

Urban Wage Behavior and Food Price Inflation: The Case of Ethiopia

Summary of ESSP II Working Paper 41, “Urban Wage Behavior and Food Price Inflation”

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This study examines the trends and behavior of urban wages in Ethiopia during the country’s recent inflationary episodes. We use the CSA Consumer Price Survey to construct a real wage series for the urban poor, and to conduct formal econometric tests of whether wages adjust to food and non-food price inflation over the short run and the long run. We find that although real wages were trending upward in the early 2000s, the rapid inflation episodes of 2007–2008 and 2010–2011 led to serious short run declines in purchasing power, on the order of 10–26% depending on the episodes, the region, and the wage indicator analyzed. The severity of these shocks justifies further consideration of social safety nets for urban areas.

In this paper we look at the welfare impacts of rapid food price inflation in the cities and large rural towns of Ethiopia. In 2008, Ethiopia had the highest rate of month-on-month food inflation rate in the developing world, at 3.5% per month. This has naturally raised concerns about the impacts of higher food prices on Ethiopia’s poor. However, existing research has faced important data constraints in terms of infrequent household surveys (e.g. HICES) and/or the exclusion of income/wage growth in simulation exercises. In view of these limitations, this paper explores the impact of higher food prices using an unusually rich high frequency (monthly) data set on consumer prices and daily laborer wages. We first explore how predominantly poor (and predominantly urban) casual laborers have been affected by higher food prices over the last decade in Ethiopia, before formally testing for wage adjustment to higher food prices.

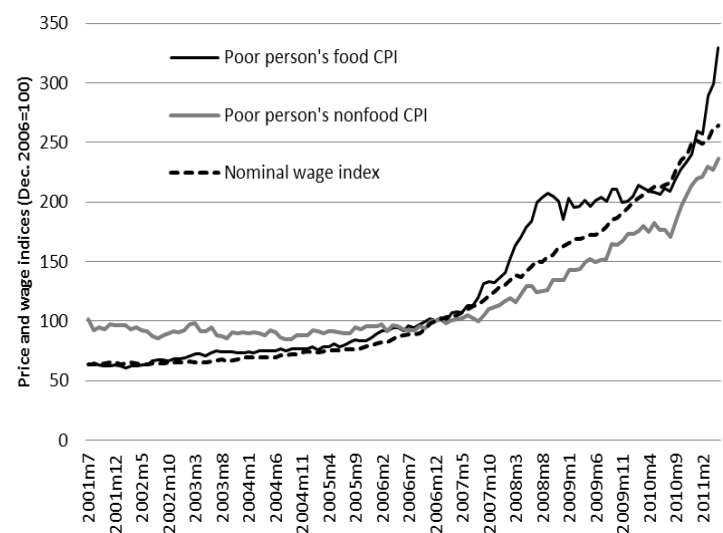
Data and methods

The price and wage data used in this study are based on monthly quotations collected as part of the CSA’s Consumer Price Survey (CPS). This is the data used to calculate the official consumer price index (CPI) and its various components. The data were collected by CSA enumerators in 119 “markets” in all 11 regions of Ethiopia between July 2001 and October 2011. These markets certainly cover the major urban markets, but they also cover what are essentially large rural towns with populations of between 5,000 to 20,000 people. In addition to measuring prices of major consumption items, the CPS is quite unique in measuring the wages of daily laborers, maids, guards, and other wage-related series. However, because maids and guards are often paid with food-in-kind, this paper focuses on the daily laborer series. This series is likely to be a good indicator of urban poverty because it focuses on the informal or casual sector, which is more likely to reflect the reservation wage of the urban poor. It is also highly advantageous in being high frequency, which is important in the context of rapid changes in both food and non-food prices.

In order to create a real wage series of greatest relevance to the poor, we deflate this wage series by poor person’s price indices. In other words, rather than using the consumption patterns of the total population to create a consumer price index, we use the consumption patterns of the poor population, defined here as the poorest 40% of households based on the 2004/05 HICES expenditure data.

We create these indices for the rural and urban areas of the 11 regions of Ethiopia, but we only use the urban poor person’s price indices to deflate the wage series. We also construct three separate indices—food prices, non-food prices, and total prices—in order to measure the purchasing power of wages for the urban poor. As shown in Figure 1, the trends in the food and non-food urban poor person’s price indices relative to the wage index give an indicator of urban poverty trends over time, with the trend in food-purchasing power providing a more relevant indicator for the welfare of the poor, who spend almost all of their income on food items.

