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# Do ‘inferior’ jobs always suffer from a wage penalty?

## Evidence from Temporary Workers in Cambodia and Pakistan\*

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### Abstract

Despite the rise of temporary jobs in the past several decades, the empirical evidence on wage differentials between temporary and permanent workers is extremely limited in developing Asian countries. This paper is the first research work that systematically examines the temporary-permanent wage gap in selected Asian countries, based on their national Labor Force Survey data. Our estimates indicate the presence of a temporary employment’s wage penalty in Pakistan and contrarily a wage premium in Cambodia. Moreover, Quantile Regression Estimates show that wage differentials could greatly vary across the wage distribution. The wage gap is wider at the bottom of the wage distribution in Pakistan, suggesting a *sticky floor* effect that the penalty of being in temporary jobs could be more severe for disadvantaged workers. By contrast, a glass ceilings effect is found in Cambodia, indicating that the wage premium is small at the bottom and becomes high at the top of the pay ladder.

**Keywords:** temporary employment; wage gap; sticky floor, glass ceiling, Cambodia; Pakistan

**JEL Classification:** J30, J31, J80

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# 1. Introduction

The past several decades have witnessed the rise of non-standard forms of employment (NSFE), understood as jobs that do not conform to criteria of standard employment (i.e., full-time and indefinite), in many parts of both the developed and the developing worlds (ILO, 2015a; Serrano et al., 2014 among others). One important category of NSFE is temporary employment, referring to jobs with limited duration, namely fixed-term, project or task-based contracts, seasonal and casual work, including day-laborers (ILO, 2015a).

Temporary jobs, on the one hand, could provide firms as well as workers with greater adjustment and flexibility. On the other hand, they are often associated with poor job quality, in terms of lower earnings, a higher level of labor market insecurity and higher job strain (OECD, 2014). Existing literature has usually raised the question of whether temporary workers being discriminated against in terms of payment or not, the extent and distribution pattern of such discrimination. Since most of the theories, such as Human Capital, Efficiency Wage, or insider-outsider models put forward various reasons why the former may receive lower wages, and available empirical evidence also supports this wage penalty. However, there is still a possibility that temporary employees are better remunerated to compensate for other non-wage disadvantages (the theory of Equalizing Difference).

Therefore, empirical studies on the wage gap between temporary and permanent jobs are of great importance for a better understanding of challenges associated with temporary employment as well as developing policy proposals. Yet, in developing Asian countries, evidence on temporary-permanent wage differential is extremely limited and this possibly because of the scarcity or even lacking of appropriated data. Most available studies on Asia have been for Japan and the Republic of Korea (Ahn, 2006; Lee & Lee, 2007; Diamond, 2010; Ha & Lee, 2013 among others) or on the formal-informal wage gaps in less-developed nations (Nguyen et al., 2013; Dasgupta et al., 2015 for examples). Furthermore, although studies in developed economies suggest that wage penalties highly depend on the relative position in the wage distribution, to the best of my knowledge, such evidence is non-existent in Asian developing countries.

This research is based on the National Labor Force Survey (LFS) data of Cambodia and Pakistan provided by the ILO. It makes an important contribution to the literature as the very first cross-country research work examining the wage gap between temporary and permanent workers in developing Asian economies. Moreover, our definition of temporary employment allows us to cover a large board of employment in the informal sector. Besides, other types of inequalities (as gender wage gap, skill wage gap, or race wage gap) are considered, allowing a more in-depth analysis of wage inequality in these countries.

Over the scare of relevant data, the choice of Cambodia and Pakistan is interesting for at least two other reasons. On the one hand, both countries are considered less developed countries and suffer from different economic, social, and institutional issues (e.g., low power of trade unions, increase of vulnerable jobs, low literacy rate). On the other hand, the two countries have tried to introduce different programs to improve the quality at work (e.g., decent work programs supported by the ILO in both countries or Better Factories Cambodia-BFC for the Cambodian garment industry).

As a result, it is vital to investigate the degree of different types of wage inequality in the two countries.

Surprisingly, the estimation reports that temporary workers suffer from a wage penalty in Pakistan while they benefit from a wage premium in Cambodia. Besides, Quantile Regression results show that in Pakistan the wage gap is wider in the lower tiers of the wage distribution, suggesting the existence of *sticky floors* effect. By contrast, Cambodian temporary workers encounter a *glass ceilings* effect, implying that the wage gaps are small at the lower-tails and widen at the upper-tails of the pay ladder. Besides, the estimation shows evidence of a wage penalty against female workers and a wage premium for migrant workers in both countries.

The paper is structured as follows. Section 2 provides an overview of the theoretical and empirical literature on the wage differentials related to temporary jobs, with a primary focus on Asian evidence. Section 3 presents the economic and labor market contexts of the studied countries, data description, and empirical strategies. Results derived from econometric models are analyzed in Section 4, followed by concluding remarks in the last section.

## 2. Literature review

### 2.1. Theoretical background

#### Temporary workers: wage penalty or wage premium?

Temporary workers likely suffer a penalty in terms of working conditions, particularly wages, compared to their permanent counterparts. Various theories have been established to explain the underlying reasons for wage differentials between temporary and permanent workers. Although temporary jobs are often considered lower-paid, associated with less favorable working conditions than permanent ones, a temporary work' wage premium can be yet justified in the theory.

Numerous theories are indicating a temporary workers' wage penalty, including the Human Capital theory, the Efficiency Wage theory, and the Insider-outsider model (Comi & Brasseni, 2012; Pacheco & Cochrane, 2015). The Human Capital theory attributes wage differentials to the amount of 'human capital' that workers obtain. Indeed, human capital is awarded in the labor market because it raises the firm's profit. Meanwhile, higher educated workers would be better paid because they are more obedient to the orders and more reliable members of the firm. When it is not sure that temporary workers can finally obtain a permanent contract, they tend to invest in or be provided with, a smaller amount of firm-specific training, and thus receiving lower wages (Booth et al., 2002). Alternatively, if employers have to invest in higher levels of specific training for temporary workers, this additional cost would unavoidably lead to a temporary wage penalty (Pacheco & Cochrane, 2015).

The Efficiency Wage theory asserts that high monitoring costs and uncertain product demand might induce profit-maximizing firms to hire both temporary and permanent workers, with the former receiving a lower wage, even if they are homogeneous and perfect substitutes (Rebitzer & Taylor, 1991). Guell (2000) argues that the opportunity for contract renewal may be used as a 'carrot' to incentivize higher productivity from workers instead of wages.

The Insider-outsider model emphasizes the importance of high firing costs due to rigid labor market regulations. Consequently, firms prefer having a buffer stock of workers (the ‘outsider’) on fixed-term contracts (FTCs) and with limited employment rights, who can easily be laid off in case of adverse shocks. The risk of dismissal is therefore reduced for permanent employees (the ‘insider’) (Bentolila et al., 1994), who can then bargain for higher wages. In particular, if a union mainly represents the insiders, firms would employ cheaper temporary workers to cope with union wage pressure. Therefore, the presence of workplace unions is also responsible for contract duality (Salvatori, 2009).

Besides, temporary jobs might still benefit from better wages than permanent counterparts to compensate for their less attractive characteristics. According to the theory of Equalizing Differences, or Compensatory Differences, the total monetary and non-monetary advantages or disadvantages among work activities and workers themselves could be equalized by the observed wage differentials. As a result, workers could receive compensating wage premiums in doing jobs with undesirable non-wage characteristics (Brown, 1980; Rosen, 1987). In the context of temporary-permanent workers’ wage differentials, first, the inconsistent nature of some forms of temporary employment such as seasonal jobs implies times of unemployment. Thus, temporary workers should be compensated for this. Second, favorable working conditions associated with long-term jobs such as job security, paid leave and other fringe benefits, could lead permanent workers to accept lower wages, as they are compensated in a non-pecuniary form.

In summary, the extent to which temporary workers are remunerated in comparison with permanent workers is still controversial theoretically. Although the majority of existing theories are in favor of a temporary job wage penalty, such a wage gap deserves thorough examination in the context of Asian developing countries before any conclusion is made.

### ***Sticky floors versus glass ceilings effects***

The temporary wage penalty might vary across the wage profile of workers. If such a penalty decreases along the wage distribution (i.e. the penalty is high at the bottom and becomes smaller at the top tail of the wage distribution), a *sticky floors* effect is found at work. Reversely, a *glass ceilings* effect implies that the wage gap widens in the upper tail and lessens in the lower tail of the wage distribution. It should be noted that the literature on such effects are mostly dedicated to gender wage or earnings gaps (see for example Fang & Sakellariou, 2015; Agrawal, 2013; Christofides et al., 2013; Ge et al., 2011; Arulampalam et al., 2007; Albrecht et al., 2003). However, important lessons could be drawn and applied in the context of temporary wage differentials.

Some factors can be advanced to explain the existence of a *sticky floors* or a *glass ceilings* effect. If a majority of temporary workers is found in the lower tiers of the wage distribution, temporary workers are likely to face a larger wage penalty at the bottom of the wage distribution (Comi et al., 2012). Likewise, excessive labor protection for permanent workers resulting from unions could widen the wage penalties at the lower end of the wage distribution (Salvatori, 2009). A *sticky floors* effect could also come from the absence of minimum wage law, and/or labor markets being more flexible and less regulated, leaving new temporary entrants unprotected from serious wage discrimination. Analogous statements could be found in Ge et al. (2011) and Agrawal (2013) in the context of gender wage gap. By contrast, the presence of equal opportunity, anti-discrimination

laws and minimum wage law effectively reduces the wage gap in the lower tail of the wage distribution, which possibly brings about a *glass ceilings* effect. If unions also represent temporary workers, their effort to equalize wages, particularly for low-income earners, could have a similar impact as the minimum wage law.

## 2.2. Empirical evidence on temporary-permanent workers' wage gap

Generally, existing evidence relies on two types of statistics, one is simply 'raw' wage gap, i.e., the ratio (or its inverse) of temporary employment wage to permanent employment wage, and the other is the wage gap derived from empirical wage equations ('pure' wage gap) in which worker's personal and household characteristics are taken into account. Based on both types of statistics, temporary jobs are generally discriminated in terms of remuneration (ILO, 2008 and 2015; OECD, 2014; Jahn & Pozzoli, 2013 among others).

The empirical evidence on 'pure' wage penalties associated with temporary employment is extremely limited in developing Asian countries. Most of the available evidence has been referred to the informal-formal wage differentials or 'raw' temporary wage gaps.<sup>1</sup> In Indonesia, reported wage ratios were respectively 83.3 percent for FTC workers and 73.8 percent for outsourced workers compared to their permanent counterparts (Akatiga Foundation *et al.*, 2010; cited in Serrano *et al.*, 2014). In Bangladesh, the average wage ratio between casual and regular workers was found remarkable, of around 40 percent in 2010 (ILO, 2013). Among Asian developing economies, India is probably the only country with available 'pure' estimates. Based on wage equations constructed for workers in organized manufacturing sector in India, Bhandari and Hesmati (2008) find that permanent workers earned on average 45.5 percent more than non-permanent workers after controlling for different individual human capital as well as job related characteristics.

Regarding the distributional pattern of the temporary wage penalties, to the best of our knowledge, no evidence exists for Asian developing countries. Yet, studies in developed economies suggest that such penalties highly depend on the relative position in the wage distribution. Comi *et al.* (2012) find out a common *sticky floors* effect among nine European countries. Similarly, in Italy, the temporary employment's wage gap is significantly larger at the bottom of the wage profile and is almost absent for high-wage jobs (Bosio, 2014). Another study by Mertens *et al.* (2007) points out that, despite being both regarded as 'rigid' economies, Germany and Spain had different experiences of fixed-term jobs. While the *sticky floors* effect is observed in West Germany, the wage penalty shows little variation across the wage distribution in Spain.

Given the scarcity of estimates of the wage differential and their distribution pattern associated with temporary employment in developing Asian countries, this paper would make a considerable contribution to the literature. On the one hand, we provide systematic and comparable 'pure'

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<sup>1</sup> In Asia, the statistics on 'pure' temporary-permanent wage gap almost exist for the OECD members like Japan, Korea.

estimates of temporary-permanent workers' wage gaps in emerging Asian economies. On the other hand, this is also the very first research work that applies a distributional approach to assess the temporary wage gaps in these countries.

### **2.3. Wage inequality: How do other factors matter?**

Alongside the wage penalty associated with job status, it is also vital to investigate other types of wage inequality. Notably, the literature has paid particular attention to the discrimination associated with gender, race, or skills.

Gender wage differentials have been investigated in the literature for many decades but remain an innovative research area.<sup>2</sup> Still, empirical studies claim wage discrimination against female workers, both in developed and developing countries. In the U.S., women earned less than men over the 1980-2010 period, but the female-to-male earnings ratios considerably augmented (Blau and Kahn, 2017). Moreover, the gap is more widened at the top of the wage distribution, suggesting the notion of a glass ceiling mentioned above. Evidence of a glass ceiling effect is also found in some European countries (Austria, Belgium, Britain, Denmark, Finland, France, and Germany), while some other European countries (Italy and Spain) exhibit a sticky floors phenomenon for the years 1995-2001 (Arulampalam et al., 2007). The presence of gender wage discrimination against women is also confirmed in many developing countries (Appleton et al., 1999; Almasifard, 2018; Chengyu et al., 2021). The main factors contributing to narrowing the female-male wage gap, either in developed or developing countries, are women's educational level improvements and child-friendly labor policies (Blau and Kahn, 2017; Almasifard, 2018; Chengyu et al., 2021).

