



# Ethiopia Productivity Report



2020

# Ethiopia Productivity Report

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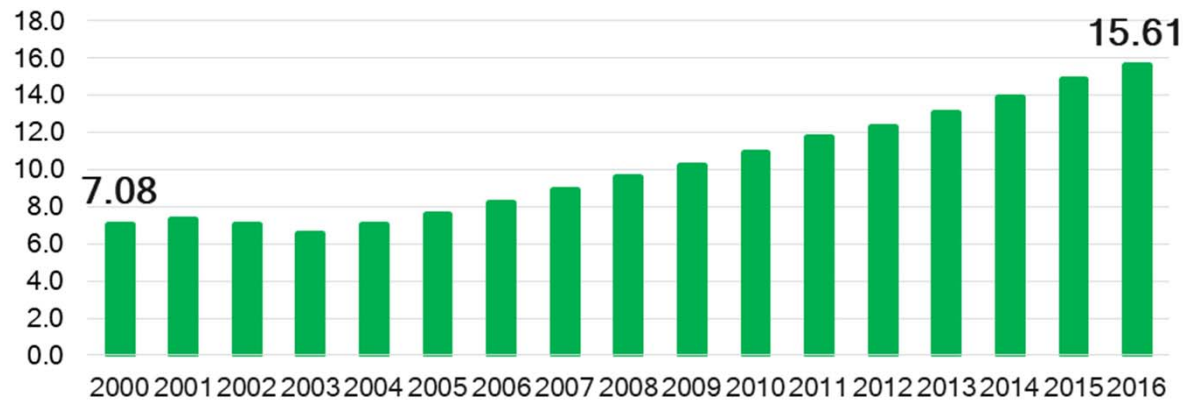
政策研究大学院大学  
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FOR POLICY STUDIES

# Ten Uncovered Facts

1. Reasonably high productivity growth but low absolute level
2. Heavy investment as a main driver of labor productivity
3. Limited labor mobility from low- to high-productivity activities
4. Fear of *premature de-industrialization* as rural labor migrates to services
5. Diverse performance within manufacturing
6. The risk of losing wage-productivity balance
7. Ethiopian workers are trainable in skills, but attitude and discipline are lacking
8. Foreign methods in improving workers
9. Locational differences in worker type
10. Impediments to productivity improvement outside factories

# 1. Reasonably high productivity growth but low absolute level

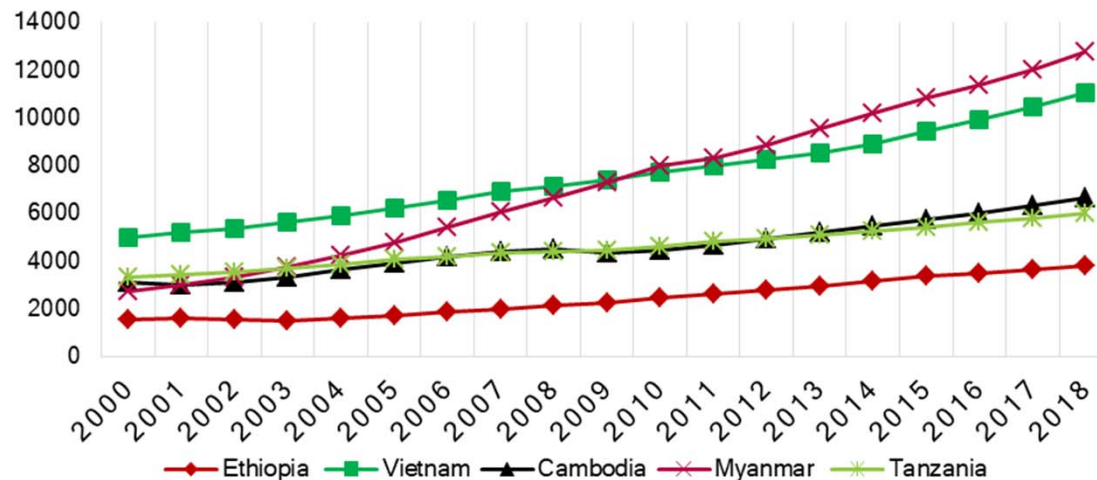
Economy-wide labor productivity ('000 Birr), 2000-2016



**Ethiopia's economy-wide labor productivity grew 4.94% per annum during 2000-2016.**

Source: Authors' calculation based on data from PDC and WDI.

