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3rd Ethiopia Economic Update:

STRENGTHENING EXPORT PERFORMANCE THROUGH IMPROVED COMPETITIVENESS

WORLD BANK GROUP

3RD ETHIOPIA ECONOMIC UPDATE

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JUNE 2014

WORLD BANK GROUP

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LIST OF ABBREVIATIONS

AFDB	African Development Bank
BRIC	Brazil, Russia, India, and China
CPIA	Country Policy and Institutional Assessment
CSA	Central Statistics Agency
DB	Doing Business
EEPCO	Ethiopian Electric Power Corporation
ERP	Effective Rate of Protection
EXPY	Measure of Export Sophistication
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FY	Fiscal Year
GDP	Gross Domestic Product
GOE	Government of Ethiopia
GTP	Growth and Transformation Plan
HACCP	Hazard Analysis and Critical Control Points
HDI	Human Development Index
HICES	Household Income and Consumption Survey
HS	Harmonized Commodity Description and Coding Systems
IDA	International Development Association
IEMP	Index of Export Market Penetration
IMF	International Monetary Fund
ISO	International Standards Organization
LFS	Labor Force Survey
LPI	Logistics Performance Index
M2	Monetary Aggregate 2
MENA	Middle East and North Africa
MFN	Most Favored Nation
Mill.	Million
MOFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
NCB	Non-concessional Borrowing
NFS	Non-Factor Services
NRP	Nominal Rate of Protection
OZ	Ounce
PPP	Purchasing Power Parity
PRODY	Income Content of Product
PTA	Preferential Trade Area
Q1	1st Quarter
RCA	Revealed Comparative Advantage
REER	Real Effective Exchange Rate
RER	Real Exchange Rate
ROW	Rest of the World
SEZ	Special Economic Zones
SITC	Standard International Trade Classification
SOE	State Owned Enterprise
SSA	Sub-Saharan Africa
TRIP	Trade-Related Aspects of Intellectual Property
TTRI	Tariff Trade Restrictiveness
WB	World Bank
WDI	World Development Indicators
WGI	World Governance Indicators
WTO	World Trade Organization
y/y	Year on Year

EXECUTIVE SUMMARY

Rising exports contributed to Ethiopia's remarkable growth performance over the past decade. Buoyed by favorable external conditions, exports also helped create jobs and earn much-needed foreign exchange. The way Ethiopia created and nurtured a high-value horticulture industry and expanded its air services exports was an encouraging example of "self-discovery."

A recent drop in export prices, however, has exposed underlying vulnerabilities in export structure and highlighted the importance of strengthening competitiveness. Ethiopia is vulnerable to such price swings because unprocessed and undifferentiated agricultural products dominate its exports. While benefitting from upward price trends since 2003, the recent drop in prices of key commodities led to the worst export performance in a decade. To overcome this challenge, renewed efforts must aim to improve competitiveness, including through value addition and export diversification.

More than "what" is being exported it is the "how" that is hindering potential. There is scope for improving the quality of existing commodity exports, through basic value addition, such as coffee wet processing or machine flaying of animal skins. Even in products with a revealed comparative advantage, little upgrading or branding has occurred to earn higher value per unit over time. By starting to compete on the quality of existing commodity exports (and not just on price), Ethiopia can reduce sensitivity to volatile international prices thereby supporting the gradual shift of production and exports into agro-processing and light manufacturing.

Ethiopia's export sector is currently too small to contribute to structural transformation. In East Asia, booming exports helped shift economic activity and workers away from low-productivity agriculture into higher-productivity manufacturing and sustain high rates of economic growth for decades. In Ethiopia, both exports and the manufacturing sector remain relatively small. Ethiopia has the lowest ratio of merchandise exports to GDP among populous countries in the world; it has half as many of exporting firms as Kenya (which has half the population of Ethiopia), and average exporter size is small.

The business environment favors incumbent firms and deters new entrants into export businesses, and even so, no "export superstars" are emerging. The 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. This may be due to the fact that smaller firms have limited access to credit, which would have allowed them to increase the scale and scope of their activities. This is a challenge because rising and dynamic firms often create more new jobs than established firms. Other factors such as low entrepreneurship and low regulatory quality in terms of promoting the private sector may also explain this. Despite a favorable environment for incumbents, they are yet to emerge as multi-product and multi-destination export superstars.

Ethiopia lags behind its peers in Global Competitiveness rankings and trade restrictions are biased against exports. Although the country ranks better than its peers on theme-specific business regulatory measures such as enforcing contracts, its overall Doing Business performance is on the decline. Low regulatory quality also adds to the cost of doing business for exporters. Furthermore, Ethiopia has more trade restrictions in place than its peers. However, high levels of nominal and effective rates of protection provide strong evidence of the widespread existence of an anti-export bias of the tariff regimes throughout the economy. At the same time Ethiopia is under-tapping a narrow window of opportunity for diversification through full exploitation of available trade preferences.

A more competitive real exchange rate could support export promotion. Ethiopia's real exchange rate is overvalued. Empirical evidence presented in the report suggests that a 10 percent lower real exchange rate could increase export growth in Ethiopia by more than 5 percentage points per year and increase economic growth by more than 2 percentage points. The projected positive impact for Ethiopia is based on the predominance of basic export commodities that tend to compete more on price rather than on quality. In the presence of macroeconomic trade-offs (e.g. currency depreciation would contribute to inflation), changes in exchange rate policy would need to be combined with other economic policy measures, such as a further tightening of monetary policy.

Policy Recommendations

The following policy recommendations emerge from the analysis:

1. Increase value-addition, quality, and branding of exports.
2. Ease binding constraints related to reliable power supply, credit, and foreign exchange.
3. Redress bottlenecks in trade logistics.
4. Establish Industrial Zones that conform to international best practice.
5. Revise burdensome business rules that obstruct firm entry, especially high start-up capital requirement and pre-registration bank deposits.
6. Improve regulatory quality, including the implementation of a pro-competition legal framework.
7. Ensure that the real exchange rate is competitive.

This report is structured as follows. Chapter 1 discusses recent economic developments in the 'short view' and has observations on structural change in the 'long view'. Chapter 2 looks at export performance and competitiveness utilizing key elements of the World Bank's Trade Competitiveness Diagnostic Framework. Chapter 3 summarizes key issues and provides policy recommendations.

1 RECENT ECONOMIC DEVELOPMENTS

The Short View

Recent high economic growth is driven by services and agriculture on the supply side and private consumption and public investment on the demand side. Inflation remains in single digit territory due to tighter monetary policy and lower global commodity prices. The fiscal stance continues to be expansionary in light of substantial state owned enterprise investment. Exports are exhibiting their worst performance in more than a decade.

Real Sector

Ethiopia continues to register rapid economic growth driven by services and agriculture. GDP growth increased by 9.7 percent in 2012/13 compared to 8.8 percent in 2011/12. Industry grew by 18.5 percent followed by services (9.9 percent) and agriculture (7.1 percent). However, given the relative size of each sector, expansion of the services and agriculture sector explain most of GDP growth (4.5 and 3.1 percentage points, respectively), while the contribution of industry was relatively modest (2.1 percentage points). Manufacturing, which forms part of the industry sector, added just 0.4 percentage points to the overall growth rate of 9.7 percent (Figure 1.1.1).

Positive developments in some of the major sub-sectors contributed to growth. Within agriculture, crop production (accounting for 30 percent of GDP) was the major contributor. Crop value added increased from 5.0 percent in 2011/12 to 8.2 percent in 2012/13. Construction activity was the major driver of the non-manufacturing industry sector, with a growth contribution of 1.4 percentage points in 2012/13. Within services, transport and communications was the leading sector driven by activities of Ethiopian Airlines and Ethio Telecom. Passenger traffic rose by 13 percent while cargo services declined by 4 percent (Figure 1.1.5). Similarly, Ethio Telecom (unaudited) profits after tax increased from 3.0 billion birr in 2011/12 to 4.4 billion birr in 2012/13 (Figure 1.1.6), and results from the first half of the current fiscal year shows a continuation of this trend. On the other hand, electricity generation growth slowed from 27 to 21 percent and the growth rate of power sales to industries fell from 29 to 15 percent (Figure 1.1.4).

Private consumption and investment were the major growth contributors on the demand side. Owing to its relative size in GDP (75 percent), the 6.4 percent annual growth rate in private consumption accounts for 5.0 percentage points of the 10.4 percent (including net indirect taxes) growth rate in 2012/13[1] (Figure 1.1.2). Investment accounts for 3.3 percentage points of overall GDP growth.

Two opposing forces affect the growth outlook for 2013/14: a bumper harvest and an export contraction. Crop production is forecast to grow by 9.9 percent in 2013/14 compared to 5.8 percent in 2012/13 and this may add one percentage point to growth. Declining exports, on the other hand, represent a drag on economic activity. Total exports (of goods and services) declined by 0.6 percent in 2012/13 and by 2.0 percent in the first quarter of 2013/14. If the first quarter performance is indicative in 2013/14, then this would reduce GDP growth by about ¼ of a percentage point.

[1] The real GDP from the demand side is computed using the GDP deflator.

FIGURE 1.1: Economic Activity

Source: 1.1: MOFED, 1.2: MOFED, 1.3: CSA, 1.4: EEPCO, 1.5: Ethiopian Airlines, 1.6: Ethio Telecom.
Note: EBIDTA is Earnings Before Interest, Depreciation and Taxes.

Monetary Sector

Inflation has remained in single digits for almost a year. After peaking at 40.7 percent in August 2011, headline inflation fell to a three-year low of 6.1 percent in April 2013 and stood at 8.8 percent in March 2014 (Figure 1.2.1). Both food and non-food prices have contributed to this decline. Lower international food prices have been helpful and it is encouraging that non-food inflation (a proxy for core inflation) hovers around single digit territory (11.8 percent). Food price inflation fell to 6.1 percent, in part due to a good harvest during the main agricultural season.

International factors contributed to reduced inflationary pressure. A decomposition of inflation into tradable and non-tradable goods reveals that internationally traded goods (imported and exported commodities) in Addis Ababa exhibit a much faster decline in inflation than goods which are not internationally traded (Figure 1.2.2).[2] Edible oil, coffee beans, benzene, and chickpeas are examples of tradable goods. In parallel, the FAO food price index[3] has been declining since August 2012.

A tightening of monetary policy has also contributed to lower inflation. Reserve money growth (the nominal anchor) dropped from a peak of about 40 percent in July 2011 to –3.7 percent in December 2013, though changes in the definition of this measure also explain the decline.[4] Broad money growth which remains high, but also experienced a reduction from 37 percent to 22 percent over this period may therefore be a better indicator of the current monetary policy stance. (Figure 1.2.3). Lower inflation, in turn, has contributed to lower real interest rates. The maximum lending rate has been positive in real terms since December 2012 while the real minimum deposit rate is –2.7 percent (Figure 1.2.4). A higher real interest rate would help increase Ethiopia's very low savings rate as discussed in World Bank (2013).

Credit growth, mainly to State Owned Enterprises, is the major contributor to broad money growth. Net domestic credit growth reached 31 percent in December 2013 (Figure 1.2.5). Public sector credit continues to be the main driver while credit to the private sector remained low. Domestic credit to the public sector increased by 34 percent (y/y) in November 2013. Although the share of the public sector in total outstanding credit increased only modestly in 2012/13 (62 percent), the composition has shifted substantially towards public enterprises in recent years (Figure 1.2.6).

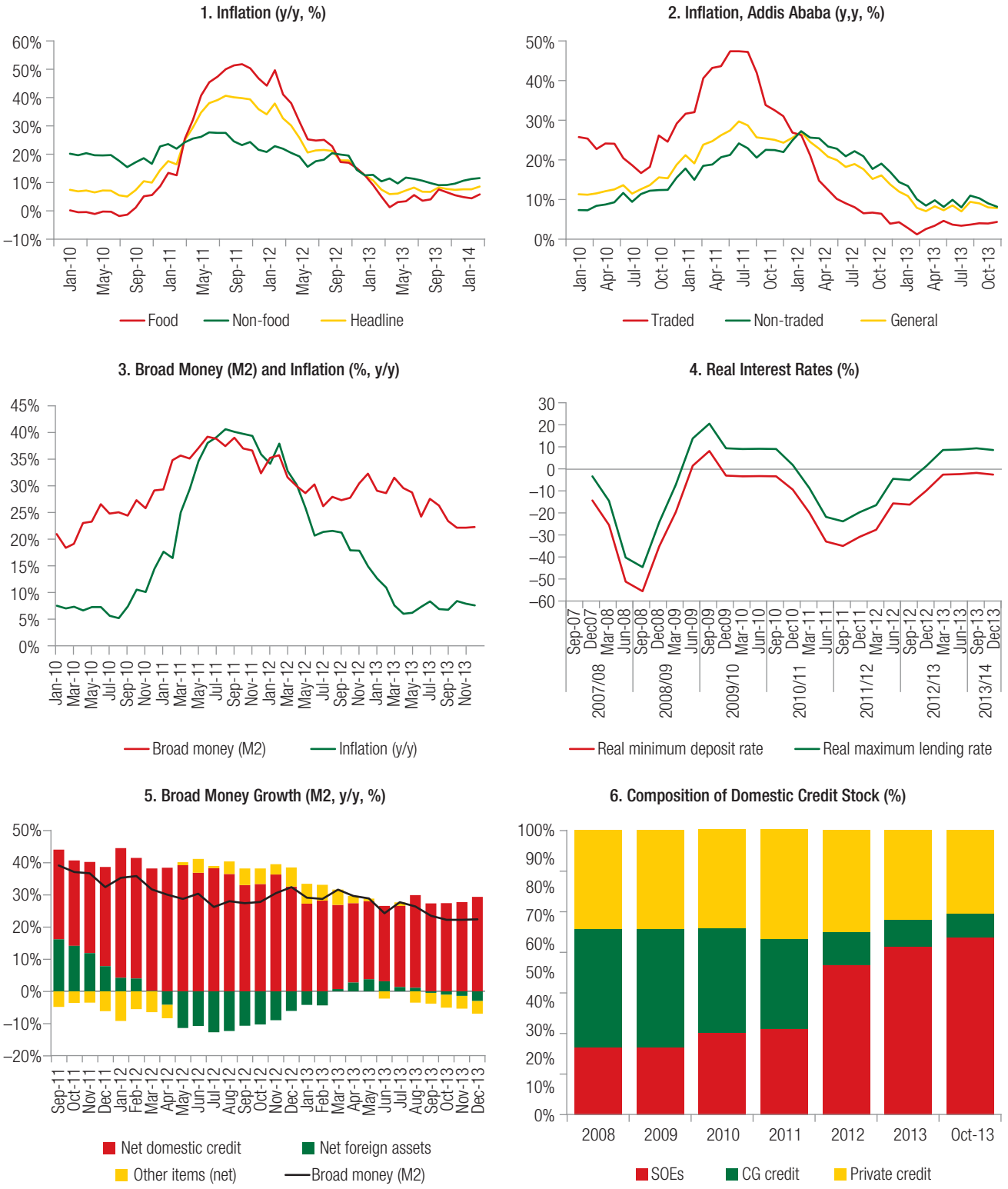
Maintaining single-digit inflation would require continued monetary discipline and support from fiscal policy. The monetary authorities would need to maintain low levels of reserve money and broad money growth. However, as discussed next, the fiscal policy also needs to be aligned with the monetary policy objective to maintain low inflation. In the absence of this alignment, Ethiopia would remain additionally vulnerable to renewed spikes in international food prices.

Fiscal Sector

The fiscal policy stance was expansionary in 2012/13. The estimated consolidated public sector primary deficit reached 5.2 percent of GDP in 2012/13 compared to 3.7 percent of GDP in 2011/12 (Figure 1.3.1).[5] The deficit is the result of a growth strategy that relies on substantial public investment executed through State Owned Enterprises and the federal and regional governments. Fiscal policy supports short term economic activity, but makes it challenging to keep inflation in check.

[2] Owing to considerable data processing requirements, this point is illustrated using data for Addis Ababa only, though there is a very high correlation between Addis Ababa and other cities on these variables.
[3] The FAO Index includes international prices of a basket of meat, diary, cereals, vegetable oil, and sugar.
[4] The reserve requirement of banks was reduced from 10 to 5 percent in March 2013, but banks instead had to purchase certificates of deposits. The measure thus had a relatively neutral impact on monetary policy (in the short term), but it contributed to a decline in growth of reserve money (currency in circulation and bank deposits at the central bank).
[5] An accurate overall fiscal stance for the consolidated public sector (including public enterprises) is difficult to gauge and this estimate was generated from the financing side (IMF, 2013).

FIGURE 1.2: Monetary Sector



Source: 2.1: CSA, 2.2: staff estimate based on CSA data, 2.3 and 2.4: NBE and CSA, and 2.5–2.6: NBE.

The general government fiscal deficit remains modest.[6] The overall fiscal deficit increased from 1.2 to 2.0 percent of GDP between 2011/12 and 2012/13. The deficit was financed primarily from external sources (2.0 percent of GDP), with domestic financing contributing 0.2 percent of GDP.[7] The government also financed part of the deficit through direct central bank advances (Figure 1.3.2).

Government revenues improved markedly in 2012/13. This development is encouraging given Ethiopia's low tax revenue-to-GDP ratio. Total revenues increased from 13.9 percent of GDP in 2011/12 to 14.6 percent of GDP in 2012/13. Additional revenues were collected from indirect taxes (0.6 percent of GDP) and direct taxes (0.4 percent of GDP) (Figure 1.3.3). Non-tax revenues, on the other hand, declined by 0.3 percent of GDP as a result of relatively low dividend receipts from public enterprises and the National Bank. Finally, official development assistance (grants) declined from 1.7 to 1.5 percent of GDP over this period.

Expenditures increased more rapidly, leading to a larger general government fiscal deficit. Total expenditures increased from 16.8 percent of GDP in 2011/12 to 18.1 percent of GDP in 2012/13. This was due to a substantial rise in capital spending (0.8 percent of GDP) and a modest increase in recurrent spending (0.4 percent of GDP). Capital spending increases were concentrated in agriculture, roads, health and housing. Government spending remains tilted in favor of capital spending (10.7 percent of GDP) versus recurrent spending (7.4 percent of GDP) (Figure 1.3.4).

An increase in the general government fiscal deficit is projected for 2013/14. The approved general government budget (excluding SOEs) envisaged an increase in the deficit to 3.0 percent of GDP. During the first half of 2013/14, the general government (excluding SOEs) registered a surplus of 0.9 percent of GDP against a surplus of 1.3 percent the same period a year before. A relative slowdown in surplus was the result of faster increased spending vis-à-vis revenue collections (Figure 1.3.5).

Ethiopia's risk of external debt distress remains low despite substantial non-concessional borrowing commitments in 2012/13. According to the 2013 Joint Bank-Fund Debt Sustainability Analysis, Ethiopia's risk of external debt distress is low. However, substantial contracting of non-concessional loans of around US$5.5 billion (11.7 percent of GDP or 50 percent of total external debt) in 2012/13 might pose risk to long term debt dynamics (see Figure 1.3.6). It is imperative that the authorities proceed with fiscal prudence and take measures to improve export competitiveness in order to maintain a low debt distress risk rating.

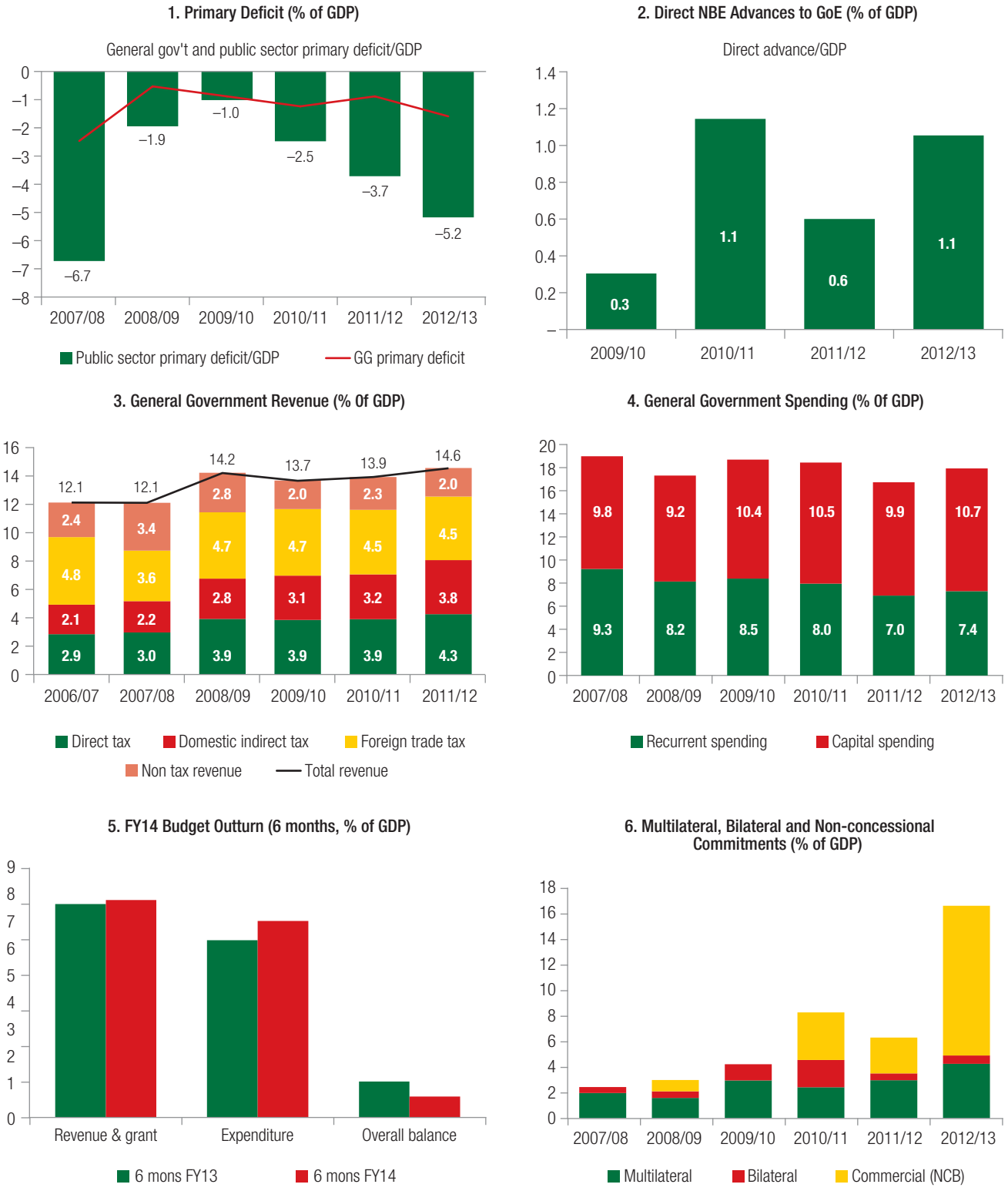
External Sector

Ethiopia has a chronic external current account deficit owing to an unusually large trade and services deficit. In 2012/13, the former reached 5.9 percent of GDP (after transfers), while the latter amounted to 16.7 percent of GDP (Figure 1.4.1). External borrowing (4.2 percent of GDP) and FDI (2.6 percent of GDP), in turn, financed the external current account deficit for 2012/13. The substantial reliance on private and public transfers (8.3 and 2.7 percent of GDP, respectively) represents a potential vulnerability. Foreign exchange reserves are low at about 1.9 months of imports in December 2013(Figure 1.4.2).

The external current account deficit improved in 2012/13 due to a declining trade and services deficit. The trade deficit improved by 0.5 percent of GDP as the fall in goods exports was offset by an even larger decline drop in goods imports. Similarly, the services balance improved by 0.8 percent of GDP because a drop in services exports was offset by an even larger decline in services imports. On the other hand, official transfers dropped from 4.2 to 2.7 percent of GDP, counteracting somewhat the improved goods and services balance.

[6] General government includes federal and regional governments, but excludes SOEs.
[7] Errors and omission and privatization amounted to –0.4 and 0.1 percent of GDP, respectively.

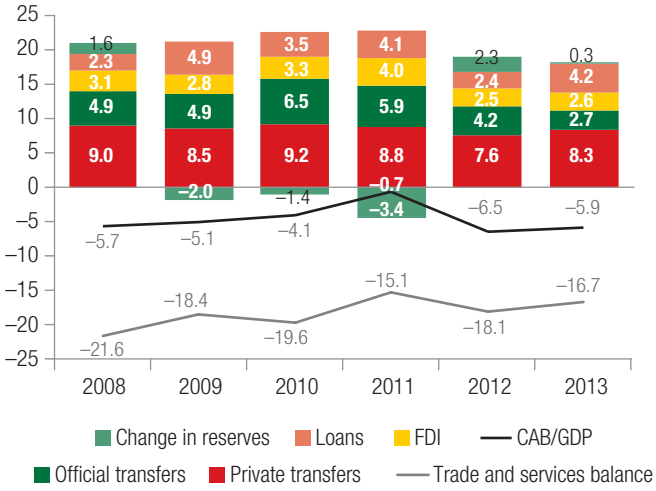
FIGURE 1.3: Fiscal Sector



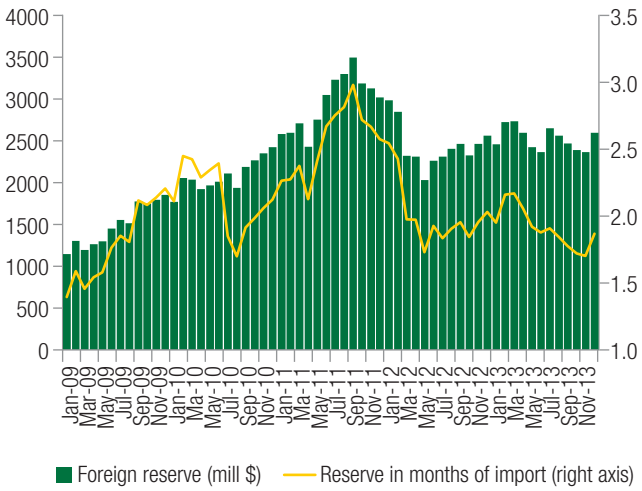
Source: 3.1: MOFED and WB/IMF, and 3.2-3.5: MOFED. 3.6 Staff Estimate based on MOFED data.

FIGURE 1.4: External Sector

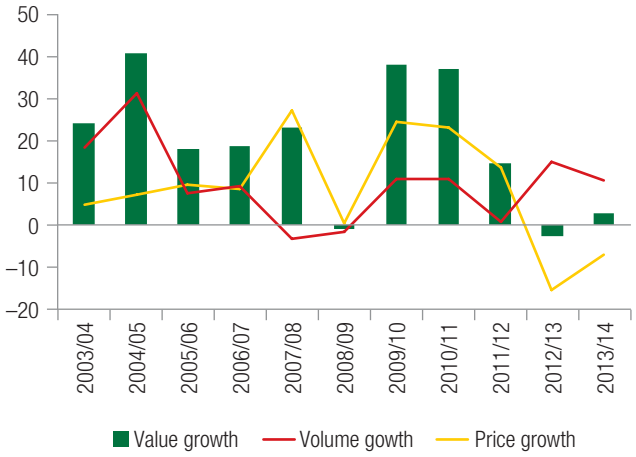
1. External current account balance (% of GDP)



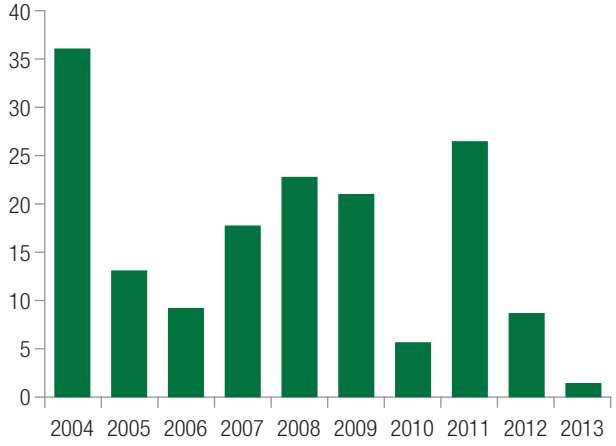
2. Gross Official Foreign Exchange Reserves



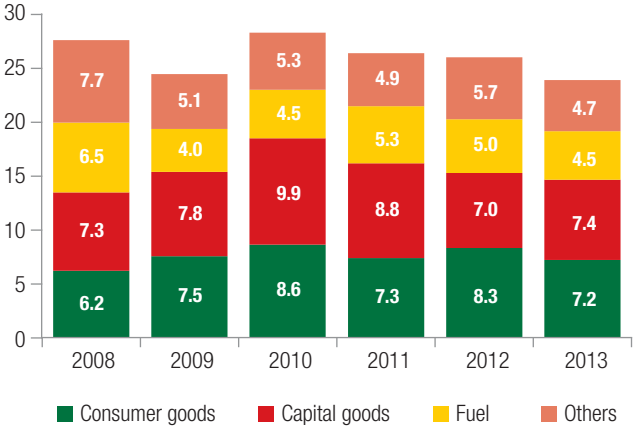
3. Goods Export Growth: Value, Price and Volumes



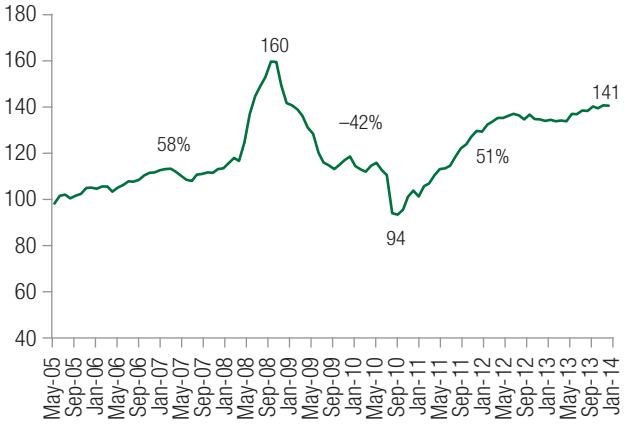
4. Services Export Growth (%)



5. Composition of Goods Import (% of GDP)



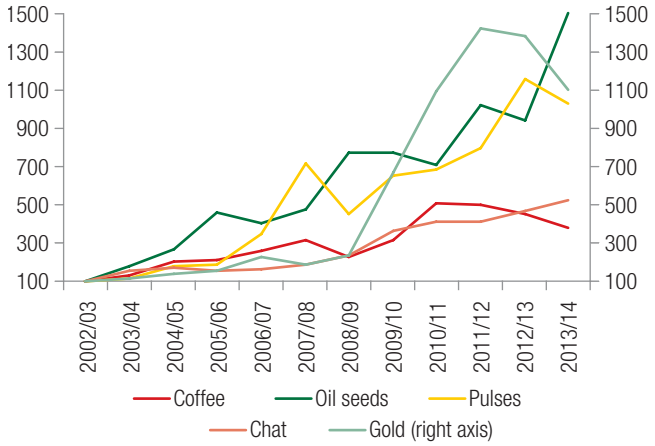
6. Real Effective Exchange Rate



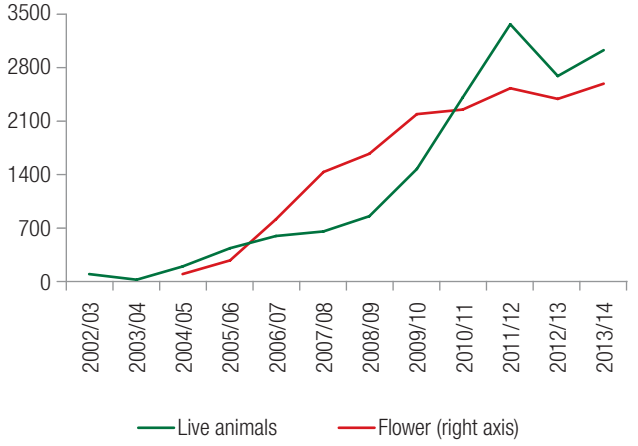
Source: NBE and MOFED, except 1.4: WB.