Racial wage gaps are another essential issue in the labor market. There is extensive literature on the topic, particularly for men.<sup>3</sup> Empirical evidence almost refers to skin color as a measurement of discrimination. Although the problem is improved over time, black workers still earn less than their white counterparts, regardless of the associated countries or period studied. For example, Browczyk-Martins et al. (2017) find evidence of employer prejudice, and there exists wage discrimination against black workers in the U.S. over the years 2003-2006. Such discrimination is previously confirmed in the country during 1940-1990 (Chandra, 2000). Racial wage differentials are also pronounced in other countries like Uruguay (Bucheli and Porzecanski, 2011), Brazil (Gerard et al., 2021), South Africa (Burger et al., 2016), Estonia (Leping and Toomet, 2008). Affirmation action policies, education, the own firm policies are factors reducing wage differentials.

Wage inequality can be associated with the Skill Biased Technical Change (SBTC) phenomenon.<sup>4</sup> Indeed, by increasing the relative demand for skilled workers, SBTC should raise their wages and decrease that of unskilled workers. However, empirical studies on the topic show divergent

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<sup>2</sup> See, for example, Weichselbaumer and Winter-Ebmer (2005) for a meta-analysis or Kunze (2008) for a literature review.

<sup>3</sup> See Lang and Lehmann (2012) for a literature review.

<sup>4</sup> SBTC is "a shift in the production technology that favors skilled over unskilled labor by increasing its relative productivity and, therefore, its relative demand" (Violante, 2008).

findings, and whether SBTC increases wage inequality or not depends on different factors.<sup>5</sup> Wage inequality generated by SBTC is confirmed in several empirical studies (Fernandez 2001; Moor and Ranjan, 2005; Burstein et al., 2013; Caselli, 2014; Pi and Zhang, 2018, among others). For instance, More and Ranjan (2005) show that both globalization and SBTC conduct to expand wage inequality in the U.S. Likewise, Casselli (2014) finds evidence of wage inequality associated with SBTC in Mexican manufacturing. Indeed, using machinery and equipment price as a proxy for the SBTC, the author argues that cheaper M&A can bring technical change that favors white-collar workers, driving higher real wages for skilled workers.

By contrast, some studies find no evidence of an increase in wage inequality related to SBTC. For instance, Card and DiNardo (2002) claim that SBTC fails to explain the stabilization of wage inequality in the U.S. during the 1990s despite continuing advances in computer technology. Notably, in the case of developing countries, technical change does not necessarily have to be skill-biased (Behar, 2016). The main argument is that trade liberalization inducing technological transfers may favor skilled workers in high skill-endowment developing countries but still favor unskilled workers in low skill-endowment developing countries. In the same vein, Pi and Zhang (2018), by relying on a theoretical framework, prove that an increase in the magnitude of SBTC widens the skilled-unskilled wage inequality if the labor's distributive share in the skilled sector is sufficiently high. On the contrary, such an increase narrows down the skilled-unskilled wage gap if the labor's distributive share in the skilled sector is small enough to that in the unskilled sector.

### **3. Country context, data and methodology**

#### **3.1. A brief introduction of the economy and labor market context in the two selected countries**

This section aims at describing some salient features of the economy and labor market in Cambodia and Pakistan, which might be relevant to the findings of this paper. In general, the two selected countries are fast-growing developing economies in Southeast and South Asia, despite some fluctuations caused by the recent crises. They all have an expanding labor force with a large informal sector in parallel with the presence of unions in the formal economy.

Cambodia was one of the world's fastest-growing economies before the economic crisis. Its economic reforms in the transition process from central planning to a market-based economy has brought about political stability, unprecedented economic growth and structural change, although little progress on poverty alleviation and rising inequality was observed (ILO, 2012). Cambodia's real growth estimate has reached seven percent in 2015, and the poverty rate was 17.7 percent in 2012.<sup>6</sup>

However, notwithstanding solid and sustained economic growth, the country still got different vulnerability signs. The Cambodian economy almost relies on a small number of sectors

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<sup>5</sup> See Chusseau et al., 2008 for a literature review.

<sup>6</sup> Source: [worldbank.org/en/country/cambodia/overview](http://worldbank.org/en/country/cambodia/overview). Accessed on 17 June 2016.



(agriculture, garment industry, and tourism). The primary source of economic growth is FDI in garment manufacturing and tourism, which, in turn, dominates exports. Such an economic structure results in a high concentration of Cambodian workers in these sectors, including garment manufacturing. Overall, Cambodia remains among the poorest countries in the ASEAN and in over the world.

Since the 1990s, Cambodian labor force and labor force participation rate have been growing, the employment-to-population ratio has increased in recent years and the unemployment rate was notably low and on a downward trend (ILO, 2012). However, ILO (2012) considers these as “a symptom of the necessity to work than the economy’s ability to create decent jobs.” Indeed, the income level and social protection is generally low for a majority of the population, with a dominant share of workers in vulnerable (or informal) employment (73 percent, *ibid*). The Cambodian Labor Law covers all employees and employers who have an employment contract, either written or oral, including casual workers, thus excluding the bulk of informal sector workers who barely have an employment contract (*ibid*). Minimum wage exists only in the textile, garment and footwear industry, a main driver of the Cambodian economy, which accounted for 16 percent of national GDP and 70-80 percent of Cambodia’s exports.<sup>7</sup> This sector is featured by a broad use of FTCs. Besides, another particularity of the country is internal migration, motivated by economic factors. For instance, 28% of Cambodians lived away from their last residence in 2013 (ADB & ILO, 2015).

Pakistan is one of the least developed countries in Asia, with a growing semi-industrialized economy that depends on manufacturing, agriculture and remittances.<sup>8</sup> International development indicators of Pakistan are amongst the lowest in the world (ILO, 2015b).<sup>9</sup> The average annual growth rate of five percent since 2005 seems insufficient for a fast-growing population (population growth rate was about 1.5 percent per year) and poverty reduction. Since 2008, Pakistani economy has encountered macroeconomic instability, fiscal contraction, external account weaknesses and rising inflation. Their recovery from the 2005 earthquake was threatened by the adverse situation in the global market and the war on terrorism. The perceived job volatility further pushes downward pressure on wages. Despite improvements in job opportunities as shown in labor force participation rate (32.8 percent, according to LFS 2008-09), most of Pakistani workers lack decent and productive employment. The informal economy, characterized by low paid and poorly protected jobs, constitutes over 70 percent of non-farm jobs in Pakistan and is largely unorganized. The organized representation of employees and employers mainly exists in the formal economy, but remains low.

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<sup>7</sup> Source: <https://www.cleanclothes.org/resources/publications/factsheets/cambodia-factsheet-february-2015.pdf>

<sup>8</sup> Source: [tradingeconomics.com/pakistan/gdp-growth](http://tradingeconomics.com/pakistan/gdp-growth). Accessed on 17 June 2016.

<sup>9</sup> The information in this paragraph is synthesized from ILO (2015b).

## 3.2. Data and descriptive statistics

### Data and variables

While cross-country statistics for NSFE, including temporary employment, is available for OECD countries (OECD, 2014), there is a scarcity of such evidence on non-standard work in Asia. Provided various range of country definitions and measurement methods, NSFE terms in different studies on different countries are unlikely comparable (Tucker, 2002). In emerging economies and developing countries, non-standard work mainly takes the form of informal employment, particularly in Asia (ILO, 2008; Serrano et al., 2014; Rani, 2008).<sup>10</sup> In this paper, temporary employment in each country's context is defined following as much as possible the ILO definition as mentioned in section 2.1 to ensure maximum comparability of the results.

This research work relies on the National LFS of Pakistan (2008-2009) and Cambodia (2012). Only wage workers are included in our analyses because data on wage/revenue is only available for this kind of work.<sup>11</sup> Starting from the initial data (242,015 observations in Pakistan and 48,290 in Cambodia), we select the working-age population group and then the Occupied active workers' group. We finally get an operative sample of 25,999 Pakistani and 10,526 Cambodian wage workers.<sup>12</sup> In practice, questions concerning employment status and types of labor contracts are used to define employees and distinguish those having permanent jobs from those who work temporarily. However, these questions are not similarly compiled in the LFS of the two countries (Table A1 in Appendix A). Their data allow a computation of temporary employment defined as all jobs with impermanent duration. The questionnaires for these countries include a separate question on labor contract providing information to define permanent wage workers ('unlimited duration' for Cambodia; 'Permanent/pensionable job' for Pakistan) and temporary wage workers. An ambiguity arises since there are wage workers who do not have a written contract or in other words, work based on an oral agreement. Cambodian data provide more detailed information on both types of contractual engagement (labor contract/verbal agreement) and the associated duration. By contrast, the Pakistani questionnaire integrates information on both types of contract and duration in a unique question. As a consequence, no detailed information can be available to distinguish unlimited and limited employment among those who engaged in oral contracts or did not know anything about the contract/agreement. To sum up, Pakistani permanent employment is approximately defined as 'written contracts with unlimited duration' without considering employees engaging in (unrecognizable) unlimited oral contracts.

In this paper, the hourly wage is chosen as the dependent variable to assure the comparability among the two countries. The Cambodian survey provides both weekly wage and weekly hours from where the hourly wage is computed by the ratio between the two mentioned indicators. By

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<sup>10</sup> Informal employment is regarded as "workers in very small firms (fewer than five workers), self-employment, unpaid family work and salaried employment without a proper work contract in the formal sector" (ILO, 2008).

<sup>11</sup> In this research, the terms "wage worker" or "employee" are indifferently used and refer to someone working under an oral or written employment contract. These terms are thus less broad than the term "worker," which may also include "unpaid/contributing family" or "own account" workers in both countries.

<sup>12</sup> See Figure A1 in the Appendix for a presentation of the data selection.

contrast, the Pakistani survey provides information on either weekly wages or monthly wages. However, for those whose weekly wage is available, their monthly wage is absent and *vice versa*. Hence, for workers with available information on weekly wages, their hourly wage is directly computed by the ratio between their weekly wages by their weekly working hours. For those with monthly wage information, their hourly wage is approximated is proxied as:

$$hwage_i = \frac{7 * mwage_i}{30 * wwhour_i}$$

where *mwage* and *wwhours* are respectively monthly wage, and weekly working hour of individual *i*.

### Statistical description

Table A2 in the Appendix shows some descriptive statistics of temporary as a percentage of wage workers in the two selected countries. Temporary work accounted for 53 percent of wage employment in Cambodia and 69 percent in Pakistan, which far exceeded OECD's and Japan's temporary employment rates at around 12 percent and 14 percent, respectively (OECD, 2014). The incidence of temporary employment greatly varied across genders, ages, education levels, institutional sectors, industries and occupations in Pakistan, while distributing rather evenly among different groups in Cambodia.

From a gender perspective, Pakistani female workers are more likely to engage in temporary jobs relative to their male counterparts (78% versus 74%). In Cambodia, the rates of temporary employment for men and women are roughly equal (around 52%). As for the age cohort, temporary employment was most popular among the youngest in Pakistan (92%) and the oldest workers in Cambodia but to a lesser extent (57%). A higher level of education was associated with a lower incidence of involving in temporary work in Pakistan: Whereas less than one-third of highly qualified employees were working temporarily, almost all workers with no education were temporary (92%). In contrast, the most educated Cambodian employees were also the most engaging in temporary work, at 63 percent.

The public sector was less likely to recruit temporary workers than the private one in Pakistan, while the reverse was true in Cambodia. Turning to the distribution by industries, the incidence of Pakistani temporary workers was highest in agriculture (98%) and lowest in services (48%). Meanwhile, temporary jobs were the second most prevalent in the trade sector, followed by the manufacturing sector. By contrast, the presence of Cambodian temporary workers was more or less the same across different industries, though appearing slightly more prevalent in the service sector (57%).

Not surprisingly, lower-end occupations such as 'elementary occupations,' 'plant and machine operators and assemblers,' 'craft and related trade workers' tended to work temporarily more than superior occupations such as 'legislators, senior officials and managers' and 'professionals' in Pakistan. Meanwhile, there was no remarkable difference in the incidence of temporary jobs among various occupations in Cambodia. Such incidence spanned from 48 percent for 'Craft and related trades workers' to 63 percent for 'Professionals'.

Consistent with the literature, wage workers in the informal economy were widely working temporarily. Notably, in Pakistan, almost all of the informal sector wage jobs were also temporary (98%). This figure shows a close interrelation between informality and impermanence. The question of wage discrimination associated with temporary employment is therefore relevant to the dominant informal sector in these economies.

Table A2 also provides preliminary results on the temporary-permanent workers' wage differentials. Consistent with the findings in the empirical literature, the results show general remuneration disadvantages of Pakistani temporary employees compared to their permanent counterparts. Indeed, the former earned only 42 percent as much as permanent ones did. Yet, with a wage ratio of up to 98 percent, there is no noticeable difference in terms of wage rates between temporary and permanent Cambodian workers.

As reported in Table 1 below, temporary workers are likely to suffer from some inequalities of working conditions than permanent ones in both countries.