Figure 1—Nominal price and daily laborer wage trends for the urban poor: 2001–2011



Source: Author’s calculations from CSA (2011) data

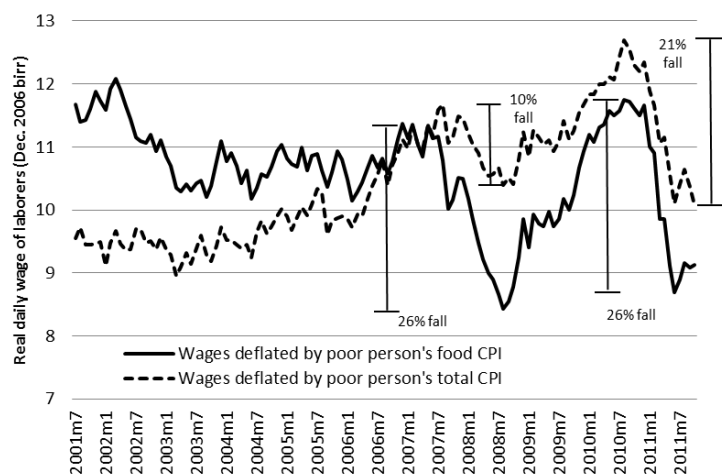
Finally, although descriptive evidence on wage trends indirectly tells us whether daily laborer urban wages respond to changes in food and non-food prices, we also formally test for wage adjustments by regressing changes in wages against changes in food and non-food prices using a panel error correction model (PVECM). This model separates out long run relationships as well as short run adjustments. Another point of note is that the spatial richness of the data allows us to disaggregate by regions and town sizes in order to examine diversity in impacts.

Results

Figure 2 shows the trend in daily laborer wages deflated by the urban poor's food CPI and the total CPI. The figure is informative both in terms of gauging secular trends and the impacts of the 2008 and 2011 inflation episodes. For example, the dotted line shows that real wages trended upwards from 2004 to mid 2007, from about 9.5 birr per day in January 2004 to 11.5 birr per day in mid 2007 (in December 2006 prices). However, from mid 2007 to mid 2008 real wages fell by around 10%. In 2009 and 2010 they again recovered to a peak of 12.5 birr per day, but the acceleration of both food and nonfood inflation in 2011 led to a 21% fall in real wages.

As was noted above, wages deflated by the food CPI may give a better picture of welfare trends for the ultra-poor. Figure 2 shows that food-disposable wages had no trend prior to the 2008 crisis, and then fell 26% from mid 2007 to mid 2008. Food-disposable wages recovered to pre-crisis levels in 2009–2010, but again fell by 26% in 2011. These results therefore imply large declines in the welfare of poor urban wage earners, especially those not paid with food-in-kind.

Figure 2—Trends in real daily laborer wages



Source: Author's calculations from CSA (2011) data.

Table 1 reports analogous results at the regional level for the two high inflation episodes. Consistent with the national results in Figure 2, Table 1 shows that the three largest regions (Oromia; Southern Nations, Nationalities, and Peoples (SNNP) region; Amhara) and the largest city (Addis Ababa) experienced large declines in food disposable wages in both crises in the range of 11–23%. However, total disposable wages typically fell more in the 2011 episode than in the 2008 episode (Oromia being the exception). Finally,

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Tigray is the exception, with strong wage growth throughout the period and minimal adverse inflationary impacts during either inflation episode.

Table 1—Changes in real wages during the two food crises at the regional level

Period	Addis	Amhara	Oromia	SNNP	Tigray
<i>Changes in food-disposable wages</i>					
2007 to 2008	-11.8%	-11.5%	-22.4%	-21.8%	-6.8%
2010 to 2011	-17.4%	-16.5%	-14.2%	-17.4%	0.8%
<i>Changes in total disposable wages</i>					
2007 to 2008	-3.4%	-1.5%	-11.0%	-9.8%	0.9%
2010 to 2011	-15.0%	-13.0%	-7.3%	-8.5%	0.3%

Source: Author's calculations from CSA (2011) data

Note: SNNP = Southern Nations, Nationalities, and Peoples region

Finally, the PVECM regression tests of wage adjustment find that although there is a strong long run relationship between wages and food prices (with an elasticity point estimate of 1.24), the short run relationship between wages and food prices is very weak, with an elasticity point estimate of just 0.05. This suggests that wages do not substantially adjust to food price shocks over the short run, which is entirely consistent with the descriptive results in Figure 2.

Policy implications

This research clearly suggests that rapid inflation in Ethiopia has had highly adverse short run impacts on the disposable income of urban wage earners. Cognizant of this possibility, the Ethiopian government's approach to dealing with food inflation in urban areas has primarily consisted of trying to prevent food inflation through price controls, releasing grain reserves, and trying to alleviate the purchasing power impacts on the urban poor through food subsidy schemes. While assessing the effectiveness of these interventions is beyond the scope of this research, the persistence of rapid food inflation in 2011 and 2012 suggests that these schemes have not done enough to reduce food inflation or protect the urban poor.

Another proposed solution is to therefore create a more permanent urban social safety net equivalent to the Productive Safety Net Program (PSNP) operating in rural areas. More analysis is needed to justify and design such a program, but the results herein certainly illustrate the increased volatility of urban livelihoods in the past five years, and the need to adequately protect the urban poor against high food inflation.

References

Central Statistical Agency (CSA). 2011. Analytical report on the 2011 Urban Employment Unemployment Survey. Addis Ababa: CSA.

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