FIGURE 1.5: External sector (continued)

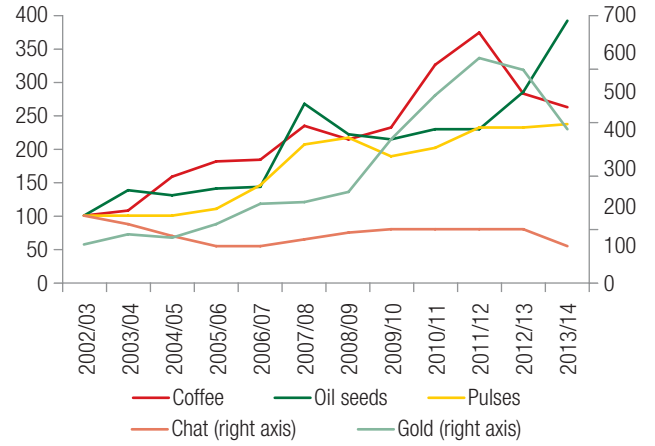
1. Value indices of selected commodities



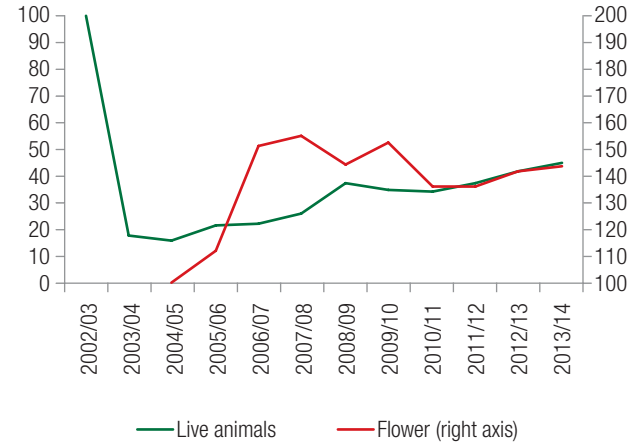
2. Value indices of selected commodities



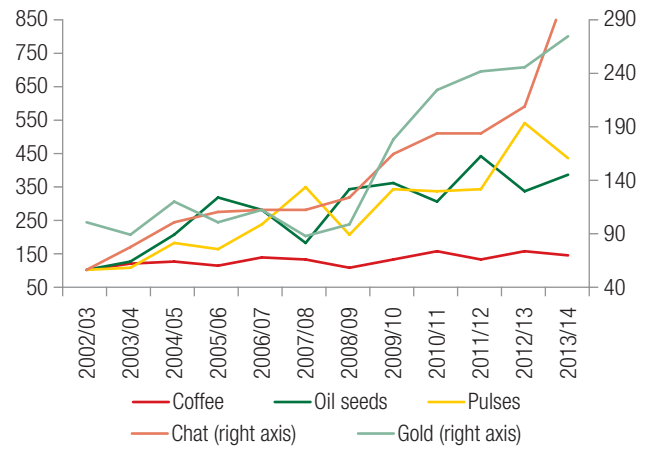
3. Price indices of selected commodities



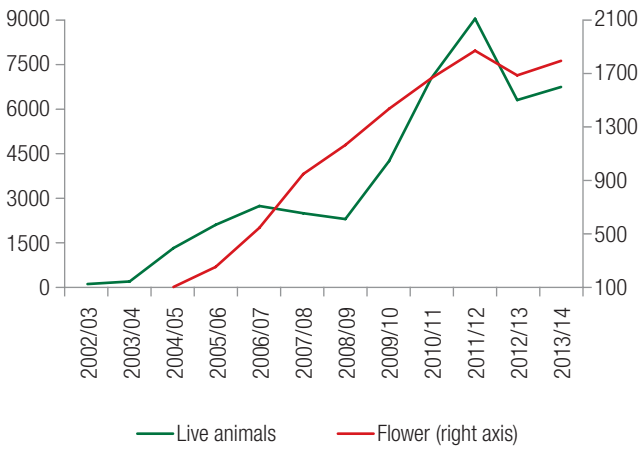
4. Price indices of selected commodities



5. Volume indices of selected commodities



6. Volume indices of selected commodities



Source: NBE and IMF.

Goods exports are exhibiting their worst performance in a decade. Export of goods declined by 2.5 percent in 2012/13 and by a further 7.6 percent in the first half of 2013/14, exceeding the drop observed in 2008/09 during the global financial crisis (Figure 1.4.3). Over the previous three years, export growth had averaged 30 percent per year (and about 20 percent annually since 2004).

Declining international prices are the main culprit for the recent poor performance of goods exports. A decomposition of export value growth into its price and quantity effects illustrates this point. Export prices dropped by a staggering 15 percent in 2012/13—much more than what was observed in 2008/09. The price drop was so severe that even a healthy export volume growth of 15 percent in 2012/13 could not prevent export values from declining. Declining international prices for coffee and gold, which account for close to half of total goods exports, were particularly pronounced (see product analysis in Figures 1.5.1–1.5.6).

Services exports, which are similar in size to goods exports, also exhibited poor performance in 2012/13. Exports of services increased by only 1.5 percent compared to an average annual growth rate of 18 percent in the previous nine years (Figure 1.4.4). Transportation services (Ethiopian Airlines), which account for two thirds of services exports, increased by 12 percent in 2012/13 compared to 28 percent the previous year. On the other hand, there was a 25 percent decline in travel (tourism).[8]

Goods and services imports moderated in 2012/13. Imports of goods increased by 3.7 percent in 2012/13 compared to 34 percent growth the previous year. Figure 1.4.5 illustrates the composition of goods imports as a share of GDP. It emerges that consumer goods and fuel declined in 2012/13, while capital goods imports increased. There was also a substantial decline in "other imports." On the services import side, a decline of 14 percent was observed in 2012/13 compared to a growth rate of 44 percent the previous year. Travel services imports, i.e. payments to other airlines that provided services to Ethiopia dropped 33 percent.

The real effective exchange rate has appreciated by more than 50 percent over the past 3.5 years (Figure 1.4.5). As discussed in Chapter 2, maintaining a competitive exchange rate is an important component of maintaining external competitiveness, especially since Ethiopia's export basket consists of primary products that compete more on price than quality.

The Long View: Structural Change[9]

The analysis reveals that the structure of Ethiopia's output has changed considerably—predominantly from agriculture to services—while similar changes in the composition of employment have lagged behind. Labor productivity growth has been strong across most sectors, albeit mainly driven by productivity improvements within each economic sector rather than through labor reallocation. Nonetheless, the pace of structural change is accelerating and its relative contribution to output growth is increasing. The services sector has been the major driver of structural change over past 15 years, while manufacturing remains small.

Structural change is vital for sustaining economic and social development. In simple terms, structural change can be defined as the reallocation of labor from low-productivity sectors to more dynamic (higher-productivity) economic activities.[10] For most developing countries, this would usually require shifting labor from subsistence agriculture to commercial agriculture, manufacturing, and modern services. "The speed with which this structural change takes place is the key factor that differentiates successful countries from unsuccessful ones" (McMillan and Rodrik, 2011).

Enhancing the tradable sector and promoting exports is a viable option to facilitate structural

[8] Data weaknesses may explain part of this decline

[9] This section is based on a background paper prepared by Martins (2014). In addition to this Economic Update there will be an upcoming Growth Study currently being prepared by the World Bank team that will look in-depth into the issue of structural change in the Ethiopian economy.

[10] Structural change can also refer to the changing composition of output. However, since shifts in production tend to precede shifts in employment, it can be argued that this transformative process is only under way once labor starts to relocate.

change through productivity increases. Lewis (1954) first described the mechanisms behind the link between exports and productivity increases: as the export sector (mostly manufacturing exports) expands, it attracts labor from the agricultural sector in rural areas. Since labor moves from agriculture—a relatively less productive sector—to manufacturing—a more productive sector, the economy's aggregate productivity rises, and so does output.

Output and Employment

Ethiopia's output more than tripled in real terms over the past fifteen years—driven primarily by services and agriculture. Real gross value added increased from 160.2 billion birr in 1996 to 510 billion birr in 2011, as illustrated in Figure 1.6.1. Services ("trade," "transport and communications," and "other services"[11]) contributed to half of output growth since 1996, while agriculture contributed by one third (Figure 1.6.3). The contribution of manufacturing to economic growth was 4 percentage points.

The structure of output shifted considerably from agriculture towards services while the corresponding employment shift was modest. The output share of agriculture declined from 62 percent in 1996 to 45 percent in 2011 (Figure 1.6.5). Services output, meanwhile, increased from 30 to 44 percent of the total over this period, while industry increased from 8 to 11 percent. Agriculture continued to dominate employment, however, as illustrated in Figure 1.6.6. Its employment share fell only marginally from 81 to 78 percent in 1996–2011. Services jobs, meanwhile, increased from 14 to 17 percent of the total with industry staying constant at 5 percent. Within the industry category, manufacturing employment rose marginally from 2.3 to 3.0 percent between 1996 and 2011.

Total employment increased by 11.6 million people since 1996 reaching 34.2 million in 2011 compared to 22.6 million in 1996 (Figure 1.6.2). Agriculture accounted for the majority of new jobs created with almost three-quarters of employment growth (8.4 million people). Although manufacturing employment doubled from 0.5 million in 1996 to 1.0 million in 2011, it remains relatively small. The services sector accounted for about a quarter of total employment growth (2.9 million people) over the 15-year period of analysis (Figure 1.6.4).

Labor Productivity[12]

Improvements in living standards in Ethiopia are largely explained by rising labor productivity. Figure 1.7.1 presents a decomposition of output (value added) per person, which can improve either as a result of demography (if the relative share of the working age population rises), increases in the employment rate (if relatively more people are working) and rising labor productivity (if each worker produces more). Between 1996 and 2011, real value added per person in Ethiopia doubled from 3,040 to 6,174 thousand birr. More than 90 percent of this increase was due to higher output per worker (labor productivity). The increase in the employment rate from 74.4 percent to 79.2 percent also played a role, explaining about 10 percent of per capita growth. The impact of demographic change, meanwhile, was negligible. The results confirm the relevance of a detailed analysis of labor productivity as key to understanding why living standards have improved in Ethiopia in recent years.

Labor productivity growth in Ethiopia has been rapid, especially since 2005. Between 1996 and 2011, value added per employed worker increased by 4.5 percent per year. This average, however, masks considerable differences depending on the period of analysis, as illustrated in Figure 1.7.2. Labor productivity growth was particularly rapid in 2005–11, reaching 9.3 percent per year.

[11] The category "other services" consists of the following sub-categories: "real estate, renting, and business activities,," "public administration and defense,," "health and social work,," "other community, social and personal services,," "education,," and "private households with employed persons.."

[12] Labor productivity estimates may be imprecise owing to national accounts data limitations mentioned in Footnote 1.

FIGURE 1.6: Ethiopia: Output and Employment by Sector, 1996–2011

Source: National Accounts Directorate, MoFED. Central Statistical Agency (CSA): HICES 1995/96, LFS 1999, LFS 2005, HICES 2010/11. See Martins (2014) for details.

Productivity gains in trade and "other services" were several times faster than in agriculture and manufacturing. Labor productivity increased by 6.1 percent per year for "other services" and by 5.4 percent per year for trade in 1995–2011 (Figure 1.7.3). By comparison, agriculture and manufacturing labor productivity growth ranged at around 2.5 percent per year while construction productivity grew 4.0 percent per year. The mining sector experienced double-digit labor productivity growth, though the employment share of mining is very small.

Labor productivity levels are highest in sectors such as electricity/water, mining, and transport/communications, and is lowest in agriculture. Output per worker reaches up to 108.9 thousand birr (2010/11 prices) in the electricity/water sector. In agriculture, at the other extreme, the value added per worker is only 8.0 thousand (Figure 1.7.4). It is useful, however, to put these figures into perspective, since their ultimate impact on the economy greatly depends on the relative weight of each sector. Figure 1.7.5 combines information on labor productivity and sectoral shares of employment for two points in time (1996 and 2011). The figure illustrates the productivity levels and growth of the three major economic sectors: agriculture, trade, and other services.

Labor productivity growth was accompanied by employment growth. Figure 1.7.6 shows that all sectors enjoyed the attractive combination of positive labor productivity growth and employment growth. Labor productivity growth has a dual character: while it is an important source of economic growth and dynamism, it can also have a labor-saving effect, potentially reducing employment demand. Hence, productivity growth needs to be accompanied by employment growth, which was indeed the case for Ethiopia in 1996–2011.

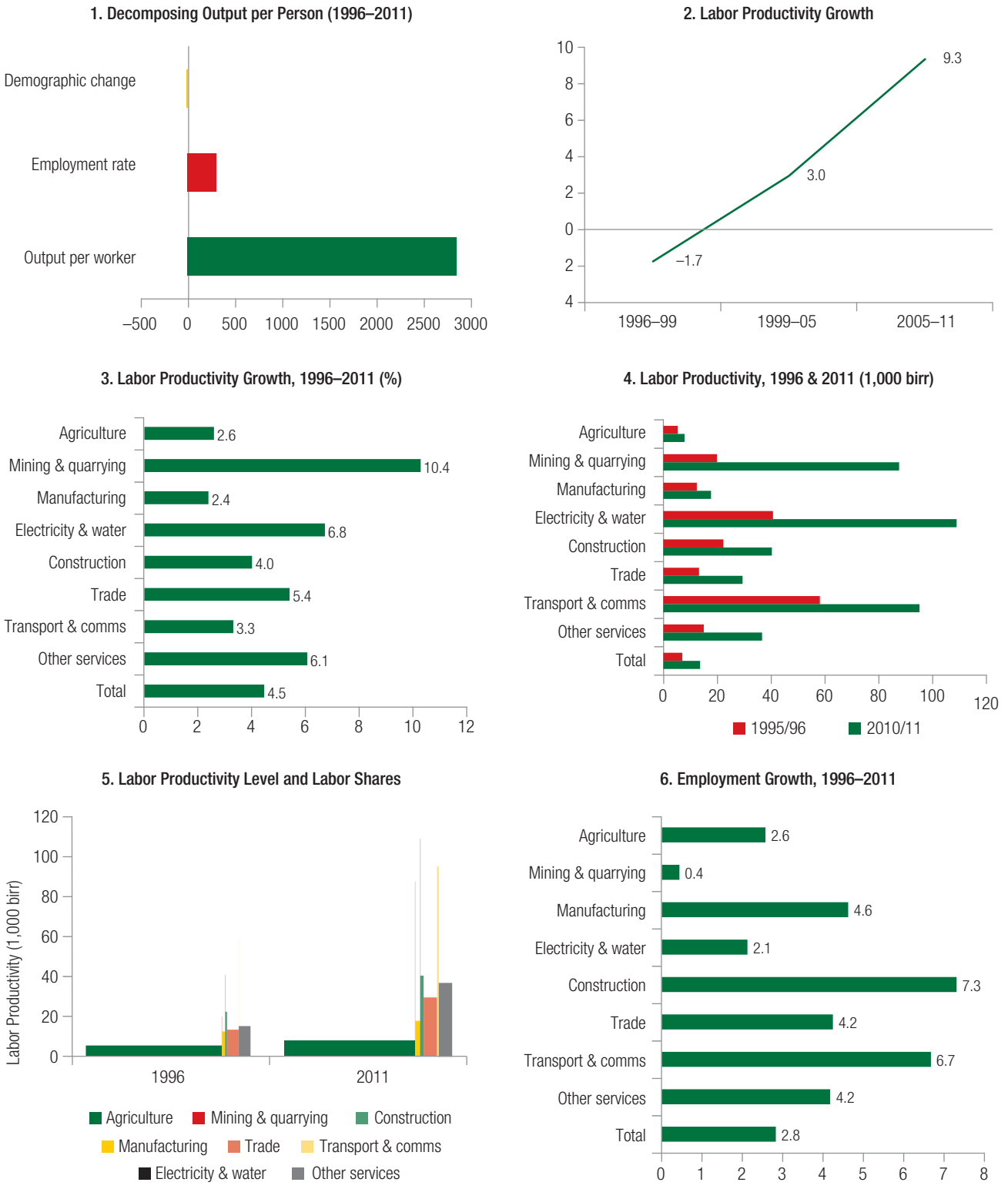
Structural Change

An emerging policy concern in Sub-Saharan Africa is that the continent is growing rapidly but transforming slowly. The sector that speeds up transformation—manufacturing—is vastly underdeveloped. Not only are developing countries not industrializing fast enough, many have begun to deindustrialize before attaining higher shares of employment in manufacturing (Rodrik 2013a). The trodden path of economic development, first taken by Western countries and replicated in recent decades by East Asia, is one where farmers move into higher-productivity manufacturing or agro-processing; economies diversify and begin to export more sophisticated goods. The share of the labor force employed in manufacturing peaked at 25 to 45 percent in countries like the UK, U.S. and Sweden before these countries de-industrialized. Even Korea, where the manufacturing employment share was in the single-digit range in the 1950s, peaked at nearly 30 percent before decreasing in the 1980s. In Africa, fewer than 10 percent of workers find jobs in manufacturing; in Ethiopia only 3 percent do.

Manufacturing remains a desirable path towards modernization because it absorbs a large section of the labor force on higher productivity tasks. Further, labor productivity in manufacturing has been shown to converge to the global frontier: manufacturing industries that are less productive tend to grow even faster (Rodrik 2013b). However, there is a caveat. In today's era of fragmented production, manufacturing has become more capital intensive and disconnected from domestic economies. In such cases, it has been pointed out that certain services sectors—such as food and clothing retail services—look antiquated, because they absorb technologies and employ semi-skilled workers in large numbers. While Ethiopia may not replicate East Asia's industrialization model (which occurred in the second half of the twentieth century in a less globalized world with minimal tradability of services) Ethiopia's path forward could be one where its surplus labor is absorbed in manufacturing tied much more closely with emerging services that can potentialy absorb workers at higher productivity levels than in the primary sector.

Labor productivity growth in Ethiopia is mostly explained by improvements within each economic sector as opposed to structural change. Figure 1.8.1

FIGURE 1.7: Ethiopia: Labor Productivity, 1996–2011



Source: National Accounts Directorate, MoFED. Central Statistical Agency (CSA): HICES 1995/96, LFS 1999, LFS 2005, HICES 2010/11. WB/WDI. See Martins (2014) for details.

divides the labor productivity effect into two separate components: "within" and "between" sector contributions. The "within sector" effect refers to improved output per person in sectors such as agriculture or manufacturing, i.e. that workers within each sector have become more productive. The "between sectors" effect is what has been previously described as structural change. It reflects the move of workers from low productivity sectors (e.g. agriculture) to high productivity sectors (e.g. services). The results show that about 80 percent of the improvements in output per person over the past 15 years were due to "within sector" productivity gains. Structural change, or "between sector" productivity gains, explain 11 percent, while a higher employment rate account for the remaining 10 percent.

Ethiopia's degree of structural change compares well in an international perspective. A study by McMillan and Rodrik (2011) concludes that the Africa region is experiencing negative structural change implying a shift of workers from high productivity to low productivity sectors.[13] This process obviously undermines sustained economic growth and economic development.

Encouragingly, this study ranks Ethiopia as the second highest performer in the sample of 38 developed and developing countries in terms of positive structural change for the 1990–2005 period (at 11.2 percent), although this may be at the higher end owing to data issues.[14] When compared to Korea's golden period (1970–90), it is noted that Ethiopia's pace of structural change is much slower. The contribution of structural change to output per capita observed in Korea was 28.3 percent (Figures 1.8.3 and 1.8.4).

Given the large size of the agriculture sector, it is imperative that continued efforts are made to make the sector more productive. The agriculture sector is, by far, the biggest employer in Ethiopia and the second largest in terms of output. The sector also accounted for most of the net employment growth over the period of analysis. Although some labor shifted out of agriculture, substantial shifts are likely to take a long time. As a result, further labor productivity improvements in the sector are indispensable for Ethiopia's prospects for continued improvements in total labor productivity, and living standards.

Ethiopia faces considerable challenges in terms of achieving development through manufacturing or "industrialization." First, the sector remains relatively small both in terms of output and employment. Second, the manufacturing share of output remained constant over the past 15 years, while the employment share declined. Third, the sector has the second lowest labor productivity level amongst major sectors, only twice as high as agriculture. Fourth, manufacturing labor productivity growth was the lowest among all sectors since 1995. Fifth, the GDP per capita share of manufacturing and industry is among the ten lowest in Sub-Saharan Africa, as illustrated in Figure 1.8.2 (the size of the bubbles reflects GDP per capita). Finally, the contribution of manufacturing to structural change was quite small (Figure 1.8.6).

On the other hand, the services sector has demonstrated considerable potential for Ethiopia over the past 15 years, including through its contribution to structural change. The services sector is the largest in terms of economic output and is the second largest employer. It accounts for most of the structural shifts in output and labor away from agriculture since 1995. Levels of labor productivity are relatively high and labor productivity growth has been substantial. This implies that the structural change has been dynamic in Ethiopia. Finally, the services sector has been the major driver of structural change in Ethiopia over the past 15 years (Figures 1.8.5 and 1.8.6).

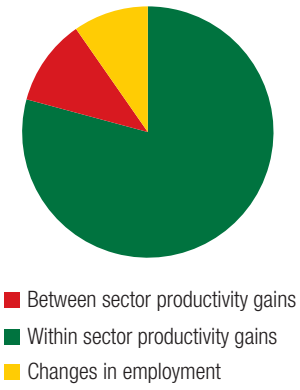
In sum, Ethiopia needs to move forward across all sectors in terms of boosting labor productivity. Agriculture productivity improvements are

[13] However, a recent revision of the estimates for sub-Saharan Africa does suggests a more positive picture for the period between 2000 and 2005—see AfDB et al (2013).

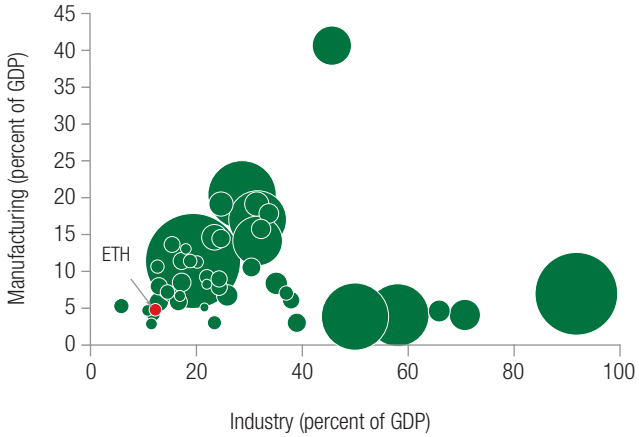
[14] McMillan and Rodrik (2011) use the 1994 Census data for Ethiopia, which estimates the share of agricultural employment at 90 percent compared to only 81 percent in HICES 1995/96 and 80 percent in the 1999 Labor Force Survey. Another regional study by de Vries et al. (2013) does not use the latest available data for Ethiopia. Readers are referred to Martins (2014) instead.

FIGURE 1.8: Ethiopia: Labor Productivity and Structural Change, 1996–2011

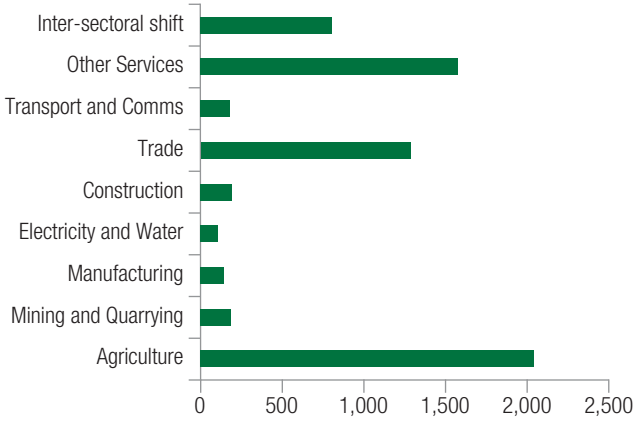
1. Sources of Output Growth per Person (1996–2011)



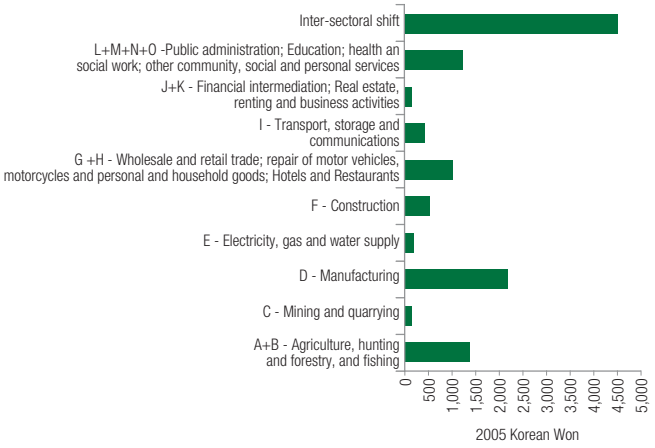
2. Industry and Manufacturing in SSA



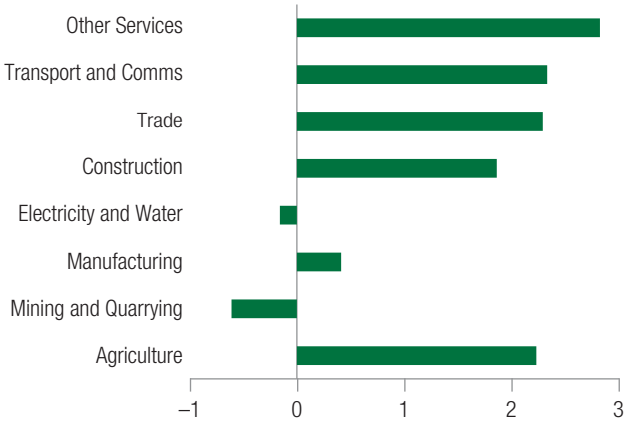
3. Labor Productivity Growth Decomposition, Ethiopia 1996–2011



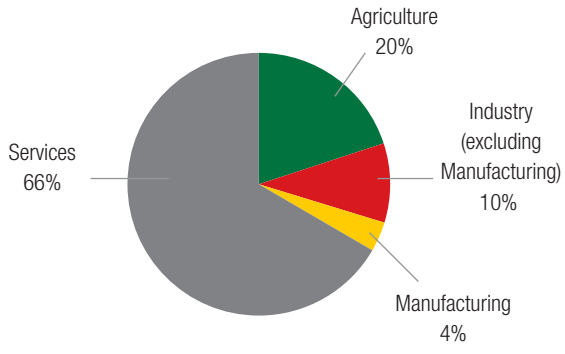
4. Labor Productivity Growth Decomposition, Korea 1970–1990



5. Contribution to Structural Change (Inter-Sectoral Labor Productivity) by Sector (%)



6. Contribution to Structural Change (Inter-Sectoral Labor Productivity) by Sector (%)



Source: National Accounts Directorate, MoFED. Central Statistical Agency (CSA): HICES 1995/96, LFS 1999, LFS 2005, HICES 2010/11. See Martins (2014) for details.

indispensable, as the majority of the labor force will continue to work in the sector. Manufacturing growth is essential for structural transformation, but given the size of the sector, even very high growth in this sector will not result in large shifts of labor away from agriculture. The services sector is also of high importance given its potential for structural change and positive properties in terms of labor productivity levels and growth.

EXPORT PERFORMANCE AND COMPETITIVENESS

2

Ethiopia's development model is partly inspired by the East Asian experience that realized high economic growth through the development of new export sectors and government-led development investments. No doubt, exports played a major role in East Asia, and developing a larger export base in a market-based system provides a unique opportunity for Ethiopia. However, the country's exports measured in percent of GDP falls short of reaching the heights seen in Korea, China, or Vietnam during their development periods (World Bank 2012a). It remains unclear whether current export levels in Ethiopia in fact are sufficient to support the course of large-scale productivity increases and structural change mentioned in Chapter 1.

Expansion of exports is often behind spurts in economic growth. A thriving export sector helps align the domestic economic incentive structure with areas in which a country has comparative advantage. This is desirable from the perspective of resource allocation. Furthermore, successful exports create dynamic efficiency gains by exploiting economies of scale, adopting best practice foreign technologies and business processes, and by being subject to higher international competition. Export sectors are also associated with productivity gains leading to wage premiums and job creation.

There is also a foreign exchange element of exports that is important for sustainable growth of an economy. Exports help finance imports, especially of capital goods, and enable countries to maintain a more favorable balance of payment situation. Ultimately this means that countries are in a better position to repay their external loans. Better availability of foreign exchange in an economy will also ease the overall financing burden for companies to trade. On the other hand, competitively priced imports used as inputs to the production process are an import part of overall competitiveness of companies.

Exports indeed appeared as a driver for economic development in Ethiopia over the past decade—but the export engine is sputtering. High export growth was one of many factors contributing to Ethiopia's economic takeoff since 2004. Although causation is always difficult to prove empirically, it is noteworthy that Allaro (2012) finds that exports "Granger cause"[15] growth in Ethiopia.[16] However, as highlighted in Chapter 1, Ethiopian exports are exhibiting their worst performance in a decade. Even if outside factors (e.g. declining prices) are partly to blame, it is important to introduce policies now that can improve competitiveness and boost future export and growth performance.

The challenge of development has become more complex since the rapid growth experience of the East Asian economies. While East Asia relied on manufactured exports for its growth, this course alone will not suffice for Ethiopia during an era of fast-changing modes of trade and production in the world economy. Growth and competitiveness today is increasingly linked to a tight complementary potential of exports *and* imports, as well as capital inflows, outflows, and domestic investment to enhance productivity in agro-based as well as classical manufacturing that increasingly draws on modern, competitive services as intermediate inputs.

[15] Granger causality means that one indicator (time series data) is able to forecast another.

[16] This finding is tempered by research conducted by Papageorgiou and Spatafora (2012).

This chapter analyzes Ethiopia's export performance according to four different dimensions, each modified analysis from the four key issues presented in the World Bank's Trade and Competitiveness Diagnostic Framework (Figure 2.1): (1) the intensive margin *(Growth of exports in agriculture, manufacturing, and services)*; (2) the extensive margin *(Structural transformation through diversification)*; (3) the quality margin *(Sophistication and quality)*; and (4) the sustainability margin *(Sustainability of the export sector)*.

In a second step, the chapter will look at export competitiveness issues underlying the performance pattern. To do so, the analysis will utilize the remaining elements of the Trade Competitiveness Diagnostics Framework and focus on three dimensions: (1) the incentive framework for trade; (2) factor inputs, productivity, and trade costs, and (3) proactive policies to promote trade (see lower part of Figure 2.1). A complementary section will look at the role of the exchange rate as a determining factor of export competitiveness.

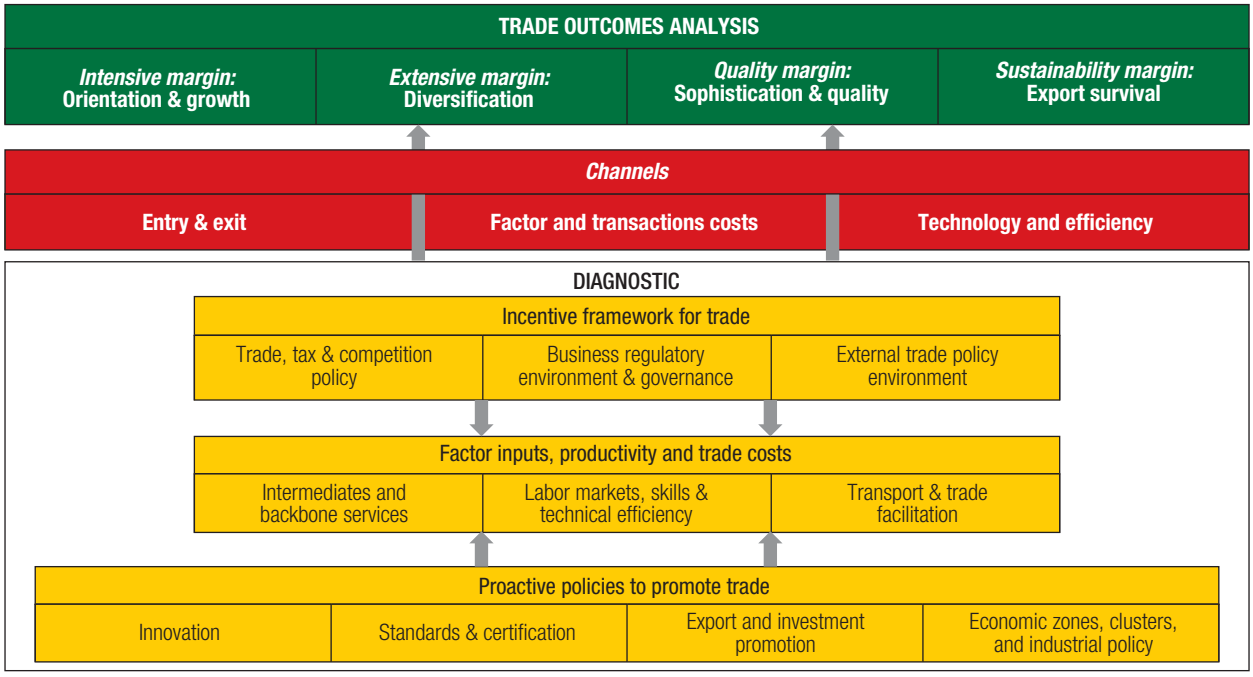
Export Performance[17]

Growth of Exports in Agriculture, Manufacturing, and Services

Rising exports contributed to Ethiopia's remarkable growth performance over the past decade. Buoyed by favorable external conditions, exports also helped create jobs and earn much-needed foreign exchange. The way Ethiopia created and nurtured a high-value horticulture industry and expanded its air services exports was an encouraging example of "self-discovery." A recent drop in export prices, however, has exposed underlying vulnerabilities in the export structure and highlighted the importance of strengthening competitiveness. Ethiopia is vulnerable to such price swings because unprocessed and undifferentiated agricultural products dominate its exports. While upward price trends since 2003 have had a positive impact on exports, the recent drop in prices of key commodities led to the worst performance in a decade. To overcome this challenge, renewed efforts must aim to improve competitiveness, including through value addition and export diversification.

