

# Off-farm income and labor markets in rural Ethiopia

---

Fantu Bachewe, Guush Berhane, Bart Minten, and Alemayehu S. Taffesse  
IFPRI ESSP

Addis Ababa, Ethiopia



# 1. Introduction

- Development of well-functioning labor markets crucial for economic growth and livelihood opportunities, especially for youth
- Rural wages strongly linked with poverty reduction; important to understand these labor markets
- Ethiopia's economy is changing fast but unclear how important the off-farm economy and labor income is in rural areas
- Purpose of the presentation:
  - How important is the rural off-farm economy?
  - What are the associates with off-farm income and rural income diversification?
  - Are rural wages changing?
  - What are drivers and implications of that change?



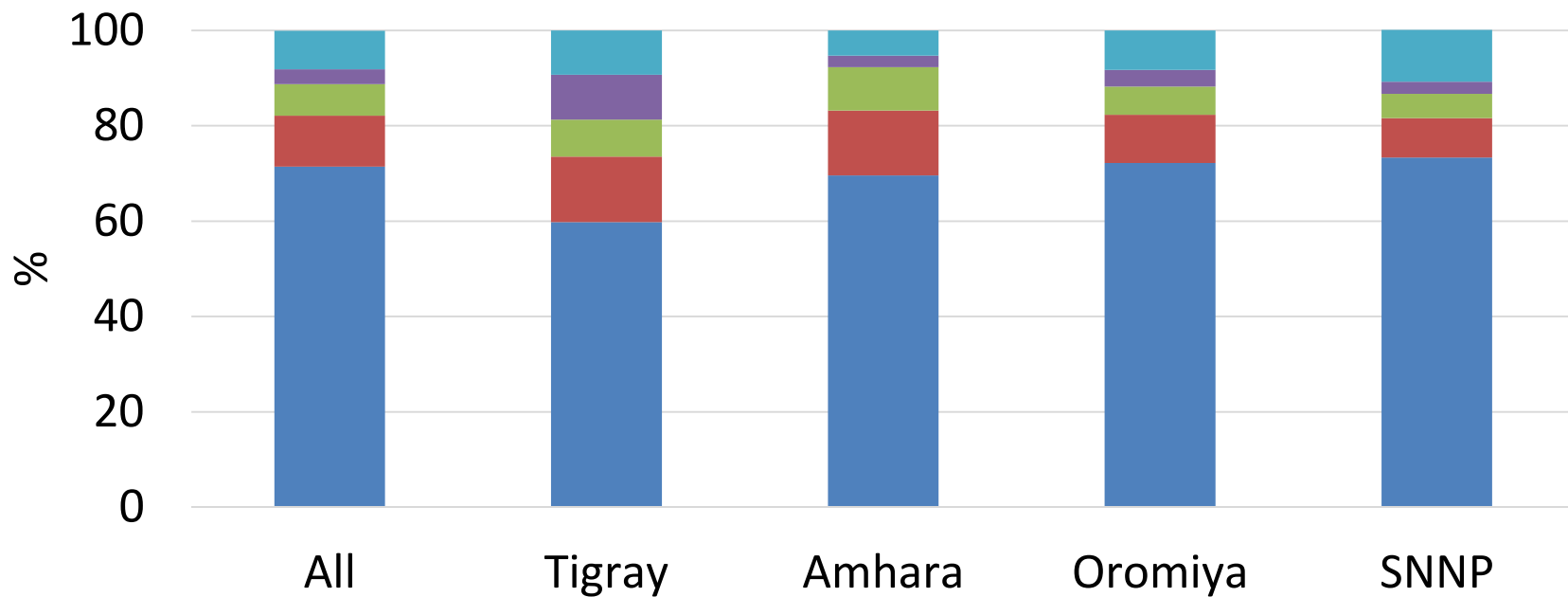
## 2. Data

- CSA: Wage data collected during monthly price survey (120 markets covered in the country)
- Agricultural Growth Programme (AGP) survey: fielded in May 2011 (information on 2010/11 agricultural season); collected in 4 major regions in the country;
- Other datasets used: 1/ large teff (2012) and coffee (2014) surveys; 2/ FTF survey (2015); 3/ ERSS (2014)
- In all surveys, information collected on agricultural crop production, livestock, agricultural wage and non-wage income, and enterprise income for 12 months preceding the survey

### 3. Off-farm income in rural areas

- Crop income as source of rural income overwhelming (71%)
- Wage income (10%) as important as livestock income
- Agricultural wages twice as important as non-ag. wages
- Enterprise income: 8%

Income sources in rural areas (AGP)