Ethiopia's economy-wide labor productivity in international comparison

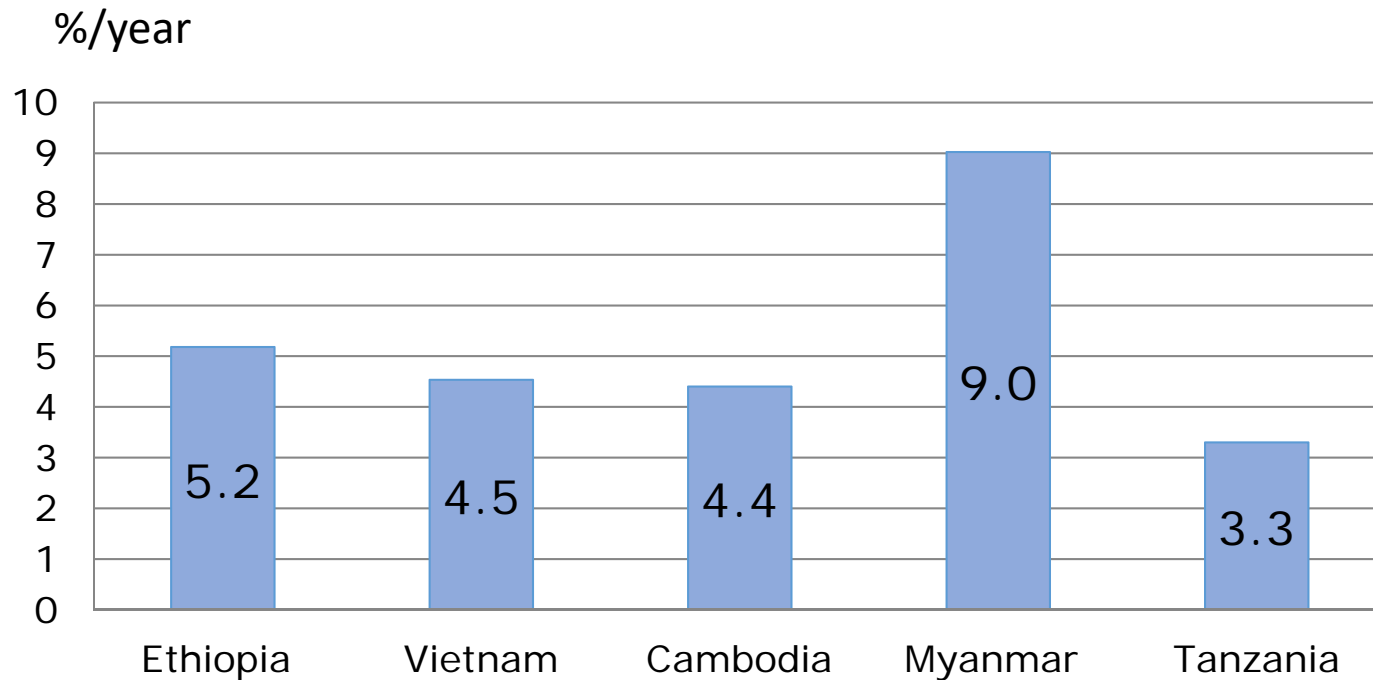


**However, Ethiopia's labor productivity level is still low even among latecomers.**

Source: Author's computation from ILO's economy-wide labor productivity.