[17] This section is based on background papers prepared by Wagle (2014) and by Ferro and Fernandes (2013). A product level analysis based on exporter level customs data shows dynamics within selected key products in Annex 4.

FIGURE 2.1: Trade Competitiveness Diagnostic Framework



Source: Farole, Reis and Wagle (2010); and Farole and Reis (2012).

Benefiting from a global commodities price windfall in the 2000s, Ethiopian exports grew at one of the highest rates in Sub-Saharan Africa. At an average annual growth rate of about 20 percent, Ethiopia's goods exports have doubled (in nominal terms) every four years since 2001/02. This puts the country in the top decile of developing countries in terms of high growth in non-mineral exports not only in Africa but also globally. Export growth benefited immensely from the surge in the price of Ethiopia's main exports like coffee and gold, as well as oilseeds, pulses, and spices. Figure 2.2.1 decomposes export growth into the price and quantity effects. The price effect is clearly dominant, yet there was also a positive quantity response to higher prices between 2003 and 2010. In the non-commodities sector, export growth driven by prices could be a reflection of rewards to improved quality. However, in the case of export baskets dominated by commodities, as in Ethiopia, export growth can be attributed more to worldwide movements in prices than intrinsic improvements in domestic productivity.

Most of Ethiopia's top exports are products for which world demand is increasing. Figure 2.2.2 compares Ethiopia's product orientation with respect to the average world growth rate of specific imports and individual markets. And indeed, most of its top exports are those for which world demand is increasing, including coffee, sesame seeds, soya beans, and footwear (left hand side of Figure 2.2.2). But how a country's industry is faring in international competition can also be gauged by its share in strategic markets, such as those that are expanding (and importing) rapidly (right hand side of Figure 2.2.2): With the exception of China, Turkey, Egypt, and India, Ethiopia's major export markets still lie in rich countries that are generally slow-growing (bubble size represents GDP of import destinations). Historically, most developing countries have grown by first exporting to rich countries, but it is also preferable to maintain a foothold in fast-growing emerging economies (in which case the regression line would ideally have been more positive).

Yet, the commodity export business is not particularly dynamic and promising for new and upcoming companies. For instance, incumbent (established) coffee exporters constitute around 70 percent of the total number of coffee exporters. The same is increasingly true in oil seeds and cut flowers. In the latter, the importance of entrants into the cut flower business as a share of total cut flower exports has declined from 15 percent in 2009 to less than 1 percent in 2012 (for more product level analysis see Annex 4). With the exception of the cut flower business, where foreign participation is allowed, the fact that trading coffee and cereals is reserved for domestic investors may explain some of the low level of new entrants into these areas.

At the same time, reliance on commodity exports is also a source of vulnerability to international price fluctuations. Food and beverages account for 77 percent of total goods exports, while agricultural raw materials and metals account for 8 and 6 percent, respectively (Figure 2.2.3). Manufactured exports account for less than 10 percent. As was seen in section 1 (Figure 1.4.3), declining international prices are the main reasons behind the recent poor performance of goods exports. Looking at price and quantity effects behind export growth rates show that export prices dropped so strongly (by 15 percent in 2012/13) that it could not be balanced by equally strong export volume growth.

Ethiopia's trade activity is not only determined by exports, but also by a disproportionate increase of imports—another source of vulnerability to the economy. Goods imports have always outstripped exports in Ethiopia, but the gap has been widening since around 2000. Over the past decade, the trade deficit as a share of GDP has consistently hovered between 16 to 22 percent. Driven by the need to purchase capital equipment for construction and industry, a higher share of imports is to be expected for low-income countries during a phase of rapid modernization. However, Ethiopia's imports, and consequently its trade deficit, are much higher than what has been seen in the past in other countries.[18]

[18] For instance, Vietnam's average trade deficit from 1991 to 2001 was 6.4 percent of GDP, in contrast to Ethiopia's 18.2 percent during 2002–2012. Since opening up, China has always run a trade surplus (except in 1993).

The unusually high trade deficit makes Ethiopia vulnerable to external shocks because private transfers (remittances) and official aid from abroad finance much of the imports.

Agriculture proved to be a driving force in output growth over the past 15 years, second only to services (see the "Long View" of Chapter 1 for details). At the same time agriculture is the sector in which most new employment was generated, with a share of more than 72 percent of the 11.6 million jobs created over the past 15 years. Yet, labor productivity advances are relatively low in the sector with growth rates at around 2.5 percent compared to 6.1 percent for the services sector and 5.4 percent in the trading sector. Given the large size of the agriculture sector, it is imperative that continued efforts are made to make the sector more productive. Indeed, relatively higher past productivity growth rates in the trading sector indicate the potential of advancing agriculture trade.

Ethiopia's expansion of horticulture marks a spectacular export success of the past decade. The cut flowers industry grew from one single firm in the year 2000 to about 100 firms today, contributing to export earnings to the tune of US$200 million (Dinh et al. 2013). Estimates are that the sector employs more than 50,000 individuals who, in turn, support the livelihoods of about 250,000 people. While over 80 percent of the flowers are destined for the Dutch auctions, there have been recent efforts to seek new markets. New routes opened by Ethiopian Airlines, such as South Korea and Singapore often determine the direction of this search. Indeed, a decisive factor in the exponential growth of the flower industry is the expansion of Ethiopian Airlines' cargo capacity and passenger flights. With a functioning air cargo system now in place, the experience of the flower industry could be relevant to developing new (diversified) export opportunities, which are in close "proximity" to flowers (see Annex 3).

The discovery of this new export activity is welcome against the backdrop of a nascent manufacturing industry. Cut flowers, which are classified as *agricultural raw materials*, can be expected to share more product characteristics with the processed foods category, which includes fresh fruits and vegetables, poultry, fish, and dairy products. These are known to fetch higher value in world markets than unprocessed agricultural commodities. They require some form of technological processing before being exported and are then typically subjected to stringent food safety standards. Processed foods are, therefore, distinct from traditional beverages (such as tea and coffee) and cereal grains (such as wheat, maize, or rice) which are generally exported in bulk.

There are three reasons why processed food, and by the same logic, horticulture, are important for export growth: First, income and price elasticity of demand for processed food are higher than most traditional primary agricultural products. Therefore, diversification of the export mix into this commodity category can nudge export growth combined with terms of trade gains. Second, the final stages of food processing are labor-intensive and help create jobs. Finally, processed food products typically have greater domestic input content and value-addition (Athukorala and Waglé 2011).

Ethiopia has a revealed comparative advantage in about 80 export products. Comparing the relative share of Ethiopian export sectors with corresponding shares for the world computes the Revealed Comparative Advantage (RCA). If the value of RCA exceeds one for a sector, the country is said to have "revealed" comparative advantage in that sector. In terms of major export sectors, Ethiopia has a revealed comparative advantage in two of eight, namely food and beverages (RCA: 9.8) and agricultural raw materials (RCA: 4.3).[19] Somewhat surprisingly, given recent foreign direct investment, the results suggest that Ethiopia does not have a revealed comparative advantage in apparel and footwear (RCA: 0.5). On the other hand, Ethiopia has augmented its

[19] The other major sectors include (RCA in brackets): Fuels, ores, metals (0.2), chemicals (0), material-based manufactures (0.5), machinery & equipment (0), other manufactures (0).

performance in this category compared to a decade ago where RCA was 0.1.[20] In three products, Ethiopia ranks among the top eight exporters in the world: fourth in cut flowers, second in sesame seeds and eighth in coffee beans.

Ethiopia's nascent manufacturing industries are beginning to grow rapidly from a low base. Sectors such as leather and footwear are attracting FDI. The Huajian Chinese shoe company came to Ethiopia in 2011 and started exporting to well-known brands in the United States. Another significant investor in this sector, George Shoes from Taiwan, is also expanding its export-related capacity. Figure 3.1 in Annex 3 illustrates the location of several leading and emerging exports from Ethiopia on a network that connects pairs of tradable merchandise goods that are co-exported by a large number of countries. This product space analysis identifies several exports that could potentially be scaled up in Ethiopia given the capabilities they share with products already exported, or other desirable properties they have such as inherent complexity or high demand in world commerce.

Manufacturing exports have been positively affected by changes in the global trade regime and the introduction of new trade preferences. Within manufactures, those products more closely related to the primary sector (such as leather and wood) are the most significant. In leather-related industries in particular (such as shoes and gloves), Ethiopia is beginning to nurture capabilities for higher domestic value addition. Compared to a decade ago, apparel and textiles have also become more prominent. This comes as no surprise because the period coincides with the end-2004 termination of the WTO Agreement on Textiles and Clothing, which ended quotas that governed global trade in garments for decades. The end of this distortionary regime led to a significant re-orientation of production locations benefiting low-income African economies like Ethiopia, which additionally benefit from generous trade preferences in the EU and the United States with a near-universal coverage of goods. In recent years, investors from Turkey have heavily invested in the apparel sector, as have the Chinese in footwear.

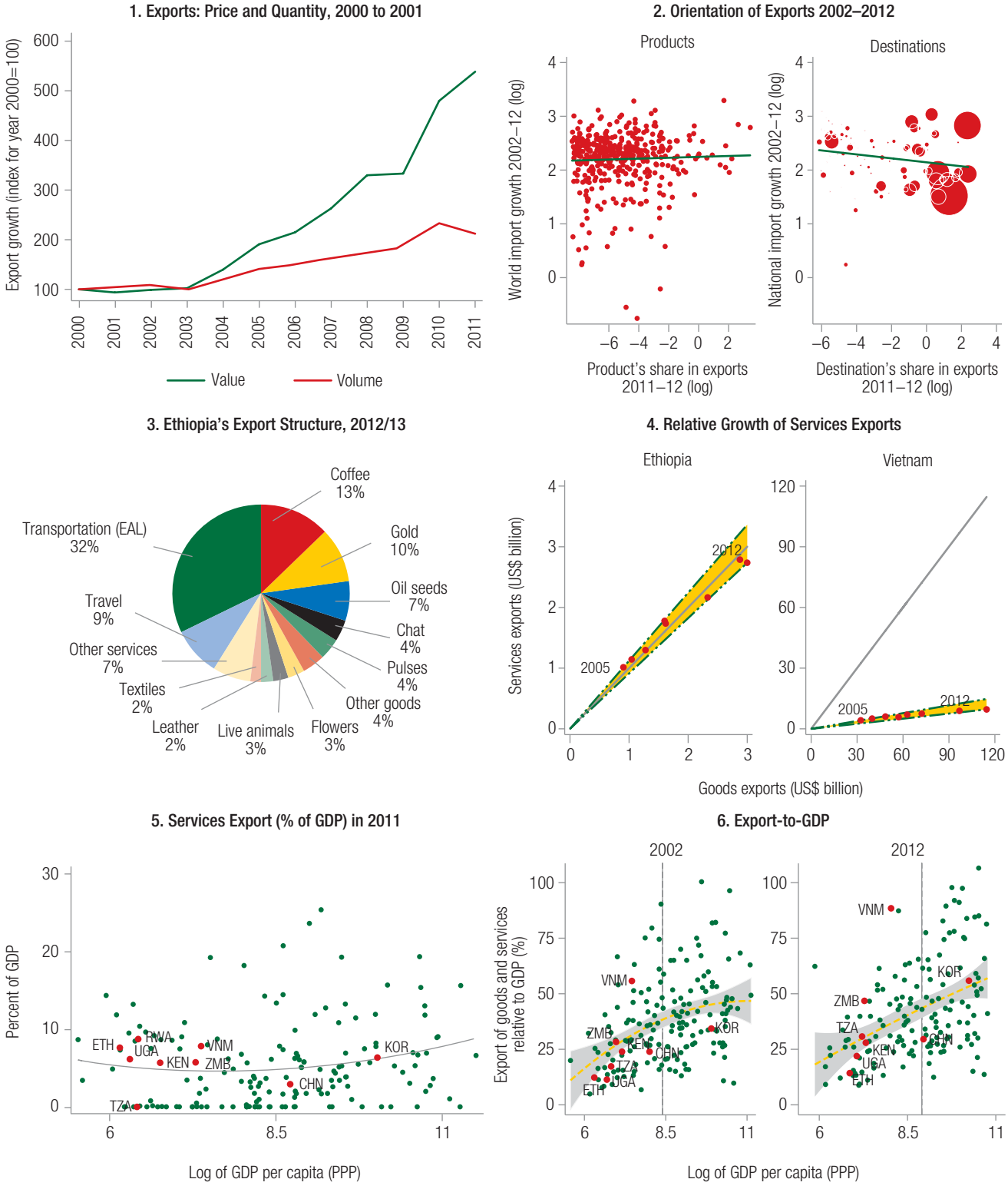
Services exports are booming largely due to Ethiopian Airlines. Ethiopia is among the few developing countries where services exports are as important as goods. Between 2005 and 2012, the services-to-goods export ratio hovered around one, implying that services exports were as large as goods exports (Figure 2.2.4). Services exports are dominated by transport (63 percent), followed by construction (15 percent), other business (10 percent), travel (5 percent) and insurance (4 percent). The majority of services export is attributed to Ethiopian Airlines, which is Ethiopia's biggest export earner—three times as big as coffee.

Ethiopia's services exports are higher than those of countries at its own level of development. Figure 2.2.5 illustrates the results of a regression of the services exports-to-GDP ratio on the GDP per capita in a cross-country sample. Ethiopia is located above the regression line, as are several of its peers. As countries develop, the share of services (relative to value-added as well as exports) is expected to increase. While the share of services value added has increased over the past decade (see Chapter 1), this was not the case for services exports as illustrated in Figure 2.2.4. Other developing countries with large trade expansion often owe their success to growth in goods exports, which has also not been the case for Ethiopia. In sum, while Ethiopia's performance in services exports is noteworthy, it also accentuates the converse: the degree to which Ethiopia under-exports goods. Indeed, when the dominant export of transport services is excluded, the share of services exports to GDP falls from 7.6 percent to 2.8 percent, and Ethiopia's performance is no longer an outlier for a country at its stage of development.[21]

[20] This confirms an important caveat about the RCA Index that it is only a 'static' measure of competitiveness. It says little about the future, and cannot tell which sectors are less promising over time.

[21] When export of transport services is excluded, Ethiopia's performance is in line with that of Kenya and Rwanda, but below Uganda.

FIGURE 2.2: Growth and Orientation of Exports



Source: (1) and (2): WDI and UN Comtrade. (3) WB Services Trade Database. (4) UN Comtrade. (5) CEPII, WDI and UN Comtrade. (6) WDI and UN Comtrade.

Structural Transformation through Diversification

Ethiopia's export sector is currently too small to contribute to structural transformation. In East Asia, booming (manufacturing) exports helped shift economic activity and workers away from low-productivity agriculture into higher-productivity manufacturing and sustain high rates of economic growth for decades. In Ethiopia, both exports and the manufacturing sector remain relatively small: it has the lowest ratio of merchandise exports to GDP among populous countries in the world. The country has 1,800 exporting firms compared to 4,600 in Kenya (with half the population). Average exporter size is small (US$1.2 million versus US$4.1 million in Zambia). The Ethiopian manufacturing sector accounts for only 4 percent of GDP.

Ethiopia has a relatively closed economy, though trade openness has increased substantially over the past decade. Exports and imports of goods and services as a share of GDP increased from 37.5 percent in 2001/02 to 48.7 percent in 2011/12. Ethiopia's degree of international integration lags behind countries such as Kenya and Tanzania (74.9 and 79.8 percent of GDP, respectively) while it exceeds that of Rwanda (45.2 percent). In fact, Ethiopia has the lowest goods export-to-GDP ratio (7 percent) among populous developing countries.

The country appears to under-export goods and services by over 10 percentage points of GDP. This insight is derived from Figure 2.2.6, which illustrates a cross-country regression model of the exports-to-GDP ratio on GDP per capita controlling for population size and the cost of exporting. For a country of Ethiopia's size and location, there is substantial potential to increase exports further.

Ethiopia's small manufacturing sector implies that the domestic economy is not yet sufficiently well diversified to wean exports away from agriculture. Ethiopia has one of the highest shares of agriculture in GDP in the world (47 percent in 2011–12). While the share of services in domestic value-added is moderately high for a developing country, the contribution of manufacturing is negligible. The combined share of manufacturing and services has increased only modestly over the past decade, as discussed in the "Long View" section of Chapter 1 and illustrated in Figure 2.3.1.

Export diversification matters for growth. While Ethiopia's recent success in horticulture and progress in labor-intensive light manufacturing augurs well the eventual modernization of the economy, there is much room for transformation towards higher-productivity manufacturing, as well as services. It matters if countries earn high export dollars from a domestic production base that is well diversified (rather than a narrow basket of sectors) because the former can expect a more sustainable growth pattern. McKinsey (2010) argues that as countries develop and increase real export per capita, they tend to meet both the objectives of earning foreign exchange to finance capital imports needed for investment, and developing a diverse source of growth away from natural resources and agriculture.[22]

The challenge for Ethiopia is to further diversify the economy and boost exports. This point is illustrated in Figure 2.3.1 (right panel), which plots countries in terms of their shares of service and manufacturing sectors and exports per capita. The diagram is then split into four quadrants, using the median values of the two indicators. The long-term implication for development policy is to nudge countries like Ethiopia in the northeast direction towards Korea, China, Vietnam, and Kenya.

Ethiopia has experienced modest export diversification over the past decade. Figure 2.3.2, illustrates the Hirschman–Herfindahl (HH) index, which is the sum of squares of the shares of export of a country in its total exports. A country with a perfectly diversified export portfolio will have an index close to zero. Ethiopia has a degree of export concentration in line with what is expected given its level of development. Encouragingly, aggregate exports have diversified over the past decade in terms of product composition, unlike in Tanzania or Zambia.

[22] See also Lederman and Maloney (2012) who demonstrate the importance of export diversification, even for countries such as Costa Rica (in the case of Intel semi-conductors). Rodrik (2013b) also stresses the importance of diversification for economic growth in low—and middle-income countries.

However, in terms of products exported per firm,[23] the measure of export diversification is lower than in peer countries. Ethiopian firms export on average less than 4 products which makes them the least diversified among firms in East Africa (Figure 2.4.1) such as Kenya, which exports on average 8 products. The diversification per exporter also appears to have declined over time in Ethiopia, from 4.4 in 2009 to under 3 in 2012 (Figure 2.4.2). In terms of the average number of markets served by each firm, Ethiopia's ratio of 2.4 compares well with countries at similar levels of development, and has increased over the past few years.

Five percent of firms in Ethiopia account for about 65 percent of the country's total exports. This ratio is lower than in Zambia (97 percent), Kenya (79 percent) and Uganda (73 percent). The top 5 percent also have annual exports above US$5 million; however, the majority of exporters have total exports lower than US$100,000 (Figure 2.4.3). Figure 2.4.4 shows that large-sized firms make up most of total exports in Ethiopia. What is noteworthy though is that although the big firms dominate exports, in terms of overall distribution, Ethiopia's exporter firms are less concentrated by size compared to Zambia or Tanzania where more than 90 percent of exports are accounted for by firms with annual exports above US$5 million.

The number of exporters has been on a declining trend since 2010. Overall, Ethiopia's number of exporters is not significantly different from that of its peers after controlling for income per capita, size and time trends. Ethiopia has on average fewer exporters than Tanzania and Kenya but more exporters than countries like Zambia, Botswana, or Uganda. In fact, Ethiopia experienced an important expansion in the number of exporters from 1,475 in 2008 to 2,033 in 2010 (an increase of 27 percent). But between 2010 and 2012 the number of exporters declined again by about 10 percent (Figures 2.3.3 and 2.3.4).

Not limited to export businesses, Ethiopia has mainly low level entrepreneurs to support a growing economy and supply jobs. Generally, the more developed a country is the more entrepreneurs a country has (Figure 2.3.5). In a cross-country comparison with 100 countries, however, Ethiopia has lower-than-expected entrepreneurs, lagging behind countries such as Uganda, Kenya, Rwanda, and Zambia.

Sophistication and Quality

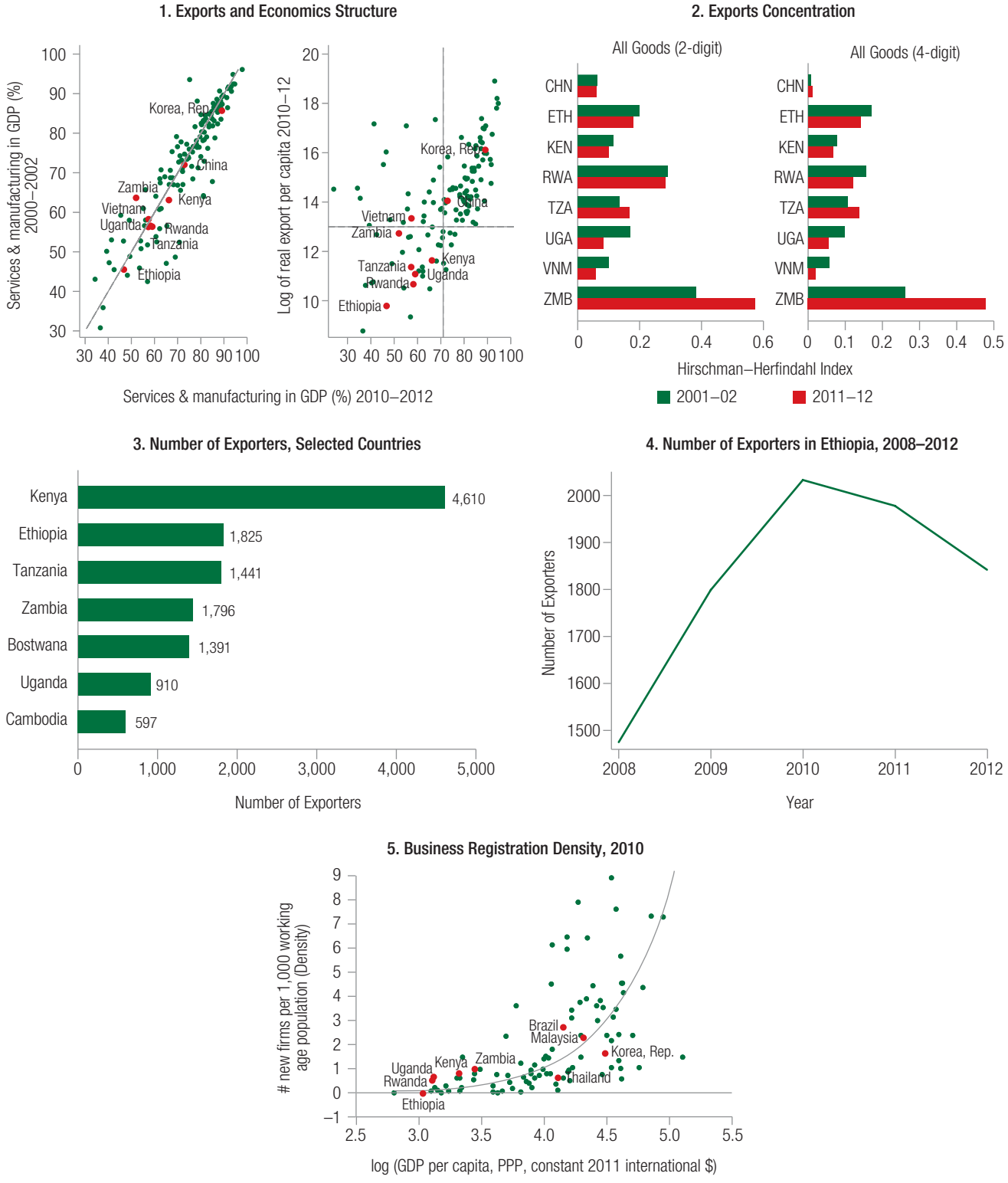
More than "what" is being exported it is the "how" that is hindering potential. There is scope for improving the quality of existing commodity exports, through basic value addition, such as coffee wet processing or machine flaying of animal skins. Even in products with a revealed comparative advantage, little upgrading or branding has occurred to earn higher value per unit over time. By starting to compete on the quality of existing commodity exports (and not just on price), Ethiopia can reduce sensitivity to volatile international prices thereby supporting the gradual shift of production and exports into agro-processing and light manufacturing.

More than "what" is being exported, it is the "how" that is hindering potential. Semi- or unprocessed agricultural goods dominate Ethiopian exports. In the short run, there could be a greater focus to augmenting value in existing exports. Take coffee: Ethiopia exports green beans, over two-thirds of which are sun-dried but not wet-processed (washed or semi-washed), yet wet-processed beans are cleaner and earn a significant mark-up. There is almost no roasting in-country, which the European importers do instead. Roasting increases the value of beans by about 200 percent.[24] In cut flowers, use of higher quality packaging dramatically increases prices, but value can be unlocked with better management of freight and the cold chain. Instead of exporting live animals, processed meat is more lucrative (while retaining hides and skins for the leather industry), yet HACCP and

[23] Measured as the average number of exported HS 6-digit products per exporter.

[24] Coffee exporters in Addis Ababa say that roasting involves specialized knowledge about demand for specific tastes and blends by location, which the European importers have mastered; they source a diverse range of coffee (including robusta) and use their knowledge to blend coffees in profit maximizing ways. Roasting is also a machine-dominated activity, and low wages alone would not be sufficient to lure them to locate in Ethiopia. Once roasted, coffees lose flavor quickly, so efficient trade logistics becomes critical.

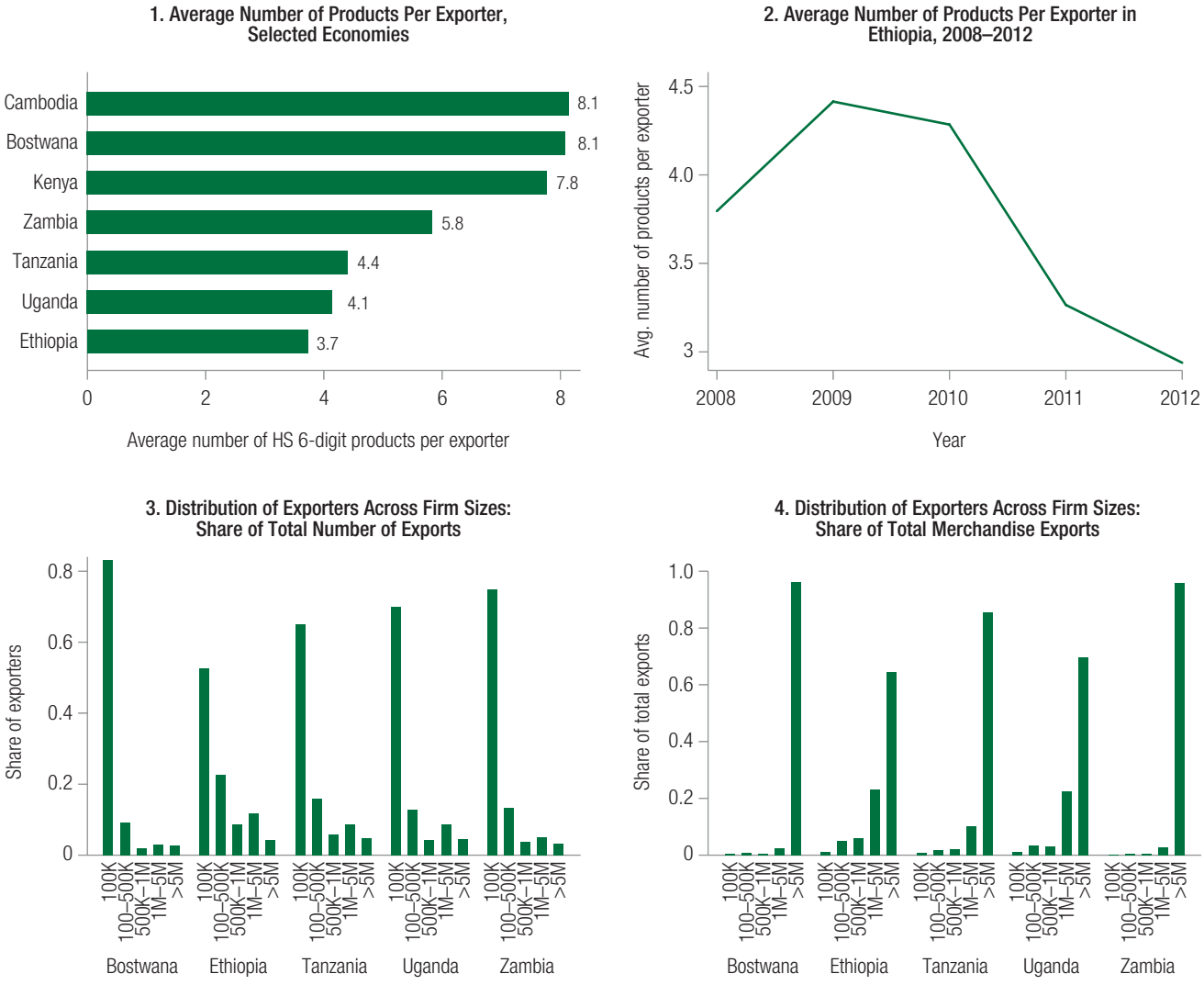
FIGURE 2.3: Export Diversification and Number of Exporters



Sources: Authors' calculations, based on data from UN Comtrade, and the Exporter Dynamics Database, Entrepreneurship Snapshots (2010), and World Development Indicators (2010).

Note: Figures 5 and 6 show averages for the time periods: 2008–2012 for Ethiopia, 2007–2011 for Tanzania and Zambia, 2007–2010 for Botswana and Uganda, 2006–2009 for Kenya, and 2007–2009 for Cambodia.

FIGURE 2.4: Size Distribution of Ethiopian Exporters



Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graphs 1, 3 and 4 show the following averages: 2008–2012 (Ethiopia), 2007–2011 (Tanzania and Zambia), 2007–2010 (Botswana and Uganda), 2006–2009 (Kenya), and 2007–2009 (Cambodia). Graphs 5 and 6 are based on data for the year 2010 for all countries.

ISO standards are generally not met. Further, most animal skins are hand-flayed, whereas machine-flayed skins generally earn 20–30 percent more in value (Sutton and Kellow 2010).[56] Processing of the tons of oilseeds, pulses and spices is also minimal, with most products largely exported raw. These are not new observations: value-addition has been a mantra for years, yet progress has been slow. Sometimes good intentions have backfired: the government introduced a 150 percent tax on the export of crust leather with a view to encouraging domestic value-addition. However, because the quality of leather treatment is not yet of high standard, value of leather is lost.

Almost none of the exports in which Ethiopia has a Revealed Comparative Advantage can be considered complex. Product complexity is based

[25] It is important to note that machine flaying of animal skins requires the operation of modern meat processing plants or use of abattoirs towards improving supply to both meet processing and tannery industries. These are not readily available in Ethiopia.

on a function of two variables: *diversity* (how many products does a country make?) and *ubiquity* (how many countries a product is made by?). The empirical observation is that a product made by only a few countries (that also have the capability to produce many other products) tend to be complex. Similarly, products made by many countries that produce few other products tend to be less complex (Hausmann et al. 2011). Only 3 of Ethiopia's 71 export products in which it has a revealed comparative advantage have above-average complexity. They are all material-based manufactures: *yarn of regenerated fibers* (SITC: 6517), *continuous regenerated woven fabrics* (6535) and *polishing stones* (6631). Conversely, all of Ethiopia's top 20 exports (accounting for over 90 percent of export earnings) are in the bottom half of the Product Complexity Index, with the most important products (coffee, sesame seeds, fresh/chilled vegetables, legumes, and flora) deemed least complex globally.

Ethiopia has a high potential to expand or upgrade export sectors where the core competencies (land, labor, capital, and institutions) are similar to those already acquired. Figure 2.5.1 plots all of Ethiopia's goods exports along two dimensions: how complex (y-axis) they are, and how proximate (x-axis) they are in terms of productive knowledge to the basket of goods with revealed comparative advantage (colored in blue). Product proximity is the degree to which each of Ethiopia's export products shares a common productive knowledge with the basket of goods that are comparatively competitive (RCA>1). The closer a product is to the portfolio of existing goods that are competitive, the easier it would be for a country to acquire the capabilities to scale up exports. In the case of Ethiopia, there are more than 400 exports (below the average proximity index of 15) that are "near" existing exports with a revealed comparative advantage. In other words, hundreds of exports share close and complementary productive knowledge with goods that are already competitive. This suggests that, with the right incentives and business environment, many of these exports have the potential to grow and become competitive in the future, possibly by building upon existing know-how and adopting better technologies.

