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Rising Wages in Bangladesh

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ABSTRACT

Using data from multiple sources, we show that in Bangladesh, the increase in real wages, particularly female wages, has accelerated since the late 2000s, suggesting that the Lewis turning point (the point at which the labor market starts to shift in favor of workers) has arrived in Bangladesh. Rising wages are likely a result of a combination of more ample job opportunities in the nonfarm sector, especially in the manufacturing sector for females, and a greater amount of remittances, primarily from male workers overseas. Since human capital is the most important asset for the poor, the escalation in real wages has boosted the poor's earnings, thereby reducing their likelihood of being poor.

Keywords: Bangladesh, rising wages, Lewis turning point, industrialization

1. INTRODUCTION

Bangladesh is one of the most densely populated countries in the world. The numerous human-powered rickshaws, endless small shops and street vendors in the country's major cities give an impression of an abundance of workers. Such a seemingly unlimited supply of workers should exert a downward pressure on wages. Indeed, official statistics confirm that real wages have barely changed in the past several years (EIU 2012).[1] However, in recent years, factory owners have widely complained about rising labor costs, which is inconsistent with the availability of surplus labor as well as the findings in official statistics. Who is right? Have real wages accelerated or not?

Using data from multiple sources, in this paper, we show that the increase in real wages, in particular rural real wages, has accelerated since the late 2000s, suggesting that the Lewis turning point (or the tipping point at which workers begin to gain greater bargaining power when negotiating wages) has arrived. We argue that rising real wages due to more ample job opportunities in the nonfarm sector, especially in the manufacturing sector for women, have been a major driving force behind the country's recent noteworthy poverty reduction.

As labor costs have risen in other developing countries, such as China and India, Bangladesh has emerged as a new destination for labor-intensive industries (Zhang, Yang, and Wang 2011; IHS Global Insight 2010; Sincavage, Haub, and Sharma 2010). For example, the garment sector has grown into an employer of more than three million workers, accounting for the largest share of exports in the Bangladeshi economy, from almost negligible shares several decades ago (Kabeer and Mahmud 2004; Khundker 2002; Hossan, Sarker, and Afroze 2012). The booming manufacturing sector has attracted millions of surplus workers, in particular women, from rural areas. Initially, as laborers moved out of the agricultural sector, the impact on rural wages was minimal due to the presence of surplus labor. However, over time, as the supply of seemingly unlimited labor was exhausted, the terms of trade in the labor market started to shift in favor of workers.

Human capital is the most important asset for the poor, thus, the escalation in real wages naturally enhances their earnings and contributes to poverty reduction. Bangladesh has achieved a remarkable record in reducing poverty in the past decade. The poverty incidence dropped from 49 percent in 2000 to 32 percent in 2010, falling by 1.7 percentage points per year (World Bank 2011). In other words, about 1.6 million people have escaped poverty every year since 2000. By comparison, the poverty rate had declined more modestly between 1995 and 2000, from 51 percent to 49 percent, or 0.4 percentage points per year. These figures indicate that the rate of poverty reduction has accelerated. Rising real wages are likely major drivers behind this rapid poverty reduction.

Our paper is organized as follows. We first describe the conceptual framework for the rise in wages as predicted from the Lewis model (1954) in Section 2. In Section 3, we use three data sources to show that rural real wages accelerated in the second half of the decade spanning 2000–2010. Using descriptive statistics, we explain what factors contribute to the observed rise in real wages in Section 4. Section 5 summarizes findings and concludes with policy implications.

[1] EIU is the Economist Intelligence Unit and these findings were reported in "Bangladesh Market and Economic Indicators" (http://yousigma.com/comparativeanalysis/bangladeshmarketandeconomicindicators.pdf).

2. CONCEPTUAL FRAMEWORK

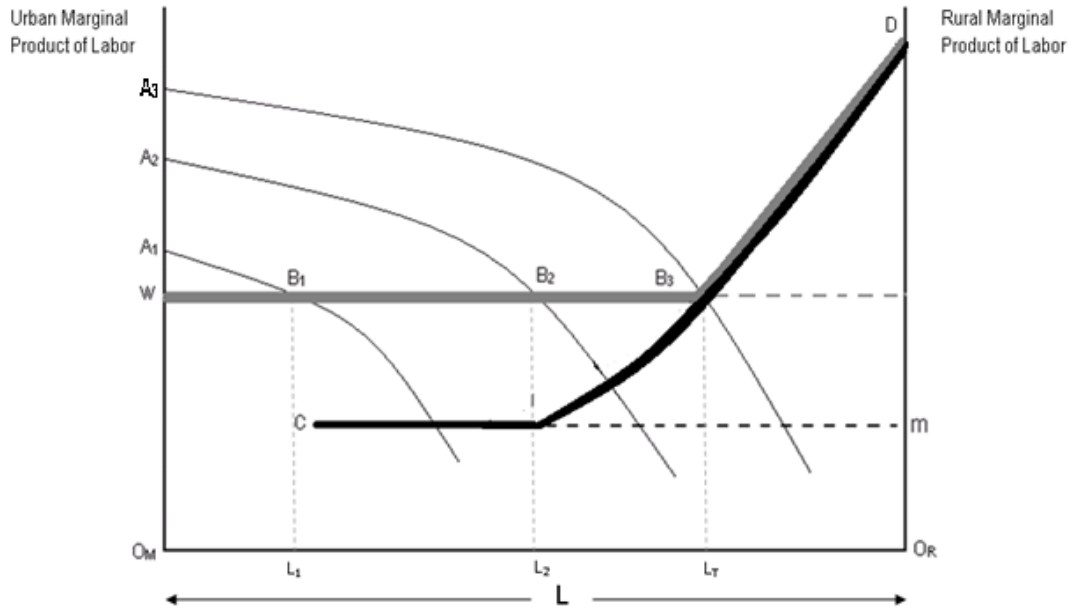
Economic development is a process of transferring workers from low-productivity sectors, such as agricultural production, to more productive sectors, such as manufacturing. In the early stage of the structural transformation, the outmigration of rural workers from the agricultural sector to the nonfarm sector has little impact on the wages of both sectors due to excess underemployment in rural areas. A defining feature of this early stage of development is that urban wages exceed rural wages. Additionally, at this stage, there is slow wage growth. Over time, the economy reaches a point at which the excess labor in rural areas becomes fully absorbed by the emerging nonfarm sector, initiating a rise in wages. This is the key insight advanced by Lewis (1954), and such a point was coined as the "Lewis turning point".[2]

However, the empirical evidence on the existence of a Lewis turning point in South Asia is mixed. It has been widely shown that the East Asian economies have experienced a noticeable Lewis turning point (Fei and Ranis 1975; Fields 2004; Zhang, Yang, and Wang 2011). As of the 1970s, however, studies on India and Bangladesh have failed to uncover such a trend (Rosenzweig 1980). This is either because the theory of the Lewis turning point does not hold in these countries, or because the turning point had not yet arrived at the time the studies were conducted. As economic transformation occurs over a broad length of time, research studies will be unable to document the turning point if the sample period is not long enough to encompass the transformation.