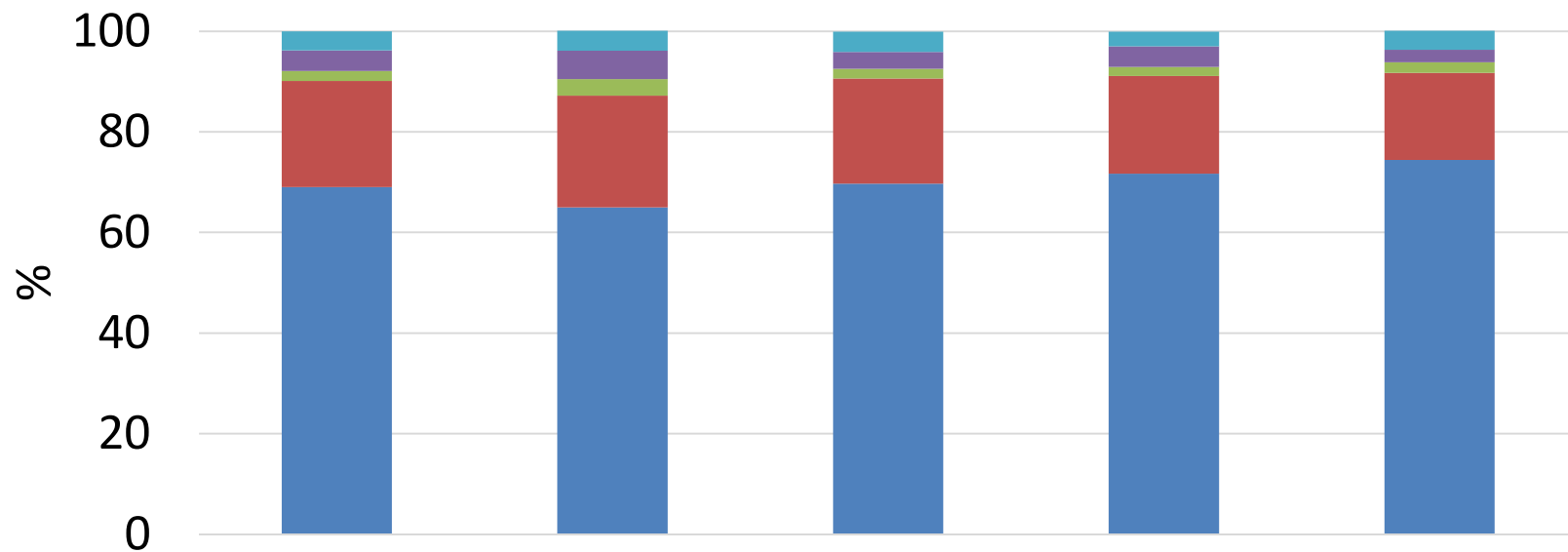


■ Crop ■ Livestock ■ Agricultural wage ■ Non-ag. wage ■ Enterprise

### 3. Off-farm income in rural areas

- ERSS (national representative) paints a rather similar picture
- Differences: 1/ Livestock more important than in AGP areas; 2/ Wage and enterprise income less important than in AGP areas; 3/Wage/enterprise income seemingly higher in high potential areas

Income sources in rural areas (ERSS)

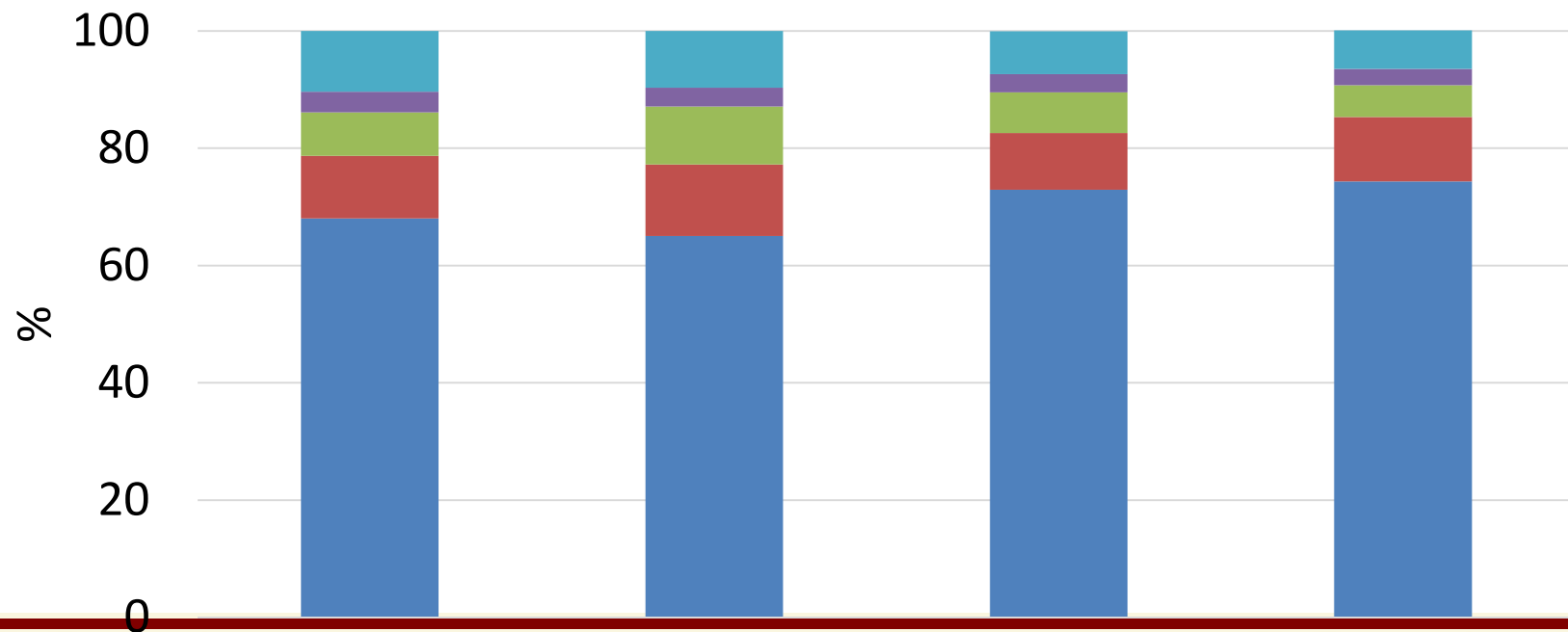


■ Crop ■ Livestock ■ Casual labor ■ Salaried workers ■ Enterprise

### 3. Off-farm income in rural areas

- Look at female/male youth/mature headed household differences
- Youth-headed households depend more on off-farm income
- Female-headed households depend more on off-farm income