The income content of Ethiopia's export basket is slightly less sophisticated than expected given its levels of development. In Figure 2.5.2, Ethiopia's export basket is shown to be slightly poorer than what its average per capita income suggests. This is based on one of the measures of export sophistication (EXPY), which assesses the export baskets of countries by the incomes of countries that produce similar products, weighted by the share of those exports in the national basket.[26] The sophistication of Ethiopia's exports is comparable to that of peers like Rwanda and Tanzania and ahead of Zambia, but behind Uganda, Vietnam, and China. This reflects, again, the domination of Ethiopian exports by agricultural products not exported by many rich countries—the lower income content of such products drags down the average sophistication of the export portfolio.

This is of importance because export sophistication is a good predictor of future economic growth. As shown by Hausmann and Klinger (2007), countries like Vietnam and China that have more sophisticated export baskets than expected for their level of income grow faster and "become what they export." That is they specialize in activities that are more typical of rich countries today. Such countries are located above the line in Figure 2.5.2. The implication for countries like Ethiopia is that growth would require the discovery of new, more sophisticated export activities. This could mean going beyond enhancing productivity in existing activities, and indeed putting a disproportionate focus on discovering new export activities (Klinger 2010). Encouragingly, Ethiopia has done this before: the discovery and nurturing of the horticulture industry is a textbook example thereof.

Goods with low human and physical capital dominate the factor content of Ethiopian exports.

[26] EXPY is preceded by the calculation of the "income content" of products (PRODY). It is calculated by using the method of Hausmann et al. (2007). EXPY is the weighted sum of the PRODY of all the products a country exports. Higher EXPY means the country has a larger share of more sophisticated (high PRODY) products.

The two diagrams in the top of Figure 2.5.3 plot the physical and human capital content of Ethiopia's export basket in 2002 and 2012. The size of the bubbles reflects the relative importance of each product in total goods exports. The dashed reference lines are the median values of revealed human and physical capital. In 2002, most of Ethiopia's big export earners utilized substantially less physical and human capital than the median. By 2012, the median values of capital content had increased modestly. While some major exports with low-to-medium capital content have disappeared between 2002 and 2012 (bottom left diagram), there is some dynamism on the "new export" front (bottom right diagram). In other words, new exports are numerous, and a few major ones are moderately intensive in physical and human capital.

Ethiopian exports generally do not embody any modern technology. The dominance of primary/agricultural exports is manifest in yet another indicator: the technology content of final exports. Ethiopia's absence of foothold in medium-to-high technology intensive manufacturing ranks it alongside countries like Zambia that are also highly reliant on primary commodities (Figure 2.5.4). Compared to China and Vietnam, or East African countries, Ethiopia's share of exports with a medium to high degree of technology content is conspicuously low. The caveat here is that in an era of global production sharing, technological groupings of high-tech and medium-tech products may be misleading, as a country may export supposedly high-tech goods (like computers), but its role may simply be in the final stages of low-value-adding assembling operations. Similarly, Ethiopia's success in the export of skill-intensive floriculture or processed foods is under-stated by this indicator given the assumption that agricultural exports are less technology-intensive.

Despite the dominance of homogenous exports with little room for quality differentiation, Ethiopia has made inroads into the European market while sustaining relative quality. Figure 2.5.5 plots the change in the relative quality of Ethiopian exports and the change in their market share in the EU. Of the 12 products with a market share of over 0.1 percent, Ethiopia increased both the market share and relative quality in 6 of them; gained market share but lost relative quality in 3; and lost on both aspects in 3 (including sesame seeds). One reason that there is not a more noticeable increase in relative quality of exports is that most of Ethiopia's exports are homogeneous goods rather than reference-priced or differentiated goods (Rauch 2006). The first two groups include commodities that are traded in organized exchanges or whose reference prices can be obtained from trade publications (without even knowing the name of the manufacturer). The examples of products in this category are agricultural commodities, metals, and chemicals. The price of differentiated goods, on the other hand, varies with the brand of the manufacturer. As countries become richer, they tend to specialize more in differentiated products that present room for product upgrading and earning of higher value per unit.

Sustainability of the Export Sector

The business environment favors incumbent firms and deters new entrants into export businesses, and even so, no "export superstars" are emerging. The export sector lacks dynamism in terms of firm entry and exit. Rather than increasing in scale, growing from small to large, new entrants to the export market are already often relatively well established in other businesses such as trading. This may be due to the fact that smaller firms have limited access to credit, which would have allowed them to increase the scale and scope of their activities. This is a challenge because rising and dynamic firms often generate more new jobs than established firms. Other factors such as low entrepreneurship and low regulatory quality in terms of promoting the private sector may also explain this. Despite a favorable environment for incumbents, they are yet to emerge as multi-product and multi-destination export superstars.

The business environment favors incumbent firms and deters new entrants into export businesses. The *average* size of exporters is much lower in Ethiopia (US$1.2 million) than countries like Botswana (US$3 million) and Zambia (US$4.1 million), but comparable to Kenya and Uganda (Figure 2.6.1). The *median* size of exporters, however, is much higher than all comparator countries

FIGURE 2.5: Export Sophistication and Survival

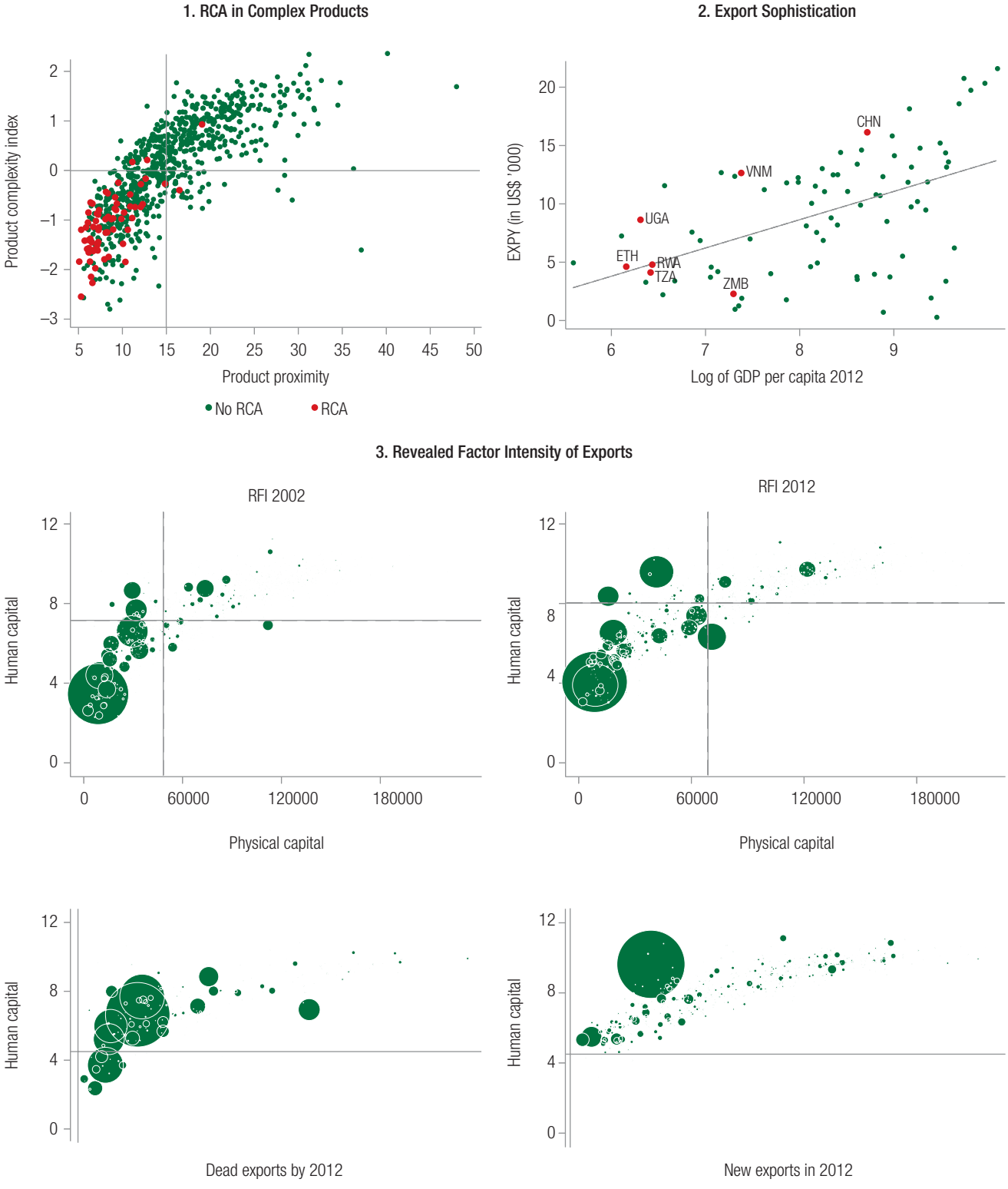


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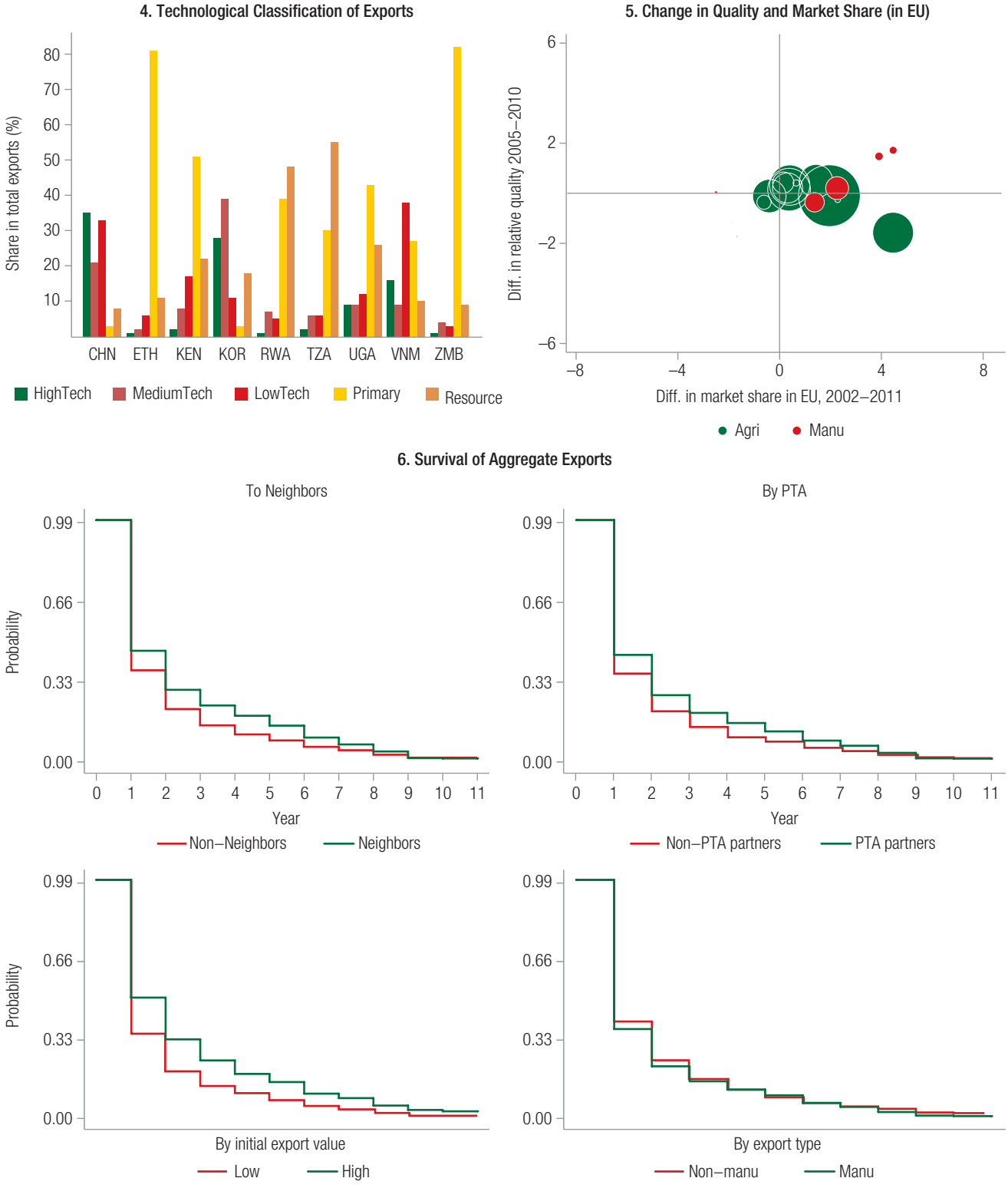
FIGURE 2.5: Export Sophistication and Survival *(continued)*



Source: (1) The Observatory of Economic Complicity and Comtrade. (2) UN Comtrade. (3) UNCTAD. (4) WDI. (5) CEPII and UN Comtrade. (6) UN Comtrade.

in Africa (Figure 2.6.2). This difference between the mean and the median suggests a skewed distribution of exporters in terms of size in Ethiopia—but one that is not as dramatic as in most other countries. The ratio of the average and median exports is 500 in Botswana, 56 in Uganda and 39 in Kenya, compared to just 11 in Ethiopia. In other words, the degree of dissimilarity between the median exporter and the larger firms towards the top of the distribution is not as wide as elsewhere in the region.

The export sector lacks dynamism in terms of firm entry and exit, where exporter turnover is relatively low (Figures 2.6.3–2.6.4). On average, in a given year, 36 percent of Ethiopian firms that export did not do so in the previous year whereas 32 percent of Ethiopian firms that were exporting in the previous year stopped exporting. This indicates that there a relatively low level of "churning of exporters" (renewal of exporters) in Ethiopia. In fact, entry rates by Ethiopian firms into export markets have declined since 2008 while exit rates have been rising.

Low dynamism is also manifested through the fact that established and rather large companies engaged in exports from Ethiopia exhibit high one-year and two-year exporter survival rates. High survival rates are often seen in environments dominated by high fixed costs to enter the exporting business. High fixed costs are driven by a mix of factors in Ethiopia ranging from infrastructure and trade logistics (where individual companies may need their own fleet to transport their inputs and outputs) to low regulator quality to constraints on the credit market (where new market entrants of smaller size have a low chance of receiving finance from private banks). Smaller firms suffer most in a high fixed cost environment, and the few firms that are able to overcome high costs of entry are then those that are large enough to stay in business for a longer period. It is no surprise that this produces an environment where incumbent firms have relatively high survival probabilities beyond the second year.[27] The average size of entrants in Ethiopia is also big, with the median entrant nearly five times larger than in comparator countries. This, too, supports the view that entry costs are difficult for small firms to meet.

There is some variation in export survival rates depending on export types and size of initial exports. In Figure 2.5.6 the bottom left diagram shows that export spells that start big (with orders valued at least US$50,000) have higher rates of survival. This is consistent with the trade literature that associates survival patterns with search costs, and finds that higher initial export value conveys a degree of trust, and an investment already made in the supplier. The fourth graph (right, bottom panel) shows that export survival does not depend on broad product types: manufactured exports do not fare better in terms of survival than agricultural products. Given the nascent stage of Ethiopian manufacturing this is unsurprising.

Survival rates of new exporters are most promising in SSA and least promising in the United States. The one-year survival rates (at the firm-product-destination level) range between 40 and 50 percent while the two-year survival rates are much lower ranging from 20 to 35 percent (Figures 2.6.5–2.6.6). Despite the fact that the entrants' share of Ethiopia's exports to SSA in 2012 is the lowest among all destinations, those entrants perform comparatively well as their average one-year and two-year survival rates are the highest among all destinations. This is not too surprising given that product requirements are lower in SSA than in more sophisticated markets. Geographical proximity and cultural similarities also help. The EU seems to be a difficult market over the medium run, with the two-year survival rate of just 22 percent.

The reason that larger or established companies are dominating the export business may reflect the fact that smaller firms have limited access lack access to credit, which would have allowed them to increase the scale and scope of their activities preventing them from growing bigger. A forthcoming World Bank study on SME finance in Ethiopia shows

[27] This reasoning draws on recent trade models with heterogeneity across firms. See Bernard, Jensen, Redding, and Schott (2011) on the empirical implications of such trade models.

the existence of a "missing middle" phenomenon, whereby small enterprises are more credit constrained than either micro or medium/large enterprises. This may be explained on one hand 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) and on the other hand by the excessively high collateral requirements that often discourage 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.

Other factors such as low entrepreneurship and low regulatory quality in terms of promoting the private sector may also provide an explanation. Figure 2.3.5 showed earlier that Ethiopia has a very low level of entrepreneurs. At the same the dominance of state-owned enterprises in crucial economic sectors in Ethiopia is well known. This influences the intensity of local competition and the rigor and fairness with which anti-monopoly policy is applied including against state-owned firms that obstruct competition. These are issues in which Ethiopia ranks relatively low in the Global Competitiveness Report 2013–2014: its overall rank is 127 out of 148 economies, but on aspects of goods market efficiency such as "intensity of local competition," "extent of market dominance," and "effectiveness of anti-monopoly policy," the country ranks below average, at 133rd, 144th and 131st, respectively (Figure 2.7.2). There is empirical evidence on the link between effective competition policies and the expansion of an efficient private sector. Indeed, the best practice is not just implementing a legal framework for competition that targets market dominance, monopolistic collusion, unfair competition, and anti-trust investigations, but a broader set of regulations that cover legal enforcement, competition advocacy, and institutional effectiveness (Gill et al. 2014).

Despite a favorable environment for incumbents, they are yet to emerge as multi-product and multi-destination export superstars. Large firms often define exports from one country; well-known examples include Nokia in Finland, Samsung in Korea, and Intel in Costa Rica (Freund and Pierola 2012). But Ethiopian exporters are poorly diversified both in terms of products and destinations. They exhibit significantly lower numbers of HS 6-digit products exported per firm and significantly lower number of destination markets per firm than comparable countries. This poor diversification performance is also explained by the absence of a few highly diversified multi-product multi-destination export superstars dominating exports, a phenomenon commonly observed in other countries. In Ethiopia, exporters selling 4 or more products and serving 4 or more destinations account for 5 percent of the total number of exporters but for just 20 percent of total exports—a share which is substantially lower than those in comparator countries (the next lowest share is Uganda's 41 percent).

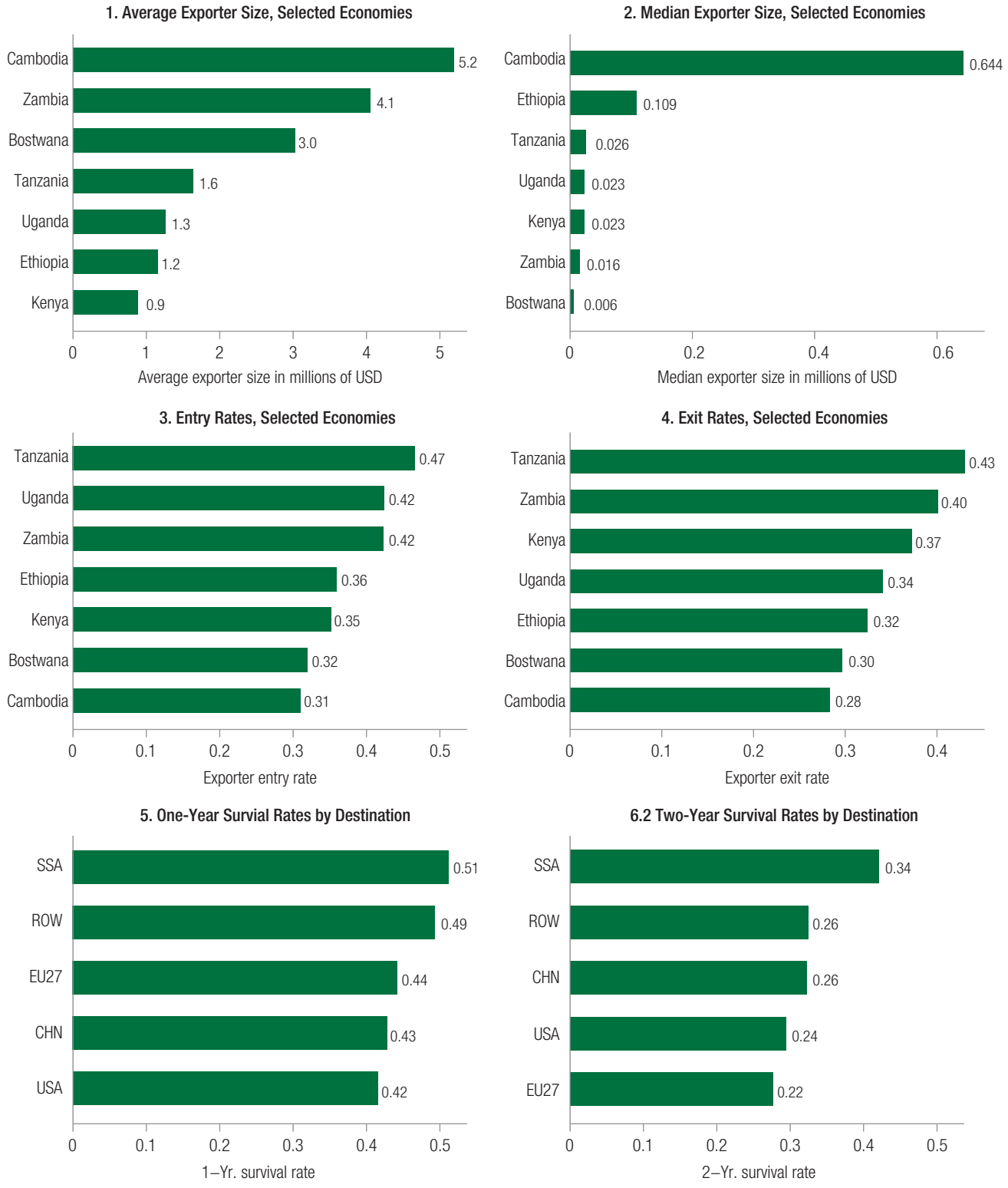
Export Competitiveness[28]

Incentive Framework for Trade

Ethiopia lags behind its peers in Global Competitiveness Rankings and its performance is on a declining trend. Although the country ranks better than its peers on theme-specific business regulatory measures such as enforcing contracts, its overall Doing Business performance is on the decline. Low regulatory quality also adds to the cost of doing business for exporters. Furthermore, Ethiopia has more trade restrictions in place than peers — its average nominal rate of protection is 25.3 percent. But high levels of nominal and effective rates of protection provide strong evidence of the widespread existence of an anti-export bias of the tariff regimes throughout the economy. At the same time Ethiopia is under-tapping a narrow window of opportunity for diversification through full exploitation of existing trade preferences.

[28] This section is based on background papers prepared by Wagle (2014) and Nguyen (2014).

FIGURE 2.6: Exporter Dynamics: Entry, Exit, Size and Survival



Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graphs 1, 2, 3 and 4 show the following averages: 2008–2012 for Ethiopia, 2007–2011 for Tanzania and Zambia, 2007–2010 for Botswana and Uganda, 2006–2009 for Kenya, and 2007–2009 for Cambodia.

Ethiopia lags behind peers in Global Competitiveness Rankings and its performance is on a declining trend. According to the 2013/14 World Economic Forum Global Competitiveness Report, Ethiopia ranks 127th out of 148 countries in the world. This is behind most of its peers in Sub-Saharan Africa such as Rwanda (66th), Zambia (93rd), Kenya (96th), and Tanzania (125th), but slightly ahead of Uganda (129th).[29] Ethiopia's ranking dropped by 6 places over the past year (Table 2.1). Figure 2.7.1 juxtaposes rankings in overall competitiveness with economy-wide complexity. Ethiopia is conspicuous for its low rankings on both dimensions. While Uganda is less competitive, it has a more complex economy; and while Zambia is less complex, it ranks much higher in overall competitiveness.

Ethiopia is facing challenges across all pillars of the Global Competitiveness Report. The country ranks among the top 100 only for its market size (67th), security (55th), and the quality of its institutions (95th), although the assessment of the latter has been falling over recent years. Furthermore, the country's goods (136th) and labor markets (108th) are deteriorating in the index; the lower performance in these areas is driven by an increase in procedures and time required to start a business. Increasing concerns about the quality of labor-employer relations (121st), and the alignment between pay and productivity (125th) add to the deteriorating labor market environment. Ethiopia also requires significant improvements in the areas of infrastructure (124th), higher education and training (137th), and technological readiness (139th). On the other hand, primary education with a net enrollment rate of 87 percent is comparatively good (although the quality of primary education is very low), and women account for a high percentage of the country's labor force.

TABLE 2.1: Overall Competitiveness Rankings

		2013–2014	2012–2013
		Rank (out of 148)	Rank (out of 144)
Ethiopia	↓	127	121
Kenya	↑	96	106
Tanzania	↓	125	120
Zambia	↑	93	102
Rwanda	↓	66	63
Uganda	↓	129	123
Vietnam	↑	70	75
China	↑	12	13
Rep. of Korea	↓	25	19

Source: Global Competitiveness Report (GCR).

Although the country ranks better than its peers on theme-specific business regulatory measures such as "enforcing contracts," overall Doing Business performance is on the decline. In terms of the narrower range of regulatory measures affecting the life cycle of small businesses, as measured by the World Bank Doing Business 2014 indicators, Ethiopia ranks higher than Kenya (129th), Uganda (132nd), and Tanzania (145th) out of 189 economies. Ethiopia's best scores are for enforcing contracts and dealing with construction permits.

Of concern for its business and trade performance, Ethiopia lags considerably behind in three areas: "starting a business," "protecting investors," and "trading across borders." In fact Ethiopia even shows a slight deterioration in these three indicators, from 162 to 166 over the 2013 to 2014 period in starting a business, from 156 to 157 in protecting investors, and 165 to 166 in trading across borders. As shown in Table 2.2, of the 10 indicators covered by Doing Business 2014, there was deterioration in ranking on six, no change in two, and an improvement in two indicators (getting electricity and resolving insolvency). Overall, Ethiopia dropped from 124 to 125 in the Doing Business Indicators between 2013 and 2014.

"Starting a business" measures the number of steps an entrepreneur can expect to go through to

[29] The index takes into account the following 12 components: institutions, infrastructure, macro-economic stability, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market sophistication, technological readiness, market size, business sophistication, and innovation.

launch a business, the time it takes on average, and the associated cost and minimum capital required to do so. Ethiopia is doing well on the time dimension, where it takes 15 days to start a business compared to 30 days for the Sub-Saharan average. The number of procedures is also only slightly higher than in the SSA average with 9 vs. 8 procedures. But costs are much higher in Ethiopia and drive down the overall ranking. The cost in percent of income per capita are 100 percent in Ethiopia vs. 67 percent in SSA; likewise, the paid-in minimum capital is 184 percent vs. 126 percent.

"Protecting investors" measures three dimensions to arrive at an index for the "strength of investor protection": "transparency of transactions," "liability for self-dealing," and "shareholders' abilities to suit management against misconduct." Ethiopia's overall index value is 3.3 vs 4.5 in SSA (the higher the better). The lowest values are in the "transparency of transactions" and "shareholders' abilities to sue management against misconduct" where Ethiopia's index shows 3 while the SSA average is at 5.

"Trading across borders" looks at importing and exporting a container and the number of documents it takes, the time required and its associated cost. (US$ per container). Ethiopia fares best in the number of required documents dimension and worst in the time dimension. There are 7 documents required to export (8 in SSA) but a shipment requires 44 days to export compared to 31 in the SSA average. Likewise, there are 10 documents required to import a shipment (9 in SSA), but it takes 44 days compared to 38 days in SSA. In overall cost, Ethiopia is in line with the SSA average container cost at US$2,180 per container to export (US$2,108 in SSA) and US$2,760 per container to import (US$2,793 in SSA).

Low regulatory quality adds to the cost of doing business for exporters. In the World Bank World Governance Indicators (WGI) 2012, Ethiopia scores best on government effectiveness (40 percent) and control of corruption (32 percent), where 100 percent performance implies best practice (Figure 2.7.3). It performs poorly on other aspects of governance, including regulatory quality (14 percent) with the lowest rank among all peer countries. This rating reflects the relative inability to formulate and implement sound policies and regulations that permit and promote private sector development. More specifically, regulations could be affecting the dynamism of the private sector by restraining entry and exit of firms subject to undistorted incentives in the marketplace. This hypothesis is lent credence by firm-level evidence from Ethiopia, which finds a low level of churning in export markets. Compared to peer countries in Africa, new entrants tend to be larger and have a higher rate of survival (at least for the first two years). This suggests that the business environment is characterized by high cost of entry. Encouragingly, Ethiopia scores better than Kenya, Tanzania, Zambia, and Uganda on the "governance effectiveness" dimension of the WGI.

Ethiopia has more trade restrictions in place than peers—its average Nominal Rate of Protection

TABLE 2.2: Doing Business Indicators for Ethiopia

	2014	2013
	Rank (out of 189)	Rank (out of 185)
Starting a Business	166	162
Dealing with Construction Permits	55	55
Getting Electricity	91	98
Registering Property	113	107
Getting Credit	109	105
Protecting Investors	157	156
Paying Taxes	109	103
Trading Across Borders	166	165
Enforcing Contracts	44	44
Resolving Insolvency	75	77
Overall Rank (Ease of Doing Business)	*125*	*124*

Source: Doing Business 2014.
Note: DB 2014 features two new economies: Libya, Myanmar, San Marino, and South Sudan.

is 25.3 percent. According to the World Trade Indicators, Ethiopia scores low on the latest MFN Tariff Trade Restrictiveness Index (TTRI)—109th out of 125 economies. The country's TTRI is currently 13 percent, above average for Sub-Saharan Africa (11.3 percent) or peers such as Kenya (8.2 percent), Tanzania (7.8 percent) and Zambia (9 percent). Agricultural imports into the country face higher barriers (16 percent) compared to non-agricultural exports (12.3 percent), where restrictions are low worldwide. Also of note are textiles and clothing—almost two-thirds of tariff lines are protected by the maximum tariff of 35 percent plus a surtax of 10 percent. The country's trade-weighted average MFN applied tariff is 17.5 percent.

The maximum MFN applied tariff (excl. alcohol and tobacco) is 35 percent, a significant reduction since the peaks of over 200 percent in 1991.[30] There are only six tariff bands. At present, commodities that enter duty-free are fertilizers, railway locomotives, and aircraft. Most machinery is charged between 5 percent and 10 percent duty, although those imported for investment purposes can have their duties waived as per the Investment Proclamation. To estimate the price raising impact of import taxation one method used is to calculate the Nominal Rate of Protection (NRP), which is the combined rate of ex post duty and surtax.[31] The average NRP for Ethiopia is 25.3 percent. The NRPs in agriculture, foodstuffs, textiles and clothing and footwear are all greater than 30 percent.

A generally high level of inward trade restriction is not helpful to export competitiveness if it restricts access to imported inputs at world prices. The model of "enlightened mercantilism" that guided trade negotiations for decades, with exports seen as desirable and imports as bad, needs now to be discarded to foster globally competitive private firms. Keen to develop its manufacturing sector, Ethiopia seeks to maintain relatively high tariffs for finished imports. As part of its accession negotiations at the WTO, it has sought to bind tariffs at about 1.5 times the current applied rate, seeing the wedge between bound and applied rates necessary to protect domestic producers from cheap imports. Ethiopia also continues to rely excessively on tariffs for revenue: among large developing countries, it has the highest share of customs and related import duties in tax revenue (45 percent in 2011 according to World Customs Organization).

In fact, high rates of protection on outputs combined with high transport costs change the profit incentives for producers by influencing which sector to invest in and which markets to serve. The Effective Rate of Protection (ERP) quantifies the combined effects of tariffs (or price distortions) on both inputs and outputs. The ERP measures the proportion by which an activity's value-added at domestic (protected) prices differs from that which would be the case in a non-protected (or the world) market. Protecting the domestic market effectively creates a bias in favor of domestic producers and discriminates against exporters through creating an anti-export bias.

High levels of Nominal and Effective Rates of Protection provide strong evidence of the widespread existence of an anti-export bias of the tariff regimes throughout the economy. An average NRP on products of 25.3 percent and tariffs of 15 percent (although in many cases they are rebated which will further increase the rate of effective protection) will result in significant anti-export bias across the likely range of technical coefficients (0.3–0.7) from 1.64 to 2.29 respectively.[32] The technical coefficient refers to the relationship between physical inputs (such as raw materials and intermediate products) and the physical output-the difference represents value added

[30] See this link for details: http://info.worldbank.org/etools/wti/docs/Ethiopia_taag.pdf

[31] In 2007 Ethiopia introduced a surtax of 10 percent to be levied on a large range of imports. Fertilizer, fuel, lubricants, commercial vehicles were exempted along with raw materials on which there is zero duty. The surtax aimed to raise revenue to reduce the government deficit. It is levied on all imports on an MFN basis.