# Ethiopia's labor productivity growth is higher than Vietnam, Cambodia or Tanzania but lower than Myanmar

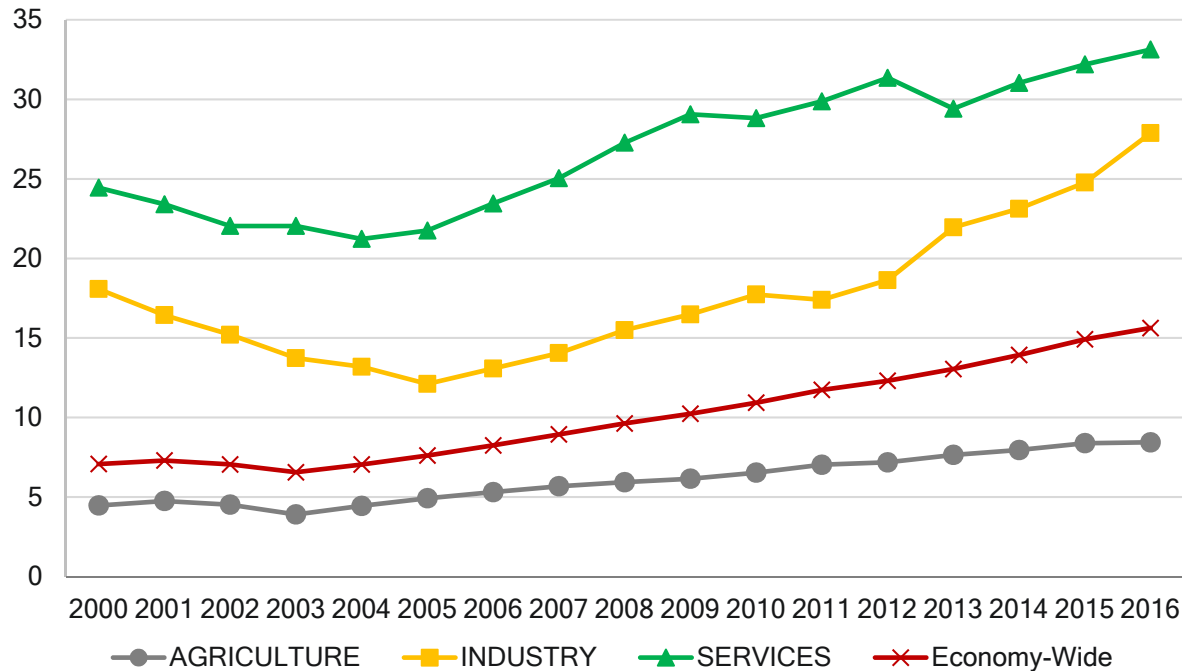
## Economy-wide-labor Productivity Growth (2001-2018)



Source: Authors' calculation from ILO's economy-wide labor productivity.

# Large sectoral variation in labor productivity

Ethiopia's labor productivity by major sectors ('000 Birr, 2011 prices)



Source: Authors' calculation based on PDC data and World Bank's WDI.

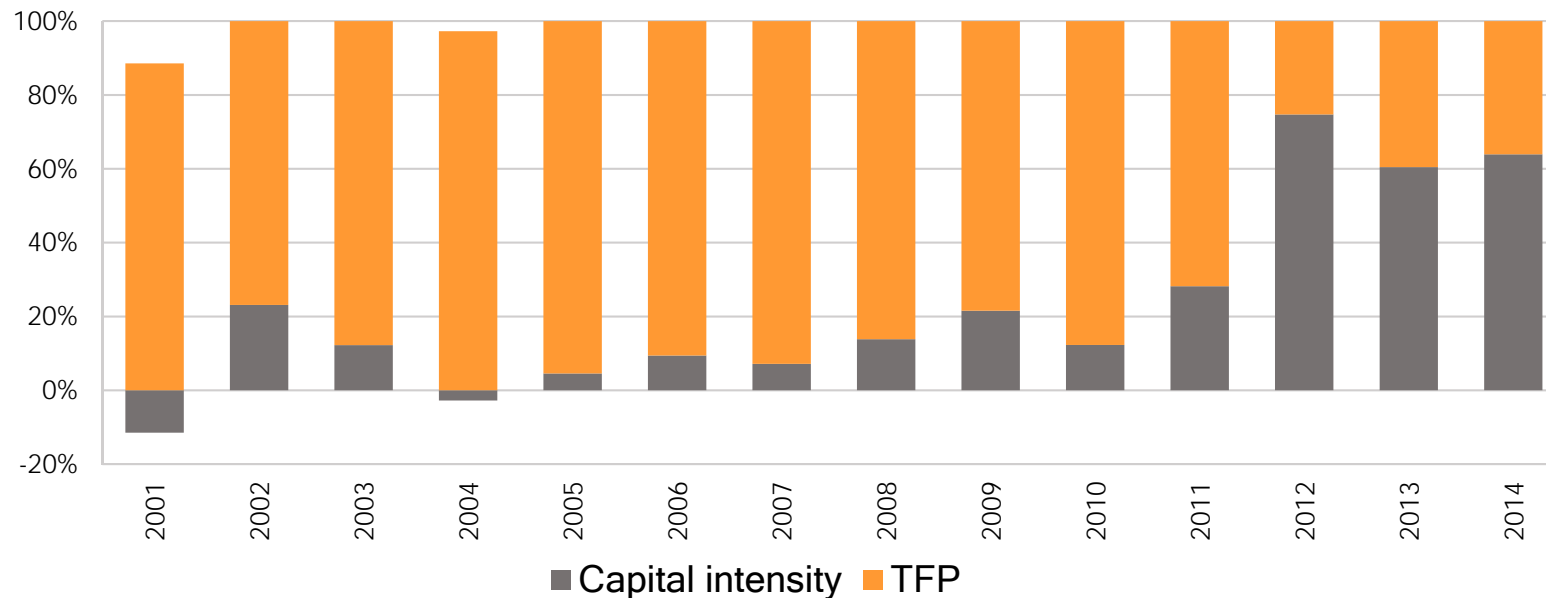
The service sector is an amalgam of high-tech and low-tech activities:

- Ethiopian Airlines
- Software engineering
- Local shops
- Hotels & restaurants
- Financial services
- Road transport

- The service sector stands out in labor productivity level.
- In 2016, services and industry respectively had labor productivity 3.9 and 3.3 times higher than that of agriculture.
- Large sectoral productivity gaps mean large potential gain from structural transformation (labor migration from low to high productivity sectors).

## 2. Heavy investment as a main driver of labor productivity

Contribution shares of capital intensity and TFP to Ethiopia's labor productivity, 2000-2014 (%)  
Note: Labor productivity = capital intensity + TFP



Source: Authors' calculation based on PDC data, World Bank's WDI and the Penn Tables.

**Recently, the driver of labor productivity has shifted from TFP growth to capital deepening. That is, true efficiency improvement slowed while heavy investment in infrastructure and other physical assets raises labor productivity (more machines and buildings per worker). This is alarming for Ethiopia. Part of the inefficiency maybe explained by government inefficiency. As Ethiopia is still at its early stage of development, capital investment may still continue.**

### 3. Limited labor mobility from low- to high-productivity activities

Decomposition of labor productivity growth by shift-share method

	Productivity Growth	Sources of Labor Productivity Growth			Contribution Shares to Labor Productivity Growth (%)		
		Within effect	Shift Effect	Interaction Effect	Within effect	Shift Effect	Interaction Effect
2004-2007	7.9	21.7	4.6	0.5	81.0	17.0	2.0
2008-2011	6.6	14.2	7.2	0.5	64.7	32.9	2.4
2012-2016	6.0	15.7	9.9	1.3	58.3	36.9	4.8
<b>2004-2016</b>	<b>6.6</b>	<b>79.5</b>	<b>26.7</b>	<b>15.5</b>	<b>65.3</b>	<b>21.9</b>	<b>12.7</b>

Source: Authors' computation from PDC data and World Bank's WDI.

- Initially, labor productivity was largely driven by *within-effect* (efficiency increase in each sector) but its contribution gradually declined. More recently, *shift-effect* (labor migration from low to high productivity sector) became larger.
- Declining *within-effect* contribution is worrisome at this early stage of industrialization. Given that there is low overall labor mobility across sectors and rural-urban, it is important to keep high levels of *within-effect* and a rising levels of *shift-effect* for a prolonged period. The overall growth of the economy can be sustained while ensuring transformation.

## 4. Fear of premature de-industrialization as rural labor migrates to services

Decomposition of labor productivity growth by shift-share method (2004-2016)

	Sources of labor productivity growth (%)			Contribution share to labor productivity (%)		
	Agriculture	Industry	Service	Agriculture	Industry	Service
Within effect	46.31	12.14	21.05	58.25	15.28	26.48
Shift Effect	-8.03	5.89	28.82	-30.08	22.08	108.00
Interaction Effect	-7.21	6.56	16.16	-46.47	42.28	104.18