Income sources in rural areas (AGP)

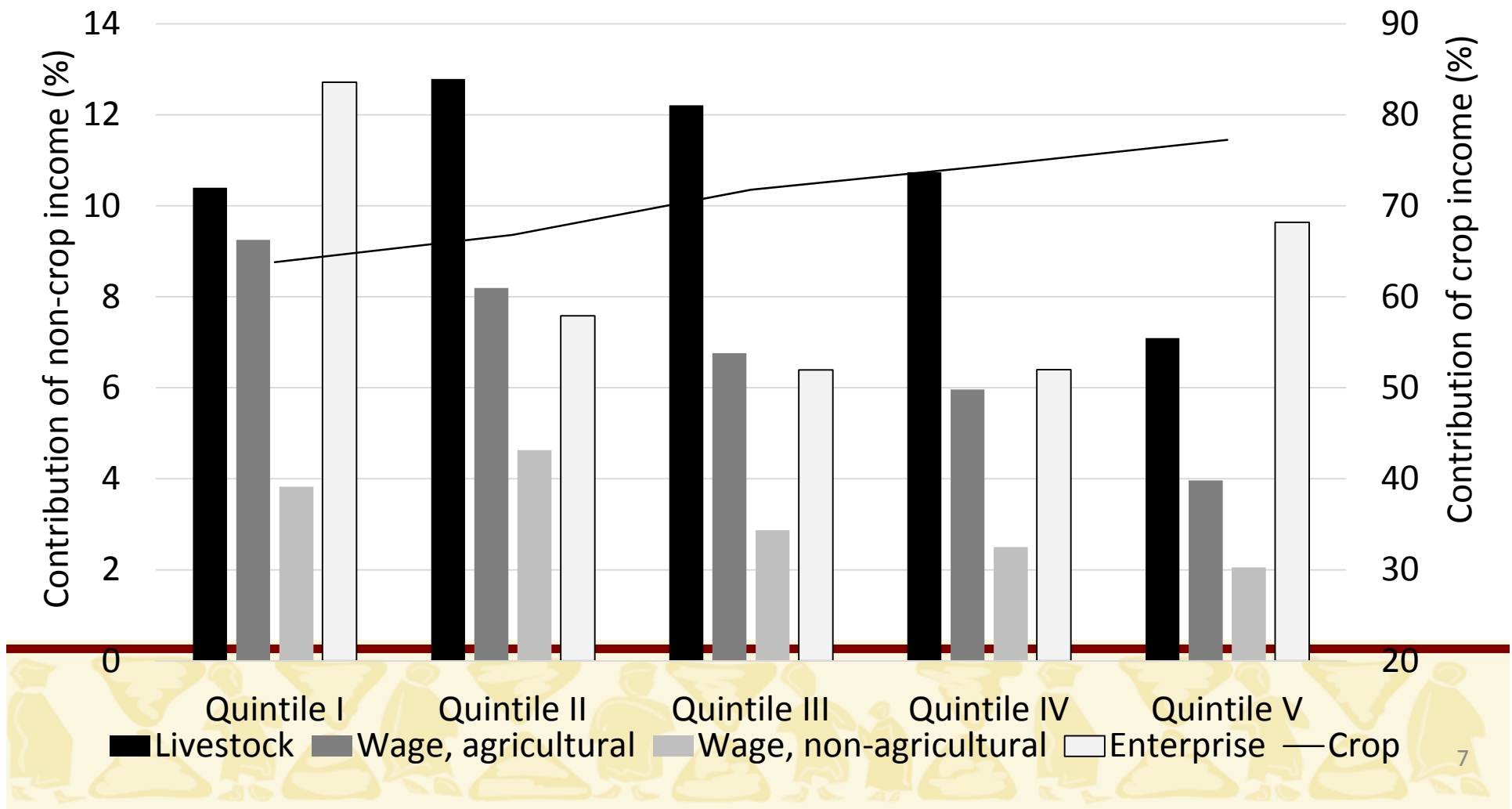


Male-youth      Female-youth      Female-mature      Male-mature

■ Crop   ■ Livestock   ■ Agricultural wage   ■ Non-ag. wage   ■ Enterprise

### 3. Off-farm income in rural areas

- Off-farm income and wage income especially important for the poor
- Enterprise income shares higher for poorest and richest, reflecting different enterprises (brewing/liquor versus agricultural trade resp.)