[32] Sector level or firm level data on the technical coefficients (the value of inputs as a proportion of the value of outputs) is required to derive the Effective Rate of Protection. While this is not available for Ethiopia, evidence from the 2011 South African supply table indicates that in labor intensive manufacturing the technical coefficient may range between 0.6 and 0.75 (that is inputs account for 60–75 percent of the value of total production), and from 0.3 mining to 0.5 for agriculture.

(returns to factors of production-generally assumed to be wages and profits. With a technical coefficient of 0.3 it is 1.30 times more profitable to produce for the domestic market than sell all the production in the world market, and when the coefficient is 0.7 the anti-export bias increases to 2.29.

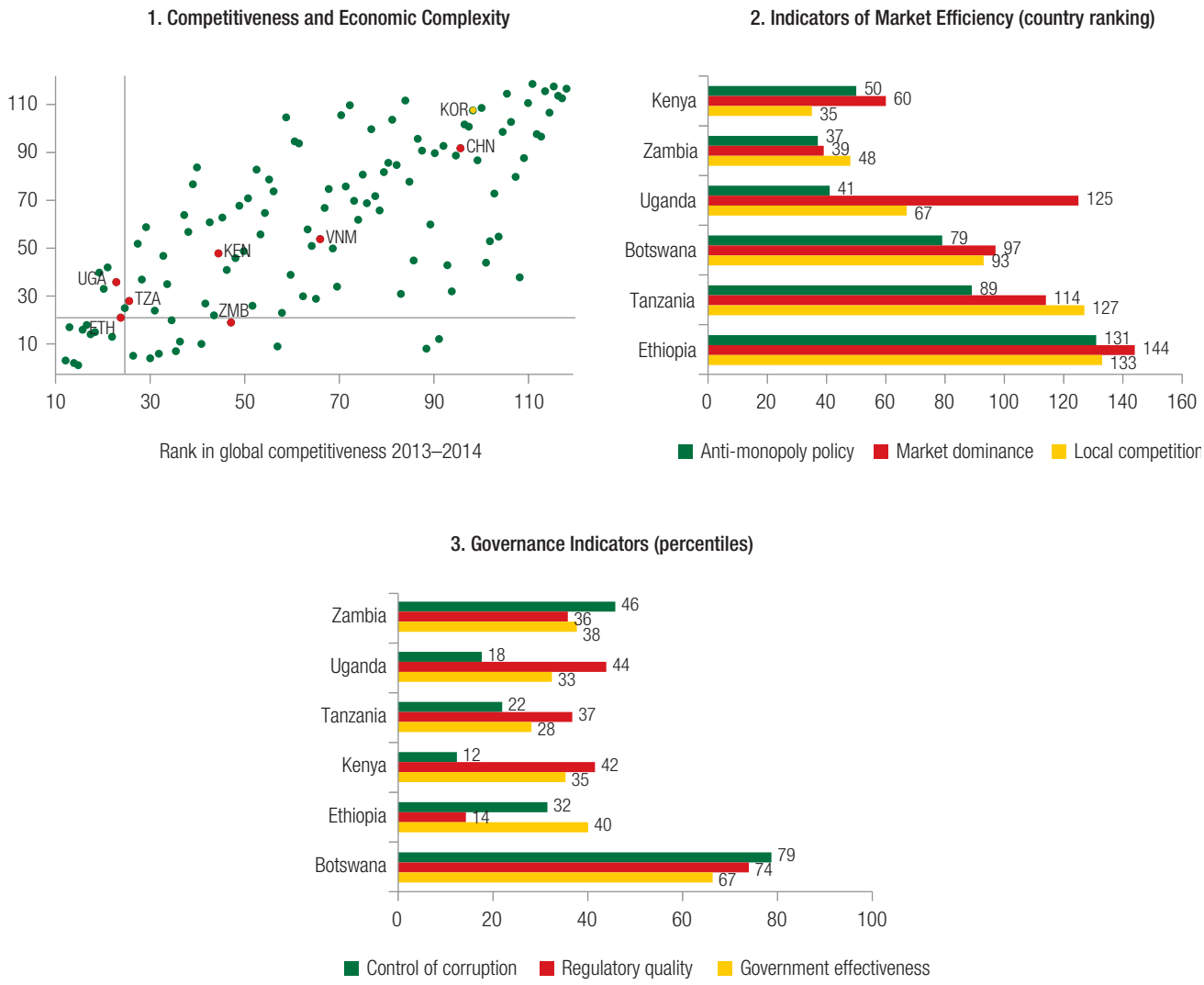
Recent moves towards seeking membership of COMESA are encouraging. As mentioned earlier, Ethiopia under-trades with several major economies in Sub-Saharan Africa. While intra-regional non-tariff barriers on the part of partners, such as Nigeria, often deter trade, Ethiopia has not negotiated preferential trade arrangements with regional trading partners, thereby facing tariffs in exports to nearby countries like Kenya, Uganda, and Tanzania. Indeed, in Africa, it has a free trade agreement (with zero duties on all goods) only with Sudan. It is one of the six countries (out of 19) that are not yet a Preferential Trade Area (PTA) member within COMESA, and the country has doubts about the application of the rules of origin. While there have been some problems within COMESA on rules of origin,[33] they are still deemed to be much simpler (a 35 percent value-added rule) than product and process-specific rules under the Southern Africa Development Community (SADC). Weak regional integration of countries like Ethiopia limits the country's potentials for growth and diversification because there exist large trading opportunities within Africa in food products, basic manufactures, and services (Brenton and Isik 2012). Furthermore, the cross-border production networks of the kind that have emerged in East Asia are largely absent in East Africa. Regional markets tend to thrive particularly when they become investment platforms for industries that can participate vigorously in world markets.

Ethiopia enjoys generous market access to the world's largest economies, which is an important competitiveness advantage. In terms of access to foreign markets, based on its Market Access TTRI including preferences of 1.8 percent, the country enjoys more favorable access to international markets than its SSA peers (average: 3.9 percent), and, in particular Tanzania (5.2 percent), Rwanda (8.3 percent), and Uganda (6.3 percent). Indeed, this has helped Ethiopia attract export-platform FDI to take advantage of the country's market access both in the European Union and the United States as a beneficiary of preferences under the African Growth and Opportunity Act (AGOA). Almost all of Ethiopia's goods exports are eligible for duty-free treatment in the EU and the U.S.

Ethiopia's rate of utilization of trade preferences is not low, but it is under-tapping a narrow window of opportunity for diversification. According to Davies and Nilsson (2013), in 2010, Ethiopia utilized about 94 percent of preferences in the EU, a rate lower than Kenya and Ghana. In the U.S., Ethiopia's preference utilization rate was 84 percent, and much lower than that of Bangladesh, Kenya, Mozambique and Uganda. Ethiopia also enjoys tariff preferences under the Generalized System of Preferences (GSP) in Australia, Canada, Japan, New Zealand, Norway, and Switzerland. It also has preferential access in China, India, Russia, South Korea, and Turkey, but not Brazil or South Africa. Ethiopia is, therefore, under-performing not so much in the sense of current utilization *rates* of trade preferences, but in terms of the potential *volume* of exports it could be selling duty-free. Ethiopia is exporting less than US$3 billion worth of merchandise when an identically populous Vietnam is exporting US$120 billion while facing higher tariffs both in the EU and U.S. As has been argued by Collier and Venables (2007), trade preferences can be a catalyst for diversified manufactured exports and FDI. However, this will likely only be available for a narrow window of time because preferences erode over time.

[33] As detailed in World Bank (2011), not all countries have adopted the simple rules of origin in COMESA. Egypt unilaterally imposes a 45 percent local content rule. Until recently, Zambia, Uganda, and Malawi did the same. Rules in two sectors have also proven to be particularly contentious under COMESA. For wheat flour, the 35 percent value added rule has generated difficulties for exporters in Egypt and Mauritius that do not produce wheat grain, but import the raw material from the world market. In periods of high wheat prices, such as those experienced recently, this meant that these countries were unable to meet the value added requirement. With palm oil, there have been disputes over refined oils (e.g. Zambia-Kenya) because of difficulties assigning value added. These have arisen because a number of products can be produced from the raw material such as cooking oil, soap and margarine.

FIGURE 2.7: Competitiveness and Economic Complexity



Source: (1) UN Contrade. (2) Global Competitiveness Report (2013/14). (3) World Governance Indicators (2012).

Factor Inputs, Productivity, and Trade Costs

Time and cost for companies to engage in trade is long and high in Ethiopia, yet, the pace of regulatory reforms aimed at streamlining procedures is slow. Being landlocked cannot be the sole cause for bad logistics performance, as Rwanda has demonstrated, and Ethiopia is currently undertaking some crucial investments to improve trade logistics in the medium-term. But more generally, access to finance, land, and electricity are some of the most binding constraints that urgently need to be addressed. With this background it is no surprise that while wages are low productivity is low, too.

The pace of regulatory reforms aimed at streamlining procedures, and lowering time and cost of engaging in trade is slow. Among the ten World Bank Doing Business indicators, Ethiopia fares the worst in Trading Across Borders, ranking 166 out of 189 economies (Table 2.2). Ethiopia not only ranks behind Kenya and Rwanda but also Uganda, Zambia, and Tanzania in the procedural aspects of trade as judged by mid-sized Ethiopian exporters. Vietnam, Ethiopia's peer country in East Asia, in fact ranks 100 slots ahead of Ethiopia. There has been no major improvement

TABLE 2.3: Time and Cost of Exporting and Importing

	Year	Ease of Doing Business (Overall) Ranking	Trading Across Borders Ranking	No. of documents to export	Number of days to export	Cost to export (US$ per container)	No. of documents to import	Number of days to import	Cost to import (US$ per container)
Ethiopia	2010	...	...	7	50	2,230	10	44	2,660
Ethiopia	2011	...	...	7	45	2,180	10	44	2,660
Ethiopia	2012	...	...	7	44	2,180	10	44	2,660
Ethiopia	2013	124	165	7	44	2,180	10	44	2,660
Ethiopia	2014	125	166	7	44	2,180	10	44	2,760
Rwanda	2010	...	...	8	38	3,275	10	35	4,990
Rwanda	2011	...	...	7	35	3,275	9	34	4,990
Rwanda	2012	...	...	7	29	3,275	9	31	4,990
Rwanda	2013	54	160	7	29	3,245	9	31	4,990
Rwanda	2014	32	162	7	26	3,245	9	30	4,990

Source: Doing Business (DB).
Note: Methodology revised in 2014, which has been applied to the rankings in 2013 & 2014.

in this trade-related indicator over the past five years in Ethiopia (Table 2.3).[34]

Being landlocked cannot be the sole cause for bad logistics performance, as Rwanda has demonstrated. In 2010, Rwanda's ranking on the Trading Across Borders indicator was lower than Ethiopia's, and its shipping costs even today are significantly larger than those faced by Ethiopia. Over the past five years, Rwanda has made substantial improvements in areas in which it has direct policy control: i) it improved trading times with administrative changes such as increased operating hours and enhanced cooperation at the border; ii) it reduced the number of trade documents required and enhanced its joint border management procedures with Uganda and other neighbors, and iii) it introduced an electronic single-window system at the border. The impact of these reforms has been to reduce the number of days it takes to export from 38 to 26 (an improvement of 32 percent). In Ethiopia, the average number of days to export dropped by only 6 days (12 percent) from 50 to 44 even though it can be argued that it is easier to reduce the time and costs when they are highly inefficient to begin with.

Ethiopia is currently undertaking some crucial investments to improve trade logistics in the medium-term. With several new public investments in roads, a rehabilitated rail link between Addis Ababa and the rapidly modernizing container port of Djibouti, the expansion of the dry port in Modjo, expanded coverage of the multi-modal transport system and coordinated reforms between customs and shipping-related agencies, trading is expected to be

[34] Indeed, Ethiopia's relative ranking has fallen from 157th in 2011 (out of 183 economies) to 166th in 2014 (out of 189 economies), even though the rankings cannot be directly compared to previous years (except in 2013 when it ranked 165th) because the methodology for calculating the Trading Across Borders indicators was changed in 2014. "Trading Across Borders" indicator was revised in 2014 to reflect the fact that documents (such as the certificate of origin) required to claim preferential tariffs are no longer counted. This, however, does not alter the number of documents to process an average export shipment out of Ethiopia, which remains unchanged at 7 for the past 5 years.

TABLE 2.4: Major Constraints Faced by Ethiopian Companies, Exporters vs. Non-Exporters

	All firms	Non-exporters	Exporters
Broad constraints			
Percent of firms identifying access to finance as a major constraint	31	32	21
Percent of firms identifying electricity as a major constraint	23	22	38
Percent of firms identifying an inadequately educated workforce as a major constraint	4	4	2
Infrastructure constraints			
Losses due to electrical outages (% of annual sales)	2.6	2.6	3.7
Number of water insufficiencies in a typical month	2.8	2.9	2.5
Percent of firms identifying transportation as a major constraint	10.2	10.1	12.5
Business processes and innovation			
Percent of firms with an internationally-recognized quality certification	14	12	48
Percent of firms using technology licensed from foreign companies	43	40	67
Percent of firms having their own website	43	42	69
Percent of firms using e-mail to interact with clients/suppliers	80	79	99
Percent of firms with an annual financial statement reviewed by external auditors	72	72	80

Source: Enterprise survey 2011–12

simplified with costs and dwell time reduced. This will ultimately help increase farm-gate prices relative to exports, which at present is only about 60 percent (IMF 2013b).

More generally, access to finance, land, and electricity are some of the most binding constraints faced by Ethiopian firms. While these issues are also common in peer countries, in the 2011–12 Enterprise Survey, between one-third and two-fifths of Ethiopian firms cited access to electricity, land, and finance as major hurdles to growing their businesses. In contrast, less than 5 percent of the firms surveyed mentioned lack of skilled workers as a major constraint (Table 2.4). Perceptions vary across firm size, however. The largest firms with more than 100 employees also cite customs and trade-related regulations as one of the top constraints. Also for the largest firms, electricity is the biggest hurdle, even though the average loss due to electrical outages (in percent of annual sales) is less in Ethiopia than in Kenya, Tanzania, and Uganda. Water shortages (number of outages per month faced by manufacturing firms) are less severe than in Tanzania and Kenya, but still high compared to Vietnam.

But there is also a noticeable discrepancy in the manner in which exporters[35] and non-exporters feel burdened. Among exporters, a substantially larger share (38 percent), compared to 23 percent of all firms, find that electricity is a major constraint. Losses due to electrical outages are also a full percentage point higher for exporters than non-exporters. However, exporters appear to have a privileged access to finance, with only one-fifth of exporting firms reporting that to be a constraint, in contrast to nearly one-third of all firms. On transport, nearly 90 percent of the firms do not view it as a major constraint. This ratio is higher than in any other peer country except China. However, a slightly higher share of Ethiopian exporters cites transportation to be a constraint than non-exporters (Table 2.4).

Ethiopia is investing to produce a skilled, yet affordable labor force. There is significant expansion occurring in university-trained personnel. The

[35] Exporters are defined in the Enterprise surveys as firms whose direct exports are 10 percent or more of sales.

number of universities has increased from just two about 15 years ago to 32 at present. There is some alignment between the future industrial aspirations of the country and the kind of graduates it is producing; for example, horticulture degrees are being taught in six universities. Ethiopian Airlines has its own Aviation Academy with plans to increase the number of trainees from about 200 per year to 1000 (and more). A key effort of the government in this regard is the establishment of a Technical and Vocational Education and Training (TVETs) system. The TVET system in Ethiopia follows the German model and emphasizes 'apprenticeship'. TVET colleges are required to identify potential employees for their students; 70 percent of the entire program duration is to be spent apprenticing with an employer. Ethiopia's TVET system is transitioning to a competency based approach. To graduate, TVET trainees are now required to pass assessment tests which are based on Occupational Standards (OS).

Ethiopian wages are relatively competitive not only against Chinese or Vietnamese, but also Kenyan averages. A recent study found that Ethiopia has comparable labor cost and productivity to Bangladesh and that Ethiopia is one of the very few African countries where its low income level is likely to translate into a comparative advantage in low-wage basic manufacturing (Gelb et al. 2013). According to Chinese investors in the country, the average wage at a plant outside the capital is about one-sixth of that in coastal China (500 RMB in Ethiopia versus 3000 RMB in China, on average). This will clearly be one of the main investment attractors from countries like China and Turkey where wages are rising. But export-oriented firms look at many other factors beyond wage. They prefer business-friendly regulations, in terms of costs and procedures, to govern hiring and redundancy practices. While there is a fine line between protecting workers' rights and ensuring firm efficiency, onerous regulations hamper efforts to restructure the firm, hurting overall opportunities for employment in the formal sector and movement of workers across jobs.

Proactive Policies to Support Trade

Product differentiation and branding offer substantial potential in Ethiopia. New unexplored instruments for product differentiation, such as Geographical Indications, have been a potent source of premium income and quality enhancement not only in Europe (think Champagne or Parma ham), but also countries like India (Basmati rice and Darjeeling tea) and Vietnam (Phu Quoc fish sauce). Ethiopia is a latecomer in utilizing another instrument to promote trade, i.e. the creation of Industrial Zones (IZs). The country's experience so far with the development of zones has not been promising but it is committed to learning from global good practices. In fact, the government seeks to expand its existing IZ program to support its target for growth and job creation.

Ethiopian regimes for standards and certification are inadequate, but in line with that of its peers. According to the World Bank Enterprise Surveys, almost 14 percent of firms have earned quality certification that is recognized by global bodies like the International Standards Organization (ISO), a proportion higher than in Kenya (10 percent) and Rwanda (12 percent). In terms of auditing/financial standards, Ethiopia does even better. The scale of adoption of modern production and business processes by Ethiopian firms also appear to be better than what the per capita figures suggest. Forty-three percent of firms in Ethiopia have their own website and use technology licensed from a foreign company, the highest proportion among its peers. In fact, splitting the responses by exporting and non-exporting firms, the former appear to be far ahead of the latter in adopting modern business processes: the share of firms with internationally-recognized quality certification is four times larger among exporters than non-exporters; similarly almost all exporting firms use email to interact with clients, and more than two-thirds of exporters use some kind of technology licensed from foreign companies (Table 2.4).

Stakeholder interviews in major export sectors (pulses, flowers, coffee) revealed industry specific challenges. The current challenge in the area of standards is primarily the weak capacity of regulatory bodies to: i) help exporters maintain and upgrade

quality in general (e.g., coffee, leather) and ii) redress deficiencies where inadequate quality standards are directly hurting export potentials. For instance on reason that an overwhelming share of pulses (such as groundnuts) enter emerging markets, but not markets like the EU or the U.S.is the inability of exporters to fulfill the high sanitary requirements of those markets. The EU only permits aflatoxin contamination of two parts per billion (ppb) for edible groundnuts. The flower industry, too, has worked hard to implement a Code of Practice for social responsibility grading firms into categories of bronze and silver based on certification levels. It is moving towards implementing Integrated Pest Management in lieu of chemicals. Beyond sanitary issues, the origins of produce are not easily traceable. About 50 percent of coffee, for example, is domestically sold, sometimes at prices higher than in international markets. With incentives distorted by tight controls, intermediaries often resort to hoarding, misleading classification on the quality and grade of coffee, and illicit trading, all of which weaken a transparent system of quality control based on verification and traceability.

Product differentiation and branding offer substantial potential. New unexplored instruments for product differentiation, such as Geographical Indications,[36] have been a potent source of premium income and quality enhancement not only in Europe (think Champagne or Parma ham), but also countries like India (Basmati rice and Darjeeling tea) and Vietnam (Phu Quoc fish sauce). Ethiopia ought to pay much bigger attention to establishing a functioning Geographical Indications regime to brand its quality products differently, such as coffee from Yirgachefe, Harar, and Sidamo; or Humera sesame seeds. The present system of inadequate grading and sorting, and a tendency to export in bulk undervalues Ethiopia's most important exports.

Ethiopia can learn from the lessons of Industrial Zones (IZs) or Special Economic Zones (SEZs) in the rest of Africa. In principle, SEZs offer different trade policies, regulations, and quality of infrastructure than those prevailing in the rest of the economy. They are essentially "second-best" institutions designed to relax constraints when the ideal solution of undertaking wider reforms nationally is not possible for political or financial reasons. Emerging manufacturing firms, in particular, could benefit from duty-free inputs imported with less hassle, lax labor laws, and predictable access to quality infrastructure. The performance of most zones, however, is uneven. While some have played a transformative role, especially in East Asia in the 1980s and the 1990s, many fail to live up to initial promises and some end up being wasteful misadventures.

The government seeks to expand its existing IZ program to support its target for growth and job creation. The Government has accordingly identified 5 new potential IZ sites that have a strategic interest for the country.[37] The Ethiopian Industrial Development Zone Corporation (EIDZC) has recently been established which, among other things, shall develop and manage Industrial Zones, lease developed land, and outsource through management contracts administration of industrial zones. In addition, the One Stop Shop (OSS) regulations have been approved by the Council of Ministers and are now operationalized within the Ethiopian Investment Agency (EIA), which will facilitate 28 out of the 29 procedures investors may need to go through. Numerous development partners, especially the World Bank Group, are involved directly or indirectly in the IZ program. In addition to government initiatives, private players are also floating big ideas. Huajian, the successful shoe factory is now planning a

[36] The WTO Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) defines Geographical Indications as indications (words, phrases, symbols, images), which identify a good as originating in the territory of a member, or region or locality in that territory, where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin. See Waglé (2007) for details on the topic of GIs.

[37] They are as follows: Bole Lemi (Addis Ababa Charter city), Kilinto (Addis Ababa Charter city), Dire Dawa IZ (Dire Dawa Charter city), Kombolcha IZ (Amhara Region) and Hawassa IZ (Southern Nations, Nationalities and Peoples Region)

major expansion in the country having acquired 317 hectares of land to establish the "Ethio-China Light Manufacturing Special Economic Zone," which is planned to employ 100,000 people. Signaling that it is in for the long haul, the company has taken more than two hundred Ethiopians to train in Chinese shoe factories.[38] Greater emphasis by the government to locate Ethiopian SMEs in these zones would augment competitiveness in the long run through intra-industry knowledge spillovers and formation of clusters. SEZs could reduce start-up costs and risks for SMEs by taking advantage of larger facilities at a phase in their development when they are unable to obtain bank loans (Dinh et al. 2012).

Competing on Price: Does the Real Exchange Rate Matter?

A more competitive real exchange rate could support export promotion. Ethiopia's real exchange rate is overvalued. Empirical evidence presented here suggests that a 10 percent lower real exchange rate could increase export growth in Ethiopia by more than 5 percentage points per year and increase economic growth by more than 2 percentage points. The potentially strong impact for Ethiopia is a reflection of the predominance of basic export commodities that tend to compete more on price rather than on quality. Given a number of macro-economic trade-offs — e.g. devaluation has a tendency to increase import prices and thus contribute to inflation — any changes in the exchange rate may need to be accompanied by adjustments in the macroeconomic policy mix.

This section utilizes a simple theory-based real exchange rate (RER) Misalignment Index for countries around the world from 1950–2011, and shows that Ethiopia's RER has been overvalued. Overvaluation was about 31 percent in 2010 and 2011. The section shows that an undervalued RER is associated with higher real export and output growth, especially for developing countries today and developed countries in the earlier decades. Across all countries and time, on average, for each additional 10 percent RER undervaluation, the country's export growth goes up by 0.6 percentage points and its output growth goes up by 0.88 percentage points a year. In the case of Ethiopia, a 10 percent undervaluation would potentially boost exports by 5.2 percentage points and economic growth by 2.2 percentage points.

Empirical results are used to explore the question whether an undervalued exchange rate can help boost export and therefore also output growth. The issue needs to be addressed from an empirical perspective since the theoretical relationship between the real exchange rate and exports/outputs is not clear-cut (Annex 5). The analysis in this report utilizes a cross-country RER misalignment index. A country's RER is defined as the relative price of the domestic consumption basket and the foreign consumption basket. The domestic consumption basket includes domestic non-tradable goods, domestic tradable goods, and some foreign tradable goods; the foreign consumption basket includes foreign non-tradable goods, foreign tradable goods, and some domestic tradable goods.

The analysis uses a simple theory-based approach first developed by Rodrik (2008) to calculate the RER misalignment. In his work, Rodrik has shown that undervalued real exchange rates are associated with higher output growth. Since the original work does not include export growth this report will slightly modify Rodrik's approach to measure RER misalignment and will present evidence about the relationship between undervaluation and export growth. Annex 5 provides the details on how the study measures the RER misalignment index. The key is to establish the RER misalignment index through controlling for the Balassa-Samuelson effect. Balassa-Samuelson captures the effect of an economy's productivity on its non-tradable goods' prices. The empirical results show that the Balassa-Samuelson effect is highly significant with a negative sign.

[38] Although perhaps not quite on the same scale, this is reminiscent of another initiative from history that launched the apparel sector in Bangladesh: in 1978, the Desh Company signed a five-year agreement with Daewoo, a Korean multinational, which trained Desh employees in production and marketing in Korea. Within a year, 115 of the 130 trainees had left Desh to start their own garment export firms (Kabeer and Mahmud 2004).

There are other approaches to calculating RERs and to determine any undervaluation. Currently, the most popular one is to regress a country's real exchange rate against a large set of the country's fundamentals to establish a real exchange rate norm.[39] The gap between a country's actual real exchange rate and its norm (i.e. the residual in the regression) is considered the "misaligned" part. The most well-known research using this approach is from the IMF (Lee et al. 2006), which forms the basis for the IMF's work on assessing countries' RER misalignment in its Article IV papers. Tensay (2006) also uses this approach to study Ethiopia's RER misalignment. This report does not rely on the methodology given the complexity of the approach and the difficulty to identify "fundamentals." Instead, Rodrik's amended methodology is found to be more intuitive.

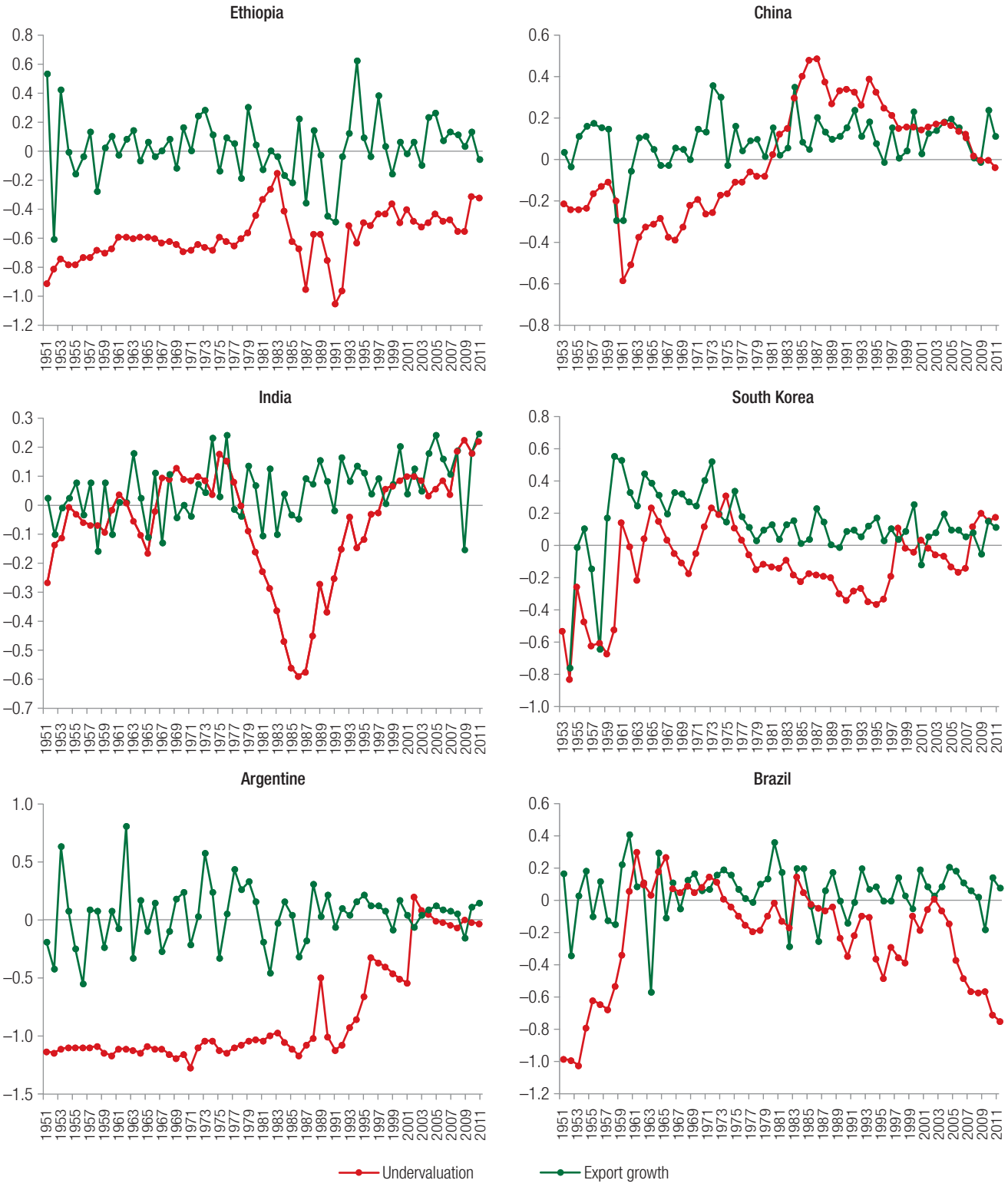
Ethiopia's RER has been consistently overvalued for the past two decades, which is in stark contrast to Asian experiences but in line with Latin American experiences. Plotting the RER misalignment index against export growth for selected countries shows that Ethiopia's RER was highly overvalued for the past two decades (Figure 2.8.1). This is in stark contrast to the experiences in Asian countries. Figures 2.8.2, 2.8.3 and 2.8.4 show China, India, and Korea. All of them had undervalued exchange rates during their catching-up periods: China between 1981 and 2009, India since 1999 until now, and South Korea during much of the 1960s and 70s. On the other hand, Latin American countries adopted a rather overvalued strategy—like Ethiopia—where RERs were overvalued during most of the past decades (see Figures 2.8.5 and 2.8.6 for Argentina and Brazil).

A regression analysis more definitely confirms the graphical observations of the undervaluation index and export growth plotted in Figure 2.8. Annex 5 provides details about the regression and its results, which are very intuitive. Overall, undervaluation is associated with higher export growth; this phenomenon is true for both high-income and low-income countries (defined as having an annual GDP per capita below $6,000 in 2000). Interestingly, the coefficients are significant for high-income countries in the earlier decades (1950–1980) and for low-income countries in the latter decades (1981–2011). This implies that countries need to be at a certain level of income to be able to take advantage of the undervalued RER strategy. This is likely to be when a country is at the stage of exporting relatively simple, light manufacturing products. In turn, this means that if a country's economy is dominated by agriculture production and/or only exports commodities, an undervalued RER may not help the exporting firms. On the other hand, when a country is already rich enough and its firms already operate at the technological frontier, an undervalued RER might not matter anymore for the country's export. Rather, at the frontier the country's firms need to rely on better technology and innovation.

On average, across all countries and the full time period considered (1950–2011), for each additional 10 percent RER undervaluation a country's export growth will rise by 0.6 percentage points per year. Among high-income countries between 1950 and 1980, an additional 10 percent undervaluation boosted export growth by 1.26 percentage points. Among low-income countries between 1981 and 2011, that figure is 0.7 percent. A similar exercise for countries' real output growth shows a significant positive impact of an undervalued exchanged rate on real output growth. The positive impact holds for both high income and low income countries: on average across all countries and all time, if a country's RER is 10 percent undervalued its real output growth goes up by 0.88 percentage points per year.

[39] In the so-called "kitchen sink" approach, researchers throw believed-to-be fundamental variables to the right hand side of the regression — often without a clear theoretical rationale to why they are fundamental — and hope to find some significance. There are two problems with this. First, there may be neglected fundamentals that also affect the real exchange rate, but are not included. Negligence may come from the fact that it is virtually impossible to come up with an exhaustive list of factors affecting productivity and consumption and saving decisions. Second, variables considered "fundamentals" might actually contain elements that distort the real exchange rate. For example, government consumption is considered a "fundamental." However, government consumption could be directly affected by an incentive to lower the real exchange rate. Eden and Nguyen (2012) offer more detailed criticism of the current approaches.

FIGURE 2.8: Undervaluation and Export Growth, Ethiopia and Selected Countries



Source: World Bank staff own calculations, based on data from PENN World Tables.
Note: Undervaluation zone is above 0.