*Table 1. Working conditions of wage workers in Cambodia and Pakistan*

	Cambodia		Pakistan	
	Temporary employment	Permanent employment	Temporary employment	Permanent employment
<b>Average working hours (per week)</b>	50	48	50	44
<b>Sick leave</b>	Yes (732 - 7.85%)    Yes (239 - 19.95%)			
<i>Less than 5 days</i>	-	-	13,755	508
(%)			(76.61)	(6.31)
<i>5 to 10 days</i>	-	-	977	401
(%)			(5.44)	(4.98)
<i>11 to 20 days</i>	-	-	1,307	1,454
(%)			(7.28)	(18.07)
<i>21 days or more</i>	-	-	1,915	5,682
(%)			(10.67)	(70.63)
<b>Occupational injuries</b>	762	84	638	65
(%)	(8.17)	(7.01)	(3.55)	(0.81)
<b>Social security</b>	686	348	-	-
(%)	(7.35)	(29.05)		

*Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009. Author compilation.*

First, the formers slightly have to work harder (50 versus 48 hours per week in Cambodia, 50 versus 44 hours in Pakistan). Second, they are less likely to get sick leave days. For instance, only eight percent of Cambodian temporary employees announce benefit from such advantage while the incidence is 20 percent as for their permanent counterparts. Interestingly, Pakistani LFS provides more detailed information on the number of sick leave days in a year. Hence, the inequality seems to be more pronounced. Pakistani temporary workers almost get no or less than five sick leave days (77%), while 71 percent of their permanent counterparts benefit at least 21 sick leave days in a year. On the opposite side, only six percent of permanent workers have no or less

than five sick leave days in a year, while 11% of temporary workers benefit from more than 20 days in a year. Third, holding a temporary job suffers from higher occupational injuries, although the inequality is less problematic in Cambodia. Eight percent of temporary employees declare being hurt in any working accident compared to seven percent among permanent ones in this country. In Pakistan, less than one percent of those workers suffer from occupational injuries, while the incidence among temporary employees is 4%. Last, Cambodian employers seem to less take care of their temporary employees in terms of social security. For instance, only seven percent of the latter get social security, whereas 29 percent among permanent workers.

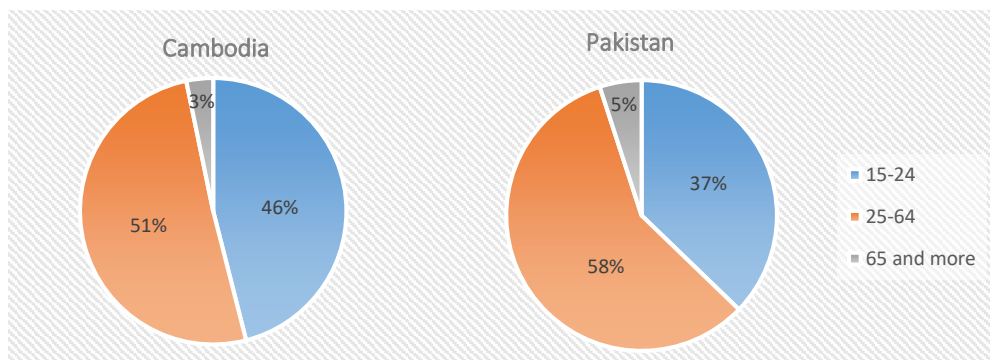
It is also vital to focus its distribution across different indicators to have in-depth insights on temporary jobs. First, temporary workers are almost female in Cambodia (60%), while most are men (89%) in Pakistan. Second, take a look at the decomposition by age cohort, Figure 1a displays a common tendency in the two countries. Temporary workers are mostly between '25-64', followed by the youngest group. By contrast, the oldest cohort only has a small proportion. The incidence is respectively 51%, 46%, and 3% in Cambodia and 58%, 37%, and 5% in Pakistan.

Turning to the decomposition by sectors, as shown in Figure 1b, temporary employees primarily work in the manufacture in both countries. They are the less numerous in the trade sector (41% versus 4% in Cambodia and 50% versus 11% in Pakistan). In the other two sectors, the incidence is almost similar in Cambodia (28%), while in Pakistan, the services sector attracts more temporary workers than the agriculture sector (28% versus 11%).

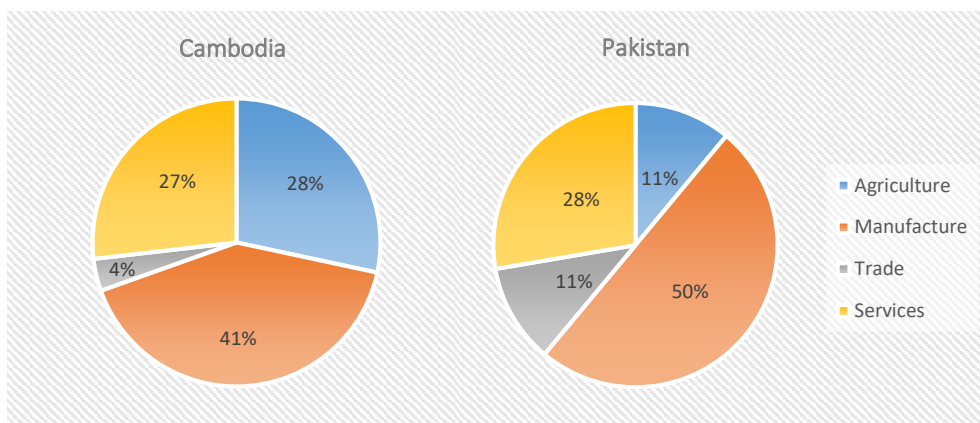
In terms of geographical location, according to Figure 1c, Cambodian temporary employees are almost in the rural area (92% versus 8% in the urban area). Differently, in Pakistan, their location is approximately equal (53% in the rural versus 47% in the urban area).

*Figure 1. Decomposition of temporary employment*

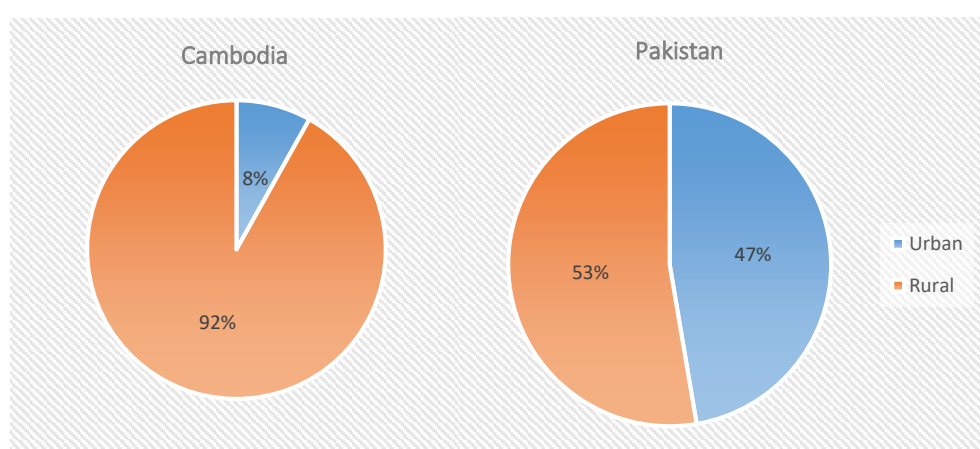
*a) By age cohort*



*b) By sectors*



c) By geographical location



Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009. Author compilation.

In summary, temporary employment emerged as a noteworthy important phenomenon in the two selected countries, as a large proportion of wage workers derived all or part of their earnings from it. Given their prevalence, their diverse characteristics suggested by the statistical description, it is of great importance to finely evaluate the wage differentials associated with temporary employment relationships. To this end, the next sub-section will present the empirically estimated strategies.

### 3.3. Estimation strategies

This sub-section aims to refine and to assess if temporary jobs are suffering or benefiting in financial terms after controlling for various personal, job-related and geographical characteristics. As in the standard Mincerian earnings equation, the general form of the wage equation for all workers is given as:

$$y = Z\alpha + X\beta + \epsilon \quad (1)$$

where  $y$  denotes the logarithm of the hourly wage,  $Z$  is the dummy variable representing temporary employment,  $\alpha$  accordingly captures the temporary employment's wage gap to be estimated.  $X$  is

a set of explanatory variables considered as determining the wage rates, and  $\beta$  are their associated parameters. Finally,  $\epsilon$  is the disturbance term or error variable.

X systematically includes three groups of variables as follows:

- i. *Individual characteristics and Human capital*: gender, migration, age and its square, education level, training (Pakistan).
- ii. *Job characteristics*: occupations, job tenure (Cambodia), industries, public sector, informal sector, union member (Cambodia), business size (Cambodia).

As underlined in the literature (for example Albrecht et al., 2003), the existence of wage gap is mostly caused by differences in human capital such as schooling, work experience, or tenure. Meanwhile, it is important to control for job characteristics as they might reflect unmeasured human capital (Arulampalam et al., 2007).

- iii. *Geographical characteristics*: rural area, province.

Besides measuring wage gaps at the mean wage level, the estimation of quantile regression is also provided to investigate the wage gaps between temporary and permanent jobs along with the wage distribution. Quantile wage regressions consider specific parts of the conditional distribution of the hourly wage and indicate the influence of the different explanatory variables on conditional wage at different points of the wage profile. Using the aforementioned notation, the general quantile regression model can be written as:

$$q_{\rho}(y) = Z\alpha(\rho) + X\beta(\rho) + \epsilon, \rho \in [0,1] \quad (2)$$

where  $q_{\rho}(y)$  is the  $\rho^{th}$  conditional logarithm of hourly wage quantile. The set of coefficients  $\beta(\rho)$  provides the estimated rates of return to the different covariates at the  $\rho^{th}$  quantile of the log wage distribution and the coefficients  $\alpha(\rho)$  measure the parts of the wage differentials that are due to job-form difference at the various quantiles. In a quantile regression, the distribution of the error term is left unspecified.

Although the quantile regression has some disadvantages, as (i) its parameters are more complex to estimate than in generalized regression (Waldmann, 2018), or (ii) it is not more relevant than the linear regression model when estimating nonlinear relations (Wenz, 2019), using this estimator provides numerous advantages. Particularly, it provides robust estimates, particularly for misspecification errors related to non-normality and heteroscedasticity. Another important advantage of quantile regression applied in wage gap analysis is the identification of distributional effects, permitting to find evidence for two opposite phenomenons, namely, *sticky floors* and *glass ceilings* aforementioned. *Sticky floors* effect can be measured by three indicators: (i) 10-all gaps, (ii)

10-25 difference, or (iii) 10-50 difference. Likewise, three criteria can be used to determine the existence of *glass ceilings* phenomenon: (i) 90-all gaps, (ii) 90-75 difference, or (iii) 90-50 difference.<sup>13</sup>

## 4. Econometric analysis of wage differentials

### 4.1. Estimation analysis

Let us start by an analysis of the wage gap at the mean. The OLS is performed to estimate Equation (1), and a summary of estimation results is reported in column (1) of Tables 2-3.<sup>14</sup> Regarding the wage differentials between temporary and permanent workers, the results appear to be diverse, consistent with controversial predictions in the theories. On average, temporary workers face a wage penalty of 26 percent compared to their permanent counterparts in Pakistan. By contrast, Cambodia experiences a temporary workers' wage premium, at four percent.<sup>15</sup>

It is, naturally, of great importance to investigate whether such penalty or premium remains along with the wage distribution. To this end, the quantile regression estimator is performed, and the estimation results are reported in Tables B1-2 in the Appendix.

*Table 2. Temporary-Permanent Workers' Wage Gap: Cambodia*

Dependent variable	lhwage					
	OLS	Quantile regression				
Estimator	Mean	QR .10	QR .25	QR .50	QR .75	QR .90
Estimation point	(1)	(2)	(3)	(4)	(5)	(6)
Temporary employment	0.041* (0.023)	0.020 (0.016)	0.009 (0.012)	0.024* (0.012)	0.052*** (0.014)	0.059*** (0.021)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Job characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Geographic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,050	9,050	9,050	9,050	9,050	9,050

*Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .*

<sup>13</sup> Estimating Equations (1) and (2) may face two crucial issues: the self-selection into wage employment and the endogeneity of a temporary job. In a previous version of this research, such issues are considered. Nonetheless, the main conclusions remain the same as those of OLS and quantile regression estimators. For a brief purpose, the author decides to perform only the two estimators mentioned earlier.

<sup>14</sup> See column (1) of Table B1 and B2 in the Appendix for the detailed estimation results. Due to missing values of some variables, the number of observations reported in Tables 2-3 is different from the initial observation observed in Figure A1.

<sup>15</sup> Notice that for the wage gaps to be meaningful, wages need to distribute along with a sufficiently wide range. The results show large deviations around the mean wages of wage workers in all selected countries. The means and standard deviations of wage are: Cambodia: 2461.45 & 4547; Pakistan: 47 & 81.86.

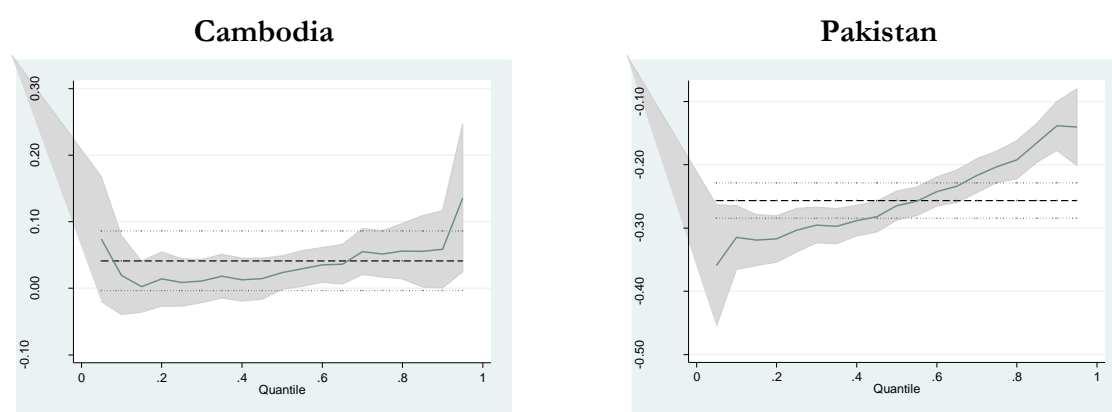


Table 3. Temporary-Permanent Workers' Wage Gap: Pakistan

Dependent variable	lhwage					
	OLS	Quantile regression				
Estimator	Mean	QR .10	QR .25	QR .50	QR .75	QR .90
Estimation point	(1)	(2)	(3)	(4)	(5)	(6)
Temporary employment	-0.257*** (0.016)	-0.315*** (0.019)	-0.303*** (0.015)	-0.264*** (0.010)	-0.203*** (0.012)	-0.138*** (0.016)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Job characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Geographic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Observations	25,459	25,459	25,459	25,459	25,459	25,459

Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

Figure 2. Temporary-permanent workers' wage differentials in Cambodia and Pakistan.



Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009.

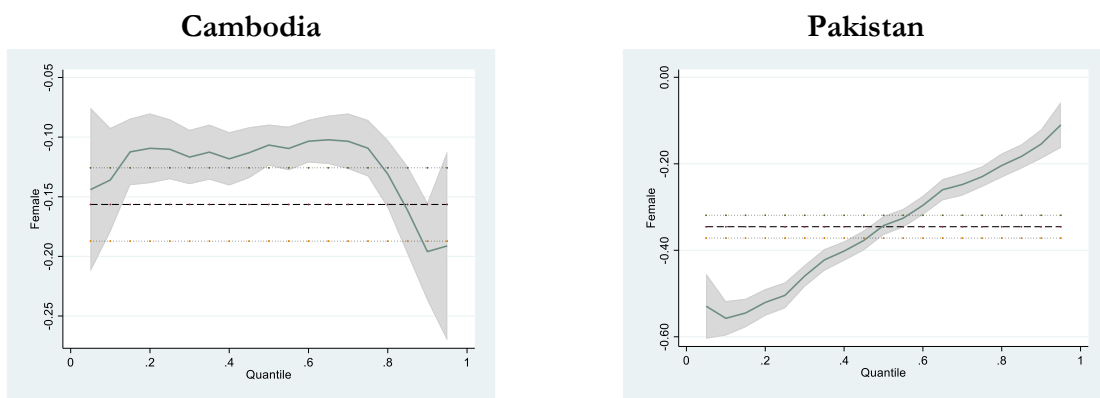
The variation of temporary-permanent workers' wage differentials along the wage profile is illustrated in Figure 2. Columns (2)-(6) of Tables 2-3 summarize the quantile regression estimates in Cambodia and Pakistan respectively. Concerning the Pakistani case, the wage gap continuously decreases from 32 percent at the bottom to 14 percent at the top of the pay ladder. These findings support the *sticky floors* phenomenon, and the 10-all gap criterion is relevant in this country. This suggests that the penalty of being in temporary jobs could be more severe for Pakistani disadvantaged workers, who are in the lower tiers of the wage distribution, than for high wage earners. There is a wage premium in Cambodia enjoyed by temporary workers, and a glass ceilings phenomenon is likely to be presented. Although the wage gap is statistically insignificant at the 10th and 25th quantiles, it becomes significant from the 50th to the 90th quantile. Besides, the wage premium increases from 2.4 percent to 5.9 percent, supporting the 90-50 difference criterion. It implies that the benefit of holding temporary employment is small at the bottom and becomes higher at the top of the pay ladder. However, notice that the wage differentials are small.

## 4.2. Other types of inequalities: Who suffer the most penalty?

It is essential to investigate the presence or not of other types of wage inequalities in terms of policy implications. Beginning with the gender wage gap, an issue sincerely claimed in the literature, Figure 3a represents the female-male wage differentials along the wage distribution reported in Tables B1-B2 in the Appendix. Hence, females seem to, on average, earn less than males, and the gender wage gap is the most pronounced in Pakistan (35%). Moreover, while the penalty is highest for Cambodian female workers at the top of the pay ladder (20%), favoring a *glass ceiling*, a *sticky floor* phenomenon is likely present in Pakistan. More precisely, Pakistani female employees earn less than 50 percent compared to their male counterparts at the lower tails of the wage distribution (56% at the 10th quantile and 50% at the 25th quantile), such a penalty declines to 15 percent at the 90th quantile.

Figure 3. Wage differentials in Cambodia and Pakistan.

a) By gender: Female versus Male



Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009.

Second, experience, approximated by age or job tenure, appears to be positively correlated with individual wage in both cases, which is in line with the Human Capital theory. Particularly in Cambodia, compared to the first-year job tenure, having ten years and more experience at work might increase, on average, the wage by about 12%. Moreover, such a statement holds alongside the wage ladder, except the 90th quantile.

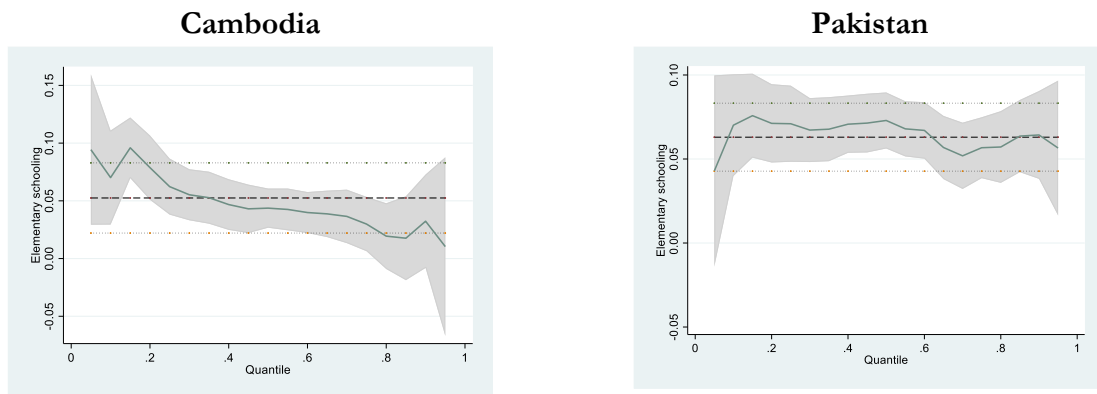
Unsurprisingly, the higher the education level, the higher the wage (Figure 3b). In Cambodia, for example, while obtaining elementary schooling is associated with a five percent increase in individual wage, college-or-above graduates could earn 55 percent more than the uneducated do, *ceteris paribus*. In Pakistan, compared to an uneducated, a worker obtaining the primary-or-secondary diploma earns 6 percent more, whereas the incidence is 59 percent for a college-or-above diploma worker. Looking at the pay ladder, we state the same tendency as what stated at mean: the wage gap increases accordingly with the education level. For instance, at the 10th quantile, passing from no-education to college-or-above, the gap spreads from seven to 49 percent in Cambodia and from seven to 43 percent in Pakistan. Also, the educational wage gap seems to be highest for Pakistani workers at the top pay compared to those at other positions of the wage

distribution. Overall, Figure 3b and Tables B1-B2 in the Appendix display the skill wage gaps in both countries, regardless of the employee position at the pay ladder.

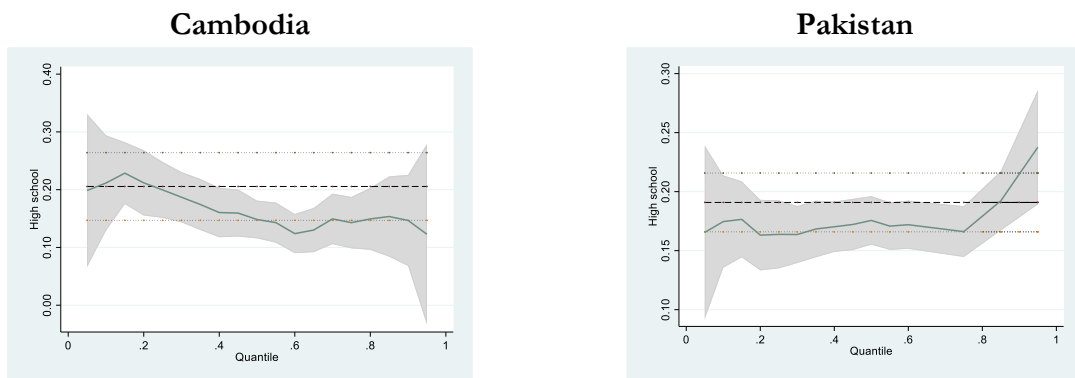
*Figure 3. Wage differentials in Cambodia and Pakistan (cont.).*

*b) By education level:*

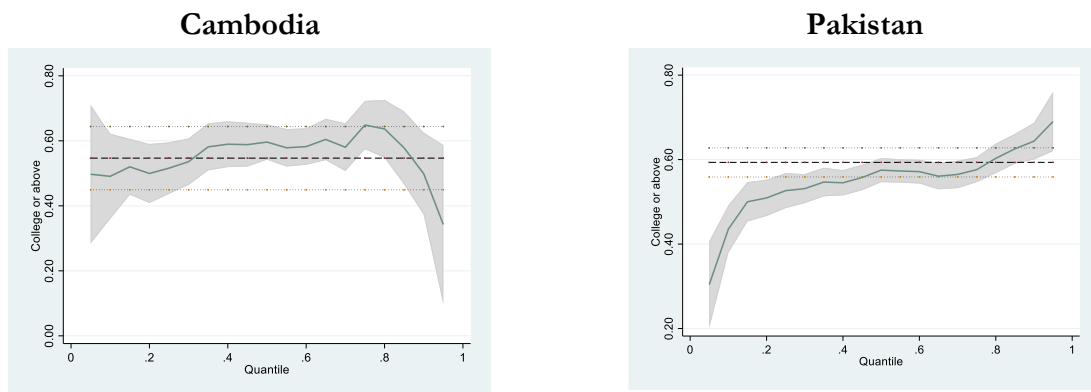
*Elementary schooling versus No education*



*High school versus No education*



*College or above versus No education*

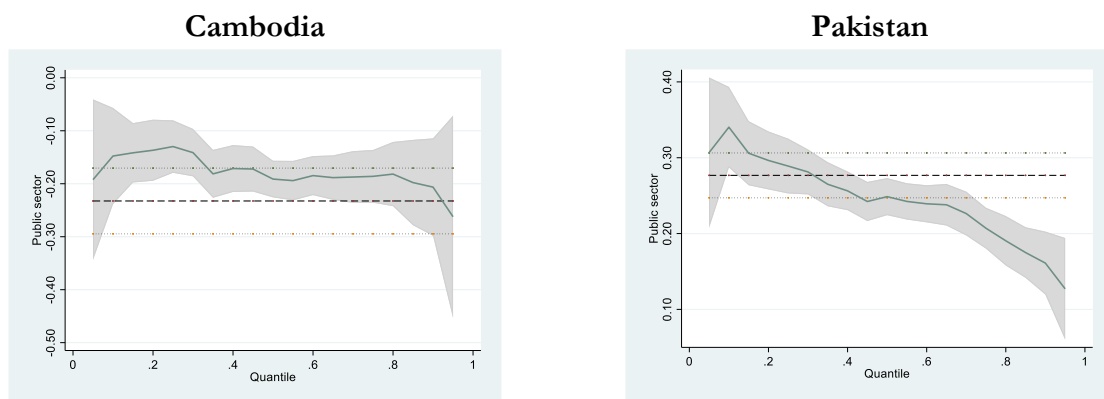


*Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009.*

Third, as highlighted in Figure 3c, the wage is not likely similar according to institutional sectors, and the two countries experience opposite situations. While private wage jobs are better remunerated than public ones in Cambodia (on average, 23 percent higher), the incidence is, on average, 28 percent lower in Pakistan. The picture remains the same throughout the wage distribution, with a ‘sticky floor’ phenomenon in Pakistan and a no-distribution effect in Cambodia. Compared to the public sector, working in the private sector declines from 34 percent at the 10th to 16 percent at the 90th quantile in Pakistan. In comparison, the wage premium of working in such a sector fluctuates around 15 percent.

Figure 3. Wage differentials in Cambodia and Pakistan (cont.).

c) Public versus Private sector:



Source: Cambodia’s Labor Force and Child Labor Survey 2012, Pakistan’s LFS 2008-2009.

Fourth, both Pakistan and Cambodia exhibit wage differentials, but with divergent circumstances, in terms of industrial sectors. In Cambodia, the trade sector provides, on average, a higher wage (12% more) than agriculture does, while the gap becomes statistically insignificant between the latter and the manufacturing or services sector. Nevertheless, the picture completely changes once we refer to the worker position at the wage distribution. At the lower half positions, Cambodian manufacturing workers still get some wage premiums (around 6 and 8%) compared to their agricultural counterparts. At the upper half positions, such premiums are no longer significant. By contrast, only trade workers at the upper quartile earn more than agricultural ones, and the wage gap continuously increases from 16 (75th quantile) to 31 percent (90th quantile). Very interestingly, the Cambodia services sector experiences two reverse phenomena. Compared to the agriculture sector, there is a wage penalty for employees at the lower tails (10th and 25th quantiles) and wage premium at the upper tails (75th and 90th) of the pay ladder.