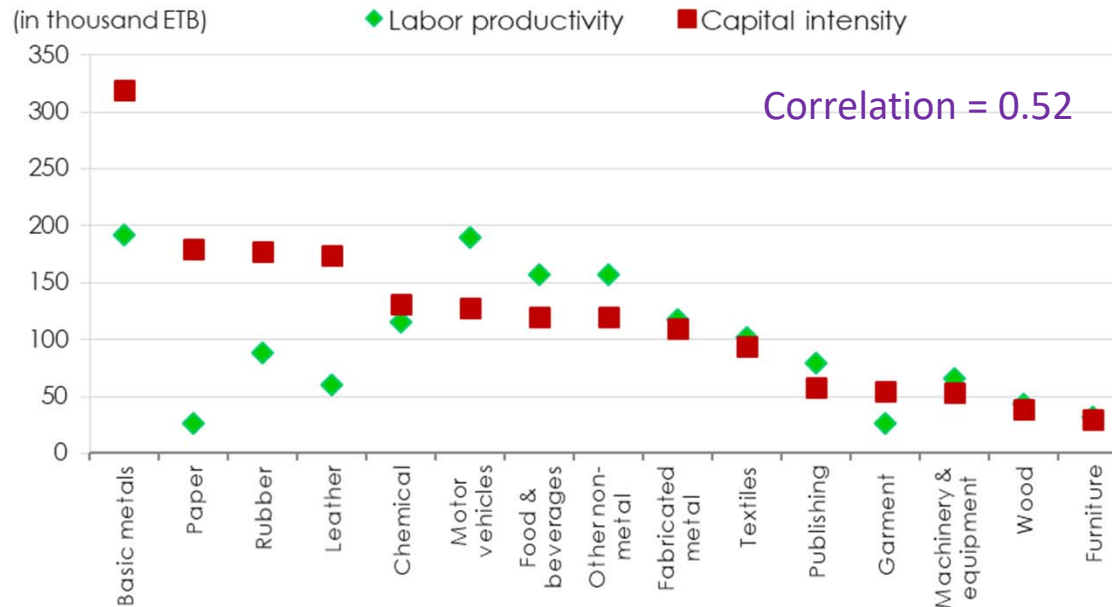
Source: Authors' computation from PDC data and World Bank's WDI.

- **Looking at sectors, agriculture was the greatest contributor to overall productivity growth followed by services. Industry had the lowest contribution.**
- **Agricultural labor moves mostly to services, and only modestly to industry.**
- **Ethiopia's internal labor migration not only is small, but does not follow the standard pattern of agriculture to manufacturing (and only later to services). This is a sign of "premature de-industrialization" which many middle income economies face. Within industry, labor is largely moving to construction**
- **Structural transformation is not visible (unlike East Asia) despite continued high growth and government's long support for manufacturing.**
- **Data is unable to identify concrete service sub-sectors that receive rural labor. But they may be largely low-tech services rather than high-value professional services.**