Patterns identified in the undervaluation index are consistent with other estimates. For instance, the IMF Article IV in 2012 estimated that the Ethiopia real exchange rate was about 11 to 23 percent overvalued in May 2012 (IMF 2012). In 2013, the IMF estimated that the Real Effective Exchange Rate (REER) was at least 10 percent overvalued. The differences in results arise because of differences in methodology ("kitchen sink" vs. Balassa Samuelson effect) and real exchange rate concepts. The IMF uses the REER, which is the Real Exchange Rate of a country relative to a set of major countries.[40] This report uses the Real Exchange Rate relative to the United States Dollar.

In the case of Ethiopia, each additional 10 percent RER undervaluation is associated with higher export growth of up to 5.2 percentage points per year and higher real GDP growth of up to 2.2 percentage points (Table 2.5). In terms of absolute impact in 2010 and 2011—where the RER was earlier estimated to be 31 percent overvalued—this finding would indicate (upper-bound) lower export growth to the order of 16 percent (31*0.52) and 6.8 percent lower real output growth, compared to an equilibrium situation. The large magnitudes of these upper-bound estimated impacts suggest that Ethiopia's export and output growth is strongly associated with and highly sensitive to the change of the country's RER misalignment.

TABLE 2.5: Effects of Undervalued RERs on Export and Output Growth Ethiopian data

	Δln(real exports) (1)	Δln(real GDP) (2)
ln(Initial Real Exports)	–0.203** (0.076)	
ln(Initial Real GDP per capita)		–0.104** (0.044)
Undervaluation	0.523** (0.233)	0.226*** (0.064)
Constant	1.674*** (0.577)	0.807** (0.307)
R-squared	0.151	0.340
Adjusted R-squared	0.122	0.317
S.E. of regression	61	61

Note: Newey-West HAC Standard Errors in parenthesis.
*** p<0.01, ** p<0.05, * p<0.1

The high negative impact of RER appreciation implies that Ethiopia's export comprises mainly low-value products that compete on prices and less of high quality products. In theory, the appreciation of the Ethiopian Birr hurts exports because they are now less competitively priced than identical products from other countries, all else being equal. In practice, the relationship between competitiveness and movements in the real exchange rate is not straightforward. The latter can appreciate as a result of an improvement in competitiveness when there are gains in productivity of tradable goods relative to that of non-tradable goods. Competitiveness is lost when there is a misalignment from the equilibrium RER. In particular, the agricultural commodities that are the mainstay of Ethiopian exports tend to be affected by real appreciation because import-content in these sectors is generally lower than in manufacturing.

Potential changes in the exchange rate would need to be considered in the context of the overall macroeconomic policy mix, which may also need adjustment. There are macro-economic trade-offs to consider. Nominal currency depreciation increases import prices and thus contributes to inflation. Higher cost of imports of capital equipment may make public investment more expensive. There are also balance sheet effects through a rise in external public debt when expressed in local currency. Some of these trade-offs can be addressed by adjusting other policies. A tighter monetary and/or fiscal policy can help contain the inflationary impact, for instance.

The analysis is silent on the equilibrium effect and notes that, from an international perspective, competitive devaluations from many countries are not optimal. If every country devalues to take advantage

[40] REER formally is the weighted average of a country's currency relative to an index or basket of other major currencies adjusted for the effects of inflation. The weights are determined by comparing the relative trade balances with each other country within the index.

of the lower RER, countries might undercut each other's export (i.e., a race to the bottom), and the end result might be that no exporting country will benefit from their exchange rate devaluations. In other words, from the point of view of a specific country such as Ethiopia, maintaining an undervalued exchange rate is beneficial for its export and growth. However from the point of view of the developing world as a whole, competitive devaluation (recently dubbed as currency wars) from many developing countries may not be optimal. An international exchange rate coordination system could play a role in this regard, but this is beyond the scope of this paper. In the long run what really matters for exports to strive is productivity and product quality.

SUMMARY AND POLICY RECOMMENDATIONS

3

To support economic growth over the past decade, Ethiopia has successfully leveraged agriculture exports to advanced countries, but the challenge now is to better link it to processes of quality-addition and ultimately industrial scale value-addition. The pace of economic growth over the past decade, together with its population of over 90 million, give a hint about its future potential. It has leveraged agriculture exports to advanced countries, has a booming air travel export, and is generating significant interest from emerging economies like China, India, and Turkey. Despite being landlocked, its preferential market access in the world's largest economies and relative proximity to Europe and the Middle East provide opportunities for economic diversification. To sustain its transformation, Ethiopia needs to build on its agricultural foundation by adding quality to commodity exports and eventually industrial scale value-addition. It will also need new tradable activities in manufacturing and services that have the ability to absorb large numbers of young semi-skilled workers associated with a shift away from agriculture. Redressing supply-side constraints aggravated by indifferent business and investment incentives can facilitate this process.

Ethiopia's process of structural transformation has the "advantage of backwardness." Starting from a low base of per capita exports and investment, it can avoid mistakes made by peers in the past in some areas and leapfrog in others, rapidly adapting to the changing modes of trade and production in the 21st century. It will most likely not duplicate the development path that East Asia took, but achieving the kind of export success that comparably populous countries like Thailand and Vietnam have had is possible. Like them, Ethiopia has two clear channels for expanding merchandise exports. The first is to move away from largely unprocessed and undifferentiated bulk exports in existing agro-exports towards value-addition on a commercial scale. At present all of Ethiopia's leading exports rank in the bottom half of product complexity and sophistication, yet with the removal of supply-side hurdles and basic additional steps of processing, there is potential to increase the quantity and earn more per unit. The second avenue is to ramp up capabilities in manufacturing in new ways particularly by making greater use of modern, competitive services as intermediate inputs.

But Ethiopia is not utilizing its "advantage of backwardness" for export growth to the full extent, losing out on productivity increases and structural change. For a developing country of its size, Ethiopia's goods exports are the lowest in the world and its manufacturing value-added in the economy is almost three times less than the average for SSA. Yet, Ethiopia's potential is vast. The country has the land for pastures and cultivation—both to support one of the world's largest counts of livestock and to grow cash crops, from coffee and cotton to flowers and oilseeds. It will have a growing middle class at home, and has preferential market access in rich countries abroad. With the expansion of higher education, it will have an educated workforce that is trainable at affordable wages. It will also soon have abundant electrical power, and more efficient access to a container port, through a rehabilitated railway and improved trade facilitation. In addition, it sits poised to attract labor-intensive investments from emerging countries that are losing cost-competitiveness.

This report showed that rising exports contributed to Ethiopia's remarkable growth performance over the past decade but that a recent drop in export prices has exposed underlying vulnerabilities in

export structure. This highlighted the importance of strengthening competitiveness, key in which it is to realize that more than "what" is being exported it is the "how" that is hindering potential. In fact Ethiopia's export sector is currently too small to contribute to structural transformation. The business environment favors incumbent firms and deters new entrants into export business, and even so, no "export superstars" are emerging.

To unleash the potential a policy and institutional framework is needed that is constantly adjusting to be able to provide the right incentives to entrepreneurs at home and investors from abroad. There is a strong Ethiopian developmental state that can help the transformation if its policy leverage is utilized wisely. For instance, most recently, it played a transformative role in creating a successful horticulture export sector by providing incentives in land, fuel, and freight to early investors. However, drawing on the experience of countries that have graduated from low-income status, Ethiopia's future growth can only be sustained by a dynamic private sector that increasingly takes up space released by the public sector.

The following policy recommendations aim to inform policy makers on how to develop a more competitive trade and business environment in Ethiopia. The analysis reveals seven areas of policy focus that would support the objective of reducing vulnerability of exports to price fluctuations, scale-up the size of exports, support structural transformation through higher-productivity exports, and promote a more dynamic export business environment. Actions to be considered could be the following:

First, increase value-addition, quality, and branding of exports. Existing exports have great potential for augmenting their value per unit with better processing, packaging, testing, and general application of international standards. Fostering adherence to international product standards and certification regimes would help enforce quality control based on verification, and traceability on the origins of produce would help brand Ethiopian exports. Indeed, an improved certification regime could be dovetailed to establish a functioning regime of registering and enforcing Geographical Indications, a form of intellectual property, which could help brand the country and facilitate its unique exports to earn premium.

Second, ease binding constraints related to reliable power supply, credit, and foreign exchange. Among exporters, 38 percent find that electricity is a major constraint compared to 23 percent of all firms. Losses due to electrical outages of 3.7 percent of annual sales are also a full percentage point higher for exporters than non-exporters. Even though exporters have better access to credit than non-exporters, up to one fifth of them still report this as a major constraint. Finally, firms frequently mention access to foreign exchange as a major constraint in doing business in Ethiopia.

Third, redress bottlenecks in trade logistics. A key to competitiveness is shipping containers quickly and inexpensively. Rwanda, which faces more crippling shipping costs, performs better than Ethiopia in overall trade-related operations because of its reforms in operating hours, joint border management procedures with neighbors, and introduction of an electronic single-window system. Effective implementation will require significant coordination across government departments to avoid having a re-engineering effort simply lead to the accumulation of inefficiencies in one place. Consultations with the private sector are also crucial and could be entertained by a permanent information campaign (including a website) to transparently inform the private sector on what is necessary for trading or establishing businesses, the exact documentation requirements, and the steps involved.

Fourth, establish Industrial Zones that conform to international best practice. This is one area where Ethiopia's laggardly status gives it an advantage. In designing new policy, regulatory and institutional framework for managing industrial zones, which are at a very early stage, Ethiopia could avoid the mistakes of many SEZs in the rest of Africa. There could be exceptions, but in general, this implies adopting a

modern best practice that emphasizes quality infrastructure and sound business environment, rather than fiscal incentives (e.g., tax holidays). The World Bank is actively supporting the Government in this regard with a forthcoming large-scale IDA-financed project that will bring good practices from other countries.

Fifth, revise burdensome business rules that obstruct firm entry, especially high start-up capital requirement and pre-registration bank deposits. Ethiopia's worst ranking in the 2014 Doing Business indicators is for "starting a business." But, within this theme, it is the high paid-in capital requirement as well as the cost of pre-registration bank deposits that stand out. Reducing start-up capital for enterprises may have an immediate impact on facilitating greater firm entry into the formal sector. Similarly, Ethiopia has weak protection of minority shareholders; rules and practices around the coverage, scope, and accessibility of credit information are poor; and the rate of profit taxes is high relative to regional averages. A growing body of empirical research shows that simpler processes of business start-up is associated with higher levels of entrepreneurship and higher productivity among existing firms.

Sixth, improve regulatory quality, including the implementation of a pro-competition legal framework. Intensifying local competition and reducing market domination by individual companies could be an effective means to improving the business environment. Effective competition policies are associated with private sector growth. Indeed, the best practice is not just to engage in anti-trust investigations, but also to cover legal enforcement, competition advocacy and invest in institutional effectiveness.

Seventh, ensure that the real exchange rate is competitive. Empirical analysis of country experiences suggests that a competitive exchange rate is associated with rapid economic growth, often led by exports. In Ethiopia, the real exchange rate is overvalued, which favors imports but hurts exports. Therefore, monetary and fiscal policy should aim to keep inflation low and the exchange rate policy should support a nominal exchange rate that is competitive. The macro policy mix should take into account that a faster pace of nominal currency depreciation would potentially induce inflation. Moreover, there are trade-offs vis-à-vis a potentially higher cost of imports of capital equipment and balance sheet effects of external public debt to consider.

Annex 1: Ethiopia: Selected Economic Indicators (High Frequency)

	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Inflation (Year-on-Year): %	12.7	11.0	7.7	6.1	6.3	7.4	8.4	7.0	6.9	8.5	8.0	7.7
Food	12.7	9.3	5.2	1.6	3.4	3.7	5.8	3.8	4.3	7.8	6.8	5.8
Non-Food	12.7	12.9	10.6	11.6	9.9	11.9	11.5	10.8	10.0	9.3	9.3	9.8
Inflation in AA (Year-on-Year):%	12.0	10.8	7.9	7.0	8.3	7.3	8.5	7.0	9.4	9.0	8.0	7.5
Traded Goods	4.3	2.8	1.2	2.6	3.4	4.6	3.7	3.4	3.7	4.0	4.0	4.4
Non-Traded	14.4	13.4	10.1	8.5	9.8	8.1	9.9	8.0	11.0	10.3	9.0	8.2
Monetary Growth (Year-on-Year):%												
M2	29.1	28.7	31.5	29.6	28.8	24.2	27.6	26.3	23.5	22.2	22.2	22.3
Domestic credit	27.4	29.3	26.2	24.3	23.9	23.4	24.6	29.4	28.4	28.5	28.5	30.6
Net Foreigh Assets	–15.1	–15.4	2.6	11.4	16.9	14.7	5.7	4.9	–2.5	–5.4	–7.3	–15.6
Reserve Money*	16.9	23.8	13.2	18.4	18.5	13.6	12.1	9.6	7.7	1.5	–3.9	–3.7
Gross reserves (Mill. $)	2461	2725	2736	2599	2424	2368	2654	2561	2469	2393	2366	2598
In months of import	2.0	2.2	2.2	2.1	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.9
Exchange rate												
Exchange rate (Birr/$), pa	18.2	18.3	18.4	18.5	18.5	18.6	18.7	18.7	18.8	18.9	18.9	19.1
Real Effective Exchange index	134.7	134.1	134.4	133.6	133.7	133.4	137.0	136.9	138.5	138.6	141.1	142.1
annual growth, %	3.8	3.7	1.5	0.0	–0.9	–1.7	–0.1	–0.1	1.5	2.9	3.0	5.6
Black market premium (%)	7.4	8.7	9.2	10.3	9.2	7.5	6.4	5.9	4.0	3.1	2.6	
Trade Deficit, goods, billion US$	–0.8	–0.7	–0.8	–0.7	–0.7	–0.6	–0.7	–0.8	–0.8	–1.0	–0.8	–1.0
Export, (billion US$)	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Import, (billion US$)	1.0	0.9	1.1	1.0	1.0	0.9	0.9	1.0	1.0	1.2	1.0	1.3
International Prices												
Crude oil, average ($/bbl)	105.1	107.6	102.5	98.9	99.4	99.7	105.3	108.2	108.8	105.4	102.6	105.5
Coffee, arabica (cents/kg)	346.8	329.5	330.2	330.3	324.5	304.8	305.1	298.0	291.6	283.7	269.0	277.7
Gold ($/troy oz)	1671.8	1627.6	1593.1	1487.9	1414.0	1343.4	1285.5	1351.7	1348.6	1316.6	1275.9	1221.5
World Growth (quarterly: y-o-y) %			Q1			Q2			Q3			Q4
China			7.7			7.5			7.8			7.7
Euro area			–1.2			–0.6			–0.3			0.5
US			1.3			1.6			2.0			2.7
OECD-Total			0.6			1.0			1.5			…

Sources: CSA; NBE, Customs, WB, OCED-National Accounts.

* the growth may indicate the true picture since the change in reserve requirement from 10 to 5 percent resulted the balance converted in centificate of deposits which is kept outside reseve money.

Annex 2: Ethiopia: Selected Economic and Social Indicators (Annual Frequency)

Fiscal year ending July 7	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average 2004–2013
Income and Economic Growth											
GDP growth at factor cost (annual %)	11.7	12.6	11.5	11.8	11.2	10.0	10.6	11.4	8.8	9.7	10.9
GDP growth at market price (annual %)	13.6	11.8	10.8	11.5	10.8	8.8	12.6	11.2	8.7	10.4	11.0
GDP per capita growth (annual %)	10.4	8.7	7.8	8.5	7.9	6.0	9.6	8.3	6.0	7.6	8.1
GDP per capita (US$)	134	160	192	241	322	375	337	351	467	498	308
GDP per capita, PPP (current international $)	575	646	718	799	879	938	1041	1150	1240	1354	934
Atlas GNI per capita, US$	130	160	180	220	270	330	370	390	410	470	293
Private Consumption, nominal (annual %)	7.2	33.8	25.9	26.9	51.8	35.7	15.3	28.6	44.6	11.3	28.1
Gross Fixed Investment (% of GDP)	29.8	26.5	27.9	24.5	24.7	25.6	27.4	27.9	33.1	33.0	28.0
Gross Fixed Investment - Public (% of GDP)	14.9	13.9	16.0	14.1	14.7	12.3	15.5	18.7	14.3	12.2	14.7
Gross Fixed Investment - Private (% of GDP)	14.9	12.6	11.9	10.4	10.0	13.3	11.9	9.2	18.7	20.8	13.4
Money and Prices											
Inflation, consumer prices (annual %, end of year)	1.7	13.0	11.6	15.1	55.3	2.7	7.3	38.1	20.8	7.4	18.4
Inflation, consumer prices (annual %, period average)	8.6	6.8	12.3	15.8	25.3	36.4	2.8	18.1	33.4	12.6	17.7
Treasury bill rate (91-days maturity, annual average)	0.5	0.1	0.0	0.8	0.6	0.9	0.9	1.3	1.9	2.2	0.9
Nominal Exchange Rate (End of period)	8.6	8.7	8.7	9.0	9.6	11.3	13.5	16.9	17.8	18.6	12.3
Real Exchange Rate Index (1990=100)	87.1	84.7	83.2	76.8	66.9	61.5	53.3	39.2	40.2	38.2	63.1
Fiscal											
Revenue (% of GDP)	16.2	14.8	15.0	12.8	12.1	12.1	14.2	13.7	13.9	14.6	13.9
Expenditure (% of GDP)	23.9	23.5	22.5	20.9	19.1	17.4	18.8	18.6	16.8	18.1	20.0
Current (% of GDP)	14.0	12.6	11.7	10.1	9.3	8.2	8.5	8.0	7.0	7.4	9.7
Capital (% of GDP)	9.6	10.8	10.8	10.8	9.8	9.2	10.4	10.5	9.9	10.7	10.3
Fiscal balance including grant (% of GDP)	–3.0	–4.4	–3.9	–3.1	–2.9	–0.9	–1.3	–1.6	–1.2	–2.0	–2.4
Fiscal balance excluding grant (% of GDP)	–7.7	–8.7	–7.5	–8.1	–7.0	–5.3	–4.6	–4.9	–2.9	–3.5	–6.0
Primary fiscal balance including grants (% of GDP)*	–1.8	–3.5	–3.1	–2.4	–2.5	–0.6	–0.9	–1.2	–0.9	–1.6	–1.8
Consolidated public sector primary balance (% of GDP)*	...	...	...	–4.6	–6.7	–1.9	–1.0	–2.5	–3.7	–5.2	–3.7
Total public debt (% of GDP)	105.6	78.9	66.8	43.9	38.5	35.5	39.4	37.8	32.8	36.1	51.5
External public debt (% of GDP)	73.3	48.9	37.3	11.8	10.4	14.8	18.3	22.2	17.9	18.7	27.4

(continued on next page)

Annex 2: Ethiopia: Selected Economic and Social Indicators (Annual Frequency) *(continued)*

Fiscal year ending July 7	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average 2004–2013
External Accounts											
Export growth (%, yoy)	24.4	41.1	18.1	18.7	23.1	–1.0	38.3	37.1	14.8	–2.5	21.2
Import growth (%, yoy)	39.3	40.4	26.4	11.6	32.8	13.4	7.7	–0.2	34.0	3.7	20.9
Merchandise exports (current US$ billions)	0.6	0.8	1.0	1.2	1.5	1.4	2.0	2.7	3.2	3.1	1.8
of which coffee exports (current US$ billions)	0.2	0.3	0.4	0.4	0.5	0.4	0.5	0.8	0.8	0.7	0.5
Merchandise imports (current US$ billions)	2.6	3.6	4.6	5.1	6.8	7.7	8.3	8.3	11.1	11.5	7.0
Services, net (current US$ billion)	0.3	0.3	0.1	0.2	0.1	0.4	0.5	0.8	0.2	0.5	0.3
Service exports (current US$ billion)	0.9	1.0	1.1	1.3	1.6	1.9	2.0	2.6	2.8	2.9	1.8
of which travel	0.2	0.1	0.2	0.2	0.3	0.4	0.4	0.7	0.7	0.5	0.4
Service imports (current US$ billion)	0.6	0.7	1.0	1.1	1.5	1.5	1.5	1.8	2.6	2.3	1.5
Private transfers, net (BoP, current US$ billions)	0.8	1.0	1.2	1.7	2.4	2.7	2.7	3.2	3.2	3.9	2.3
Current account balance before grant (BoP, current US$ billions)	–1.0	–1.5	–2.3	–2.1	–2.8	–3.2	–3.2	–2.1	–4.6	–4.0	–2.7
Current account balance after grant (BoP, current US$ billions)	–0.4	–0.7	–1.4	–0.9	–1.5	–1.6	–1.3	–0.2	–2.8	–2.5	–1.3
Foreign Direct Investment (current US$ bilions)	0.2	0.2	0.4	0.5	0.8	0.9	1.0	1.2	1.1	1.2	0.7
External debt, total (Current US$, billion)	7.4	6.0	5.7	2.3	2.8	4.4	5.6	7.8	8.9	11.1	6.2
Merchandise exports (% of GDP)	6.0	7.0	6.7	6.1	5.5	4.5	6.8	8.8	7.4	6.6	6.5
of which coffee exports (% of GDP)	2.2	2.8	2.4	2.2	2.0	1.2	1.8	2.7	1.9	1.6	2.1
Merchandise imports (% of GDP)	26.0	29.8	30.6	26.5	25.6	24.3	28.1	26.3	25.8	24.5	26.8
Services, net (% of GDP)	3.1	2.3	1.0	0.8	0.5	1.3	1.7	2.4	0.4	1.0	1.5
Service exports (% of GDP)	9.0	8.3	7.4	6.7	6.0	6.1	7.0	8.2	6.6	6.1	7.1
of which travel (% of GDP)	1.6	1.1	1.0	0.8	1.1	1.1	1.2	2.3	1.6	1.1	1.3
Service imports (% of GDP)	5.9	6.0	6.4	5.9	5.5	4.8	5.2	5.8	6.2	4.9	5.7
Private transfers, net (BoP,% of GDP)	7.8	8.4	8.2	8.8	9.0	8.5	9.2	10.1	7.6	8.3	8.6
Current account balance before grant (BoP, % of GDP)	–9.8	–12.5	–15.0	–10.7	–10.6	–10.0	–10.9	–6.6	–10.7	–8.6	–10.5
Current account balance after grant (BoP, % of GDP)	–4.1	–6.1	–9.2	–4.5	–5.7	–5.1	–4.4	–0.7	–6.5	–5.4	–5.2
Foreign Direct Investment (% of GDP)	1.5	1.2	2.4	2.5	3.1	2.8	3.3	4.0	2.5	2.6	2.6
External debt, total (% of GDP)	73.3	48.9	37.3	11.8	10.4	14.8	20.1	26.1	21.3	24.3	28.8
Multilateral debt (% of total external debt)	63.5	82.7	81.1	51.6	55.7	46.7	48.6	46.0	45.4	45.0	56.6
Debt service ratio (% of goods and NFS)	10.7	8.9	8.0	7.3	2.9	2.3	2.7	4.5	6.9	9.3	6.4

(continued on next page)

Annex 2: Ethiopia: Selected Economic and Social Indicators (Annual Frequency) *(continued)*

Fiscal year ending July 7	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Average 2004–2013
Population, Employment and Poverty											
Population, total (millions), UN	74.1	76.2	78.3	80.4	82.6	84.8	87.1	89.4	91.7	94.1	83.9
Unemployment Rate (urban)			17.0			20.4	18.9	18.0	17.5	16.5	18.1
Poverty headcount ratio at national poverty line (% of population)		38.7						29.6			34.2
Poverty headcount ratio at $1.25 a day (PPP) (% of population)		39.0						30.7			34.8
Poverty headcount ratio at $2 a day (PPP) (% of population)		77.6						66.0			71.8
Inequality — Income Gini		29.8						29.8			29.8
Population Growh (annual %)	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.7
Life Expectancy	55.6	56.6	57.6	58.7	59.7	60.6	61.5	62.3	63.0		59.5
Others:											
GDP (current LCU, billions)	86	105	130	170	246	332	379	506	739	853	354
Nominal GDP (current US$, billions)	10	12	15	19	27	32	29	31	43	47	27
Doing Business (rank) [a]			101	97	102	116	107	104	111	124	108
Human Development index ranking [b]		170	170	169	169	171	157	174	172	173	169
CPIA (overall rating)		3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.4		
Economic management		3.7	3.5	3.5	3.3	3.7	3.7	3.7	3.5		
Structural policies		3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2		
Policies for Social Inclusion and Equity		3.6	3.6	3.7	3.6	3.6	3.6	3.7	3.7		
Public Sector Management and Institutions		3.1	3.3	3.3	3.3	3.2	3.2	3.3	3.4		

Note:

[a] This indicator is ranked out of 175 countries in 2007, 178 in 2008, 181 in 2009 and 183 in 2010 and 2011.

[b] The HDI ranking in 2001 is in relation to 175 countries; from 2005 to 2008, to 177; in 2009, to 181; in 2010, to 169 countries; and, from 2011–2013 to 187 countries.

*Consolidated public sector primary balance includes SOE which is derived from the financing side while the primary fiscal balance includes federal and regional government but exclude SOEs.

Annex 3: Product Space Analysis of Ethiopian Exports[41]

Over the past decade, Ethiopia has undergone some transformation in the production of goods. This transformation is reflected in the increase in the number of products in which it has demonstrated comparative advantage, from about 56 to 71. These are products in which Ethiopia has performed better in world markets compared to its overall export performance. The change in industrial structures is slightly more dramatic when comparing 2012 with 1992 (not shown). In Figure 3.1 Map 1 (left panel), 46 of the 56 black dots (products with RCA>1 in 2001–02) belong to the primary sector. An additional six belong to manufactures derived from materials (with origins in the primary sector, such as leather). Only two products belong to sectors that are deemed sophisticated, namely organic chemicals (5983) and power generating machines (7188). A decade later, 43 out of the 71 products belonged to the primary sector. Fifteen products had an RCA in material-based manufacturing. About 10 products belonging to apparel (84) also had a Revealed Comparative Advantage. The maps illustrate that Ethiopia has begun to have a foothold in light, labor-intensive manufacturing such as leather-based industries as well as apparel.

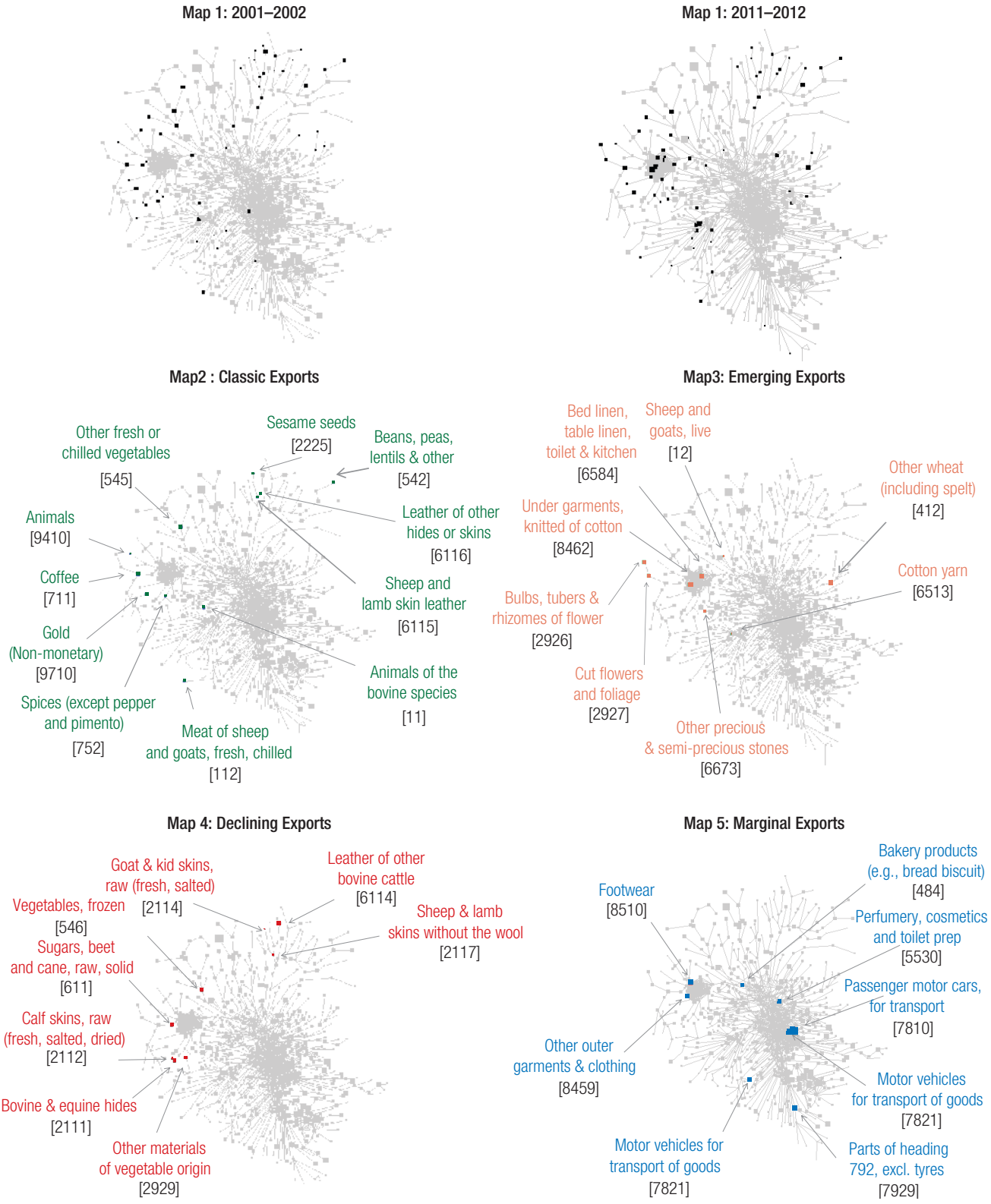
There were 30 products that had a revealed comparative advantage (RCA>1) in both 2001–02 and 2011–12. Nineteen of these contributed more than 1 percent each of the national export value in 2011–12. Table 3.1 filters products, at a more disaggregated (SITC 4-digit) level, through the lens of significance in each of the four categories described next. In this report "significant" exports are those that had RCAI>1 in both 2001–02 and 2011–12. The most important are coffee, sesame, and vegetables, which together account for more than 50 percent of total goods exports in 2011–12. Figure 3.1 Map 2 shows some of such significant exports in Ethiopia. Figure 3.1 Map 3 shows "emerging" exports: those that had RCA<1 in 2001–02 but RCA>1 in 2011–12. There were at least 33 of these, including a prominent category of cut flowers/foliage, wheat, and bulbs, cuttings, plants. Figure 3.1 Map 4 shows "stagnating" or declining exports as those that had RCA>1 in 2001–02 but not in 2011–2012. There were 26 such export products. The most prominent include raw materials of vegetable origin, sugars/beets, sugar cane, sheep, lamb skin (without the wool), and raw hides of goats, and calf skins.

There were hundreds of "marginal" exports, but only eight had a share of more than 0.1 percent in national exports in the most recent years. Figure 3.1 Map 5 shows "marginal" exports as those that had RCA<1 in both 2001–02 and 2011–12. They include footwear leather, meat of bovine animals, bread/pastry, and motor vehicles. Analyzing why these marginal products continue to be exported, but not in a competitive manner could shed light on the country's export promotion efforts. Indeed, although Ethiopia's emerging exports include the highly promising horticulture items, several "marginals" are located close to the more "desirable" clusters of product space. They are desirable because a denser network between products suggests that those products share a high degree of knowledge about production techniques, facilitating a speedier pace of structural transformation.

Ethiopia could pay closer attention to the tradeoff between density of exports and complexity/sophistication. Figure 3.2 shows the tradeoff between

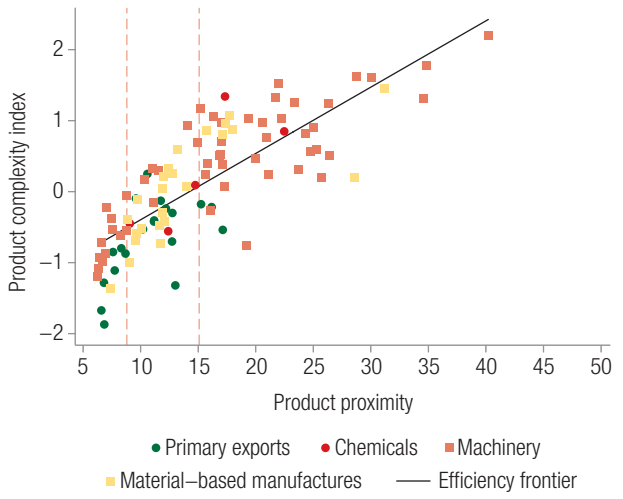
[41] According to the pioneers of the product space analytical tool, Hausmann et al. (2007), every product requires capabilities and knowledge that are specific to that activity, from labor-training and physical assets to regulatory requirements, property rights, and infrastructure. The ease with which an economy can move to producing new exports depends on what its installed capability looks like already. The main hypothesis of the product space methodology is, therefore, that firms or nations that build up competence in producing a certain good can redeploy and adapt their human, physical, and institutional capital more easily if they seek to produce goods that are "nearby" those that they are producing already. Nearby goods share similar productive knowledge: a country that makes one good is likely to also have the capabilities to produce others that are adjacent on a network of tradable merchandise goods that maps the distance between pairs of products that are co-exported by a large number of countries world-wide. The greater the proximity, the easier it is for goods to be newly produced or scaled up, helping identify future opportunities in trade, production, and innovation. The process of structural transformation through reallocation of production (and employment) from low-productivity to high productivity sectors requires market failures to be redressed so that firms can move longer distances in the product space.