Figure 2.1 provides an illustration of the Lewis turning point: L is the total size of the labor force in the economy. O_R is the origin of the rural sector, and O_U is the origin of the urban sector. The marginal product of labor in the urban sector is AB (A_1B_1, A_2B_2, and so on), whereas the marginal product of labor in the rural sector is CD. One key feature of the rural marginal product of labor, CD, is that there is a long flat line when the amount of rural labor is greater than O_RL_2. Initially, let us assume that the marginal productivity of labor line is A_1B_1. At this point, the urban wage is w, and the rural wage is m. With capital accumulation in the urban sector, the marginal product of labor curve AB shifts rightward. After the curve reaches point L_2, the rural wage starts to rise, because the rural marginal product of labor curve, CD, has passed the horizontal stage. From then on, the rural wage continues to increase; urban wages remain constant until AB reaches the point L_T. L_T is the so-called Lewis turning point, where rural and urban wages converge and both begin to rise simultaneously.

[2] For a good review of the literature, refer to Fields (2004).

Figure 2.1—Conceptual model of Lewis turning point



Source: Adapted from Basu (1997).
Note: The thick gray line represents the urban wage curve; the thick black line indicates the rural wage curve.

This model predicts that the escalation of rural wages precedes the increase in urban wages which takes place after the Lewis turning point. Scholars in Bangladesh have expressed concern that the economy is not growing fast enough to absorb the surplus labor and reach the Lewis turning point (Islam 2007). Next, we use three datasets to examine whether the turning point has been reached in Bangladesh.

3. RISING REAL WAGES

We use data from three sources to document the pattern of rising real wages in Bangladesh.

Evidence Based on Monthly Wage Data

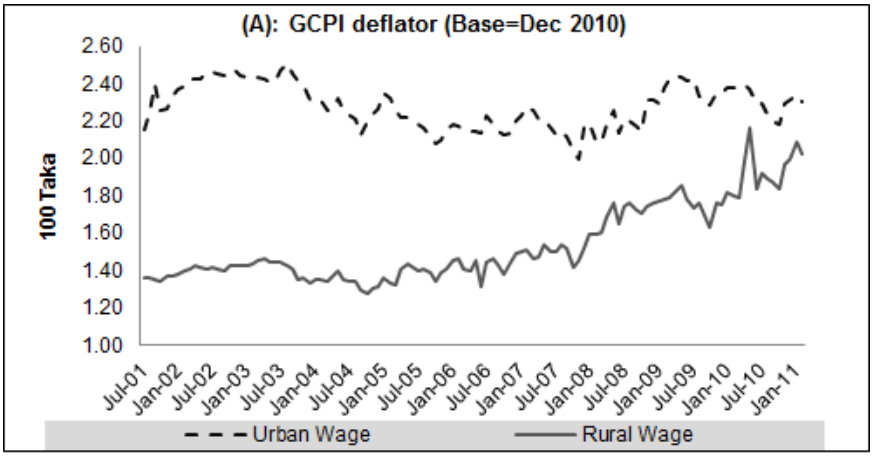
The first data source is monthly wage data from *Monthly Statistical Bulletin,* which collects both rural and urban wages (BBS 2001–2011). The *Bulletin* collects information on daily wages for casual workers (for example, construction workers, and carpenters) in seven major cities (Dhaka, Chittagong, Rajshahi, Khulna, Naryanganj, Sylhet, and Barisal) and 25 rural districts.

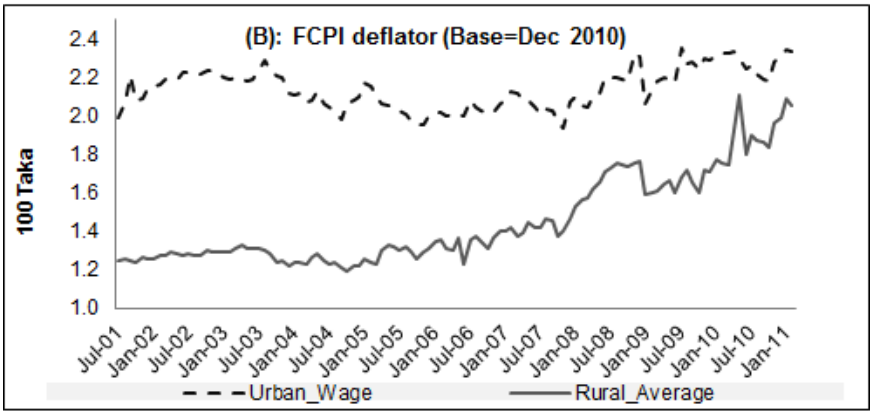
Figure 3.1 plots average urban and rural monthly real wages over for 2001–2011 with three different deflators. In Panel A of Figure 3.1, both rural and urban nominal wages are deflated by the General Consumer Price Index (GCPI) using December 2010 as the base. As Figure 3.1a shows, the gap between real rural and urban wages has narrowed throughout the sample period, especially since 2008. Also, the growth rate of rural real wages has outstripped that of urban real wages: whereas rural real wages witnessed a rapid increase, urban real wages were rather stagnant during most of the period and did not pick up until early 2008. This finding is consistent with the prediction of the Lewis model regarding the approach of the turning point, that the escalation of rural real wages precedes that of urban wages.