### 3. Off-farm income in rural areas

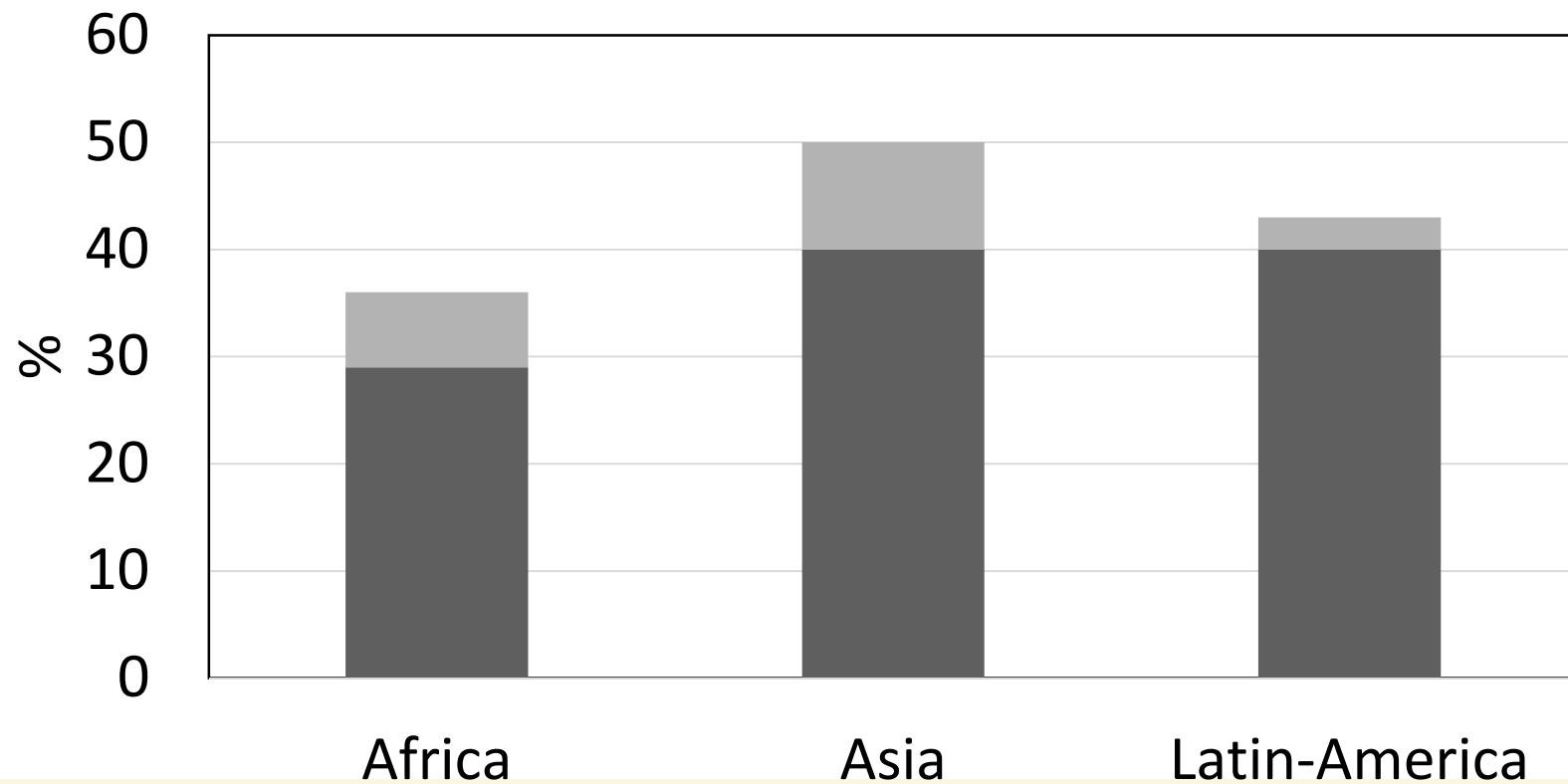
- Major results on diversification:
  1. Younger heads of households are more likely to be associated with off-farm income (especially agricultural wages and enterprise income)
  2. Education associated with more enterprise income and non-ag. income
  3. Gender link. Women make up 1/3<sup>rd</sup> of hired labor; men 2/3<sup>rd</sup>s.
  4. More and better quality agricultural assets associated with less diversification
  5. Distance to cities an important associate of non-farm income. Households 100 kms farther from Addis have 11% lower share of off-farm income.