FIGURE 3.1: Ethiopia's Product Maps



Source: Author's own calculations utilizing the Product Space Methodology.

FIGURE 3.2: Complexity and Density Tradeoff in Ethiopia



Source: Product Complexity Index (av. for 2007–09) obtained from The Observatory of Economic Complexity; Density calculated by authors from COMTRADE data.
Note 1: The efficiency frontier is a regression fit of PCI on density.
Note 2: Brown dashed lines indicate the mean (15) and the threshold of 1 s.d. below it (8.7).
Note 3: Product density measures the proximity of a product to an existing basket of exports with RCA.

proximity—the inverse of density[42]—and the complexity of 102 marginal exports with a share of at least 0.005 percent in 2012. The relationship is upward-sloping, i.e., the more sophisticated products are also harder to reach. In addition, the graph shows that exports that are not yet significant require capabilities already acquired by successful (other) exports and which are relatively sophisticated. Among those are footwear, oilcake, knitted undergarments of synthetic fibers, knitted clothing accessories of textile fabrics, luggage and handbags, clothing accessories of textile fabrics, and women's coats and jackets. This finding is consistent with what was highlighted as Ethiopia's emerging advantages in apparel and leather manufacturing. Furthermore, an expanded list of 14 large "marginal" exports indicates that some fairly sophisticated manufacturing products (such as cars and aircraft parts) embody capabilities that are proximate to existing export competencies (Table 3.2).

[42] Density and proximity are related concepts. The higher the density of a product, the closer it is to existing exports with RCA.

TABLE 3.1: Evolution of Significance of Exports

Status	SITC	Product	Share 2002	Share 2012	RCA 2002	RCA 2012	Product Complexity (Rank)
Significant	711	Green & roasted coffee	37.16	31.33	338.2	160.3	744
Significant	2225	Sesame seeds	6.8	14.11	960.6	1124.8	768
Significant	545	Other fresh or chilled vegetables	0.74	9.21	4.2	60.3	667
Significant	542	Dried or shelled legumes	6.25	6.1	142.2	128.4	724
Significant	9710	Gold, non-monetary	0.98	5.4	2.9	4	756
Significant	11	Live bovines	0.1	4.21	1.5	79.7	444
Significant	6115	Sheep & lamb leather	6.75	2.66	282.4	334.3	734
Significant	112	Sheep & goat meat	0.38	2.48	9.4	67.3	638
Significant	9410	Live animals, N.E.S. (zoo animals, pets, insects, etc)	0.01	1.74	2.2	302.7	684
Significant	752	Spices other than pepper	0.82	1.03	31	41.6	708
Significant	6116	Leather of other hides or skins	4.56	1.02	187.1	57.8	733
Marginal	8510	Footwear	0.01	0.32	0	0.5	541
Marginal	7810	Cars	0	0.27	0	0.1	140
Marginal	111	Bovine meat	0	0.16	0	0.7	531
Marginal	7929	Aircraft equipment parts N.E.S.	0	0.15	0	0.4	320
Marginal	484	Bakery	0.03	0.15	0.2	0.9	455

TABLE 3.1: Evolution of Significance of Exports

Status	SITC	Product	Share 2002	Share 2012	RCA 2002	RCA 2012	Product Complexity (Rank)
Marginal	8459	Other knitted outerwear	0.03	0.14	0.1	0.4	659
Marginal	5530	Perfumery & cosmetics	0.01	0.13	0	0.3	379
Marginal	7821	Trucks & vans	0	0.13	0	0.2	303
Emerging	2927	Flora	0.02	6.03	0.3	101.7	715
Emerging	412	Other wheat & meslin, unmilled	0	1.31	0	4.9	521
Emerging	2926	Live plants	0	0.82	0	12.7	602
Emerging	12	Live sheep & goat	0.01	0.76	0.6	89.2	675
Emerging	6513	Cotton yarn	0	0.36	0	4.5	729
Emerging	6673	Not mounted precious stones	0	0.31	0	14.9	566
Emerging	6584	Linens & furnishing textile articles	0.06	0.28	0.4	1.9	622
Emerging	8462	Knitted undergarments of cotton	0.01	0.28	0	1.4	669
Declining	2929	Vegetable origin materials	11.78	0	302	0	583
Declining	2117	Raw sheep skin with wool	1.52	0	275.2	0	758
Declining	611	Raw sugar beet & cane	2.6	0	37.4	0	754
Declining	2112	Raw calf skins	1.38	0	115.7	0	625

Source: Authors computation from UN Comtrade data.
Note 1: Rank out of 786; 1 is top.

TABLE 3.2: Prominent Marginal Exports

SITC	Product	Density	RCA in 2012
8459*	Other knitted outerwear	0.16	0.4
813	Oilcake	0.12	0.5
8510*	Footwear	0.12	0.5
111	Bovine meat	0.10	0.7
8219*	Furniture parts N.E.S.	0.09	0.2
484	Bakery	0.08	0.9
1124	Alcoholic beverages	0.08	0.5
5530*	Perfumery & cosmetics	0.07	0.3
1123	Beer	0.06	0.8
7821*	Trucks & vans	0.06	0.2
7810*	Cars	0.05	0.1
7822*	Special purpose trucks & vans	0.05	0.9
7929*	Aircraft equipment parts N.E.S.	0.04	0.4
7234*	Construction & mining machinery	0.04	0.2

Source: Calculated by authors based on data from UN Comtrade.
Note 1: * Indicates manufactured exports belonging to SITC Sections 5–8.

Annex 4: Exporter Dynamics in Selected Products (2008–12)

Coffee[43]

Coffee is the leading goods export for Ethiopia although its share in total exports declined from 36 percent to 32 percent in 2008–2012. The export unit price grew nearly 60 percent between 2008 and 2011, but declined almost 20 percent between 2011 and 2012. Despite this price decline, coffee export growth remained positive in that year as the quantity of coffee exports expanded. It is important to highlight that while the value of coffee exports has grown every year between 2009 and 2012 the growth rate has decelerated (Figure 3.3.1).

Ethiopia's coffee exporters are growing in numbers from 132 firms in 2008 to over 210 in 2012. Coffee exporters represented only 11 percent of Ethiopia's total number of exporters in 2012, but captured 32 percent of the country's total exports (Figure 3.3.2).

The largest exporters (selling more than US$5 million per year) account for nearly 80 percent of Ethiopian coffee exports (Figure 3.3.3). Rather small companies largely occupy the remaining 20 percent of the coffee market with sales ranging from US$100 thousand to US$500 thousand per year. Another way of showing the domination of large companies in the coffee market is by looking at number and market shares of companies with more or less than US$1 million sales per year. Forty-five percent of coffee exporters sold more than US$1 million per year in 2012 and they accounted for over 95 percent of Ethiopia's coffee exports. The other 55 percent of exporters barely accounted for 5 percent of exports (Figure 3.3.4).

The coffee market is relatively static without many opportunities for new export firms to enter into business. Incumbent (established) exporters constitute around 70 percent of the total number of coffee exporters (Figures 3.3.5 to 3.3.6). Although the number of entrants declined in 2012 relative to previous years the entrants' share of exports in total coffee exports surged. This suggests that entrants in 2012 were larger than entrants in previous years.

Unequal survival rates across different key markets suggest a re-orientation of coffee exports. The one-year survival rates of new Ethiopian coffee exporters to the EU fell dramatically from 88 in 2009 to 61 percent in 2011 and those to the U.S. also fell during the same period from 73 to 55 percent (Figure 3.4). In contrast, one-year survival rates of new Ethiopian coffee exporters to Japan and to Saudi Arabia have increased. Due to a ban on coffee exports to Japan in 2009, the exit rate that year of coffee exporters was high (70 percent). But by 2010 there was a high entry rate again combined with a low exit rate.

Oil seeds[44]

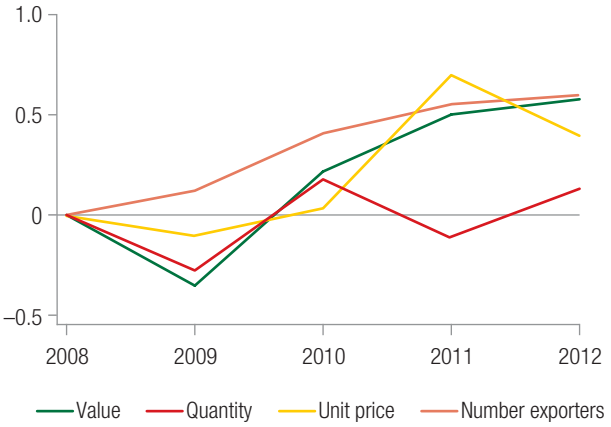
Oil seeds are the second largest merchandise export for Ethiopia, representing 17 percent of total exports in 2012. Among oil seeds, sesame is the most important. Since 2009 oil seed exporters have enjoyed stable prices and the number of oil seed exporters has remained practically unchanged at around 180 exporters (Figure 3.5.1). The share of Ethiopian exporters that export oil seeds is low at around 10 percent. In 2009 and 2012, the years with large increases in export quantities, the share of entrants was larger than the share of exiters (Figure 3.5.2).

The average size of oil seeds exporters increased from US$2 million in 2008 to US$2.5 million in 2012. This increase in the average size of exporters was driven by the increase in the average size of incumbent exporters, as the average size of entrants actually declined over the (Figure 3.5.3). The largest exporters selling more than **US$**5 million represent 12 percent of

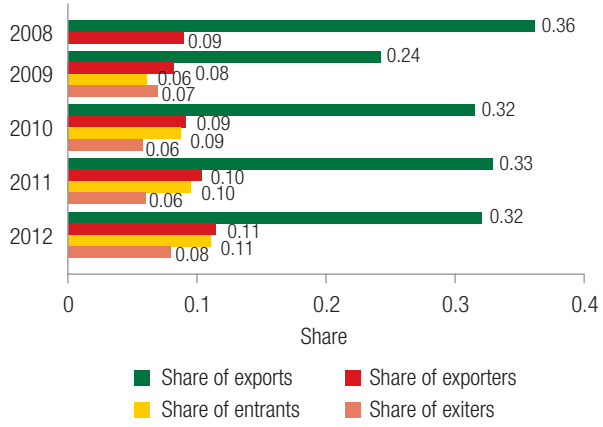
[43] Coffee exports are defined as exports of products within 4-digit HS code 0901.
[44] Oil Seeds exports are defined as exports of products within 4-digit HS code 1207.

FIGURE 3.3: Exporter Dynamics: Coffee

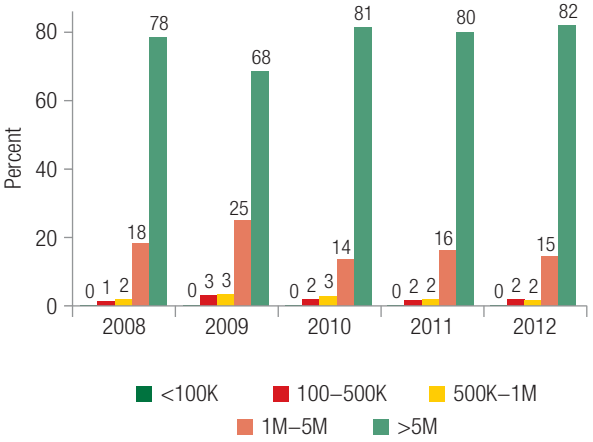
1. Trends of Coffee Exports and Exporters



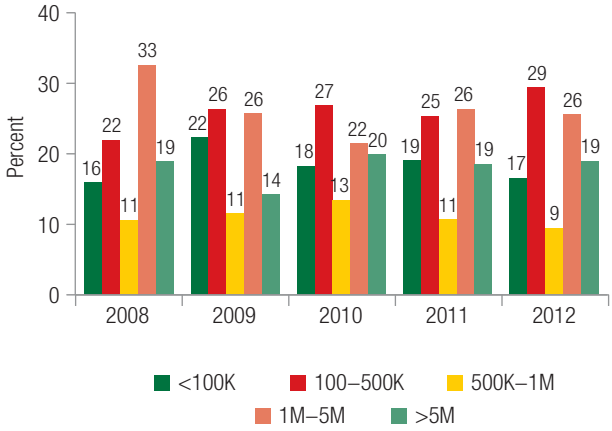
2. Shares of Coffee Exports and Exporters



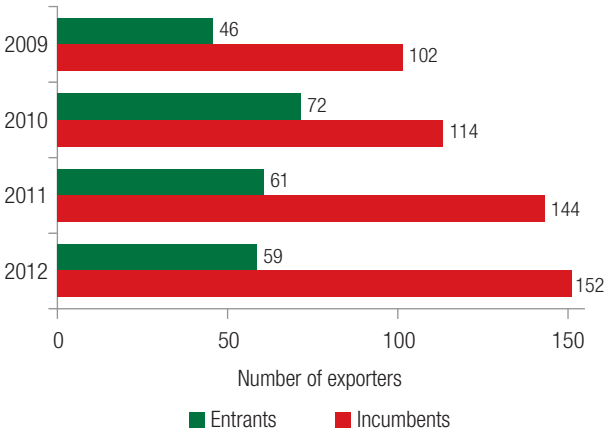
3. Size Distribution of Value of Exports



4. Size Distribution of Number Exporters



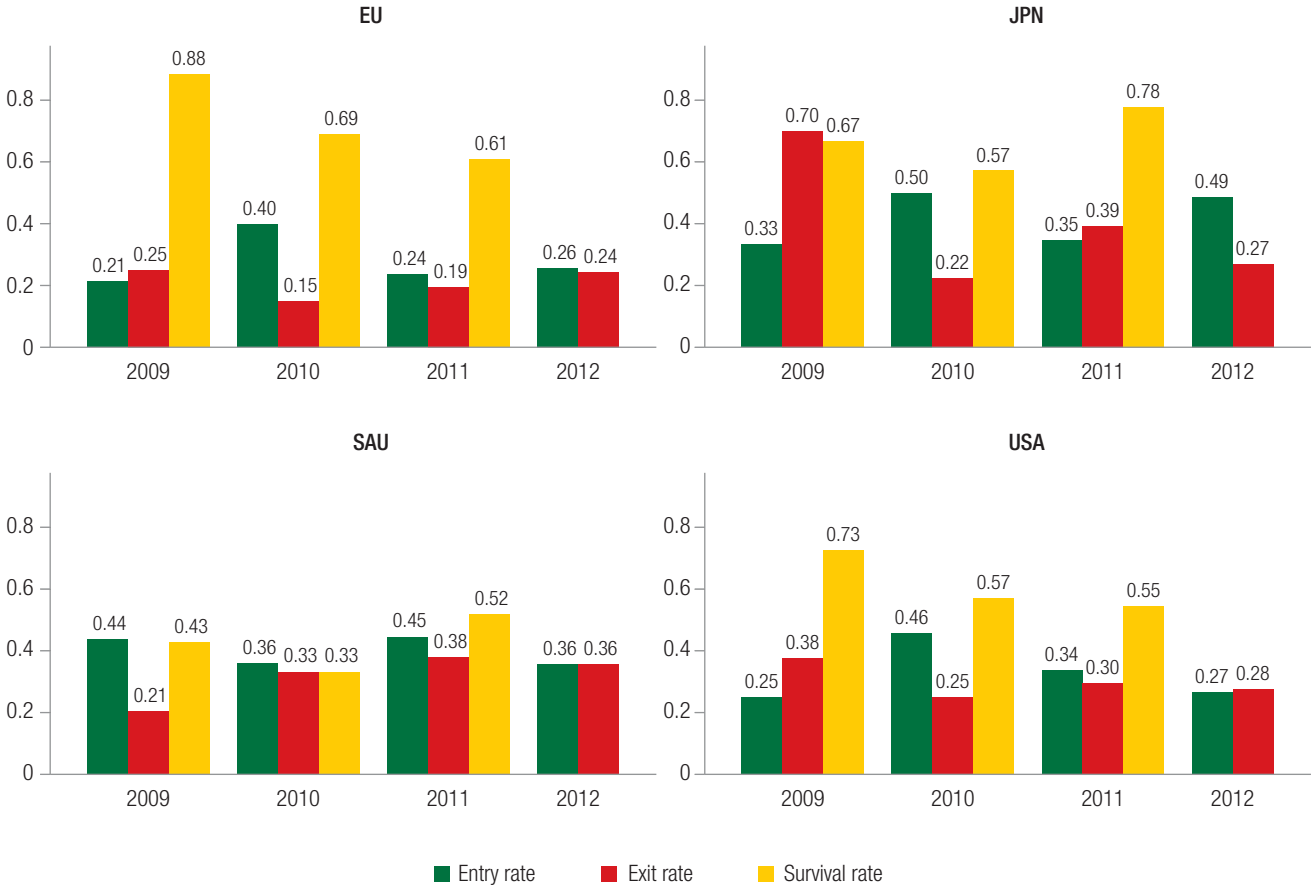
5. Numbers of Entrants and Incumbents



6. Entrants' Shares of Coffee Exports

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of coffee exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian coffee exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.4: Dynamics of Coffee Exporters in Main Destinations



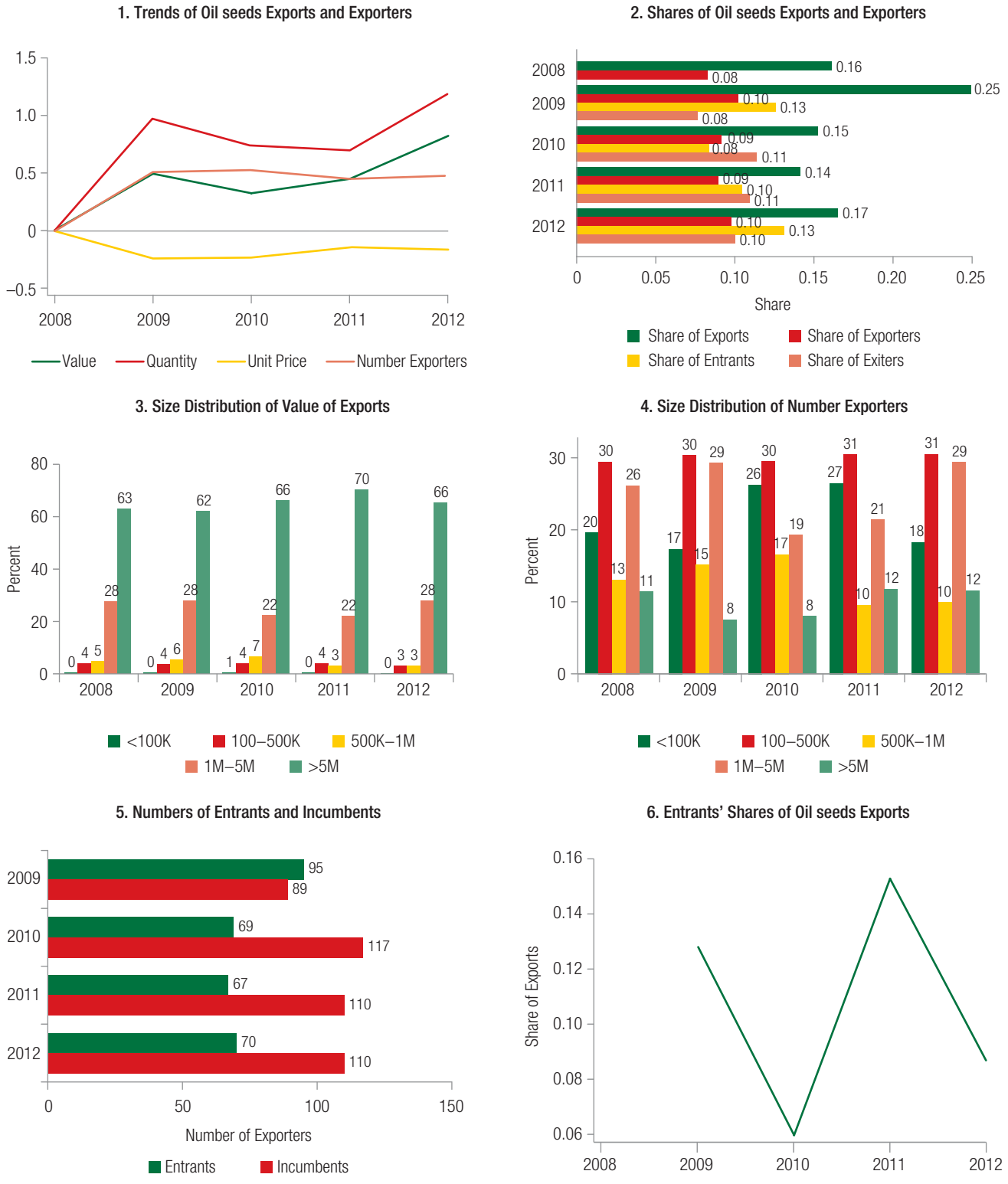
Source: Authors' calculations based on data used for the Exporter Dynamics Database.

exporters in 2012, a relatively high share for this size group (by comparison to other sectors) and those exporters account for 66 percent of total oil seed exports (Figure 3.5.4).

After a large boom of entrants into oil seed exports in 2009, the entry rate declined rapidly in 2010 and remained stable thereafter. At the same time the exporter exit rate has been increasing. Slightly more than 25 percent of oil seeds exporters in 2009 did not export in the following year and that rate increased to over 40 percent in 2011. However, the exit rate declined between 2011 and 2012, which allowed the entry rate to surpass the exit rate and increasing the number of exporters in net terms (Figures 3.5.5–3.5.6).

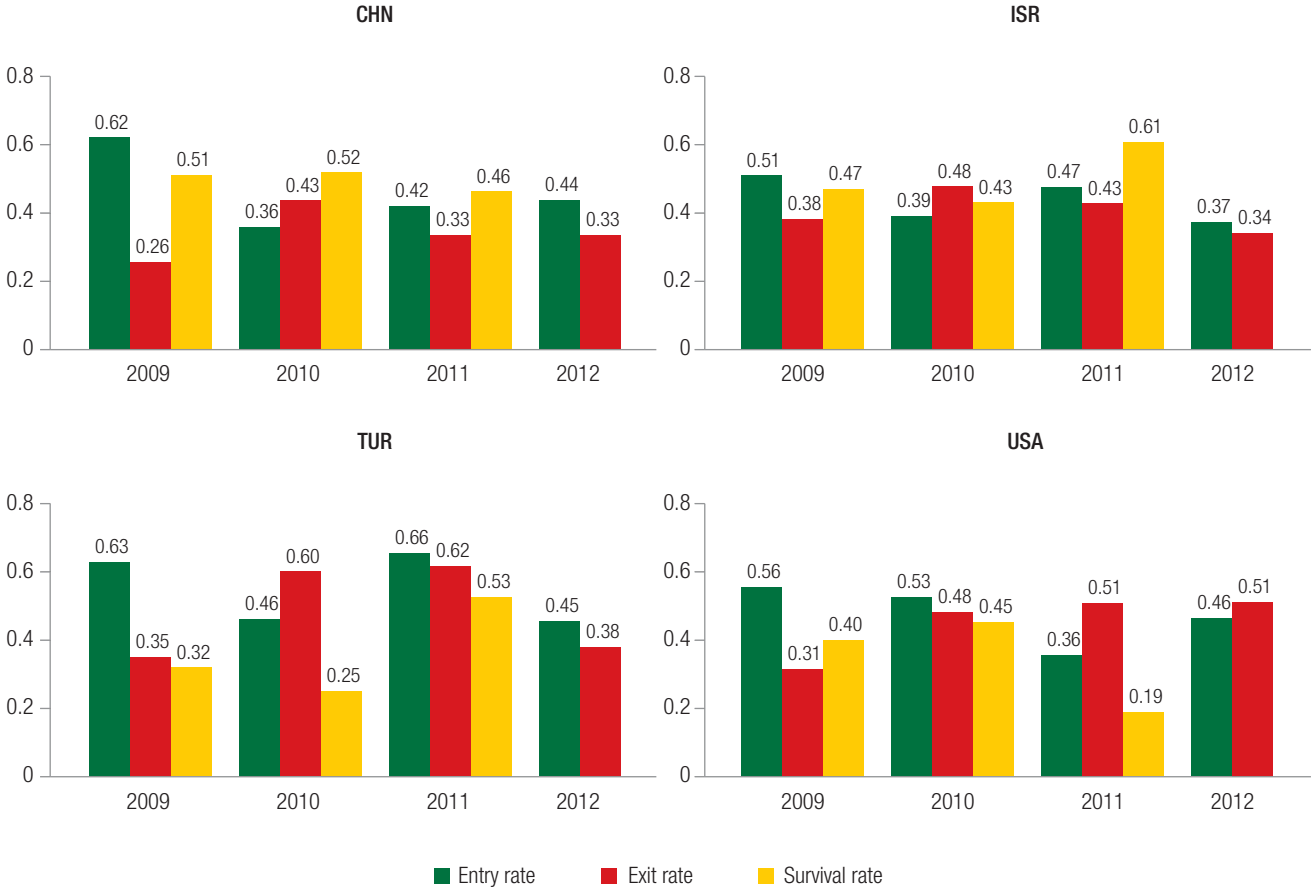
After a big surge of Ethiopian exporter entrants into the Chinese market in 2009, the exit rate also increased dramatically so somewhat correcting for the previous influx. At the same time the U.S. seems to be a declining market for Ethiopia oil seeds exports as its share of exports has declined every year since 2008. Survival rates are mixed across destination markets. Among all markets, the highest one-year survival rate in 2011 was verified for new exporters to Israel (61 percent) while the lowest was verified for new exporters to the U.S. (19 percent). Furthermore, exit rates of Ethiopian oil seed exporters to the U.S. have been rising reaching 51 percent in 2012. In fact, entry rates were higher than exit rates in all main destinations except the U.S. in 2012 (Figure 3.6).

FIGURE 3.5: Exporter Dynamics: Oil seeds



Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of oil seeds exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian oil seeds exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.6: Dynamics of Oil Seeds Exporters in Main Destinations



Source: Authors' calculations based on data used for the Exporter Dynamics Database.

Cut flowers[45]

Cut flowers account for approximately 7 percent of total Ethiopian exports and both the quantities and values of exports of cut flowers increased between 2008 and 2011. Unit prices of cut flowers exports have declined slightly since 2008. However, the number of Ethiopian exporters of cut flowers has declined substantially from 125 in 2009 to 80 in 2012 (Figure 3.7.1). The share of the cut flowers sector in the total number of exporters was 4 percent in 2012 and that sector's share of total entrants as well as of total exiters was a mere 1 percent. The smaller shares of entrants and exiters relative to the shares of total exporters suggest less dynamism in the sector relative to other exporting sectors in Ethiopia (Figure 3.7.2).

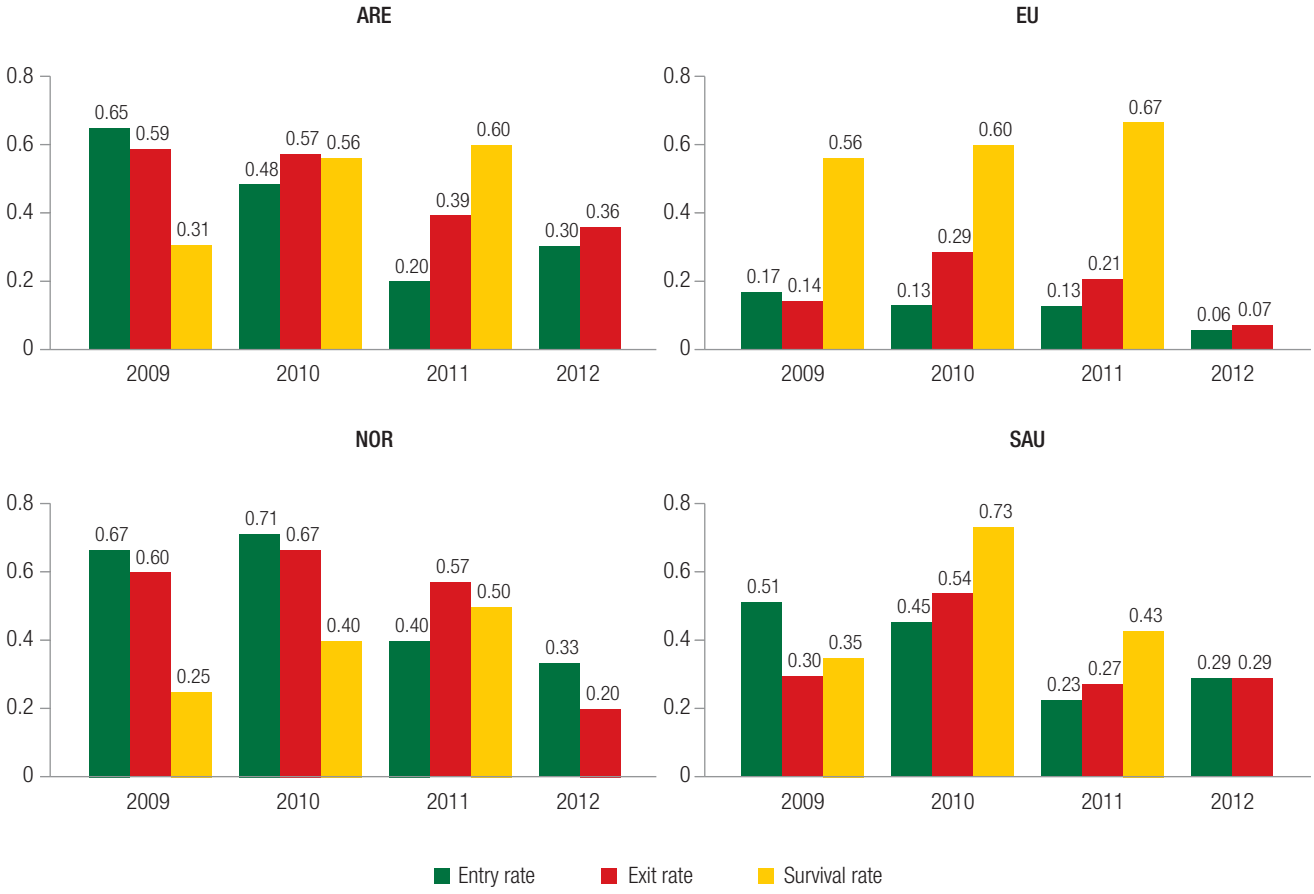
The average size of cut flowers exporters more than doubled between 2008 and 2012. Growth in average exporter size was entirely driven by growth of incumbent exporters as the average size of entrants actually declined (3.7.3). The share of the largest exporters of cut flowers selling more than US$5 million increased from 5 to 8 percent of the total number of exporters over the period. Furthermore, these largest exporters increased substantially their share of total cut flower exports from 37 percent in 2008 to 59 percent in 2012. Moreover, the share of exporters selling US$1–5 million also increased substantially from 23 percent in 2008 to 36 percent in 2012 (3.7.4).

[45] Cut flowers exports are defined as exports of products within 4-digit HS code 0603.

FIGURE 3.7: Exporter Dynamics: Cut flowers

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of cut flowers exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian oil seeds exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.8: Dynamics of Cut Flowers Exporters in Main Destinations



Source: Authors' calculations based on data used for the Exporter Dynamics Database.

The Ethiopian cut flowers export sector is becoming dominated by large incumbents. The importance of entrants both in terms of the number of exporters and of total exports has declined dramatically, the latter falling from over 15 percent in 2009 to less than 1 percent in 2012. The number of cut flower exporters in Ethiopia dropped dramatically between 2009 and 2012. Entry and exit rates show how the exit rate of cut flower exporters surpassed the entry rate in 2009; this was only slightly reversed in 2012 (Figures 3.7.5–3.7.6).

Looking at destinations, entry rates into the EU declined until 2012 while exit rates increased, making the EU a declining market for Ethiopian exporters. At the same time the one-year survival rate of new exporters in the EU is largest among all destinations (at more than 60 percent) and it increased every year since 2008. Norway exhibits the highest exporter entry rates in every year but also the highest exit rates (Figure 3.8).

Textile and Garments[46]

Within light manufacturing, textiles and garments represent an important industry, yet exports accounted for only 2 percent of Ethiopia's total. The number of Ethiopian textilesexporters grew between 2009 and 2010 reaching 150 but then

[46] Textiles and Garments exports are defined as exports of products with 2-digit HS codes between 50 and 63. For the remainder of this section the textiles and garments sector is referred to as "textiles".

declined to 120 in 2012, which was the same number as in 2008. Although textiles account for only 2 percent of Ethiopia's total exports, they account for 7 percent of the total number of exporters (Figure 3.9.2) Furthermore, the share of textiles in exporter entry and exit tends to be higher than their share in total exporters.