# 5. Diverse performance within manufacturing

## Labor productivity and capital intensity by sub-sector

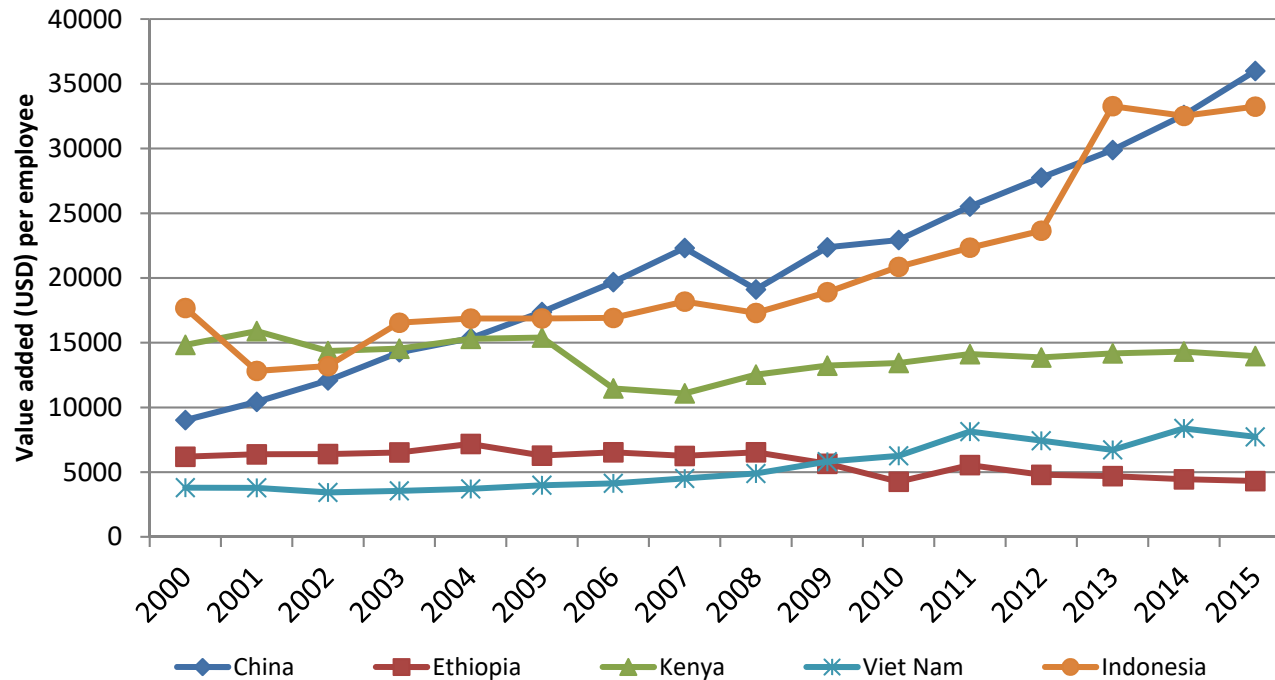


Source: authors' calculation based on the CSA's LSMI Survey and PDC data.

- **Motor vehicles, basic metals, fabricated metal, food & beverages have high labor productivity while garment, wood, textiles, furniture, leather & footwear have low labor productivity. However, the results should be interpreted with much caution because they also reflect factors other than efficiency.**
- **Capital-intensive sub-sectors show high labor productivity because workers have more machinery to work with. But this does not mean such workers are efficient by each industry's standard.**
- **Each sub-sector is a mixture of traditional and modern techniques, and large-scale production and family-based proprietorship (aggregation problem).**

# Low manufacturing labor productivity in international comparison (in USD)

Manufacturing sector labor productivity: selected countries



Source: UNIDO INDSTAT 2 2018, ISIC Revision 3 and own calculation.

- Ethiopia ranked at the bottom of all the countries in the group
- The gap widened through time: In 2000, Ethiopia's labor productivity was about 94% that of China. This became only 13% of China's productivity in 2015.
- Even Kenya's labor productivity is 3 to 4 times higher than that of Ethiopia
- Viet Nam surpassed Ethiopia since 2010

## 6. The risk of losing wage-productivity balance

Manufacturing labor productivity and labor cost growth rate (%)



Source: Computed from the CSA LMMIS (1996-2016)

- **Manufacturing labor productivity growth = 4.6% per annum**
- **Manufacturing labor cost (nominal) per employee growth = 10.3%**
- **For sound growth, wage and labor productivity must be balanced. Aggressive wage hikes damage competitiveness while wage suppression lowers workers' living standard. Ideally, labor productivity should rise strongly, and wage should rise at the same pace as labor productivity (as in Japan in the 1960s).**