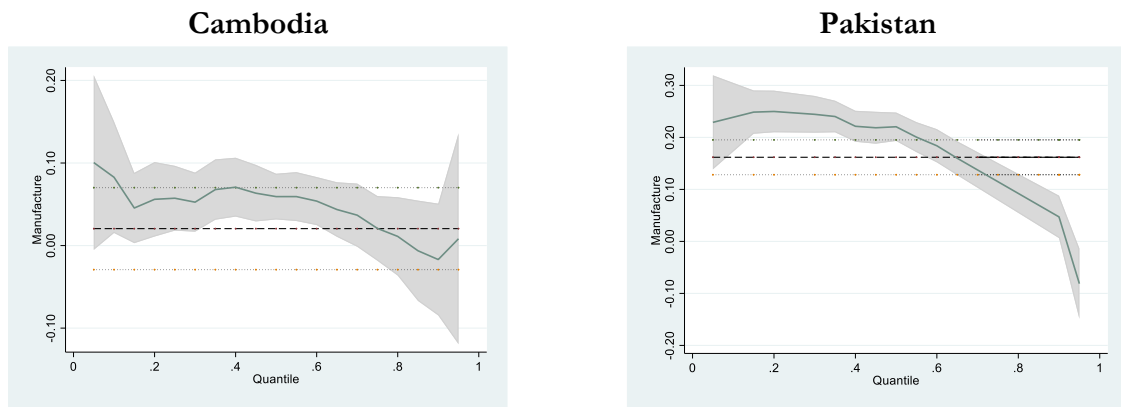
Unlike Cambodia, Pakistani manufacturing workers benefit from a wage premium compared to their agricultural counterparts, regardless of their position at the wage distribution. Moreover, a ‘glass ceiling’ phenomenon, with a 90-all gaps criterion, seems to be present. Indeed, from the 10th to the 90th quantile, the wage premium continuously declines from 30 to eight percent. Compared to the agriculture sector, the wage premium also exists in the services one. The wage gap is highest at the lower quartile and median (11%) and becomes statistically insignificant at the 90th quantile. Notably, there is a wage penalty for Pakistani trade workers. They earn, on average, seven percent

less than agricultural workers do. However, such a penalty only concerns those at the upper tails of the wage distribution (75th and 90th quantile). Such workers may earn around seven or 10 percent less than their agricultural counterparts at a similar position on the pay ladder.

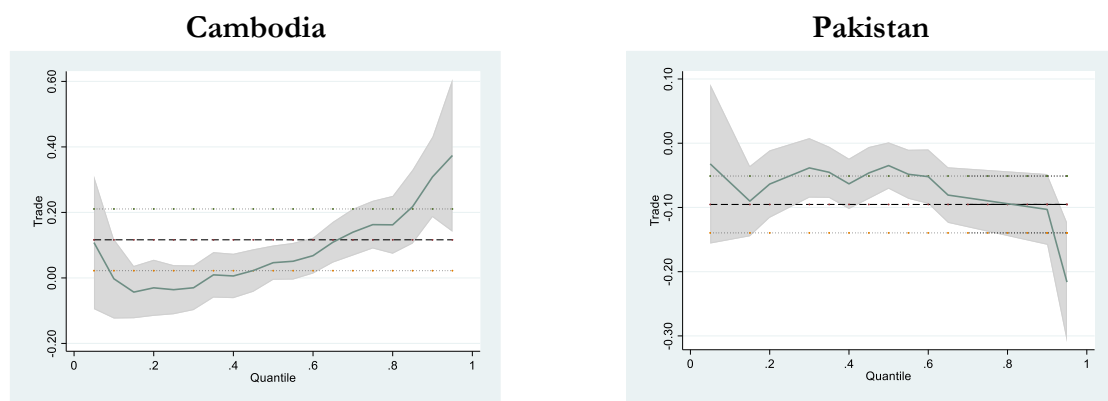
Figure 3. Wage differentials in Cambodia and Pakistan (cont.).

d) By industrial sectors:

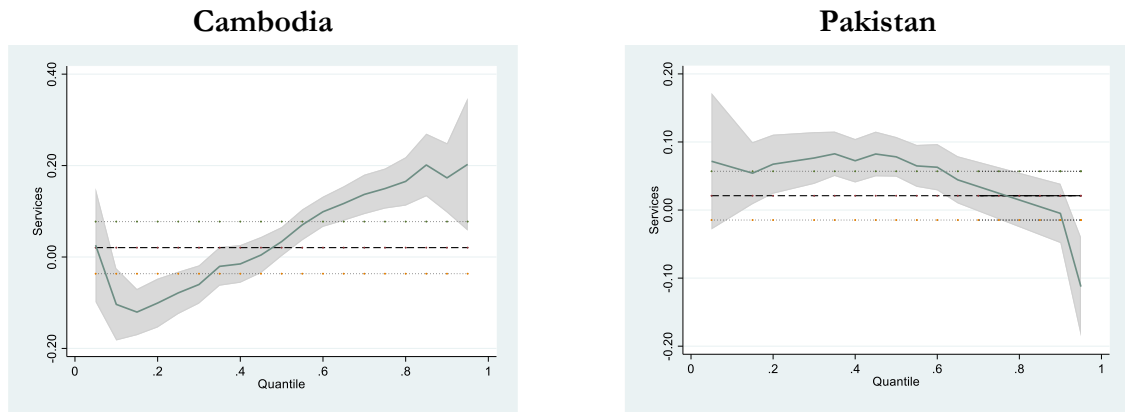
*Manufacture versus Agriculture*



*Trade versus Agriculture*



## *Services versus Agriculture*



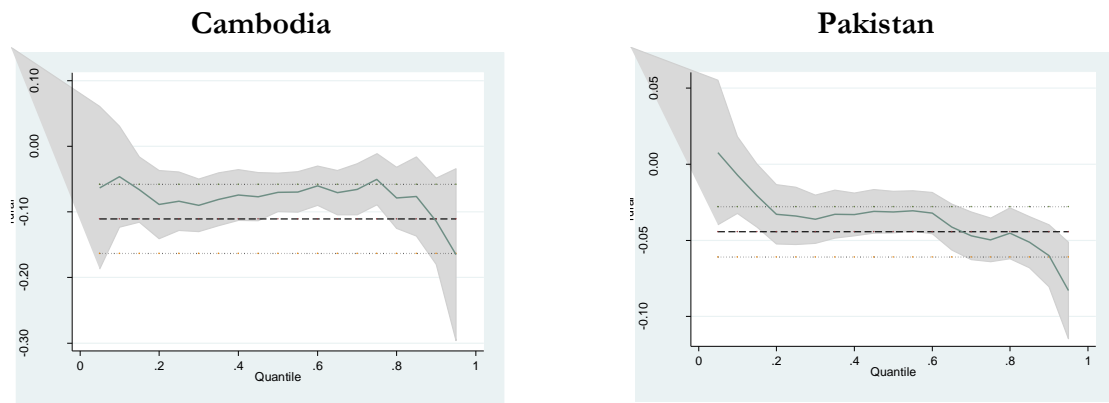
*Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009.*

Fifth, data in both countries allow us to investigate the existence or not a 'race' inequality in the manner that migrant workers may get a lower wage. Estimate findings reported in Tables B1-2 are not likely to support this hypothesis. Pakistani data only provide information on the migration time. Accordingly, no migrant workers suffer from a wage penalty, regardless of their migration time. Even some of them can enjoy a wage premium, particularly those who migrated for ten years or more, compared to non-migrants counterparts. Cambodian data give information on the origin of migrant workers (e.g., from another village of the province, from other provinces, or other countries). None of them get a lower wage than local workers. Interestingly, some foreign workers, for example, those at the 10th and the 75th position of the wage distribution, might experience a wage premium.

Last, the worker's geographical location may affect its wage. In the two selected countries, rural workers are less paid than their urban counterparts. The situation is worse in Cambodia than in Pakistan, as displayed in Figure 3e and Tables B1-2 in the Appendix. A Cambodian rural worker earns, on average, 11 percent less than an urban counterpart, while the rate is four percent in Pakistan. Furthermore, a 'glass ceiling' phenomenon is likely to be present in both countries. There is no wage difference between rural and urban areas for employees in Cambodia at the 5th quantile. At the top pay ladder (90th quantile), working in the urban area might gain 11 percent higher than working in the rural area. As for the Pakistani case, the urban-rural wage gaps increase, continuously but slightly, from three percent at the 25th to six percent at the 90th quantile of the pay ladder. Interestingly, as in Cambodia, there is no urban-rural wage difference at the 10th quantile in Pakistan.

Figure 3. Wage differentials in Cambodia and Pakistan (cont.).

e) Rural versus Urban area:



Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009.

To sum up, the analyses in this subsection stress gender as the most pronounced factor of wage inequality in both countries. To a lesser extent, skills, institutional sectors, and sectors of activity are other sources generating the wage differentials.

### 4.3. Discussion and interpretation

The aforementioned analysis shows diverse results although the two studied countries share some common labor market characteristics as minimum wage law and labor unions. There are many other institutional as well as socioeconomic factors being at work. This subsection attempts to provide an interpretation and discussion of the results by taking into account these relevant factors as much as possible. The analysis mainly focuses on the explanation of temporary-permanent, gender, and skills wage inequality.

#### Pakistan

Notice that our study relies on the Pakistan LFS 2008-2009. Thus, the high level of wage inequality in Pakistan could be related to several internal and external shocks suffered by the country. Once, the country was still affected by the 2005 earthquake. Besides, the country faced macroeconomic instability, fiscal retrenchment, and external account weakness generated by the global crisis (ILO, 2015b). Such a context should favor the creation of non-decent works in the country, including temporary and own-account workers. Indeed, between 2007 and 2008, the incidence of employed considered as risk of decent work rose from 60.6 to 61.9 percent.

The Pakistani labor market was undergoing structural change, shifting the traditional agricultural sector into industrial and service activity (PET, 2008). However, during the period studied (2008-2009), the transformation was likely stagnated. Jobs creation in the manufacturing sector dropped, while those in the service sector remained the same. Consequently, all newly created jobs only came from agriculture activities (PET, 2009). All these facts would harm the wage of temporary and/or women workers, particularly those at the lower tails of the pay ladder, which are almost in

the agriculture sector. These outcomes should favor the sticky floor effect in the job status and gender wage gaps.

There were also some policies to create decent or quality jobs. However, the number of such jobs was still limited. With the high growth of the labor force, access to valuable jobs could become questionable for people lacking skills and social networks as female and/or temporary workers. Furthermore, they could be left behind and join the growing group of people who are forced to work under low conditions (PET, 2008).

The *sticky floors* effect related to job status in Pakistan could be linked to the predominance of the informal economy and the difficulty to include temporary workers in trade unions. Indeed, Pakistan witnesses a prevalence of the informal sector. In 2009, this sector accounted for about 70 percent of employment in main job (ILO, 2015b). Although informal sector employees suffer longer working hours than their formal sector counterparts (60 hours versus 45 hours), the former are poorly remunerated and receive smaller fringe benefits (Kemal & Mahmood, 1998). Overall, the informal economy is characterized by poor working conditions, particularly for female employees who are not covered under legal protection. As reported in ILO (2015b), one of the main challenges of the country is the “weak application of national labor legislation and regulations to increasingly formalize the large and growing informal economy”. The organized representation of employees and employers mainly exists in the formal economy but remains at a low level.

Also, the sticky floor phenomenon against Pakistani temporary workers can be associated with their low education level. Indeed, literacy is low (57.4%), resulting in a low public expenditure on education (only 2.1% in 2008-2009, Source: ILO, 2015b). The low literacy levels would negatively affect the ability of workers to choose productive employment and consequently decent work (ILO, 2015b). Indeed, they are almost engaged in low-quality and low productivity activities, where social protection, networks, or other benefices are inadequate or even missing. Such factors should negatively impact temporary workers at the lower tails of the wage distribution. Meanwhile, the under-representation and the weak power of trade unions in Pakistan would disadvantage those at the bottom of the pay ladder. Until 2016, the organized workers covered less than 3 percent of the labor participation, and most were likely formal regular workers (Source: Zakaullah, 2018).

In summary, although Pakistan does have a minimum wage law and trade unions,<sup>16</sup> it does not benefit the numerous informal temporary wage workers. As a result, those disadvantaged workers are left unprotected, vulnerable and highly discriminated against in terms of payment, particularly in the lower tiers of the wage distribution.

As for the gender wage differentials, some factors contribute to the low paid and the above *sticky floor* effect in Pakistan. The first factor might be the underrepresentation and underutilization of women in the labor market. The female labor participation rate is only 21.8 percent compared to males at 82.4 percent in 2008. This rate is much lower than the average level of South Asia at 35.6 percent and very far from that of East Asia at 69.5 percent. Besides, women are almost unionized,

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<sup>16</sup> According to Zakaullah (2018), organized workers are almost in the formal economy, with a significant share in public enterprises.



unaware, engaged in low-skill jobs. Pakistani female employment is almost in agriculture (73.8%), while those outside agricultural activities are most often engaged in the informal sector (PET 2009). These factors should widen the gender wage differentials at the bottom of the paid ladder. Consistently, wages of 'unskilled' females holding elementary occupations are far below those of 'unskilled' males (about four times lesser). Nevertheless, the gender wage gaps drop to around 200 percent as for the 'skilled' groups engaging some jobs as clerks, service workers, skilled agricultural and fishery workers. As for the 'highly skilled' workers covering legislators, senior officials, and managers, the gender wage differentials are approximately 80% (Source: PET, 2009). Thus, these outcomes likely support the *sticky floor* phenomenon in Pakistani gender wage inequality found above.

Other factors contributing to the gender wage inequality are the immense size of the informal sector (that absorbs almost female workers at the bottom of the wage distribution) and gender skill differentials (PET, 2009). For instance, at the lower tails of the pay ladder (the first quartile), most female workers are 'no educational' (around 62%). In comparison, male workers almost get an elementary degree or above (around 54%). By contrast, those gaps widely reduce at the top positions of the wage distribution. Indeed, more than 60 percent of female workers hold a 'college or above' degree, compared to men workers at 43 percent. These elements would be partially in favor of the sticky floor effect in the Pakistani gender wage differentials.