The textile export sector is characterized by a high concentration of a few large firms (Figure 3.9.3 and 3.9.4). The two largest categories of exporters selling over US$1 million represented a total of 5 percent of exporters and 84 percent of Ethiopia's textiles exports in 2012—with a rising trend over time. In contrast, the large majority of exporters—more than 72 percent in any given year—exported less than US$100,000 and accounted for a mere 3 percent of total textiles exports.

There was a high turnover in the textiles sector between 2008 and 2010, when the number of entrants into textiles exports was larger than the number of incumbent exporters (Figure 3.9.5). This picture changed more recently with less new entrants in 2011 and 2012, showing less dynamism in the sector. For instance, the entrants' share in total textiles exports declined from 23 percent in 2010 to 10 percent in 2012 (Figure 3.9.6). So since 2011 the exit rate has been higher than the entry rate explaining the recent decline in the number of textiles exporters.

Low survival rates among Ethiopian textiles exporters in the EU are of particular concern given the overall importance of the EU market in those products (Figure 3.10). The exit rate has exceeded the entry rate in all years except 2010 for Ethiopian textile exporters in the EU. In 2012, for instance, the exit rate was 43 percent compared to an entry rate of 33 percent. Furthermore, overall entry and exit rates into the EU are low. This is in contrast to other non-EU destination markets for Ethiopian textiles, where entry and exit rates are consistently higher than in the EU. This indicates more "churning" in those smaller markets compared to the large EU market.

Leather and Leather Products[47]

The share of leather exports has halved between 2008 and 2012. This was driven by a sharp decline in quantity (Figure 3.11.1), which could not be offset by unit price increases of over 300 percent in the same period. Ethiopian leather exporters initially seemed to have weathered the 2009 financial crisis fairly well, as the number of firms remained almost unchanged until 2010 and increased by 30 percent (to reach 65) in 2011. But the number of exporters, export quantity, and value declined in 2012. This is related to the overall policy environment. In 2011, the government de facto fixed the price with the goal of stemming price increases in the local leather market. This generated an opportunity for arbitrage, with cheap skins and hides bought in the local market and exported at a profit. In December 2011, the government imposed a 150 percent tax on exports of crust leather (which represented about 40 percent of Ethiopian leather exports in 2011), to protect the domestic market

The Ethiopian leather sector sees more exits from their export businesses than the average export community does. The share of Ethiopian leather exporter exiters in total exiters in 2009 was nearly double their share in total exporters (Figure 3.11.2) indicating a disproportionate presence of exiters in this sector relative to other export sectors. In contrast, the share of leather exporter entrants in total entrants exceeded that in total exporters in 2011. The fast growth in the number of leather exporters in 2011 accompanied by the quick fall in 2012 seem to be closely related to the described changes in the policy environment in 2011 and 2012.

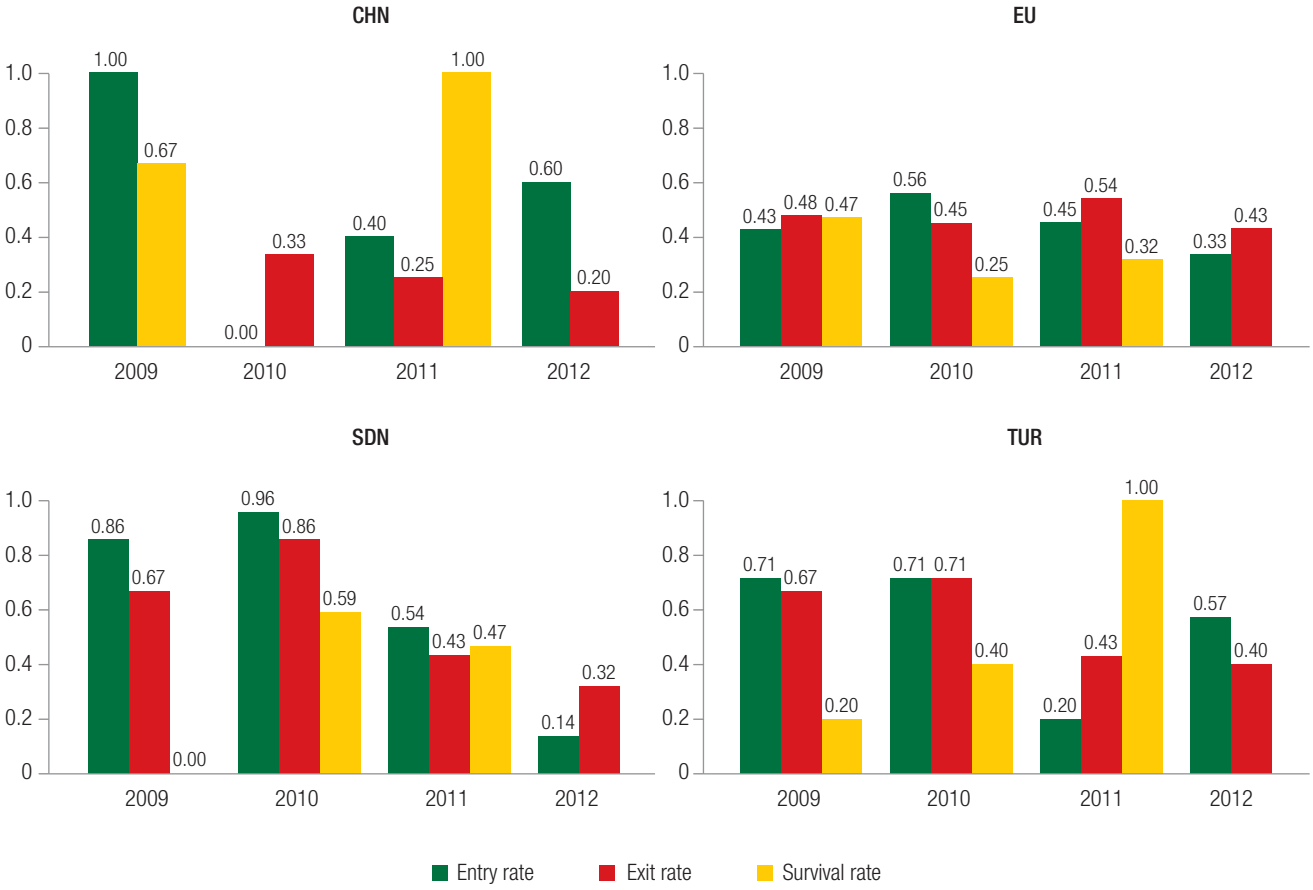
Leather exports are dominated by large exporters; in 2012, 94 percent of exports corresponded to exporters selling over US$1 million (which represented 31 percent of exporters, Figure 3.11.3).

[47] The Leather and Leather Products sector is defined as exports of products with 2-digit HS codes 41 and 42. For the remainder of this section the leather and leather products sector is referred to as "leather".

FIGURE 3.9: Exporter Dynamics: Textile and Garments Exports

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of textile exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian leather exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.10: Dynamics of Textile Exporters in Main Destinations



Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database

Yet, the majority of leather exporters are small, 50 percent or more sell less than US$100,000 in any given year and they account for a minimal share of total leather exports. While skewed, the size distribution of leather exporters has been rather stable across years. The only noticeable changes have been an increase in the share of exports accounted for by the largest exporters (above US$5 million) and a fall in the share of exports accounted for by exporters selling US$1–5 million.

Leather is a fairly dynamic sector, where the number of new leather exporters exceeded the number of incumbents both in 2009 and 2011 (Figure 3.11.5 and 3.11.6). Yet, the policy environment triggered some of this recent activity.

China is a particular appealing market for Ethiopian leather exporters. In China, entry rates are very high relative to exit rates in every year except 2012 when exit rates exceed entry rates (Figure 3.12). Moreover, the Chinese market is characterized by very high one-year survival rates for new exporters (above 70 percent), although survival rates declined over the past years. Similarly, entry rates have been substantially higher than exit rates over the last three years in Hong Kong, China, and new exporters have also enjoyed high rates of survival beyond their first year exporting to that market. New leather exporters to the EU also have high one-year survival rates but not as high as in other destinations.

FIGURE 3.11: Exporter Dynamics: Leather and Leather Exports

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of leather exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian leather exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.12: Dynamics of Leather Exporters in Main Destinations

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.

Live animals[48]

Ethiopia's exports of live animals represented 3 percent of total exports in 2008 and increased to 7 percent in 2012. Unit prices of live animals exports remained nearly flat during this period thus growth in export values was entirely driven by growth in quantities exported. The number of live animal exporters exhibits the same exceptional growth from 100 in 2008 to 350 in 2011 (Figure 3.13.1). However, value, quantity, and number of exporters experienced a substantial decline in 2012 while the unit price increased. Entrants into live animals exports account for a larger share of total entrants than exporters of live animals account for in total exporters. Also live animal exiters represented a particularly high—25 percent—share of total exiters in 2012 (Figure 3.13.2).

The average size of live animals exporters has nearly unchanged between 2008 and 2012. On the other hand, the average size of incumbents peaked in 2010 and declined thereafter, whereas the average size of entrants was mostly flat until 2010 then declined (3.13.3). In 2012 81 percent of live animal exporters sold less than US$500 thousand while only 3 percent of exporters sold more than US$5 million. Both of these shares were up from the corresponding values

[48] The Live Animals sector is defined as exports of products with 2-digit HS code 01.

FIGURE 3.13: Exporter Dynamics: Live Animals

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of live animals exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian live animals exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.14: Dynamics of Live Animal Exporters in Main Destinations

Source: Authors' calculations based on data used for the Exporter Dynamics Database.

in 2008. So mid-sized exporters are essentially disappearing (Figure 3.13.4).

Live animal exports' entry rates increased dramatically between 2009 and 2010 and remained high in 2011 but collapsed in 2012. Exit rates were the mirror image of entry rates. A rapid decline in the number of live animals exporters between 2011 and 2012 was accompanied by a rapid decline in entrants' share of exports. In 2012, exit rates surpassed entry rates thus explaining the fall in the number of live animals exporters in that year (Figures 3.13.5–3.13.6).

Somalia and Egypt are Ethiopia's biggest destinations for live animal exports. But exporters in both markets have declining one-year survival rates since 2009. Also, exporter exit rates in Somalia, Egypt, and Sudan were higher than entry rates in 2012 indicating shrinking markets. The only main destination where entry rates remained higher that exit rates was Djibouti (Figure 3.14).

Meat and Meat Offal[49]

Ethiopian meat exports experienced an important expansion between 2008 and 2012 and represented 2.5 percent of total exports in 2012. Growth in the value of exports was mostly due to growth in the

[49] The Meat and meat offal sector is defined as exports of products within 2-digit HS code 02. For the remainder of this section we will refer to the meat and meat offal products sector as "meat".

FIGURE 3.15: Exporter Dynamics: Meat

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of meat exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian live animals exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.16: Dynamics of Meat Exporters in Main Destinations

Source: Authors' calculations based on data used for the Exporter Dynamics Database.

quantities exported, but the unit prices of meat exports also increased over 2010–2011. Unit prices continued to increase over 2011–2012 but the quantities exported declined, leading the value of meat exports to fall in that period (Figure 3.15.1). An important expansion in the number of meat exporters occurred between 2008 and 2010, which was prior to the very fast export growth period: there were 16 meat exporters in 2008 which increased to 34 in 2010 but declined to 25 by 2012 (Figure 3.15.2).

The average size of meat exporters increased between 2008 and 2012 driven mostly by growth in incumbent exporters' size from US$2.75 million to nearly US$5 million over the period. In contrast, the average size of entrants declined during the same period (3.15.3). A large share of meat exporters in Ethiopia are very large: more than 20 percent of exporters in 2012 had annual exports of more than US$5 million and they account for 95 percent of meat exports. Those large exporters of meat seem to have been affected by the global financial crisis of 2009 but have recovered since (Figure 3.15.4).

The number of meat exporter entrants exceeded that of incumbent exporters between 2009 and 2010. Although entry rates into meat exports were very high between 2009 and 2010, they declined since. Exit rates also increased between 2009 and 2010 but declined thereafter. In 2011 the entry rate dropped

below the exit rate and the gap between the two has widened indicating a shrinking meat export sector in Ethiopia (Figures 3.15.5–3.15.6).

The dynamics of meat exporters in its four major destinations show a worrying negative trend in exporter entry rates—from 60 percent in 2010 to only 13 percent in 2012. On the other hand this was accompanied by a positive trend in exporter exit rates from 40 percent in 2010 to 50 percent in 2012 in the Arab Emirates. One-year survival rates of new meat exporters in the Arab Emirates also declined from 2010 to 2011. Exporter entry rates into Saudi Arabia have also declined over the period while Hong Kong, which became a brand new destination for Ethiopian meat exporters in 2012, accounted already for 16 percent of total exporters (Figure 3.16).

Pulses[50]

Pulses accounted for 7 percent of Ethiopian exports in 2012, and while their export value declined in 2009 during the global financial crisis it recovered robustly thereafter. Export value, quantity, and unit prices of pulses have been on the rise since 2009. The number of Ethiopian pulses exporters was 380 in 2010 but declined to 330 in 2012 (Figure 3.17.1). Pulses exporters accounted for 18 percent of total exporters in Ethiopia in 2012. The pulses export sector appears to have a higher level of churning than other export sectors in Ethiopia as its share of total entrants and of total exiters exceeded its share of total exporters in all years (Figure 3.17.2).

With increasing unit prices and a declining number of exporters, the average size of pulses exporters increased between 2008 and 2012. While the growth in the average size of pulses exporters in 2012 was mostly driven by growth in the size of incumbent exporters, growth in the median size of pulses exporters is driven by the increase in the median size of entrants, which nearly doubled between 2009 and 2012 (3.17.3). The share of large exporters selling over US$5 million annually was almost zero before 2011 and increased to just 2 percent of total pulses exporters in 2012. Prior to 2011 the largest share of exports corresponded to exporters selling US$1–5 million annually but in 2012 that largest share corresponded to large exporters. It is also worth noting the high share of exports corresponding to mid-size exporters (Figure 3.17.4).

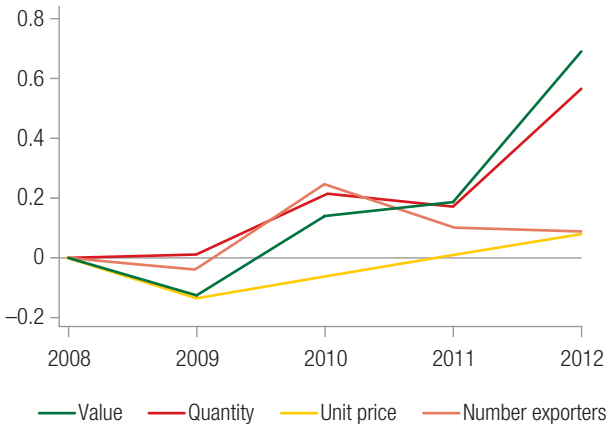
The number of entrants and incumbent exporters of pulses in Ethiopia was almost unchanged in 2008–2010. It only changed thereafter. In 2011 the number of entrants declined and that of incumbents increased and the share of incumbents in total exporters increased to 61 percent. The entrants' share of pulses exports also increased in 2010 and declined thereafter. There was a big decline in the exit rate of pulse exporters in 2010 but it rebounded in 2011. In contrast, entry rates increased slightly in 2009–2010 but declined in 2010–2011. While the gap between exit rates and entry rates narrowed in 2012, exit rates remained higher that entry rates (Figures 3.17.5–3.17.6).

Looking at destinations, Pakistan and India became the largest importers of Ethiopian pulses in 2012. The entry rate of pulse exporters into Pakistan was 59 percent while the exit rate was 30 percent in 2012. For India the corresponding numbers were 68 percent (entry) and the 42 percent (exit). Regarding Sudan, the exit rate remained higher than the entry rate over the period and the one-year survival rate of new exporters declined between 2009 and 2011. In contrast, survival rates of new pulses exporters in the EU are on the rise from 18 percent of new exporters in 2009 to 50 percent in 2012 (Figure 3.18).

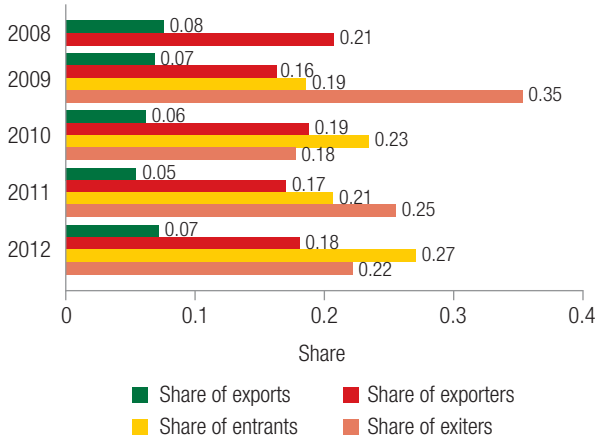
[50] Pulses (a legume) exports are defined as exports of products within 4-digit HS code 0713.

FIGURE 3.17: Exporter Dynamics: Pulses

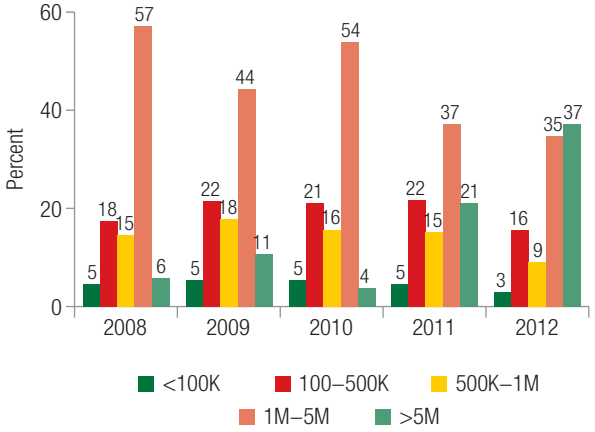
1. Trends of Pulses Exports and Exporters



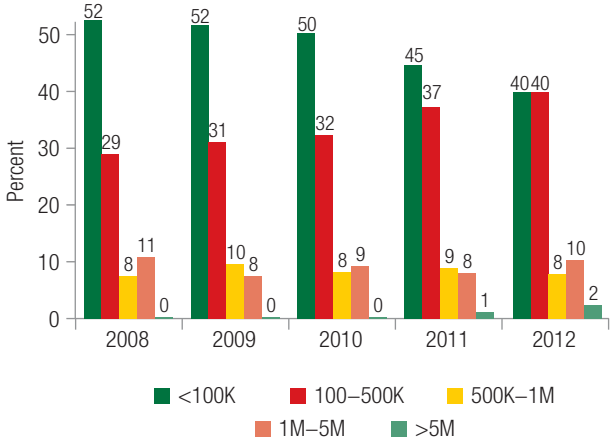
2. Shares of Pulses Exports and Exporters



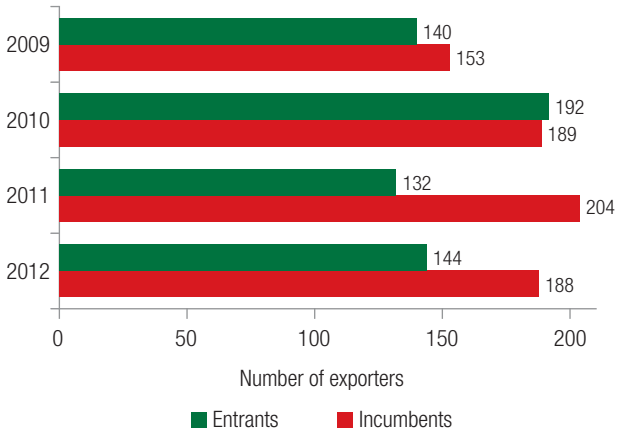
3. Size Distribution of Value of Exports



4. Size Distribution of Number Exporters



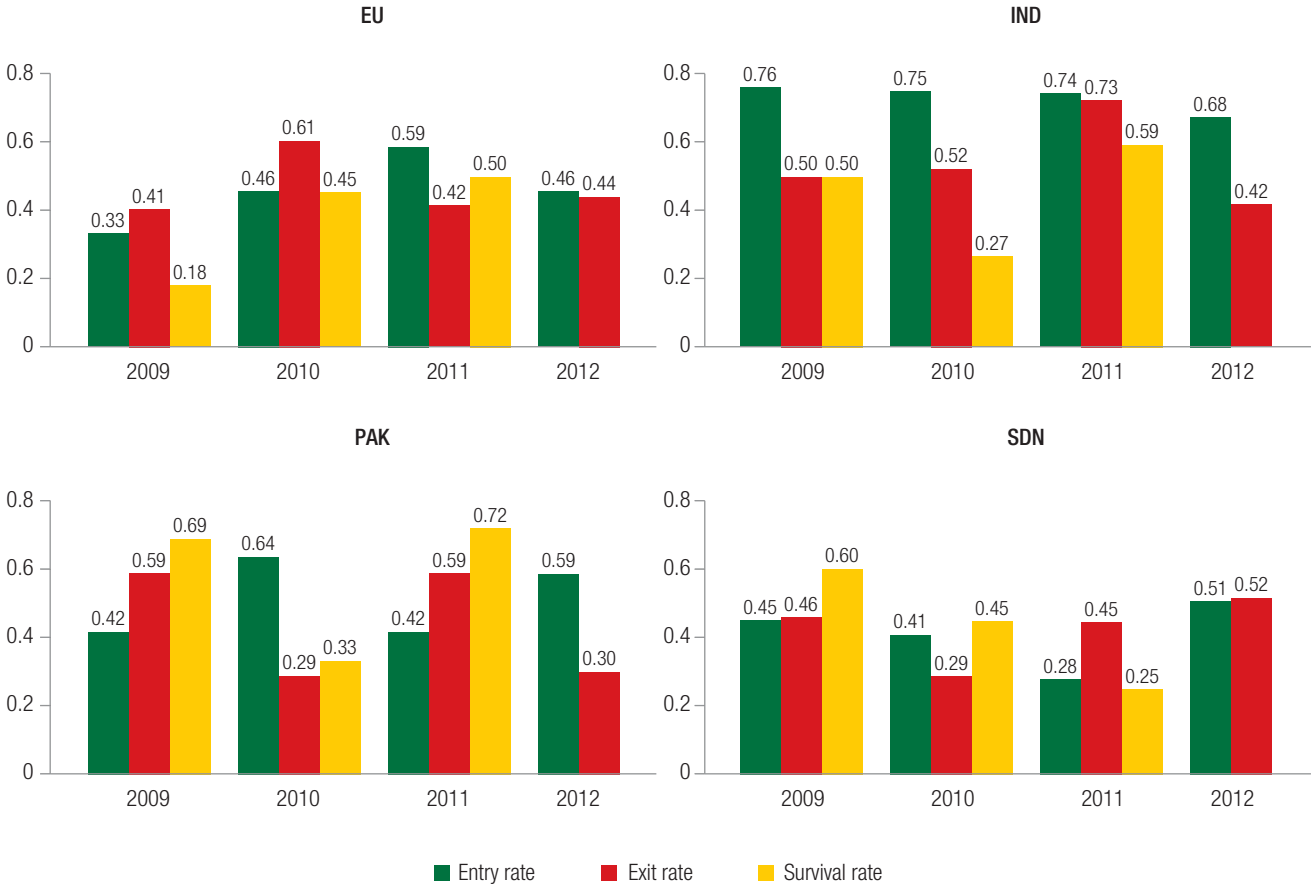
5. Numbers of Entrants and Incumbents



6. Entrants' Shares of Pulses Exports

Source: World Bank staff own calculations, based on data used for the Exporter Dynamics Database.
Notes: Graph 2 "Share of Exporters" shows the share of pules exporters in the total number of exporters in Ethiopia, and "Share of Entrants" and "Share of Exiters" represent, respectively, shares of Ethiopian pulses exporter entrants and exiters in the total number of Ethiopian exporter entrants and exiters.

FIGURE 3.18: Dynamics of Pulses Exporters in Main Destinations



Source: Authors' calculations based on data used for the Exporter Dynamics Database.

Annex 5: Additional details on RER calculations and theoretical considerations

Examples of the theoretical relationship between the real exchange rate and exports

Two examples show the theoretical impact of RER adjustments on exports:

- *First*, a reduction in domestic demand would lower both the RER and the price of export. This is since the reduced domestic demand would lower the prices of both the domestic non-tradable and tradable goods. Since the price of the foreign tradable good does not change (much), this implies that the domestic tradable good would become relatively cheaper compared to the foreign tradable good. This in turn would imply cheaper exports.

  In addition, since both the prices of the non-tradable good and tradable good decline compared to the foreign goods, the relative price of the domestic consumption basket becomes lower, implying a depreciated RER. So there would be cheaper export and a *depreciated* RER.
- *Second*, consider a policy that would subsidize the production of domestic tradable goods. As a result, production of the domestic tradable goods would expand and they would become cheaper compared to the foreign tradable good, implying cheaper export. On the other hand, the unsubsidized domestic non-tradable goods would become relatively scarce and hence more expensive. The increase in the non-tradable goods' prices could outweigh the decline of the tradable goods' prices, thus possibly making the price of the domestic consumption basket to go up compared to that of the foreign consumption basket. The RER would appreciate. So the subsidy makes export cheaper, but the RER to *appreciate*.

Measuring a country's RER misalignment

In the first step, we measure an RER misalignment index after controlling for the Balassa-Samuelson effect. The Balassa-Samuelson effect captures the effect of an economy's productivity on its non-tradable goods' prices. In details, this can be explained as follows: We usually observe that the prices of services (like a haircut) are higher in developed countries than in developing countries, because wages are higher in developed countries. But why wages are higher in developed countries? It is because the tradable sector of developed countries has higher productivity than that in developing countries. Given the law of one price on tradable goods, this implies that wages paid to tradable-sector workers in developed countries have to be higher to commensurate their high productivity. In other words, low productivity explains a large part why the tradable/non-tradable good price ratio (i.e. the real exchange rate) in developing countries is larger than that in developed countries. After the Balassa-Samuelson effect is captured, the remaining residual is considered the misaligned part.

We capture the Balassa-Samuelson effect as follows:

$$s_{i,t} * ln\,RERiW,t = \beta s_{i,t} * \left(\ln y_{i,t} - \ln y_{w,t}\right) + u_{i,t}$$

It is a weighted regression (to take into account the fact that larger countries have heavier weights in the regression). A country's productivity is proxied by its output per capita. $s_{i,t} = \frac{Y_{i,t}}{\sum_{j=1}^{N} Y_{j,t}}$ is the weight of country i at time t. $Y_{i,t}$ is country i' nominal output;. $ln\,RER_{iW,t}$ is the log of the real exchange rate of country i relative to the world; $\ln y_{i,t}$, $\ln y_{w,t}$ are country i and world average output per capita at time t. Coefficient β captures the Balassa-Samuelson effect with an expected negative sign. The idea is that according to Balassa-Samuelson effect, a country's RER, at any given time, is larger if its output per capita (a proxy

for productivity) is smaller compared to the world's output. This is slightly different to Rodrik approach, in the sense that he only regresses a country's RER with its absolute output per capita. Since RER is a relative concept, we decide to add the world average output to the right hand side of the equation to generate output differential, which is a relative concept as well.

Notice that there is no constant in the regression and no time and country fixed effects. The regression is designed that the sum of the right hand side exactly equals the sum of the left hand side every period (i.e. sum of $u_{i,t}$ equals 0 for all t). What it means is that at any given time, on average, the world RER is exactly aligned.

The results show that Balassa-Samuel effect is highly significant with a negative sign. It shows that for each additional 1 percent output differential, Balassa Samuelson effect on average explains 0.317 percent of RER appreciation. What this means is that for each 1 percent output differential, the productivity differential accounts for 0.317 percent of the RER differential between countries.

$\widehat{u_{i,t}} / s_{i,t}$ will be our RER misalignment variable of country i where $\widehat{u_{i,t}}$ is the residual of the regression. A positive $u_{i,t}$ implies an undervalued RER. That is, the RER is larger beyond the explanation of the Balassa-Samuelson effect. In other words, the tradable/non-tradable good price ratio is larger, beyond the explanation of the Balassa-Samuelson effect.

Measuring the impact of undervalued RERs on export and output growth

To examine econometrically the relationship between a country's RER undervaluation with its export and output growth using international data the following regression is used:

$$growthrate_{i,t} = \alpha + \gamma \frac{\widehat{u_{i,t}}}{s_{i,t}} + f_t + f_i + \varepsilon_{i,t}$$

where growth rate is calculated for both real exports and real GDP, $\widehat{u_{i,t}} / s_{i,t}$ is the undervaluation measure, and f_t, f_i are country and time fixed effects. The time fixed effects is to control for global macroeconomic factors that affect all countries' export in the same way at a given time. The country fixed effects is to control for country's time-invariant characteristics. Essentially, with the country fixed effects, we essentially ask the following question: how a real export growth changes *within* a country, given its RER undervaluation index relative to the rest of the world? We also control for the initial value of export and output levels. The expected sign of is positive: it implies that a more undervalued exchange rate (a larger $\frac{\widehat{u_{i,t}}}{s_{i,t}}$) is associated with higher export and output growth.

Two results are derived and shown in Tables 3.4 and 3.5. Simple descriptions of the results are in the main text.

TABLE 3.3: Panel Estimation Effect on Exports Growth of Undervaluation First Stage Regression

	First-Stage
	Balassa-Samuelson wit*ln(RERiwt) Full Sample
Weighted relative GDP growth	–0.317*** (0.0117)
Time Fixed Effect	no
Country Fixed Effect	no
Observations	8,184
R-squared	0.804

Notes: Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

TABLE 3.4: Undervalued RERs and Export Growth

	Second-Stage						
	All Countries	High Income			Low Income		
	ΔIn(real exports)	ΔIn(real exports)			ΔIn(real exports)		
	Full Sample (1)	Full Sample (2)	1950–1980 (3)	1981–2011 (4)	Full Sample (5)	1950–1980 (6)	1981–2011 (7)
In(Initial Real Exports)	–0.0999*** (0.0225)	–0.0847*** (0.0151)	–0.137*** (0.0233)	–0.127*** (0.0187)	–0.127*** (0.0437)	–0.388*** (0.0631)	–0.128*** (0.0250)
Undervaluation	0.0598*** (0.0131)	0.0811*** (0.0188)	0.126*** (0.0379)	0.0497 (0.0336)	0.0502** (0.0211)	–0.0375 (0.0708)	0.0699*** (0.0258)
Constant	0.778*** (0.148)	0.547*** (0.104)	1.163*** (0.174)	1.199*** (0.168)	0.771*** (0.273)	2.431*** (0.401)	0.934*** (0.173)
Time Fixed Effect	yes	yes	yes	yes	yes	yes	yes
Country Fixed Effect	yes	yes	yes	yes	yes	yes	yes
Observations	7,139	3,561	1,444	2,117	3,578	1,305	2,273
R-squared	0.139 156	0.159 75	0.157 63	0.209 75	0.148 81	0.334 63	0.159 81

Notes: Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1
Low Income countries: if the real GDP per capita was below US$ 6,000/year in 2000.

TABLE 3.5: Undervalued RERs and Output Growth

	Second-Stage						
	All Countries	High Income			Low Income		
	ΔIn(real GDP)	ΔIn(real GDP)			ΔIn(real GDP)		
	Full Sample (1)	Full Sample (2)	1950–1980 (3)	1981–2011 (4)	Full Sample (5)	1950–1980 (6)	1981–2011 (7)
In(Initial Real Exports)	–0.0916*** (0.0204)	–0.141*** (0.0450)	–0.215** (0.0983)	–0.294** (0.114)	–0.0830*** (0.0128)	–0.182*** (0.0372)	–0.135*** (0.0171)
Undervaluation	0.0884*** (0.0204)	0.138*** (0.0496)	0.195*** (0.0731)	0.183** (0.0828)	0.0764*** (0.0123)	0.121*** (0.0248)	0.114*** (0.0184)
Weighted relative GDP growth							
Constant	0.778*** (0.148)	0.547*** (0.104)	1.163*** (0.174)	1.199*** (0.168)	0.771*** (0.273)	2.431*** (0.401)	0.934*** (0.173)
Time Fixed Effect	yes	yes	yes	yes	yes	yes	yes
Country Fixed Effect	yes	yes	yes	yes	yes	yes	yes
Observations	8,020	3,925	1,570	2,355	4,095	1,579	2,516
R-squared	0.140	0.219	0.295	0.297	0.129	0.182	0.175
Number of countryid	165	80	68	80	85	73	85

Notes: Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1
Low Income countries: if the real GDP per capita was below US$ 6,000/year in 2000.

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