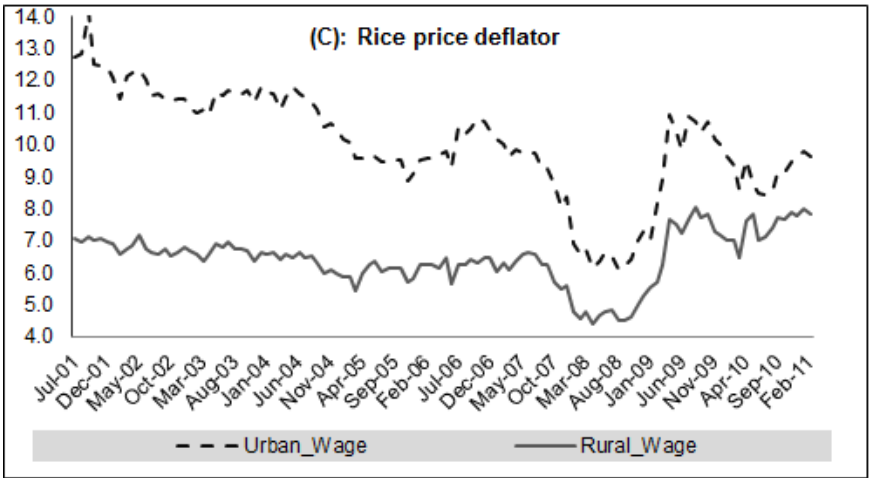
Food still accounts for the largest share of expenditures for most people in Bangladesh, and rice is the dominant staple. Thus, it is worthwhile to check the robustness of our findings in 3.1a by examining the trends in rural and urban real wages using the food consumer price index (FCPI) and rice prices, instead of GCPI, as our deflators in figures 3.1b and 3.1c, respectively. Panel B of Figure 3.1 depicts the trends in urban and rural real wages deflated by FCPI. The pattern is very similar that in Figure 3.1a. Rural real wages were roughly stable prior to the mid-2000s. However, since 2005, the growth of real rural wages has accelerated. The urban real wages slightly declined until 2007 before recovering to the level observed in the early 2000s.

Rice is the main staple food in Bangladesh, contributing nearly two-thirds of the total calorie supply (Bhuiyan, Paul, and Jabber 2002). Moreover, data on local rice prices are readily available, which makes it possible for us to calculate local real wages using the local rice price as a deflator. Three types of rice are produced and consumed in Bangladesh—coarse, medium, and fine. Coarse rice is the main type consumed by the majority of households, particularly by the poor. Therefore, we use coarse rice price in this analysis. Figure 3.1c demonstrates the extent to which the rise in food prices negatively affected purchasing power in rural and urban areas. In 2001, workers in cities and rural areas could afford to buy 10.0 kg and 6.0 kg of rice, respectively, with their existing daily wage rate. However, at the peak of the food price crisis in 2008, daily wages in urban and rural areas were worth only about 5.5 kg and 4.0 kg of rice, respectively. By 2011, the purchasing power of rural daily wages had bounced back to the neighborhood of 7–8 kilograms of rice. If we compare only the initial and final data points within the sample period, we see that urban real wages have actually plummeted. In contrast, rural real wages have surged.

Figure 3.1—Real rural and urban monthly wages in Bangladesh







Sources: The monthly wage data are obtained from *Monthly Statistical Bulletin* (2001–2011), Department of Agricultural Marketing (DAM), Bangladesh. The real wages are deflated by general consumer price index.

Note: The rural sample excludes the rural wage from the mega-cities. Urban wages are for the unskilled workers (such as, helpers in construction sites, carpenters, and other sectors). The base year is set to 2009/10.

Evidence Based on Household, Income, and Expenditure Survey Data

The monthly data's key advantage lies in high frequency and long-term coverage. However, these data have an important drawback: The sample covers only a small group of professions, mainly, unskilled laborers. Therefore, to further check the robustness of the aforementioned results, we use the national representative Bangladesh Household, Income, and Expenditure Survey (HIES; BBS 2010). By using this data, we make gains in representativeness, as the HIES has a wider coverage than the monthly wage data, however we also compromise on the frequency of observations, as the HIES is conducted every five years rather than monthly or annually. Based on the recent four waves of HIES—1995, 2000, 2005, and 2010—we tabulate the wage trend.

Table 3.1 presents average rural wages in peak and lean seasons for males and females according to the HIES community questionnaires. Panel A lists nominal daily wages. Because of inflation, however, the figures across the four years are not comparable. Similar to Figure 3.1, we use three different deflators to compute real wages: General Consumer Price Index (GCPI) with 2010 as a base (Panel A), Basic Needs Price Index (BNPI) (Panel B), and coarse rice prices (Panel C).

Table 3.1—Rural nominal and real wages by gender and season (HIES)

	Peak Season		Lean Season	
Year	**Male**	**Female**	**Male**	**Female**
Panel A: Nominal Daily Wage				
2010	194.33	141.62	154.92	113.08
2005	89.09	56.57	70.39	47.43
2000	70.29	48.2	55.95	39.96
1995	53.38	35.15	42.09	29.54
Growth rate from 2000 to 2010 (%)	176.47	193.82	176.89	182.98
Panel B: Real Wages (GCPI)				
2010	193.55	141.03	154.16	112.57
2005	133.66	84.87	105.52	71.13
2000	134.01	92.25	106.6	76.31
1995	128.57	84.72	101.49	71.2
Growth rate from 2000 to 2010 (%)	44.43	52.88	44.62	47.52
Panel C: Real Wages (BNPI)				
2010	193.55	141.03	154.16	112.57
2005	169.2	107.43	133.58	90.04
2000	164.66	113.35	130.98	93.77
Growth rate from 2000 to 2010 (%)	17.55	24.42	17.70	20.05
Panel D: Real Wages (Rice Price)				
2010	202.79	147.89	161.74	118.17
2005	170.83	108.5	134.87	90.91
2000	182.29	125.01	145.13	103.6
1995	137.95	91.11	108.72	76.41
Growth rate from 2000 to 2010 (%)	11.25	18.30	11.44	14.06

Source: Household, Income, and Expenditure Survey by BBS. Using four rounds: 1995, 2000, 2005, and 2010.
Notes: HIES = Household, Income, and Expenditure Survey; GCPI = general consumer price index; BNPI = basic needs price index. The real wages are in 2010 prices weighted and deflated spatially. The nominal wages are from HIES community surveys. Since BNPI does not exist for 1995, the real wages do not include that year.