## 6. The risk of losing wage-productivity balance

### Manufacturing labor productivity and real and nominal wages in 2015

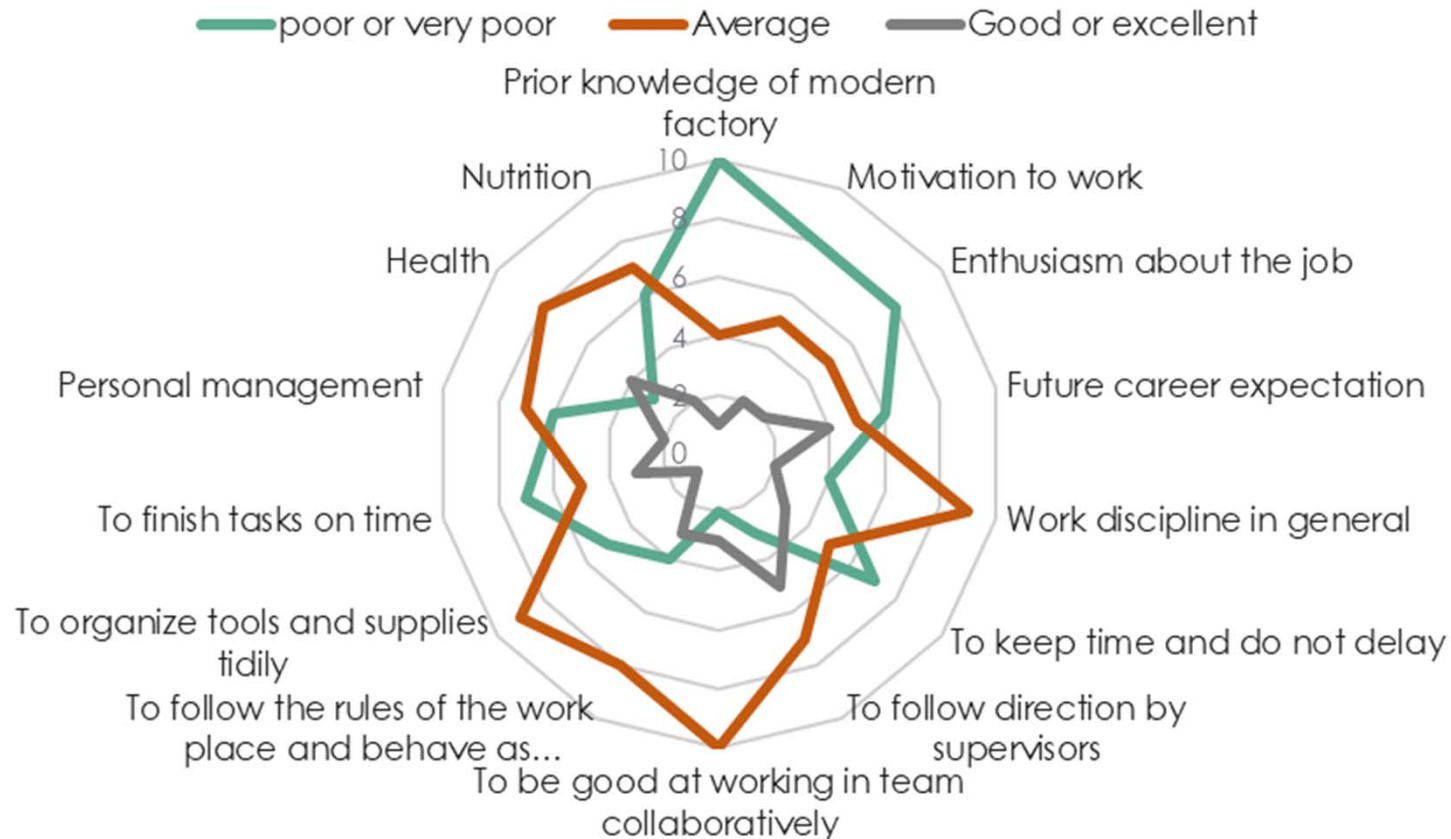
Source: authors' calculation using UNIDO INDSTAT 2 2018, ISIC Revision 3.



- Ethiopia's manufacturing labor productivity and wages are both low. Low wage alone is not enough to attract high-quality FDI unless labor productivity is enhanced far above the current level.
- The minimum wage setting must be based on economic data and scientific reasoning, not on whose voice is loudest. Data quality must also be improved.

## 7. Ethiopian workers are trainable in technical skills, but attitude and discipline are lacking

### Labor mindset: rating by managers



- **Garment workers are “over-qualified” with 60% completing high school or above. Firms report they are quick learners of technical skills.**
- **What is severely lacking is the development of soft skills, which includes industrial work discipline and motivation.**

## 7. Ethiopian workers are trainable in technical skills, but attitude and discipline are lacking

Location	Rate of attrition per year		Rate of absenteeism
	Volunteer attrition	Fired	
Bole Lemi	84%	2%	9%
Hawassa	35%	3%	6%
Mekelle	27%	5%	2%

The main manifestations of the poor work culture and attitude of workers are;

- High attrition rate (average tenure 10 months)
  - High absenteeism rate
  - No sense of urgency for work
  - Low motivation to work overtime
- **Reason**
    - workers mostly come from rural areas with less exposure to urban life and industry
    - workers are very unhappy with the low wage and poor working conditions. Average monthly sewing workers (salary USD 30 + non-wage benefits USD 20). They regard the garment job as only transitory.