### 3. Off-farm income in rural areas

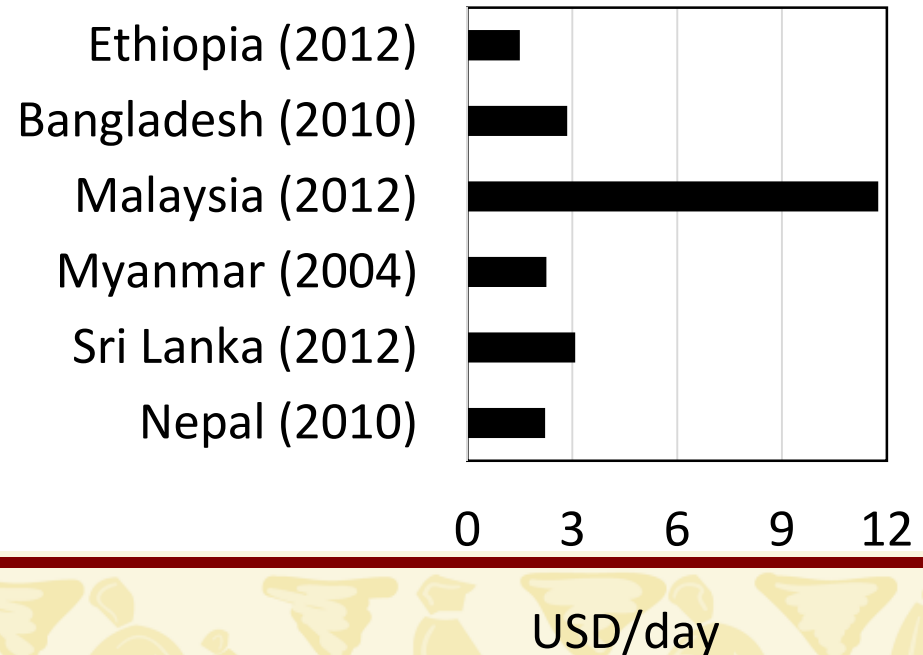
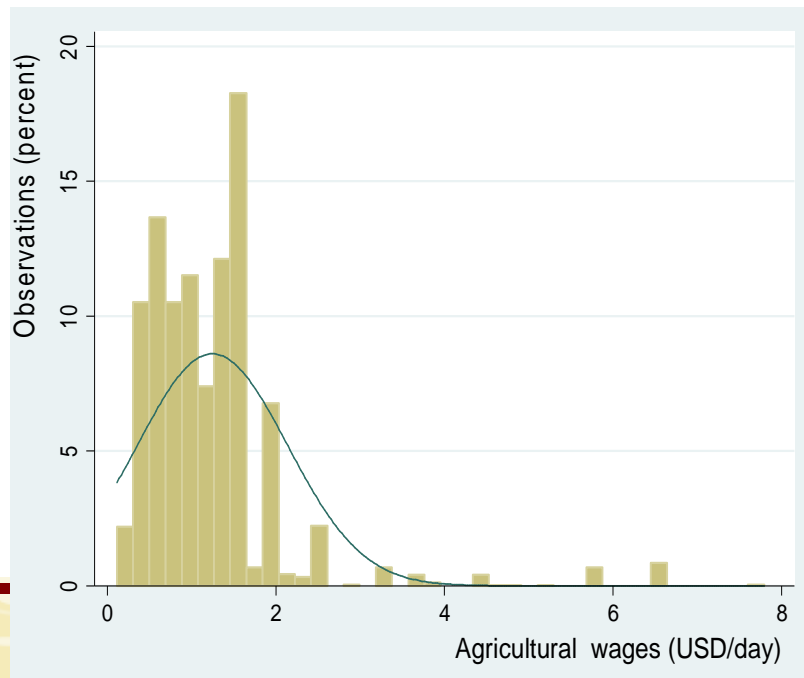
- 18% off-farm income in rural Ethiopia:
  - Small compared to other African countries
  - Small compared to Asia and Latin-America



■ Local non-farm ■ Migration income

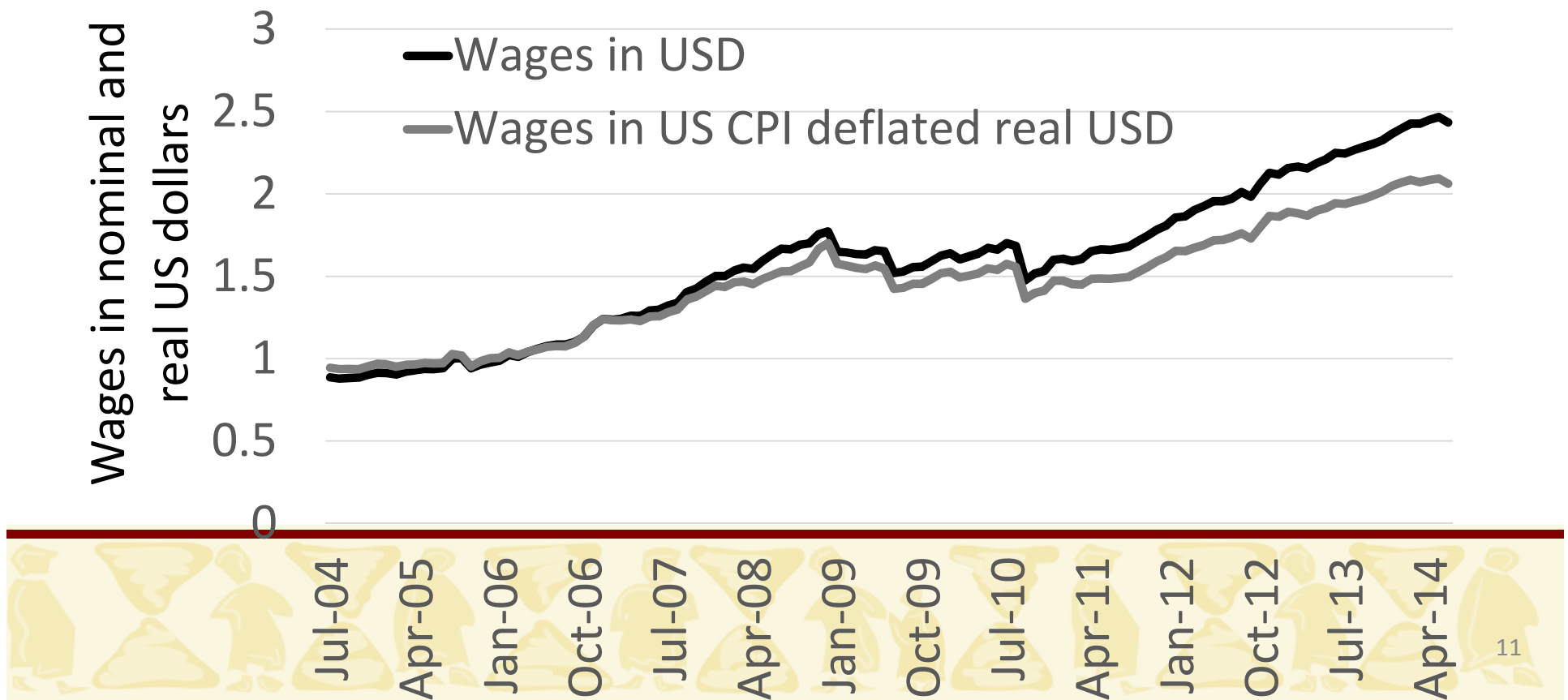
## 4. Agricultural wage labor

- Average agricultural wages on average 1.27 USD per day (in AGP zones); however significant variation
- Compared to other (Asian) countries, wages significantly lower; 0.95 USD higher in Nepal; 1.59 USD higher in Bangladesh; 1 USD higher in Myanmar



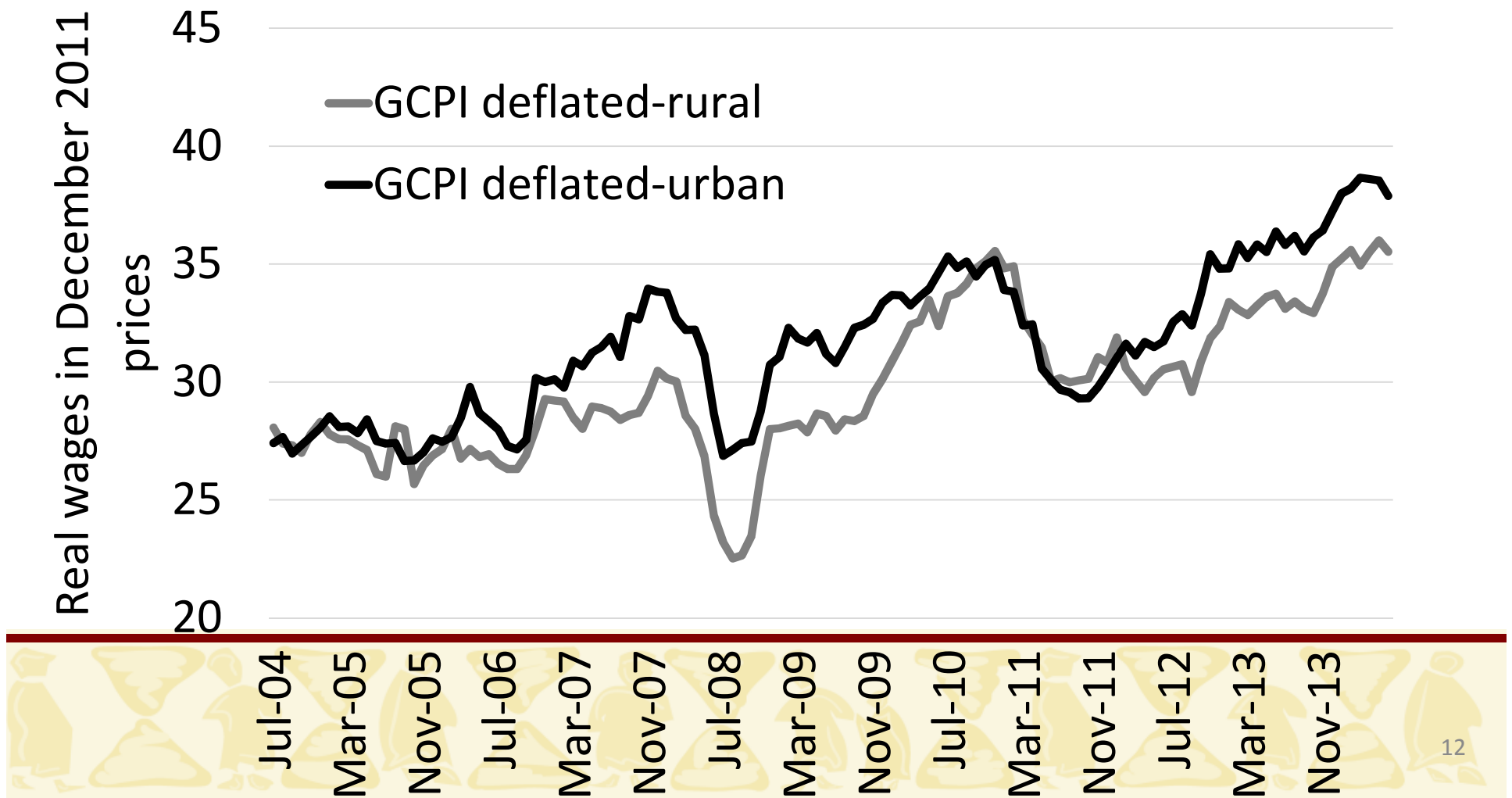
## 5. Rural wages - changes

- Rely on CSA price data from 2004 to 2015
- Use different ways of converting/deflation (exchange rate; CPI)
- Wages 2.5 times higher in nominal USD in 2015 compared to 2004



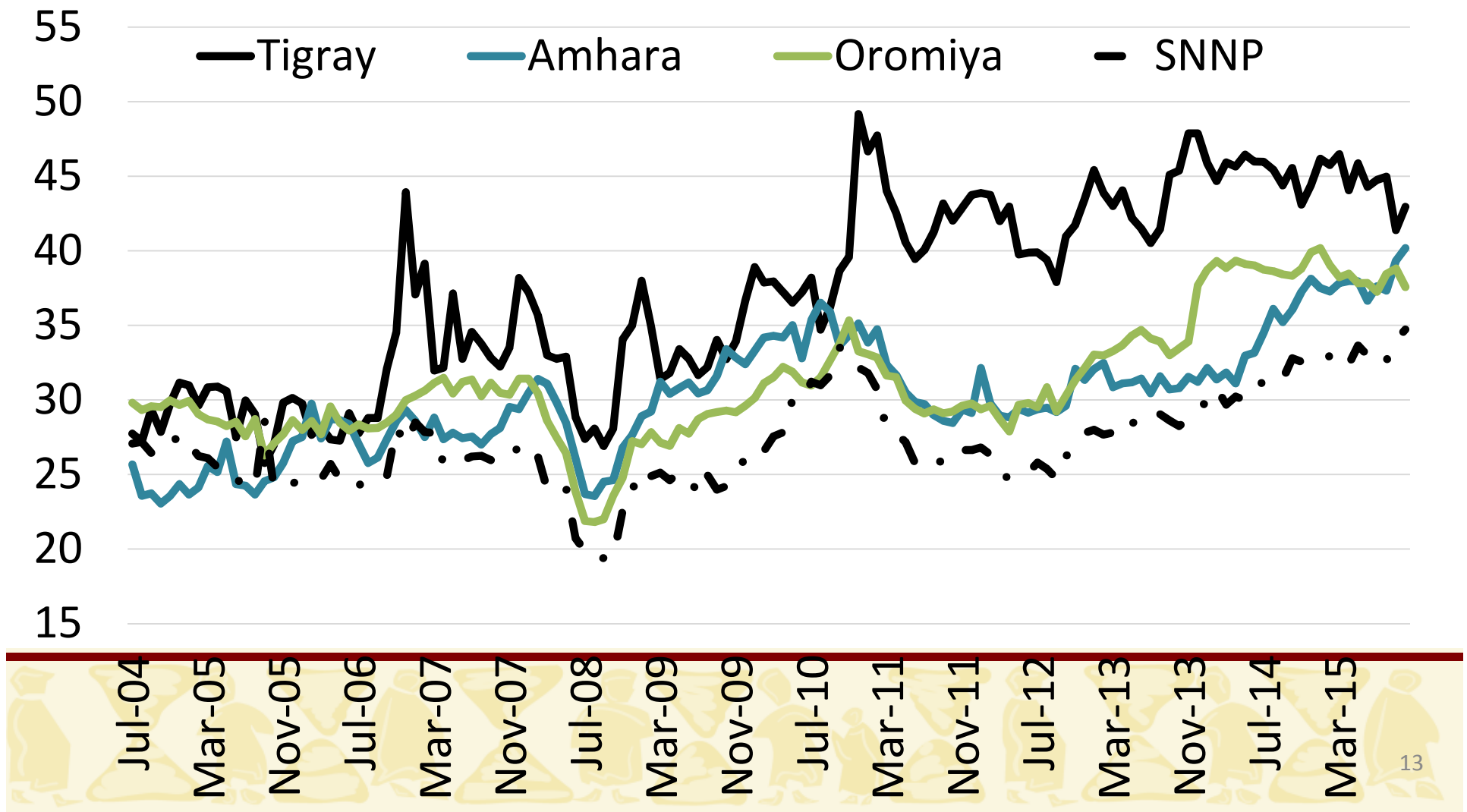
## 5. Rural wages - changes

- Urban and rural wages deflated by the CPI
- Between 2004 and 2015: Real rural wages increased by 48%; real urban wages increased by 66%



## 5. Rural wages - changes

- Regional differences for rural wages deflated by the CPI
- Least changes in SNNP; biggest improvement in Tigray



## 5. Rural wages - drivers

Look at the drivers for wage changes:

- Estimate the following regression:

$$\ln(\text{real wage}) = a + b \ln Y + e$$

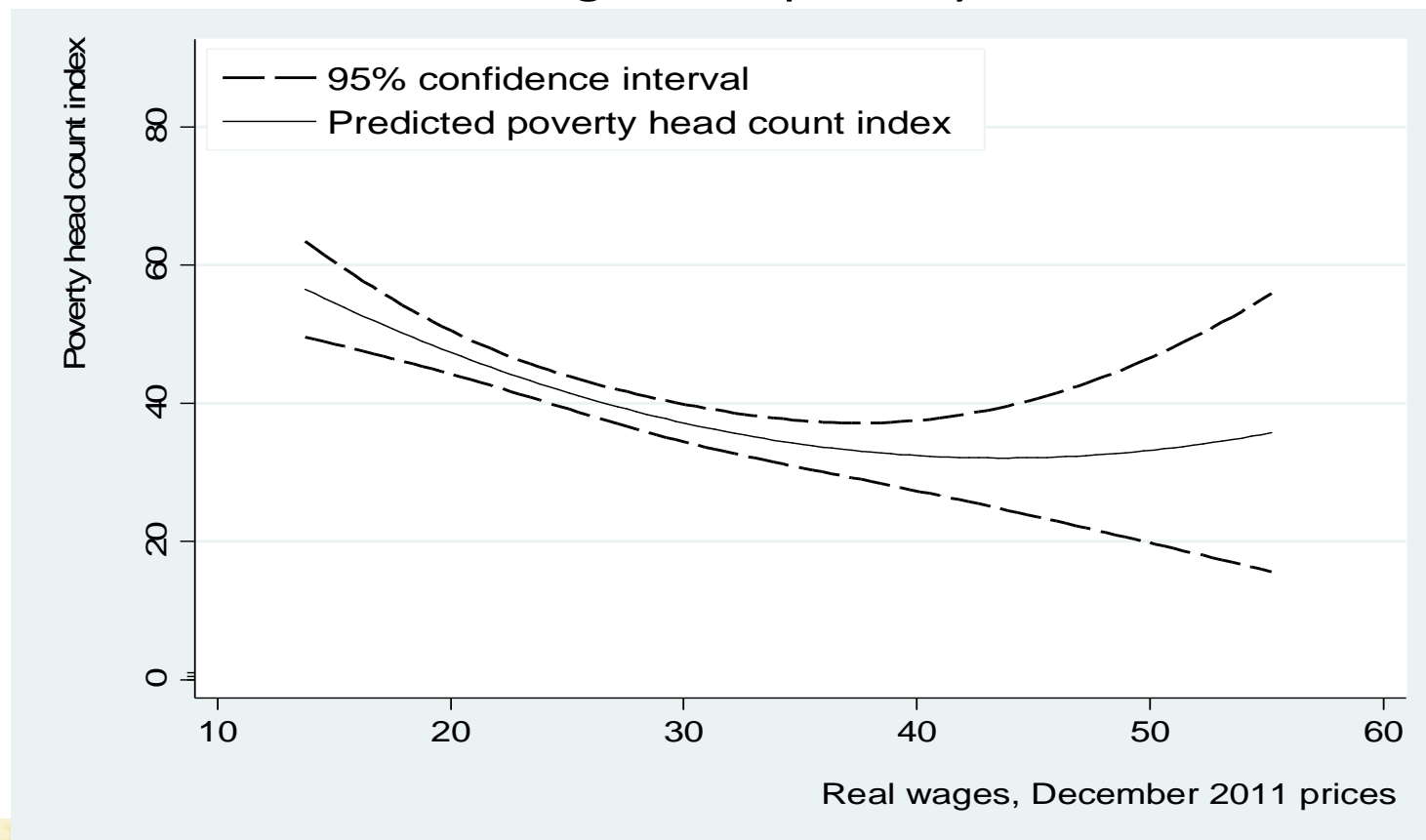
- Growth-unskilled real wage elasticity

Real...	Zones where woreda pop. < 30 k	Zones where woreda pop. < 50 k	Rural areas	Non-urban regions
GDP	0.22	0.18	0.15	0.12
Agricultural GDP	0.24	0.20	0.17	0.15
Manufacturing GDP	0.19	0.16	0.14	0.12
Industry GDP	0.17	0.14	0.12	0.10
Services GDP	0.15	0.12	0.11	0.09

## 5. Rural wages - implications

### 1. Poverty

#### Correlation of real wages and poverty head count index



## 5. Rural wages - implications

### 2. Increasing use of herbicides

Herbicides is a substitute for weeding; rapidly taking off in Ethiopia

### 3. Mechanization

- Higher wages provide incentives for mechanization in agriculture
- In Ethiopia, mechanization is still rather low; In FTF survey, estimated: 9% of farmers use some form of mechanization; 5% in plowing; 3% in harvesting; 2% in threshing

### 4. Impact of off-farm income on modern input use

- Off-farm income might lead to relaxation of credit constraints in period of input needs; find slightly significant (10%) and positive association between fertilizer use and off-farm income: No association with improved seeds and agro-chemicals





## 6. Conclusions

- Major findings:

1/ Off-farm income makes up 18% of total income; Wage income is 10% of total income, as important as livestock income

2/ Off-farm income (26% of their income) and agricultural wage income especially important for the poorest (13% of their income); push factors for diversification still relatively more important

3/ Wages significantly lower than in other countries; however, rural wages are rapidly increasing; 50% higher in real terms in 2015 compared to 2004; especially improved agricultural performance has contributed to that change

4/ Implications of wage changes on poverty and agricultural production practices (more use of herbicides)



## 6. Conclusions

- Implications:

1/ Low wages have been an asset for the attraction of labor-intensive industries. That might be changing and Ethiopia might lose that edge. Ensure that the youth will upgrade skills towards higher labor productivity

2/ Push for the adoption of labor-saving technologies; important that Ethiopia implements pro-actively policies that allow appropriate technologies at low costs

3/ Ensure flexible labor markets so that people can benefit from these opportunities