Figures 3.2a and 3.2b graph the trends of real wages for males and females from 1995 to 2010 in agricultural peak and lean seasons, respectively. It is apparent from Figure 3.2 that from 1995 to 2000, real wages inched up, ranging from 4.2 percent growth for male workers in peak seasons to 7.2 percent growth for female workers in lean seasons. From 2000 to 2005, however, real wages declined for both male and female workers, regardless of seasons. Since 2005, real wages have improved dramatically, with an annual growth rate of approximately 10 percent. In particular, the rate of growth in female real wages has overtaken real wage growth rates for males. Consequently, the male-to-female wage gap narrowed from 1.57 in 2005 to 1.37 in 2010.

Figure 3.2a—Real rural wages in peak season

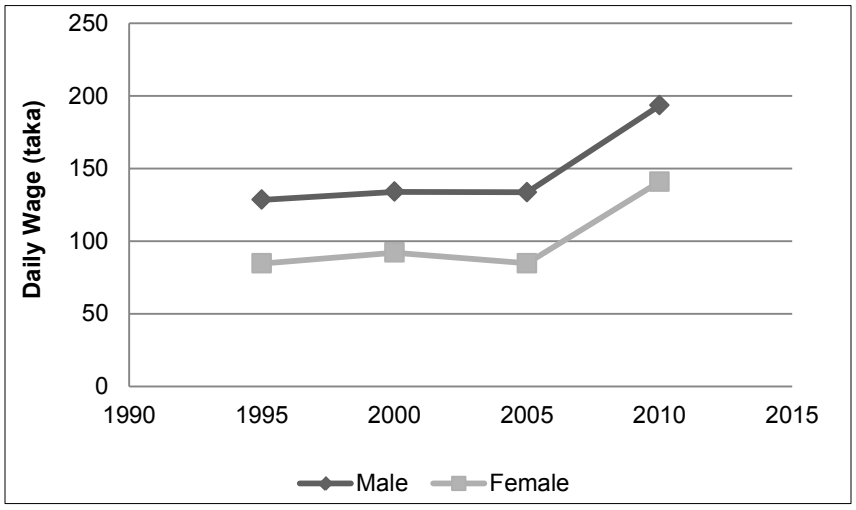
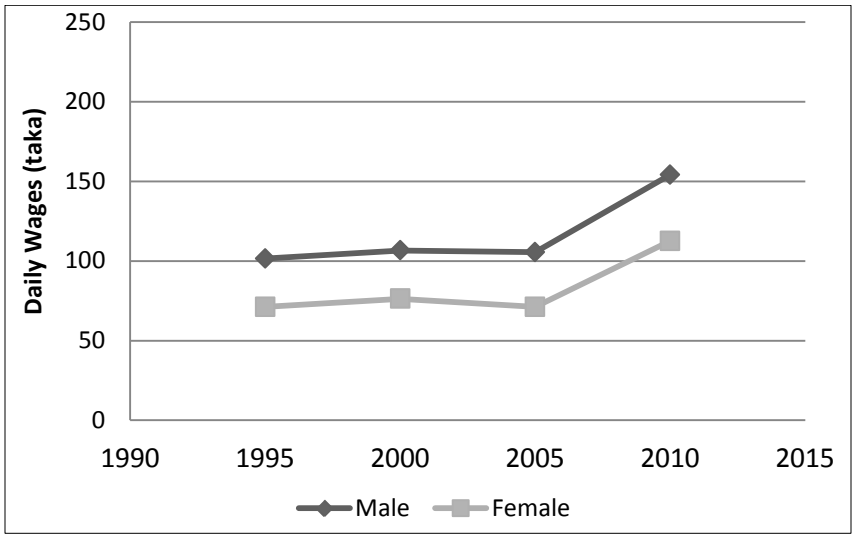


Figure 3.2b—Real rural wages in lean season



Source: Computed by authors based on Bangladesh Household, Income, and Expenditure Survey (HIES) in 1995, 2000, 2005, and 2010 data.
Note: Rural consumer price index (CPI) is used to adjust real wages.

The national General Consumer Price Index may underestimate the inflation level, especially for the poor (Deaton, 2003; World Bank 2008. Moreover, using a national GCPI to adjust wages across regions masks the spatial difference in price levels. To remedy these potential problems, we use two alternative deflators. In Panel C of Table 3.1, we replace the GCPI with the basic needs price index (BNPI) as a deflator. The BNPI is based on a national upper poverty line, which is computed using both a price index and the Cost of Basic Needs (CBN) method weighted by population (Lanjouw and Lanjouw 2001). Specifically, the food poverty lines for 2010/11 were updated from the 2005 food poverty lines using stratum-specific Törnqvist indices, whereas the upper and lower nonfood poverty lines were re-estimated using the Cost of Basic Needs method, as had been done for 2005 (World Bank 2010). Note that BNPI was designed to deflate only across the latest three rounds, which is why values for 1995 are omitted from Panel C. Additional details pertaining to the construction of the BNPI and the benefit of its use can be referred to World Bank (2008).

Using the regional-specific BNPI index, we first compute real wages at the rural division level and then derive the national rural real wages based on division real wages. After adjusting for spatial price differences, the magnitude of real wage growth rates shown in Panel C of Table 3.1 has dropped significantly as compared with Panel B. We observe that in both peak and lean seasons, male wages grew 18 percent from 2000 to 2010, whereas female wages rose 24 percent during the peak season, and 20 percent during the lean season. Interestingly, over the past decade, the male-to-female wage gap has been declining from 1.45 and 1.40 during the peak and lean seasons, respectively, to 1.37 in both seasons, which suggests gender-differentiated wage growth patterns that are in line with the growth of the manufacturing industry (in particular, garments and textiles) in Bangladesh.

Panel D of Table 3.1 presents national real wages adjusted by rice price. We first use coarse rice price index at the local level to deflate nominal wages. We then compute the national average of real wages based on the local real wages. Once again, we find that real wages grew much faster in 2005–2010 than in the earlier period of 2000–2005. In fact, when using this deflator, real wages dropped between 2000 and 2005, while the growth rate for 2005–2010 is slower than that reported in Panel A. This finding is perhaps because rice prices escalated more rapidly than the prices of other items in the consumption basket during the peak of the food price crisis in 2007 and 2008.