## 8. Locational difference in work motive and housing

**Housing is especially critical for garment workers who are predominantly young women**

- But housing service is the least provided facility in the parks
  - entails transport cost and delay to arrive on time
  - workers cannot afford the price of house rent
  - Refusal to do overtime is also due to security problems in going home late

**Differences by location (industrial parks in major urban area versus others)**

- Urban industrial parks, with many other job opportunities nearby, suffer more from labor shortage and footloose labor than rural industrial parks.
- Factory wages are naturally higher in urban areas due to higher urban prices and because migrant workers need to rent rooms and send money home.
- This dual geographical pattern is clearly visible in Asia as well as in Ethiopia (Bole Lemi versus others)

## 9. Foreign management methods in improving workers productivity

**Foreign factory managers bring different cultures and methods from home countries. This may improve enterprise management in Ethiopia but it may also raise tension with local workers.**

- On the positive side, workers may be improved by various methods including (i) top-down order and punishment, (ii) corporate family oneness, (iii) mindset reform through instruction and persuasion, and (iv) mindset reform through monetary rewards and incentives. In addition, some FDI firms mobilize (v) Ethiopian line supervisors as interface between foreign management and Ethiopian labor.
- These approaches are considered, and sometimes even tried, by FDI garment factories in Hawassa, Bole Lemi, and Mekelle. The results vary from firm to firm. Systematic research on foreign method adoption is desired.
- On the negative side, some foreign managers impose their methods without due respect to local customs and conditions, causing friction. Meanwhile, Ethiopian managers unexposed to global business practices exhibit weaknesses in purpose, responsibility, global orientation, learning consistency, and time management. Both must learn and improve.



# 10. Impediments to productivity improvement outside factories

**Ethiopian manufacturing firms face many policy-related problems and external impediments which are beyond their control. Our interviewees say the following are very serious barriers to business.**

- Shortage of foreign currency
- Unstable power supply
- Slow and inefficient logistics
- Bureaucratic customs clearance
- Unavailability of materials, supplies and spare parts
- Law-based labor headaches concerning minimum wage, overtime limits, leaves, and workers' income tax

(Some of the above are being addressed by government)

The government is working hard on the World Bank's Ease of Doing Business ranking, which is good, but this deals mainly with the speed and cost of administrative procedures. Other impediments noted above must also be tackled.

# Ten Recommended Policy Directions for Productivity Enhancement

## A. POLICY FRAMEWORK

1. Establish a policy organization and an operational organization: national council or committee on productivity headed by senior official and centre/agency leading policy execution
2. Improve data collection and publication: designate appropriate organization to collect, analyze and publish productivity-related data systematically and on a regular bases
3. Set medium-term productivity targets: e.g. productivity growth from 4-5% to 7-8%, increasing TFP contribution, key economic sectors based labor productivity targets, or benchmarking other comparable countries

# Ten Recommended Policy Directions for Productivity Enhancement

## B. POLICY ACTION AREAS

4. Adjust investment policy for proper pace and more private projects: Government need to re-direct national investment less toward big projects and more towards private productivity investment through various instruments
5. Speeding up structural transformation: (i) direct policy effort should be made in sectors that employ a large proportion the country's labor force to improve aggregate productivity (ii) facilitate labor mobility from low- to high-productivity sectors
6. Maintaining wage competitiveness : (i) improve labor productivity so that wages can rise at the speed of labor productivity growth without scarifying industrial competitiveness (ii) forge social compact among actors for fair distribution of the fruits of productivity improvement
7. Deepen and broaden Kaizen into a National Productivity Movement: broaden in terms of sectors and functions e.g. business management, global marketing, human resource management ...
8. Construct an effective enterprise support system (especially for SMEs): BDS in the wider sense from finance up to technology support ...
9. Simultaneous pursuit of productivity and ethical standards: embrace social and environmental standards as this is also becoming globally de facto requirement
10. Transforming the mindset of workers and management: mindset reform requires proper instruction and learning but it must also go hand-in-hand with material welfare of workers

Thank you!