The presence of wage inequality against temporary and female workers in the country leads to the following situation. Indeed, it is possible that temporary wage inequalities mainly concern female workers, particularly because they get similar characteristics. We perform a new estimation by including an interactive-term 'female\*temporary-employment' in Equation (2) to verify this intuition. Estimate findings are likely to support this intuition, temporary female workers suffer a very high wage penalty, while the incidence is much lower for male temporary workers.<sup>17</sup>

Looking now at the skill wage differentials, the lack of skilled workers in the country is likely the primary source of wage premium, particularly for those at the top positions of the wage distribution. For instance, at the 90th position, a worker with a 'College or above' degree may earn 64 percent more than a 'No-education' degree counterpart (cf., see Table B.1 in the Appendix). Besides, there are structural changes in the Pakistani labor market from agricultural into industry and services sectors that result in shifts in occupation towards 'highly skilled' groups (PET, 2009). Consequently, these outcomes raise a question relating to the possibility that the skill wage gaps are partially driven by the SBTC mentioned in the literature. Evidence is not likely to support this hypothesis for two main reasons: at least for female workers. On the one hand, as above reported, during the studied period, there is no job creation in the manufacturing and services sectors, which could result from a decline in demand for 'high skilled' jobs. On the other hand, the country's structural change seems to benefit men rather than female workers. Indeed, during the period 2000-2008, average real wages of 'highly skilled' men significantly increased, while women holding the same occupations experienced a stagnation of their wages. Such a situation was the same for the 'unskilled' groups. Meanwhile, 'skilled' females' average real wages even dropped, as compared to an increase in those of 'skilled' men (Source: PET, 2009). Besides, the average wages of the

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<sup>17</sup> Estimated results are available upon request.

‘unskilled’ groups increased faster than those of the ‘skilled’ and ‘highly skilled’ groups. Notice that these findings are not typical and consistent with what can happen in developing countries shown in the literature (see, for example, Behar, 2016; Pi & Zhang, 2018).

## **Cambodia**

In Cambodia, the wage advantage enjoyed by temporary employees is likely to be relevant to the particularity of FTC jobs. Recall that, based on Cambodia Labor Force and Child Labor Survey 2012, this study defines temporary employment as all wage jobs that have either ‘limited duration’ or ‘unspecified duration’ or ‘don’t know.’ Meanwhile, the Cambodian Labor Law indicates that FTC “may have an unspecified finishing date when they are drawn up for replacing a worker who is temporarily absent; seasonal work; occasional periods of extra work or a non-customary activity of the enterprise.” Evidently, what is referred to as temporary employment in this paper mostly coincides with these FTC jobs.

FTC jobs in Cambodia are characterized by several ‘superior’ characteristics. In 2012, over half of FTC workers in Cambodia were employed under a written contract while the rate for the whole wage workers was only 29 percent. The proportion of formal jobs among FTC workers (20 percent) was greater than the proportion of formal jobs among all wage workers (14 percent). Moreover, a majority of FTC lasted 12 months or more (73 percent), making them very close to long-term stable employment. In Cambodia, FTC jobs are also authorized for permanent tasks.<sup>18</sup> Cambodia is the only country in which both public and private sector firms employed more temporary than regular wage workers, and the use of temporary employees was even more prevalent in the public sector.

The temporary workers’ wage premium in Cambodia could also be linked to the high demand for low skilled laborers in the Cambodian labor market. Cambodia’s growth has been mostly based on low productivity sectors that do not require high levels of education.<sup>19</sup> According to USAID (2006), in areas close to Phnom Penh with a high density of factories and a large demand for workers, the recruitment becomes so difficult that investors are obliged to offer a higher salary and additional benefits apart from the minimum wage.<sup>20</sup> Differently speaking, an important share of FTC work – those in the textile, footwear and garment industry – could possibly receive higher wages than an average permanent wage worker does.

Besides, the wage premium for temporary workers in Cambodia could be related to the particular performance of the garment industry in 2013. The industry experienced a higher export growth rate (17.8%) than that of other years (7.3% in 2012, 10.6% in 2014, or 14.5% in 2015). Meanwhile,

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<sup>18</sup> Source: ilo.org/wcmsp5/groups/public/---ed\_protect/---protrav/---travail/documents/publication/wcms\_357403.pdf

<sup>19</sup> For more information, visit: <http://www.khmertimeskh.com/news/27088/education-must-be-rewarded/>

<sup>20</sup> The textile, footwear and garment industry is the only sector covered with a minimum wage rate. Better Factories Cambodia reports show a very high compliance rate of minimum wage payment in this sector, at 99 percent for regular workers and 89 percent for casual workers (ILO, 2012).

the labor force growth rate is very high (19% compared to 8.8% in 2014 or 11.3% in 2015. Source: BFC, 2017).

However, it should be noteworthy that the presence of wage premium related to the temporary employment/FTC in 2013 seems to be exceptional. Moreover, it cannot hide a severe issue associated with this employment status in Cambodia. The use of FTC would result in fewer benefits and rights received by Cambodian workers, such as annual paid leave, seniority rights, or maternity leave. For instance, while 97% of regular workers in the garment industry benefited correct overtime rate, the incidence declined to 92% for casual workers and 81% for piece-rate workers (BFC, 2013). Likewise, the minimum wage was applied for 97% of permanent employees, respectively, compared to 92% and 91% in casual and piece-rate counterparts.

Besides, employers in the garment industry- the main driving force of Cambodia's economy- intended to shift from permanent (undetermined-duration) contracts to FTCs to avoid the formation of new trade unions or to weaken the power of those existing. Many garment companies have built a workforce relying on repeatedly renewed FTCs. Although this practice violates the Cambodian Labor Law, it is widely allowed in reality (ITUC, 2014). Further, the trade unions' power is likely weak in Cambodia. For instance, all of the strikes recorded at the companies between May 2012 and April 2013 failed to follow the legal requirements (BFC, 2013). Notice that the picture remains the same for other periods.

In sum, the wage premium benefited by temporary workers is somewhat exceptional and likely to be consistent with the theory of Compensatory Differences above-mentioned. Cambodian temporary workers may get a higher wage but lose other advantages of working conditions and social protections.

As for the gender wage gaps, they can be explained by some social and institutional factors. Once, female workers in the country face two major segregations. On the one hand, there is horizontal segregation, according to which they are almost in the garment sector. For instance, about 90 percent of the labor force in this sector in 2005 were female workers (USAID, 2006), and till the years 2010, the feminized rate in the industry remained over 80 percent (BFC, 2018). On the other hand, vertical segregation refers to their high concentration in low-paid and low-skilled jobs instead of men, who dominate the high-paid jobs requiring more skills. For example, most garment female workers are sewers, while men are more likely to engage in maintenances, repair of machines, cutting, and printing (BFC, 2018). More generally, they seem to hold vulnerable jobs and suffer from a lack of social protection. Cambodian female labor participation is also constrained by their lower literacy levels and total years of schooling compared to their male counterparts. For instance, girls in schooling ages (6-17) are more likely out of school than boys to help in the household. These elements likely explain the gender wage inequality in Cambodia. Besides, these above characteristics should limit female workers' career advancement opportunities, which explains the presence of a glass ceiling effect in the country. The gender wage gap is wider at the top tails and then becomes smaller at other positions of the wage distribution. Besides, employers' prejudice prevents women from engaging in high job positions and consequently contributes to the glass ceilings phenomenon. Women are considered as do not make good managers or supervisors (BFC, 2018).

The above findings in Cambodia raise a big integration. Indeed, how can we get a wage premium benefited by temporary workers and a wage penalty against female workers, while in the garment sector - one of the main driving forces of the Cambodian economy, workers are almost temporary and female. Consequently, temporary female workers could do not get a wage premium at all. To verify it, we perform a new estimation by adding the interactive term 'female\*temporary-employment' into Equation (2). Estimate findings show evidence of a wage premium, but only for temporary male workers at the upper tails of the paid ladders. By contrast, some temporary female workers (e.g., those at 25th and 50th position of the wage distribution) even suffer from a wage penalty.<sup>21</sup>

Turning to the skill wage differentials in Cambodia, they could be the results of both a lack of skilled workers (ADB & ILO, 2015) and an increase in demand for skill jobs, particularly by export firms to improve their competitiveness in global markets (Cunningham & Hollweg, 2019). Consequently, workers holding a 'College or above' degree are likely to have the highest salary, regardless of their position at the pay ladder. Precisely, compared to those without a diploma, their wage premium might be around 50-65 percent greater. Besides, like the case of Pakistan, one could suggest that such a skill wage inequality is not related to SBTC. Although there might be a technical change in the country (e.g., in the garment industry) generated by foreign firms, beneficiaries would be unskilled workers rather than their skilled counterparts. Indeed, according to Cunningham and Hollweg (2019), about one-third of wage jobs were created by FDI firms during the period 2010-2015, and wages of employees directly or indirectly worked in exporting firms in 2014 covered 15 percent of Cambodia's GDP. Nevertheless, export activities mainly rely on low-value-added as the cut-make-trim apparel production in the garment industry (ADB & ILO, 2015) and employ fewer skilled workers than other countries. Thus, these outcomes are consistent with the propositions of Behar (2016) or Pi and Zhang (2018) mentioned in Subsection 2.3. Accordingly, technical change should not benefit skilled workers in a low skill-endowment developing country like Cambodia.

## 5. Concluding remarks

This study investigates the temporary-permanent workers' wage differentials in Cambodia and Pakistan. Our review of literature has shown that there is, indeed, a scarcity of cross-nation statistical evidence on temporary employment in Asia. Such a shortage could be attributed to the fact that this form of employment has been less of a concern as compared to informal employment, that there has been a lack of awareness of the phenomenon, or also because of lacking the data to study this phenomenon properly. This study manages to provide first-time-ever empirical evidence, shedding light on this neglected research area for Cambodia and Pakistan.

In the theories, the wage gap associated with temporary employment is still inconclusive. On the one hand, the Human Capital theory, the Efficiency Wage theory, and the Insider-outsider model all indicate a wage penalty suffered by the temporary workers. On the other hand, the theory of Equalizing Differences, or Compensatory Differences, predicts that temporary workers could receive wage premiums to compensate for undesirable non-wage characteristics associated with

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<sup>21</sup> Estimate findings are available upon request.

their jobs. Our analyses of temporary-permanent workers' wage gaps actually find supporting evidence for both wage penalty and wage premium. Temporary workers suffer from a wage penalty in Pakistan, which widens in the lower tiers of the wage distribution, supporting the *sticky floors* phenomenon. By contrast, Cambodian temporary employees benefit from a wage premium, which appears stable along the pay ladder.

Different temporary-permanent workers' wage gaps in the two selected Asian countries are possibly related to their specific institutional and socioeconomic contexts. While the predominance of the informal economy and the difficulty to include temporary workers in trade unions in Pakistan are probably relevant to greater wage penalty suffered by workers at the bottom of the wage distribution; in case of Cambodia, temporary worker's remuneration advantage seems to be in line with Compensatory Wage theory. There is anecdotal evidence that Cambodian FTC workers receive a five percent payment at the end of the contract, in compensating for fewer rights and benefits such as paid annual leave. Particularly, due to limited career potential in the garment industry, which is characterized by the use of repeatedly-renewed short-term FTCs, there is a large unmet demand for low skilled FTC workers, possibly leading to their higher wages than permanent workers', *ceteris paribus*.

This general inequality between permanent and temporary workers is a challenge to be addressed, notably as temporary employment accounts for an even much higher proportion in these developing Asian countries than in many other developed economies. Thus, reinforcement of the legal framework of labor contracts could be a central measure to improve the employer-employee relationship and prevent the existence of loosely contractual engagement which leads to poor labor conditions and poorly paid jobs. However, as regulation is said to be working for the insiders but not the outsiders, social protection schemes should be delinked from employment status and extended to the informal sector usually on a non-contributory basis. Besides, this research shows evidence of gender and skill wage inequalities in both countries.

Some policy implications can be provided from this research findings. First, since both temporary and female workers are low-skilled in the two countries, Pakistani and Cambodian governments should invest more in education, particularly on no-educational workers. In case of lacking resources (either technical or financial), both countries may demand aids/assistance from developed countries or Non-Governmental Organizations like ILO, the World Bank, the Asian Development Bank. Second, Cambodia and Pakistan should generate more and better jobs. To this end, many actions/policies are possible. For instance, the BFC program was created in 2001 to promote the Cambodian garment industry. The program should be applied to other Cambodian sectors. Likewise, Pakistan could apply such a program to its different sectors. The decent work programs, supported by the ILO and that are already created in both countries, should be continued to develop. Third, both countries have to improve their trade unions' power by, for example, (i) inciting more workers to be unionized and/or (ii) giving more authorities to their trade union organizations and/or (iii) reducing, even removing restrictions to the right to strike. Fourth, the labor law would be reformed to limit the application of temporary contracts and favor more female workers (e.g., better maternity leave, complement aids/supports in case of housewife or unpaid family).

Also, there could be some typical policy implications according to the particularity of each country. In Cambodia, policies should promote small and medium enterprises to grow and become a more reliable source of decent works. Meanwhile, the country needs to strengthen linkages between FDI and domestic firms. Moreover, Cambodia would diversify into higher-value-added activities. Turning to the case of Pakistan, social protection and other social benefits should be expanded to cover the informal economy. The country should also facilitate the structural change towards industrial and services sectors by, for example, offering appreciated the training. Likewise, it can incite employers to provide ‘On-the-job’ or ‘Off-the-job’ training by supporting financial aids or other incentive policies (e.g., reducing duties or proposing low-interest rates for loans).

Due to some limits of data sources, the current study leaves some issues to be further addressed. First, the heterogeneous definitions and classifications of temporary employment forms applied in Pakistani and Cambodian data hinder, to a certain extent, the comparability of the obtained results. Second, further investigation focusing on the demand side of temporary employment should be conducted to provide more evidence explaining the nexus between wage gaps and the wide use of temporary employment. It is necessary to understand if the importantly negative temporary wage gap (or permanent workers’ wage premium) explains the popular use of temporary labor as a way to restrain wage bill, or if flexible use of employment through short-term contracts, casual jobs and so on is simply the norm in these developing countries.