Having observed real wage escalations in rural areas, one may wonder whether urban wages have exhibited a similar pattern. Table 3.2 presents nominal and real daily wages in cities. Unlike the rural surveys, HIES did not have a community module for urban regions. As a result, we have to extract the wage data from household surveys. Even in cities, a significant portion of people work in the informal sector earning daily wages. For those earning monthly salaries in the formal sector, we convert salaries into daily wages using the average number of working days per month. A small number of people reported incomes from both salaries and daily wages. In this case, we compute an average daily wage based on monthly salaries derived from formal jobs and daily wages earned in informal jobs weighted by the respective number of working days. Similar to Table 3.1, we also use CPI and BNPI as deflators to derive real wages.

Table 3.2—Urban nominal and real daily wages by gender (HIES)

	Male	Female	National
Panel A: Nominal Wages			
2010	270.11	232.32	260.26
2005	161.65	149.75	157.57
2000	112.85	71.51	107.27
Growth rate from 2000 to 2005 (%)	43.24	109.41	46.89
Growth rate from 2005 to 2010 (%)	67.10	55.14	65.17
Growth rate from 2000 to 2010 (%)	139.35	224.88	142.62
Panel B: Real Wages (GCPI)			
2010	253.43	223.21	245.11
2005	230.33	216.51	225.24
2000	203.23	129.26	194.07
Growth rate from 2000 to 2005 (%)	13.33	67.50	16.06
Growth rate from 2005 to 2010 (%)	10.03	3.09	8.82
Growth rate from 2000 to 2010 (%)	24.70	72.68	26.30
Panel C: Real Wages (BNPI)			
2010	253.43	223.21	245.11
2005	291.57	274.08	285.12
2000	249.72	158.84	238.46
Growth rate from 2000 to 2005 (%)	16.76	72.55	19.57
Growth rate from 2005 to 2010 (%)	-13.08	-18.56	-14.03
Growth rate from 2000 to 2010 (%)	1.49	40.53	2.79

Source: Household, Income, and Expenditure Survey by BBS. Using four rounds: 1995, 2000, 2005, and 2010.
Note: The real wages are in 2010 prices, weighted and deflated spatially. The nominal wages are obtained from HIES household surveys. Urban daily wage is calculated as follows: (annualized daily wage + annual salary)/number of days worked in year. Wages are from wage earners 15 years and older.

Panel A reports urban nominal wages in 2000, 2005, and 2010. Female wages more than doubled from 2000 to 2005, whereas male wages increased by only 43 percent during the same period. In the later period of 2005–2010, both male and female wages surged by more than 55 percent. The pattern of nominal wages does not necessarily reflect the trend of real wages, because inflation may vary by years.

In Panel B, we deflate the nominal wages by GCPI. After the price adjustment, the previously torrid growth in real wages becomes less impressive. Female real wages rose by 68 percent from 2000 to 2005 but by only 3 percent from 2005 to 2010. The growth rate of male real wages was only 13 percent and 10 percent, respectively, in the two periods.

Panel C presents real wages adjusted by BNPI. Since BNPI reports a higher inflation rate than GCPI during 2005–2010, it is natural to observe a drop in real wages during this period. Interestingly, the finding that female real wages quickly caught up to their male counterparts in 2000–2005 continues to hold. Interestingly, the sudden surge in female real wages between 2000 and 2005 resembles the pattern seen using the GCPI. Over the whole period of 2000-2010, female real wages witnessed a 41 percent increase.

Because women account for a small share of the labor force, the national wage patterns more closely resemble male wage patterns. Unlike the rapid growth in real wages in rural areas, the growth of urban real wages was lackluster. On the whole, the real wage patterns derived from HIES are largely in sync with those observed from the monthly wage data. Results from both methods indicate that the escalation of real wages did not happen until the second half of the 2000s. Also, the increase in real wages was more pronounced in rural areas than in cities. Once again, these findings are consistent with the model prediction (shown in Figure 2.1) that the increase in real wages tends to first manifest in the low-productivity sector.

Evidence at the Plant Level

Although we have presented evidence on rising real wages for 2005 to 2010 based on different data sources, one may still doubt that the trend is just a blip given the report from official statistics about wage stagnation from 2010 to 2012. Because HIES is conducted every five years, it is impossible to check, using a similar national representative survey, whether the streak of rising wages has continued in the past two years. As an alternative, in order to gauge the latest wage trend, we use administrative payroll data from a privately owned sweater factory for June 2010, May 2011, and February 2012. We are fully aware that these data are not representative, because they are confined to only one industry. Nonetheless, given that the labor market is rather integrated in Bangladesh, especially in its manufacturing sector, and given the lack of alternative good data for the most recent years, the trend revealed from just one factory may offer some tentative evidence on the overall wage patterns.

The factory is a middle-size sweater enterprise with 169 employees on the payroll in 2010; 153 in 2011; and 145 in 2012. Table 3.3 reports the average nominal and real wages over time. Real wages are adjusted by GCPI or FCPI. From June 2010 to May 2011, nominal wages shot up by 40 percent. Moreover, even after controlling for inflation, (real) wages spiked up by 29 percent (GCPI) and 26 percent (FCPI) from June 2010 to May 2011. In the following nine-month period (May 2011–February 2012), the growth rate of real wages remained at a double-digit level (in the neighborhood of 13–14 percent), suggesting that the labor market in the manufacturing sector has continued to grow since 2010.

Table 3.3—Nominal and real monthly wages (plant level)

Period	Nominal Wages	Real Wages (adjusted by GCPI)	Real Wages (adjusted by FCPI)
June 2010	2,721.2	2,721.2	2,721.2
May 2011	3,813.6	3,499.7	3,428.6
February 2012	4,718.5	3,955.0	3,914.3
Growth rate, 2010–2011 (%)	40.1	28.6	26.0
Growth rate, 2011–2012 (%)	23.7	13.0	14.2

Source: Data are obtained from the sweater factory.

In summary, evidence from all three data sources indicates that Bangladesh may have entered an era of rising real wages. Next, we explain the main factors that contribute to the documented wage growth.

4. WHAT CAUSES RISING REAL WAGES?

Nonfarm-Sector Expansion

According to the Lewis hypothesis, the key to reaching the turning point is to increase the marginal product of labor in the nonfarm sector. Accumulating more capital in this sector can serve this purpose. There are several ways to foster capital accumulation. First, entrepreneurs can reinvest their profits into their businesses. Second, remittances can be invested to initiate businesses. As revealed in Table 4.1, the share of remittances in total household income rose from 7 percent in 2000 to 9.4 percent in 2010, and this change is more pronounced in rural areas. In 2000, the share of remittance income in rural areas was 7.5 percent, whereas in 2010, this figure jumped to 10.5 percent. It is possible that some of these growing remittances have trickled down to business investments, such as building commercial fish ponds, which in turn would generate nonfarm jobs. Third, foreign direct investment (FDI) is another major source of capital. Since 1983, the Bangladesh government has made greater efforts to attract FDI, particularly in the garment sector. As shown in Figure 4.1, FDI in the garment sector has grown from less than US$2 million in 1995 to US$91.6 million in 2010 (Bangladesh Garments Manufacturers and Exporters Association 2012). Accordingly, the number of people employed in the garment sector increased from 1.3 million in 1995 to 3.6 million in 2010, with a particularly rapid increase since 2004.

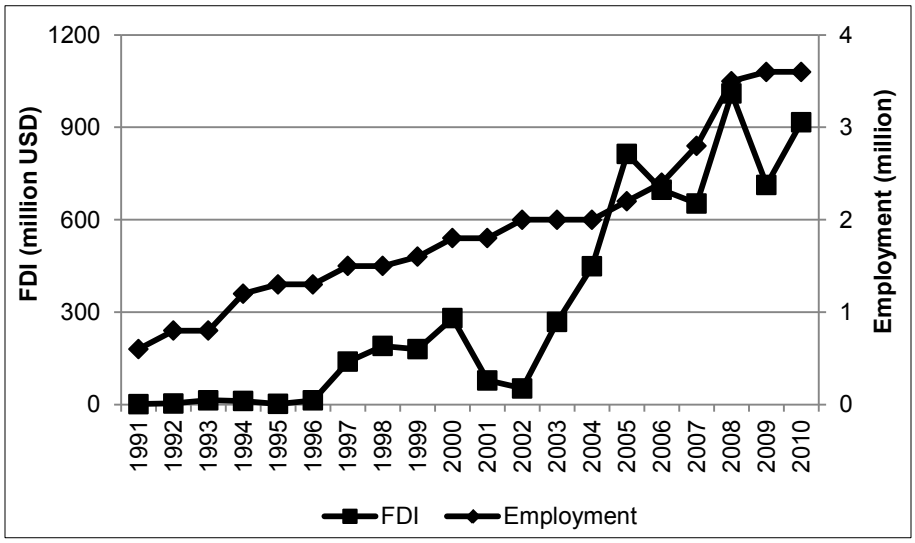
Table 4.1—Share of income from different sources (%)

Year	Farm	Nonfarm	Social Safety Net	Remittances	Miscellaneous
Panel A: National					
2010	27.87	47.84	0.33	9.40	14.56
2005	30.29	42.86	0.45	7.19	19.19
2000	32.64	40.65	0.42	7.04	19.17
Panel B: Urban					
2010	7.30	71.16	0.08	6.42	15.04
2005	8.33	69.20	0.14	4.82	17.50
2000	6.10	68.10	0.06	5.35	20.47
Panel C: Rural					
2010	35.41	39.29	0.42	10.49	14.38
2005	37.74	33.93	0.56	7.99	19.77
2000	39.39	33.67	0.52	7.47	18.84

Source: Calculated by authors based on HIES in 2000, 2005, and 2010.

Note: Farm income refers to net income derived from farm, forestry, and fishing. Nonfarm income includes nonfarm self-employment income and nonfarm wage income. Nonfarm self-employment income refers to net income derived from nonfarm enterprises plus daily wages. Nonagricultural wage income is net income of (nonfarm wages/salary + program transfers + stipends + housing rental). In 2010, the major social safety programs include Vulnerable Group Feeding (VGF), Cash for Work, Old Age Allowance, Vulnerable Group Development (VGD), Primary Education Stipend Project, Food for Work, Test Relief, Allowance for Widow and Distressed Women, Agricultural Subsidy and Fuel Price Support for Marginal Farmers, Gratuitous Relief (GR), and Food for Education (FFE). In 2000, the social safety nets captured in HIES were VGF, VGD, FFE, and GR.

Figure 4.1—Foreign direct investment (FDI) and employment in the garment sector



Source: Bangladesh Garments Manufacturers and Exporters Association (BGMEA) worker database (http://garmentworkers.com.bd/).
Note: The units of FDI and employment are in U.S. dollars (log) and workers (log), respectively.

In Bangladesh the informal sector accounts for a large share of total employment. As shown in Table 4.2, more than 70 percent of employment was concentrated in the informal sector in 2010. However, the share of employment in the formal sector steadily increased from 2000 to 2010 in both rural and urban areas for both males and females.[3] In 2010, more than half of the workers (54.4 percent) in urban areas were employed in the formal sector, compared with only 17.2 percent in rural areas. In rural areas, the share of informal-sector employment was persistently high though declining for the 2000–2010 period. For the nation as a whole, in 2000, only 19.4 percent of the employed workforce worked in the formal sector. By 2010, that proportion rose to 27.9 percent. More interestingly, the share of women working in the formal sector has surpassed the share of males, and the gap has widened from 10 percentage points (28.15 percent for females and 18.15 percent for males) in 2000 to near 13 percentage points (39.16 percent for females and 26.21 percent for males) in 2010, perhaps due to the disproportionately increasing demand for female workers in the manufacturing sector, especially the garment industry.

Table 4.2—Share of employment in formal and inform activities by sector and gender (%)

Year	National	Urban	Rural	Female	Male
Panel A: Formal Sector					
2010	27.89	54.40	17.24	39.06	26.21
2005	23.49	44.71	15.59	34.40	22.04
2000	19.41	43.12	12.93	28.15	18.19
Panel B: Informal Sector					
2010	71.20	43.83	82.20	57.31	73.16
2005	75.16	51.54	83.66	60.67	76.92
2000	79.56	53.74	86.45	68.53	81.00

Source: Calculated by authors based on HIES in 2000, 2005, and 2010.
Note: The numbers in the formal and informal sectors may not add up to 100 as some people report activities in both sectors.

[3] The formal sector includes government organization, autonomous body, private office, public mill/factory, private mill/factory, and local government or non-governmental organization; it excludes household and other salaried wages. The informal sector includes all nonformal-sector workers.

Figure 4.2a plots the share of working-age females employed in the manufacturing sector by age cohorts for 1999/2000, 2005/06, and 2009/10, based on the National Labor Force Survey (BBS 1999–2000, 2005–2006, 2009–2010). The share of women working in the manufacturing sector significantly increased from 2005 to 2010 across age groups. The most noticeable change occurred among the 35–44 cohort. Over time, men have also become more likely to work in the manufacturing sector for most age groups, as shown in Figure 4.2b. However, the demand for female workers in the manufacturing sector has increased disproportionately as compared with men, which is perhaps why female wages have increased more rapidly than that of their male counterparts in the past several years.

Figure 4.2a—Share of working-age females in manufacturing sector

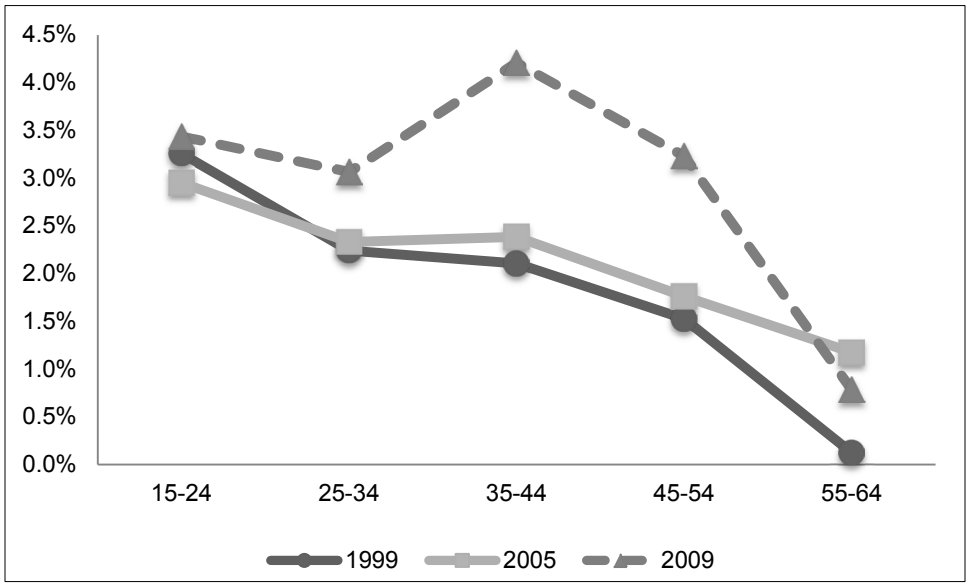
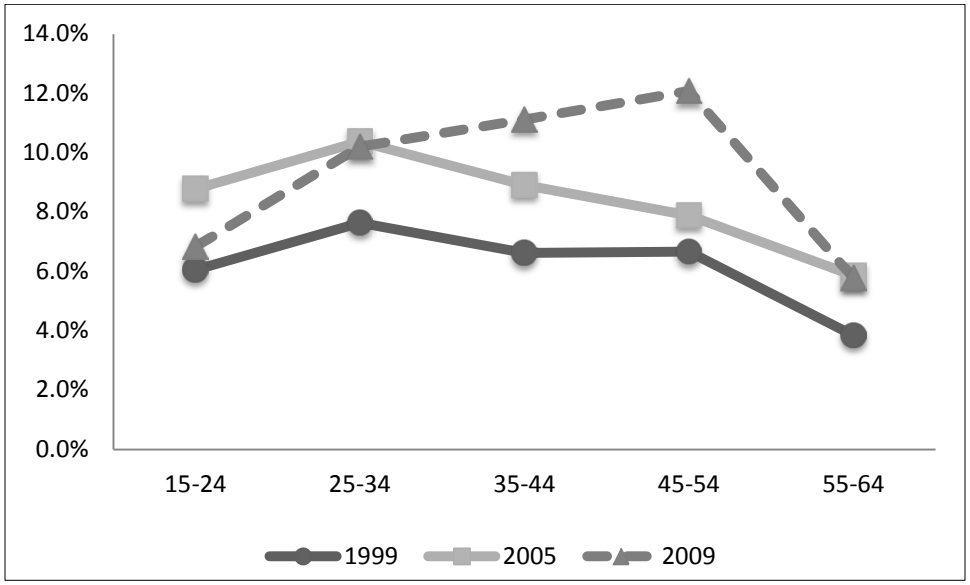


Figure 4.2b—Share of working-age males in manufacturing sector

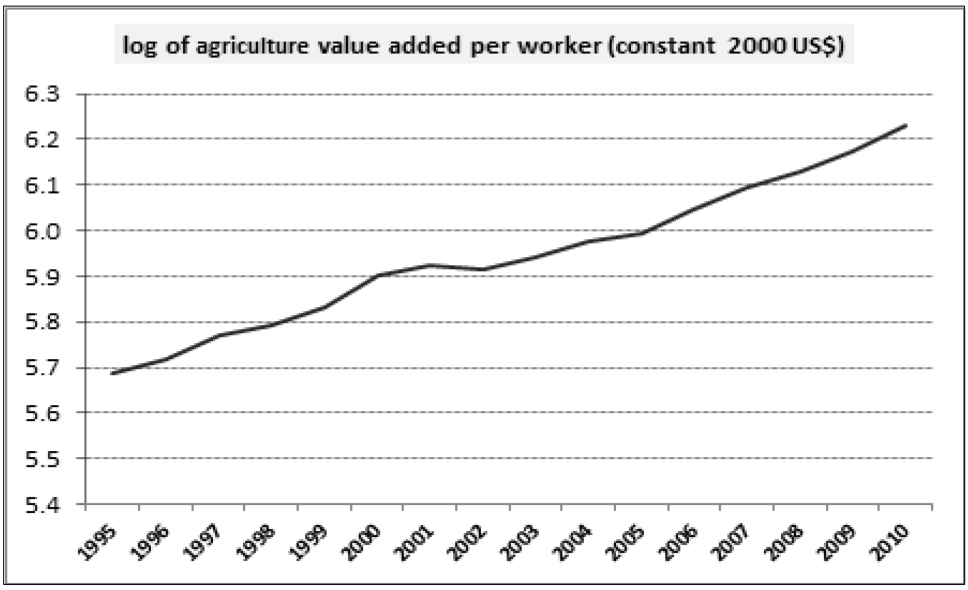


Source: Calculated by authors based on Bangladesh Labor Force Survey in 1999/2000, 2005/06, and 2009/10.

Alternative Interpretations

In the literature, the Lewis theory has been challenged by neoclassical theory, according to which, in a fully competitive labor market, the trend in wages is supposed to be in line with the underlying labor productivity trend. If this were the case in Bangladesh, the observed trend in real wages should match the trend in labor productivity. To examine this hypothesis, we compare the agricultural value-added per worker over time (Figure 4.3). The growth in labor productivity follows a rather linear trend, without any major kinks. In other words, agricultural labor productivity does not display a similar trend to the trend in rural real wages, shown earlier. Thus, we conclude that labor productivity alone cannot explain the acceleration of wage growth in 2005–2010.

Figure 4.3—Agricultural labor productivity



Source: The data are from World Bank 2010.

In the past decade, the Bangladesh government has injected hundreds of millions of dollars into rural areas to finance social safety programs and public projects. As the poor receive transfers from these social safety net programs, their reservation wage may go up. Consider the well-known 100-Day Employment Generation Program (100-DEGP) as an example. This program, introduced in 2008/09, had a budget of 12,000 million takas (Tk.), or US$150 million, covering nearly two million beneficiaries. On average, each beneficiary received Tk. 6,000 (US$75). However, the first phase was replaced by a scaled-down program called the Employment Generation for Hardcore Poor (EGHP). The first phase of EGHP commenced from September to November 2009, with a budget of Tk. 1,775 million targeting 0.44 million of Bangladesh's poor. The award size for each beneficiary averaged to roughly Tk. 4,000 (about US$50). The second phase of EGHP, which lasted from March to April 2010, targeted 1.2 million poor people with a budget of Tk. 6,000 million (about US$60 per person). Although the second phase of EGHP was significantly larger than the first, it was still far below 100-DEGP in scale. If we look at the timing of when the employment generation program was introduced, we see that rural real wages had already taken off. During the same period, the garment sector alone generated 0.5 million new jobs. Assuming each garment worker earned US$720 per year (US$60 per month multiplied by 12 months), the increase in earnings derived from the new jobs created in the garments sector dwarfed the corresponding rise in earnings due to 100-DEGP and EGHP. It is therefore hard to ascribe the rising rural wages to the infusion of government transfers. The government programs might have explained the blips in the real wage patterns during 2008–2009, but they do not fit into the long-term wage trend.

Since HIES includes detailed questions on incomes received from different government programs, we can use that dataset to further investigate whether government transfers have played a greater role in household income over time, particularly in rural areas. Table 4.3 presents the share of income derived from various social safety nets.[4] For the country as a whole, individuals received only 0.34 percent of their income from social programs in 2010. Compared to 2000, when the figure was 0.42 percent, the share has actually declined. Because most of the poor live in rural areas, naturally rural people receive a larger share of their income from social safety nets than their city counterparts. However, even among the rural population, the share of transfer income in the total household income was as low as 0.44 percent in 2010 and 0.52 percent in 2000. It is improbable that transfers constituting such small shares of household incomes could shape the general wage picture. Moreover, the trend in transfer income shares does not resemble the pattern of real wages.

Table 4.3—Share of household income from social safety net (%)

	Social Safety Net (Share of income)		
Year	National	Rural	Urban
2010	0.34	0.44	0.09
2005	0.47	0.58	0.14
2000	0.42	0.52	0.06

Source: Calculated by authors based on HIES 2000, 2005, and 2010.

In comparison, as shown in Table 4.1, the share of income derived from nonfarm activities and remittances increased from 48 percent in 2000 to 57 percent in 2010. Overall, the evidence suggests that the hypothesis that government transfers played a major role in boosting real wages is a weak one. Certainly, we shall cast a cautious note here because most of the government programs target the poor and HIES was not designed to capture the poor in a representative way. Therefore, the overall share of transfer income may mask the true picture of the positive changes to income that the poor received.

[4] For 2005, it was impossible to calculate the price of the in-kind social safety nets, as the questionnaire did not specify what was received, only the amount (kg). For 2010, values for in-kind payments, such as rice and wheat, were taken from the community survey. In 2000, social safety nets were defined as wheat or rice received from four programs.

5. CONCLUSIONS

As one of the most populous developing countries, Bangladesh enjoys a comparative advantage in its labor-intensive industries. In the past several decades, the government has adopted a development strategy that capitalizes on this comparative advantage by promoting these industries. One prominent example of a promoted industry is the garment sector. Because the manufacturing sector offers better-paid jobs than the informal and agricultural sectors, its expansion allowed more people to improve their earnings. Moreover, as more workers shifted to the formal sector and into other nonfarm jobs, labor became scarcer in rural areas, bidding up rural real wages thereby enhancing total labor earnings.

Using data from several sources, we show a consistent pattern: That is, after a long period of stagnation, real wages, especially in rural areas, began to grow at a faster pace in the past several years. Given the rising labor costs in China and India, Bangladesh's comparative advantage in labor-intensive industries is going to become more pronounced. Therefore, the trend of rising wages is likely to continue, which is good news for the poor. The combination of increasing job opportunities, higher wages, and more remittances is likely a contributing force in Bangladesh's remarkable record of poverty reduction over the past decade.

However, if labor productivity does not keep up, Bangladesh's labor cost advantage may not sustain. In the long run, the level of labor productivity largely depends on human capital. Therefore, the public investment in education may have a high payoff in the long term.

Competition for labor due to the growing manufacturing sector can also have implications on food security. Rural agricultural labor is no longer abundant, therefore agricultural policies should focus on ways to improve productivity in the wake of rising labor costs. Mechanization, the adoption of high-yield varieties, and improving labor productivity through education and training may ease this burden.

As more people find better-paying jobs, the number of poor will decline. Consequently, the government should respond by redesigning its safety net programs to target a smaller group of vulnerable people who cannot participate in the labor market.

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