Anagaw D., Ellen Van de Poel, Zelalem Yilma, Degnet Abebaw, Getnet Alemu, and Arjun S. Bedi. 2014. "Healthcare-Seeking Behaviour in Rural Ethiopia: Evidence from Clinical Vignettes." *BMJ Open* 4 (2): e004020.
- Mebratie, Anagaw D., Robert Sparrow, Zelalem Yilma, Getnet Alemu, and Arjun S. Bedi. 2015. "Enrollment in Ethiopia's Community-Based Health Insurance Scheme." *World Development* 74: 58–76.
- Mekonnen, A., J. Jones, and B. Tefera. 2005. "Tackling Child Malnutrition in Ethiopia: Do the Sustainable Development Poverty Reduction Program's Underlying Policy Assumptions Reflect Local Realities?" Young Lives Working Paper.
- Melesse, Mequanint B., and Erwin Bulte. 2015. "Does Land Registration and Certification Boost Farm Productivity? Evidence from Ethiopia." *Agricultural Economics*.
- Melesse, Tigist Mekonnen. 2015. "Agricultural Technology Adoption and Market Participation under Learning Externality: Impact Evaluation on Small-Scale Agriculture from Rural Ethiopia." Working Paper No. 2015/ 06. Maastricht School of Management.
- Minten, Bart, Bethlehem Koru, and David Stifel. 2013. "The Last Mile(s) in Modern Input Distribution: Pricing, Profitability, and Adoption." *Agricultural Economics* 44 (6): 629–46.
- Minten, Bart, David Stifel, and Seneshaw Tamru. 2014. "Structural Transformation of Cereal Markets in Ethiopia." *The Journal of Development Studies* 50 (5): 611–29.
- Mosello, Calow, Tucker, Parker, Alamirew, Kebede, Alemseged, and Gudina. 2015. "Building Adaptive Water Resources Management in Ethiopia." Overseas Development Institute (ODI).
- Naude, P and W. Nagler, 2014. Farm Entrepreneurship in Rural Africa: Patterns and Determinants. World Bank Working Paper Series.

- Nega, Abeyot. 2012. "Improving Education Quality, Equity and Access in Ethiopia." Young Lives Working Paper.
- Page, John, and Mans Soderbom. 2012. "Is Small Beautiful? Small Enterprise, Aid and Employment in Africa." UNU-WIDER Research Paper WP2012/94. World Institute for Development Economic Research (UNU-WIDER).
- Private Sector Development Hub. 2010. 'A Study on the Determination of the Share of Private Sector in GDP', Addis Ababa.
- Ragasa, Catherine, Guush Berhane, Fanaye Tadesse, and Alemayehu Seyoum Taffesse. 2013. "Gender Differences in Access to Extension Services and Agricultural Productivity." *The Journal of Agricultural Education and Extension* 19 (5): 437–68.
- Rashid, Shahidur, Nigussie Tefera, Nicholas Minot, and Gezahegn Ayele. 2013. "Fertilizer in Ethiopia: An Assessment of Policies, Value Chain, and Profitability." IFPRI Discussion Paper 1304. International Food Policy Research Institute (IFPRI).
- Rijkers, Bob, Måns Söderbom, and Josef L. Loening. 2010. "A Rural–Urban Comparison of Manufacturing Enterprise Performance in Ethiopia." *World Development* 38 (9): 1278–96.
- Robinson, Sherman, Kenneth M. Strzepek, and Raffaello Cervigni. 2013. "The Cost of Adapting to Climate Change in Ethiopia: Sector-Wise and Macro-Economic Estimates." ESSP working paper 53. International Food Policy Research Institute (IFPRI).
- Rodrik, D. 2014. 'An African Growth Miracle?' Institute for Advanced Study, Princeton
- Semela, Tesfaye. 2011. "Breakneck Expansion and Quality Assurance in Ethiopian Higher Education: Ideological Rationales and Economic Impediments." *Higher Education Policy* 24 (3): 399–425.
- Shaw, Bryan, Agbessi Amouzou, Nathan P. Miller, Amy O. Tsui, Jennifer Bryce, Mengistu Tafesse, and Pamela J. Surkan. 2015. "Determinants of Utilization of Health Extension Workers in the Context of Scale-Up of Integrated Community Case Management of Childhood Illnesses in Ethiopia." *The American Journal of Tropical Medicine and Hygiene* 93 (3): 636–47.
- Shiferaw, A. 2006. "Entry, Survival, and Growth of Manufacturing Firms in Ethiopia." ISS Working Papers - General Series 19185. International Institute of Social Studies of Erasmus University Rotterdam (ISS).
- Silva, Patricia. 2005. "Environmental Factors and Children's Malnutrition in Ethiopia." Policy Research Working Paper Series 3489. The World Bank.
- Söderbom, Måns. 2012. "Firm Size and Structural Change: A Case Study of Ethiopia." *Journal of African Economies* 21 (2): 126–51.
- Stifel, D., and B. Minten. 2015. "Market Access, Welfare, and Nutrition: Evidence from Ethiopia: IFPRI Publications." IFPRI ESSP Working Paper.
- Strobbe, F. and S. Alibahi. 2015. "Financing Women Entrepreneurs in Ethiopia." SME Finance Community of Practice: Quick Lessons Issue 2.
- Tadesse, G. and G. Bahiigwa. 2015. 'Mobile phones and farmers' marketing decisions in Ethiopia', *World Development* 68:296-307.
- Tadesse, Getaw, and Godfrey Bahiigwa. 2015. "Mobile Phones and Farmers' Marketing Decisions in Ethiopia." *World Development* 68 (April): 296–307.
- Taffesse, A.S., F. Yimer, and M. Dereje. 2015. "The Impact of the PSNP-Created Community Assets on Crop Yield Growth." ESSP working paper. IFPRI.
- Tarfasa, Solomon, and Roy Brouwer. 2013. "Estimation of the Public Benefits of Urban Water Supply Improvements in Ethiopia: A Choice Experiment." *Applied Economics* 45 (7-9): 1099–1108.

- Tesfahun, Fikirte, Walelegn Worku, Fekadu Mazengiyya, and Manay Kifle. 2014. "Knowledge, Perception and Utilization of Postnatal Care of Mothers in Gondar Zuria District, Ethiopia: A Cross-Sectional Study." *Maternal and Child Health Journal* 18 (10): 2341–51.
- Teshome, B., W. Kogi-Makau, Z. Getahun, and G. Taye. 2009. "Magnitude and Determinants of Stunting in Children Underfive Years of Age in Food Surplus Region of Ethiopia: The Case of West Gojam Zone." *Ethiopian Journal of Health Development* 23 (2).
- Vaughan, S. 2012. Understanding Ethiopia's Transformation: Vision and Strategies for Development. Report prepared in the context of the revision of the World Bank's Ethiopia Country Partnership Strategy June 2012
- Weir, Sharada. 2011. "Parental Attitudes and Demand for Schooling in Ethiopia." *Journal of African Economies* 20 (1): 90–110.
- Woldehanna, Tassew. 2003. "The Role of Schooling in the Alleviation of Rural Poverty in Ethiopia." 2003 Annual Meeting, Durban, South Africa 25877. International Association of Agricultural Economists.
- World Bank (2000). Industrial Development and Economic Growth: Implications for Poverty Reduction and Income Inequality. In *Beyond Economic Growth: Meeting the Challenges of Global Development*.
- World Bank and the Development Research Center of the State Council, P. R. China. 2013. China 2030: Building a Modern, Harmonious, and Creative Society. Washington, DC: World Bank.
- Yu, Bingxin, Alejandro Nin-Pratt, José Funes, and Sinafikeh Asrat Gemessa. 2011. "Cereal Production and Technology Adoption in Ethiopia." IFPRI Discussion Paper 1131. International Food Policy Research Institute (IFPRI).



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