## References

- ADB & ILO (2015). *Cambodia addressing the skills gap: Employment diagnostics study*. Manila & Geneva.
- Agrawal, T. (2013). Are There Glass-Ceiling and Sticky-Floor Effects in India? An Empirical Examination. *Oxford Development Studies*, 41(3), 322-342.
- Ahn, J. (2006). Nonstandard work in Japan and Korea – the origin of wage differentials. Non-standard Work-Draft.
- Albrecht, J., Björklund, A., & Vroman, S. (2003). Is There a Glass Ceiling in Sweden?. *Journal Of Labor Economics*, 21(1), 145-177.
- Almasifard, M. (2018). Gender wage gap in selected developing upper-middle income countries. *International Journal of Development Issues*, 17(2), 142-156.
- Appleton, S., Hoddinott, J. & Krishnan, P. (1999). The Gender Wage Gap in Three African Countries. *Economic Development and Cultural Change*, 47(2), 289-312.
- Arulampalam, W., Booth, A., & Bryan, M. (2007). Is There a Glass Ceiling over Europe? Exploring the Gender Pay Gap across the Wage Distribution. *Industrial & Labor Relations Review*, 60(2), 163-186.
- Bentolila, S., Dolado, J., Franz, W., & Pissarides, C. (1994). Labour Flexibility and Wages: Lessons from Spain. *Economic Policy*, 9(18), 55-99.
- BFC (2013). *Thirtieth synthesis report on working conditions in Cambodia's garment sector*. Geneva: ILO.
- BFC (2017). *Annual report 2017: an industry and compliance review*. Geneva: ILO.
- BFC (2018). *Annual report 2018: an industry and compliance review*. Geneva: ILO.
- Bhandari, A., & Heshmati, A. (2008). Wage Inequality and Job Insecurity among Permanent and Contract Workers in India: Evidence from Organized Manufacturing Industries. *ICFAI Journal of Applied Economics*, 7(1), 80 – 111.
- Blau, F. D. & Kahn L. M. (2017). The Gender Wage Gap: Extent, Trends, and Explanations. *Journal of Economic Literature*, 53(3): 789-865.
- Booth, A., Francesconi, M., & Frank, J. (2002). Temporary Jobs: Stepping Stones or Dead Ends?. *The Economic Journal*, 122 (480), F189–F213.
- Borowczyk-Martins, D., Bradley, J. & Tarasonis, L. (2017). Racial Discrimination in the U.S. Labor Market: Employment and Wage Differentials by Skill. *Labour Economics*, 49, 106-127.
- Bosio, G. (2014). The Implications of Temporary Jobs on the Distribution of Wages in Italy : an Unconditional IVQTE Approach. *Labour: Review of Labour Economics and Industrial Relations*, 28 (1, (3)), 64–86. IVQTE = unconditional instrumental variable quantile treatment effects.
- Brown, C. (1980). Equalizing Differences in the Labor Market. *The Quarterly Journal Of Economics*, 94(1), 113-134.
- Bucheli, M. & Porzecanski, R. (2011). Racial Inequality in the Uruguayan Labor Market: An Analysis of Wage Differentials Between Afro-descendants and Whites. *Latin American Politics and Society*, 53(2), 113-150.

- Burger R., Rachel J., & von Fintel, D. (2016). Affirmative action policies and the evolution of post-apartheid South Africa's racial wage gap. *WIDER Working Paper Series* wp-2016-66.
- Burstein, A., Cravino J. & Vogel, J. (2013). Importing Skill-Biased Technology. *American Economic Journal: Macroeconomics*, 5(2), 32-71.
- Card, D. & DiNardo, J. E. (2002). Skill-Biased Technological Change and Rising Wage Inequality: Some Problems and Puzzles. *Journal of Labor Economics*, 20(4), 733-783.
- Caselli M. (2014). Trade, skill-biased technical change and wages in Mexican manufacturing, *Applied Economics*, 46(3), 336-348.
- Chandra, A. (2000). Labor-Market Dropouts and the Racial Wage Gap: 1940-1990. *American Economic Review*, 90(2), 333-338.
- Chengyu, S., Nadolnyak, D. & Hartarska, V. (2021). The Gender Wage Gap in Developing Countries. *Applied Economics and Finance*, 8(1), 1-12.
- Chusseau, N., Dumont, M. & Hellier, J. (2008). Explaining Rising Inequality: Skill-Biased Technical Change and North-South Trade. *Journal of Economic Surveys*, 22(3), 409-457.
- Christofides, L., Polycarpou, A., & Vrachimis, K. (2013). Gender Wage Gaps, 'Sticky Floors' and 'Glass Ceilings' in Europe. *Labour Economics*, 21, 86-102.
- Comi, S. & Brasseni, M. (2012). Are Temporary Workers Discriminated Against? Evidence from Europe. *The Manchester School*, 80 (1), 28–50.
- Cunningham, W. & Hollweg, C. H. (2019). *Cambodia's Future Jobs : Linking to the Economy of Tomorrow*. World Bank, Phnom Penh
- Dasgupta, S., Bhula-or, R., & Fakthong, T. (2015). Earnings differentials between formal and informal employment in Thailand. *ILO Asia-Pacific Working Paper Series*.
- Diamond, J. (2010). Non-standard Employment and Earnings in Japan. Retrieved from [http://www.econ.hit-u.ac.jp/~diamond/Jess\\_Diamonds\\_Homepage/Research\\_files/ns%20wages.pdf](http://www.econ.hit-u.ac.jp/~diamond/Jess_Diamonds_Homepage/Research_files/ns%20wages.pdf)
- Doing Business (2009). *Doing Business 2010: Reforming through Difficult Time*. The World Bank, IFC and Palgrave MacMillan. Retrieved from: <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB10-FullReport.pdf>
- Fang, Z., & Sakellariou, C. (2015). Glass Ceilings versus Sticky Floors: Evidence from Southeast Asia and an International Update. *Asian Economic Journal*, 29(3), 215-242.
- Fernandez., R. (2001). Skill-Biased Technological Change and Wage Inequality: Evidence from a Plant Retooling. *American Journal of Sociology*, 107(2), 273-320.
- Garcia, L-Ma., Nopo, H. & Salardi, P. (2009). Gender and Racial Wage Gaps in Brazil 1996-2006: Evidence Using a Matching Comparisons Approach. *IDB Working Paper No. 567*.
- Gerard, F., Lagos L., Severnini E. & Card D. (2021). Assortative Matching or Exclusionary Hiring? The Impact of Employment and Pay Policies on Racial Wage Differences in Brazil. *American Economic Review*, 111(10), 3418-57.



- Guell, M. (2000). Fixed-Term Contracts and Unemployment: An Efficiency Wage Analysis. *Industrial Relations Section Working Paper*, (433).
- Ha, B.-J., & Lee, S. (2013). Dual dimensions of non-regular work and SMEs in the Republic of Korea: Country case study on labor market segmentation. *ILO Employment Working Paper No. 148*.
- ILO (2008). *World of Work Report 2008: Income Inequalities in the Age of Financial Globalization*, International Institute for Labour Studies. International Institute for Labour Studies.
- ILO (2012). *Decent Work Country Profile: Cambodia*. Geneva. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms\\_185267.pdf](http://www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/documents/publication/wcms_185267.pdf)
- ILO (2013). *Meeting the challenge of precarious work: A workers' agenda*. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---actrav/documents/publication/wcms\\_216282.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---actrav/documents/publication/wcms_216282.pdf)
- ILO (2015a). Non-standard forms of employment: Report for discussion at the meeting of experts on non-standard forms of employment. *ILO Conditions of Work and Equality Department MENSFE/2015*.
- ILO (2015b). Pakistan Decent Work Country Programme 2010-2015. Retrieved from <http://www.ilo.org/public/english/bureau/program/dwcp/download/pakistan2010-15.pdf>
- ILO (2015c). Nothing more permanent than temporary? Understanding fixed-term contract. Policy Brief N° 6. Geneva. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_357403.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_357403.pdf)
- ITUC (2014). *Precairous work in the Asia Pacific Region. A 10 country study by The International Trade Union Confederation (ITUC) and ITUC Asia-Pacific*. Retrieved from [http://www.ituc-csi.org/IMG/pdf/report\\_2014\\_precairous\\_work\\_lr.pdf](http://www.ituc-csi.org/IMG/pdf/report_2014_precairous_work_lr.pdf)
- Jahn, E. & Pozzoli, D. (2013). The Pay Gap of Temporary Agency Workers — Does the Temp Sector Experience Pay off?. *Labour Economics*, 24, 48-57.
- Kemal, A. & Mahmood, Z. (1998). The urban informal sector of Pakistan: Some stylized facts. *Pakistan Institute of Development Economics Research report No. 161*.
- Kunze A. (2008). Gender wage gap studies: consistency and decomposition. *Empirical Economics*, 35(1), 63-76.
- Lang, K., & Lehmann, L-Y. (2012). Racial Discrimination in the Labor Market: Theory and Empirics. *Journal of Economic Literature*, 50 (4): 959-1006.
- Lee, B.-H. & Lee, S. (2007). Minding the gaps: Non-regular employment and labour market segmentation in the Republic of Korea. *ILO Conditions of Work and Employment Series 19*.
- Leping, K-O. & Toomet, O. (2008). Emerging ethnic wage gap: Estonia during political and economic transition. *Journal of Comparative Economics*, 36(4), 599-619.
- Mertens, A., Gash, V., & McGinnity, F. (2007). The Cost of Flexibility at the Margin. Comparing the Wage Penalty for Fixed-term Contracts in Germany and Spain using Quantile Regression. *Labour*, 21(4-5), 637-666.

- Moore, M. P. & Ranjan, P. (2005). Globalisation vs Skill-Biased Technological Change: Implications for Unemployment and Wage Inequality. *Economic Journal*, 115(503), 391-422.
- Nawata, K., & Ii, M. (2004). Estimation of the Labor Participation and Wage Equation Model of Japanese Married Women by the Simultaneous Maximum Likelihood Method. *Journal of the Japanese and International Economies*, 18(3), 301-315.
- Nesheim, T., Olsen, K., & Kalleberg, A. (2007). Externalizing the Core: Firms' Use of Employment Intermediaries in the Information and Communication Technology Industries. *Human Resource Management*, 46(2), 247-264.
- Nguyen, H., Nordman, C., & Roubaud, F. (2013). Who Suffers the Penalty?: A Panel Data Analysis of Earnings Gaps in Vietnam. *Journal Of Development Studies*, 49(12), 1694-1710.
- OECD (2014). *OECD Employment Outlook 2014*. OECD Publishing.
- Pacheco, G. & Cochrane, B. (2015). Decomposing the Temporary-permanent Wage Gap in New Zealand. *AUT Department of Economics Working Paper Series 2015/07*.
- PET (2008). *Progress towards achieving MDG target 1B : "Full and productive employment and decent work for all*. Labour Market Information and Analysis Unit (Ministry of Labour, Manpower).
- PET (2009). *Pakistan Employment Trends for Womens*. Labour Market Information and Analysis Unit (Ministry of Labour, Manpower).
- Pi, J. & Zhang, P. (2018). Skill-biased technological change and wage inequality in developing countries. *International Review of Economics & Finance*, 56(C), 347-362.
- Puhani, P. (2000). The Heckman Correction for Sample Selection and Its Critique. *Journal Of Economic Surveys*, 14(1), 53-68.
- Rani, U. (2008). Impact of Changing Work Patterns on Income Inequality. *International Institute for Labour Studies - Discussion Paper Series DP/193/2008*.
- Rebitzer, J. & Taylor, L. (1991). A Model of Dual Labor Markets When Product Demand Is Uncertain. *The Quarterly Journal Of Economics*, 106(4), 1373-1383.
- Rosen, S. (1986). The theory of equalizing differences. *Handbook of labor economics*, 1, 641-692.
- Salvatori, A. (2009). What do unions do to temporary employment. *IZA Discussion Paper No. 4554*.
- Serrano, M., Marasigan, M., & Pupos, V. (2014). *Between Flexibility and Security: The Rise of Non-Standard Employment in Selected ASEAN Countries*. ASEAN Services Employees Trade Unions Council (ASETUC).
- Tucker, D. (2002). *Precarious' Non-Standard Employment - A Review of the Literature*. Labour Market Policy Group, Department of Labour.
- USAID (2006). *Cambodia Garment Industry Workforce Assessment: Identifying Skills Needs and Sources of Supply*. Retrieved from <https://cstn.files.wordpress.com/2009/12/cambodian-garment-industry-workforce-assessment-june06-en.pdf>.
- Violante, G.L. (2008) *Skill-Biased Technical Change*. In: Palgrave Macmillan (eds) *The New Palgrave Dictionary of Economics*. Palgrave Macmillan, London. [https://doi.org/10.1057/978-1-349-95121-5\\_2388-1](https://doi.org/10.1057/978-1-349-95121-5_2388-1).

- Waldmann, E. (2018). Quantile regression: A short story on how and why. *Statistical Modelling*, 18(3-4), 203-218.
- Weichselbaumer, D. & Winter-Ebmer, R. (2005). A Meta-Analysis of the International Gender Wage Gap. *Journal of Economic Surveys*, 9(3), 479-511.
- Wenz, S. E. (2019). What Quantile Regression Does and Doesn't Do: A Commentary on Petscher and Logan (2014). *Child Development*, 90(4):1442-1452.
- Zakaullah, K. (2018). A Profile of Trade Unionism and Industrial Relations in Pakistan. *ILO Working Papers*.

# Appendix

## A. Data description

### A.1. Data sources

Data used in the study obtained from national LFS provided by ILO. Further details for individual countries are as follows:

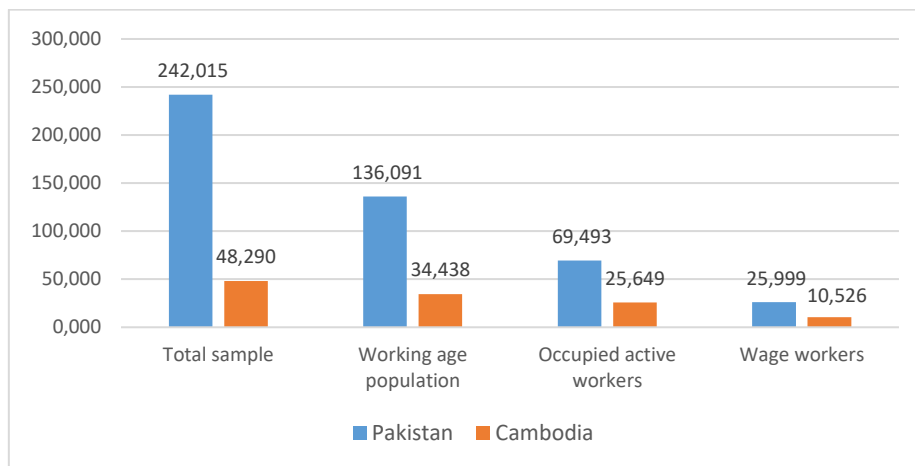
#### Cambodia

The Labor Force and Child Labor Survey (LF-CLS) was conducted by the National Institute of Statistics, Ministry of Planning in 2011-2012. This survey provides data on labor force, employment, unemployment, and other data for monitoring and assessing progress on decent work of population aged 15 years and above.

#### Pakistan

Since the LFS 2005-2006, the questionnaire has been being articulated for undertaking quarterly representative results reflecting not only labor force characteristics but also important related attributes of literacy, migration, occupational safety, etc. at national level. The data used in this study is extracted from 2008-2009 wave.

**Figure A1. Operative data selection in Pakistan and Cambodia**



*Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009. Authors compilation.*

## A.2. Definition of Temporary employment and descriptive statistics

Table A1. Definition of temporary employment in national Labor Force Surveys

	<b>Cambodia (2012)</b>		<b>Pakistan (2008-09)</b>
<b>Survey question to define temporary employment</b>	<u>(i) Is (NAME) employed</u>		<u>What was the status of job's written contract/ agreement between the employee and the employer?</u>
	<u>on the basis of a written contract or an oral agreement</u>	<u>(ii) Is the contract or agreement of...?</u>	
	1=Written contract	1= Limited duration	1. Permanent/ pensionable Job With contract/ agreement
	2= Oral contract	2= Unlimited duration	2. Less than 1 year
	3= Don't know	3= Unspecified duration	3. Up to 3 years
		4= Don't know	4. Up to 5 years
			5. Up to 10 years
			6. 10 Years and more
			7. Without contract/ agreement
<b>Temporary</b>	1, 2, or 3 of (i) and 1, 3, or 4 of (ii)		2, 3, 4, 5, 6, 7

Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009.

Table A2. Temporary employees in selected Asian countries: Statistical Description

	Cambodia	Pakistan
<b>Wage workers, as % of total employment</b>	46.03	36.83
<b>Temporary workers, as % of wage workers</b>	53.22	69.1
<b>Temporary workers, as % of wage workers, by sex</b>		
<i>Male</i>	53.82	74.14
<i>Female</i>	52.36	77.8
<b>Temporary workers, as % of wage workers, by age</b>		
15-24	52.67	91.6
25-54	53.2	67
55-64	57.2	69.37
<b>Temporary workers, as % of wage workers, by level of education</b>		
<i>No education</i>	52.6	91.94
<i>Elementary</i>	49.3	86.84
<i>High school and vocational</i>	59.35	57.28
<i>University and more</i>	63.08	30.67
<b>Temporary workers, as % of wage workers, by sector</b>		
<i>Public</i>	56.87	14.52
<i>Private</i>	52.52	93.01
<b>Temporary workers, as % of wage workers, by industry</b>		
<i>Agriculture</i>	52.59	97.93
<i>Manufacturing</i>	51.11	89.71
<i>Trade</i>	50.18	93.91
<i>Services</i>	56.47	48.16
<b>Temporary workers, as % of wage workers, by occupational groups</b>		
<i>Legislators, senior officials and managers</i>	53.87	42.16
<i>Professionals</i>	63.42	48.67
<i>Technicians and associate professionals</i>	49.9	38.08
<i>Clerks</i>	62.67	25.16
<i>Service workers and shop and market sales workers</i>	54.48	75.12
<i>Skilled agricultural and fishery workers</i>	52.01	62.83
<i>Craft and related trades workers</i>	47.51	92.49
<i>Plant and machine operators and assemblers</i>	53.31	83.14
<i>Elementary occupations</i>	51.16	87.82
<b>Temporary workers, as % of informal sector wage workers</b>	46.57	97.69
<b>Temporary/permanent wage ratio (hourly, in %)</b>	98.09	42.3

Source: Cambodia's Labor Force and Child Labor Survey 2012, Pakistan's LFS 2008-2009. Author compilation.

## B. Estimate results

Table B1. Temporary-Permanent Workers' Wage Gap: Quantile Regression - Cambodia.

	(1)	(2)	(3)	(4)	(5)	(6)
	Mean	QR .10	QR .25	QR .50	QR .75	QR .90
<b>Temporary Employee</b>	0.041*	0.020	0.009	0.024*	0.052***	0.059***
	(0.023)	(0.016)	(0.012)	(0.012)	(0.014)	(0.021)
<b>Individual characteristics</b>						
Gender Female	-0.156***	-0.136***	-0.110***	-0.107***	-0.109***	-0.196***
	(0.016)	(0.014)	(0.012)	(0.010)	(0.010)	(0.015)
Migration (reference: non migrant)						
<i>Migrant from another village in this province</i>	0.002	0.023	0.031*	0.020	0.029**	0.053*
	(0.023)	(0.029)	(0.018)	(0.013)	(0.014)	(0.030)
<i>Migrant from another province</i>	0.109***	0.047	0.061***	0.066***	0.119***	0.224***
	(0.026)	(0.037)	(0.019)	(0.013)	(0.023)	(0.032)
<i>Migrant from another country</i>	0.114	0.175**	0.085	0.243	0.174***	-0.003
	(0.141)	(0.075)	(0.072)	(0.212)	(0.060)	(0.168)
<b>Human capital</b>						
Age	0.026***	0.024***	0.020***	0.016***	0.013***	0.014***
	(0.004)	(0.004)	(0.003)	(0.002)	(0.002)	(0.003)
Age squared	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education (reference: no education)						
<i>Primary or secondary</i>	0.052***	0.070***	0.062***	0.044***	0.030***	0.032**
	(0.015)	(0.013)	(0.011)	(0.009)	(0.010)	(0.015)
<i>High school</i>	0.206***	0.211***	0.200***	0.148***	0.143***	0.147***
	(0.033)	(0.046)	(0.023)	(0.019)	(0.026)	(0.039)
<i>College or above</i>	0.547***	0.491***	0.516***	0.596***	0.649***	0.499***
	(0.061)	(0.050)	(0.071)	(0.040)	(0.066)	(0.059)
<b>Job characteristics</b>						
Industry (reference: agriculture)						
<i>Manufacturing</i>	0.021	0.083***	0.057***	0.059***	0.021	-0.017
	(0.022)	(0.026)	(0.019)	(0.014)	(0.014)	(0.023)
<i>Trade</i>	0.116**	-0.003	-0.036	0.047	0.163***	0.308**
	(0.055)	(0.050)	(0.054)	(0.038)	(0.049)	(0.130)
<i>Services</i>	0.021	-0.104***	-0.078***	0.034	0.150***	0.173***
	(0.029)	(0.032)	(0.028)	(0.025)	(0.024)	(0.037)
Public sector	-0.233***	-0.148***	-0.130***	-0.191***	-0.186***	-0.206***
	(0.040)	(0.039)	(0.030)	(0.021)	(0.029)	(0.045)
Business size	Yes	Yes	Yes	Yes	Yes	Yes
Job tenure (reference: less than 1 year)						
<i>1 year to &lt; 3 years</i>	0.027	0.034**	0.031**	0.015	0.005	0.005
	(0.016)	(0.015)	(0.012)	(0.010)	(0.011)	(0.017)
<i>3 years to &lt; 5 years</i>	0.065***	0.059**	0.051***	0.052***	0.064***	0.025
	(0.024)	(0.024)	(0.016)	(0.014)	(0.014)	(0.028)
<i>5 years to &lt; 10 years</i>	0.108***	0.140***	0.143***	0.083***	0.077***	0.060**
	(0.030)	(0.033)	(0.019)	(0.015)	(0.019)	(0.029)
<i>10 years and more</i>	0.123***	0.147***	0.122***	0.114***	0.092***	0.009
	(0.034)	(0.035)	(0.023)	(0.022)	(0.018)	(0.039)

Trade union membership	-0.022 (0.021)	0.031* (0.018)	0.012 (0.014)	0.023* (0.014)	-0.012 (0.013)	-0.098*** (0.025)
Occupation	Yes	Yes	Yes	Yes	Yes	Yes
<b>Geographical characteristics</b>						
Rural area	-0.111*** (0.031)	-0.046 (0.032)	-0.084*** (0.017)	-0.070*** (0.016)	-0.050*** (0.016)	-0.114** (0.047)
Region	Yes	Yes	Yes	Yes	Yes	Yes
Constant	7.337*** (0.106)	6.653*** (0.102)	7.020*** (0.084)	7.522*** (0.074)	7.697*** (0.066)	8.223*** (0.114)
Observations	9,050	9,050	9,050	9,050	9,050	9,050

*Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .*



Table B2. Temporary-Permanent Workers' Wage Gap: IV Quantile Regression – Pakistan

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Mean	QR .10	QR .25	QR .50	QR .75	QR .90
<b>Temporary Employee</b>	-0.257*** (0.016)	-0.315*** (0.022)	-0.303*** (0.015)	-0.264*** (0.010)	-0.203*** (0.012)	-0.138*** (0.015)
<b>Individual characteristics</b>						
Gender Female	-0.345*** (0.016)	-0.557*** (0.029)	-0.504*** (0.020)	-0.343*** (0.016)	-0.230*** (0.016)	-0.154*** (0.019)
Migration (reference: non migrant)						
<i>Migrant less than 1 year</i>	0.088** (0.043)	0.012 (0.047)	0.069 (0.055)	0.096*** (0.029)	0.062 (0.064)	0.159*** (0.049)
<i>Migrant from 2-4 years</i>	0.030 (0.027)	-0.003 (0.054)	0.066** (0.032)	0.048** (0.021)	0.010 (0.020)	0.008 (0.038)
<i>Migrant from 5- 9 years</i>	0.035 (0.027)	0.041 (0.035)	0.033 (0.021)	0.042*** (0.015)	0.022 (0.022)	0.004 (0.043)
<i>Migrant since 10 years and</i>	0.065*** (0.014)	0.057*** (0.022)	0.068*** (0.017)	0.080*** (0.011)	0.054*** (0.011)	0.033** (0.015)
<b>Human capital</b>						
Age	0.034*** (0.002)	0.048*** (0.004)	0.037*** (0.002)	0.029*** (0.002)	0.027*** (0.002)	0.022*** (0.002)
Age squared	-0.000*** (0.000)	-0.001*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Education (reference: no education)						
<i>Primary or secondary</i>	0.063*** (0.010)	0.070*** (0.016)	0.071*** (0.010)	0.073*** (0.008)	0.057*** (0.009)	0.064*** (0.011)
<i>High school</i>	0.191*** (0.013)	0.175*** (0.018)	0.164*** (0.013)	0.176*** (0.009)	0.166*** (0.011)	0.195*** (0.015)
<i>College or above</i>	0.593*** (0.020)	0.435*** (0.030)	0.526*** (0.020)	0.575*** (0.015)	0.576*** (0.017)	0.644*** (0.020)
Training (reference: no training)						
<i>On-the-job training</i>	0.069*** (0.017)	0.085*** (0.027)	0.082*** (0.019)	0.061*** (0.013)	0.065*** (0.019)	0.037* (0.020)
<i>Off-the-job training</i>	0.030* (0.017)	-0.005 (0.023)	0.015 (0.021)	0.009 (0.015)	0.049*** (0.017)	0.080*** (0.019)
<b>Job characteristics</b>						
Industry (reference: agriculture)						
<i>Manufacturing</i>	0.188*** (0.018)	0.303*** (0.031)	0.288*** (0.019)	0.250*** (0.017)	0.167*** (0.018)	0.075*** (0.023)
<i>Trade</i>	-0.071*** (0.024)	-0.037 (0.045)	-0.013 (0.027)	-0.006 (0.022)	-0.067*** (0.022)	-0.106*** (0.029)
<i>Services</i>	0.048** (0.020)	0.087*** (0.033)	0.117*** (0.021)	0.111*** (0.018)	0.068*** (0.019)	0.020 (0.025)
Public sector	0.277*** (0.017)	0.340*** (0.024)	0.289*** (0.017)	0.249*** (0.011)	0.207*** (0.013)	0.161*** (0.016)
Informal sector	-0.048*** (0.010)	-0.046*** (0.017)	-0.056*** (0.012)	-0.051*** (0.008)	-0.039*** (0.010)	-0.057*** (0.012)
Occupation	Yes	Yes	Yes	Yes	Yes	Yes
<b>Geographical</b>						
Rural area	-0.044*** (0.008)	-0.007 (0.012)	-0.034*** (0.009)	-0.031*** (0.007)	-0.050*** (0.007)	-0.060*** (0.009)
Region	Yes	Yes	Yes	Yes	Yes	Yes
Constant	3.119*** (0.054)	1.898*** (0.109)	2.671*** (0.057)	3.227*** (0.050)	3.778*** (0.044)	4.207*** (0.066)
Observations	25,459	25,459	25,459	25,459	25,459	25,459

*Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .*