

Employment in South Asia

A New Dataset

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Abstract

This paper presents a new dataset of comparable employment indicators for South Asian countries, constructed from more than 60 primary data sources from 2001 to 2017. The main contribution of the paper is to curate the information provided by individual respondents to censuses and surveys, in a way that is consistent across countries and over time. The usefulness of the dataset is illustrated by conducting a rigorous assessment of employment characteristics, of changes in employment over time, and of the short- and long-run relationship between economic growth and employment growth in South Asia. The exercise shows that agriculture still employs the majority of the

working-age population across the region and, except in Sri Lanka, more than half of the employment is self-employment or unpaid family work. The paper also shows that employment rates are generally decreasing in South Asia, and that in some countries female employment rates are falling rapidly. Seasonal growth patterns are shown to affect the composition of employment, while non-seasonal changes in short-run growth affect the overall level of employment. The paper estimates that, in the long run, one percentage point growth of gross domestic product has led on average to a 0.34 percent increase in employment.

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Employment in South Asia: A New Dataset*

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1. Introduction

Employment is at the center of multiple debates across South Asia. Are sufficient jobs being created to absorb the numerous young entrants to the labor force? To what extent is economic growth translating into employment growth? Is all employment growth happening in the services sector, or are manufacturing jobs growing too? How many of the jobs being created involve regular wage employment? And is the female share of employment declining with economic development?

If anything, the debate is made more acrimonious by the scarcity of reliable employment data. High-frequency labor force surveys are still uncommon in the region. Employment data is typically generated out of statistical instruments that are better geared to measuring population, economic activity, poverty or human development. These instruments rely on different definitions of key employment indicators, making comparisons difficult. And often the data is released years after it is collected.

In this paper we try to address these shortcomings by generating comparable employment figures across South Asian countries from 2001 to 2017, out of over 60 primary data sources.¹ We curate the data directly from population censuses, household surveys, and labor force surveys, in a transparent and replicable way. Each individual respondent to these censuses and surveys is classified as employed, unemployed or inactive based on standard labor definitions, matched as closely as possible to the corresponding questionnaires. In addition, we include information on the type of the employment, the sector of activity, and the institutional sector – public or private.

Part of the paper is devoted to explaining in some detail the data harmonization process on which our dataset is built. We also assess differences between the resulting indicators and the readily-available national estimates and model-based estimates reported by the International Labour Organization (ILO). By going into this detail, we hope to reassure readers and potential users about the reliability of the dataset, while at the same time encouraging researchers to further improve it.

The paper also aims to show the usefulness of the dataset to analyze some of the questions recurrently arising in policy debates around the region. In that spirit, we provide a rigorous assessment of the employment characteristics, of changes in employment over time, and of the relationship between economic growth and employment growth in South Asian countries.

Ours is certainly not the first attempt to shed light on employment trends and characteristics in the region. For instance, the World Bank regularly conducts Jobs Diagnostics that discuss labor market issues in selected countries. These multisectoral studies aim at identifying country priorities regarding their labor markets, and often propose policy actions to address them.² The World Bank also regularly publishes reports dealing with broader economic issues but touching on employment trends.³ Other government agencies and international organizations produce similar reports. And numerous academic papers examine specific topics in South Asian labor markets, from the impact of schooling on earnings to youth

¹ We define South Asia as including Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. The number of observations varies for each country.

² For example, a *Jobs Diagnostic* for Bangladesh was recently published (Farole and Cho 2017).

³ In South Asia's case, *Development Updates* have recently been produced for Afghanistan (World Bank 2018b), Bangladesh (World Bank 2018c), Bhutan (World Bank 2018d), India (World Bank 2018e), Nepal (World Bank 2018f), Pakistan (World Bank 2018g) and Sri Lanka (World Bank 2018h).

unemployment to female labor force participation. While the literature is vast, papers, studies and reports tend to build on one or just a few country-specific datasets. Cross-country studies on employment exist, but they often rely on national estimates or ILO model-based estimates, without scrutinizing the differences between the primary data on which these estimates are based.

An exception is the continuous World Bank effort to harmonize the surveys used in its *World Development Reports* (WDR), starting from the 1990 WDR on *Poverty* (World Bank 1990). More recently, Montenegro and Hirn (2009) constructed a harmonized dataset of a few labor market indicators using primary data from surveys – including 19 from South Asian countries – for the 2009 WDR on *Reshaping Economic Geography* (World Bank 2009). Similarly, a global harmonized household survey dataset called the International Income Distribution Dataset (I2D2) was developed for the 2013 WDR on *Jobs* (World Bank 2012, Gindling and Newhouse 2012).

The dataset presented and analyzed in this paper is built in a similar spirit. It was developed for the Spring 2018 edition of *South Asia Economic Focus* (World Bank 2018a), which explored the relationship between growth and employment in the region. To our knowledge, our dataset is the only harmonization effort for South Asia that ensures full transparency and replicability by explaining the coding based on actual questionnaires. The resulting database, identified in what follows as the South Asia Employment Dataset, is available upon request.

2. Sources and indicators

2.1. Available primary data sources

South Asian countries have conducted close to 100 population censuses, household surveys and labor force surveys that include questions related to employment since 2001. Pakistan and Sri Lanka have the most frequent and easily accessible surveys. Pakistan has carried out the Pakistan Social and Living Standards Measurement (PSLM) survey and the Household Integrated Economic Survey every alternate year since 2004-05 and, except for a few years, the labor force survey (LFS) has been conducted on an annual basis between 2001 and 2017. Similarly, Sri Lanka has a triennial Household Income and Expenditure Survey (HIES) and an annual Labor Force Survey (LFS) which is nationally and quarterly representative.

In India, labor market information is collected using the National Sample Survey (NSS), which every five years includes a separate employment-unemployment module (Schedule 10). In the intervening years, basic employment information is gathered together with the household consumer expenditure module. The quinquennial surveys have large samples and are referred to as the ‘thick rounds’, whereas the intervening surveys are known as the ‘thin rounds’ because of their relatively smaller sample size. An annual Periodic Labor Force Survey (PLFS) was started in 2017 to provide more frequent and timely labor market data that is nationally and regionally representative.

Primary data from these various sources is not always publicly available. Table 1 lists all the relevant censuses and surveys conducted in South Asian countries between 2001 and 2017 and highlights in bold the 62 we got access to. Of these, 19 are from Pakistan, 17 from Sri Lanka, 9 from India, 8 from Bangladesh and 3 each from Afghanistan, Bhutan, and Nepal.

Table 1. Household censuses and surveys containing employment information in 2001-17.

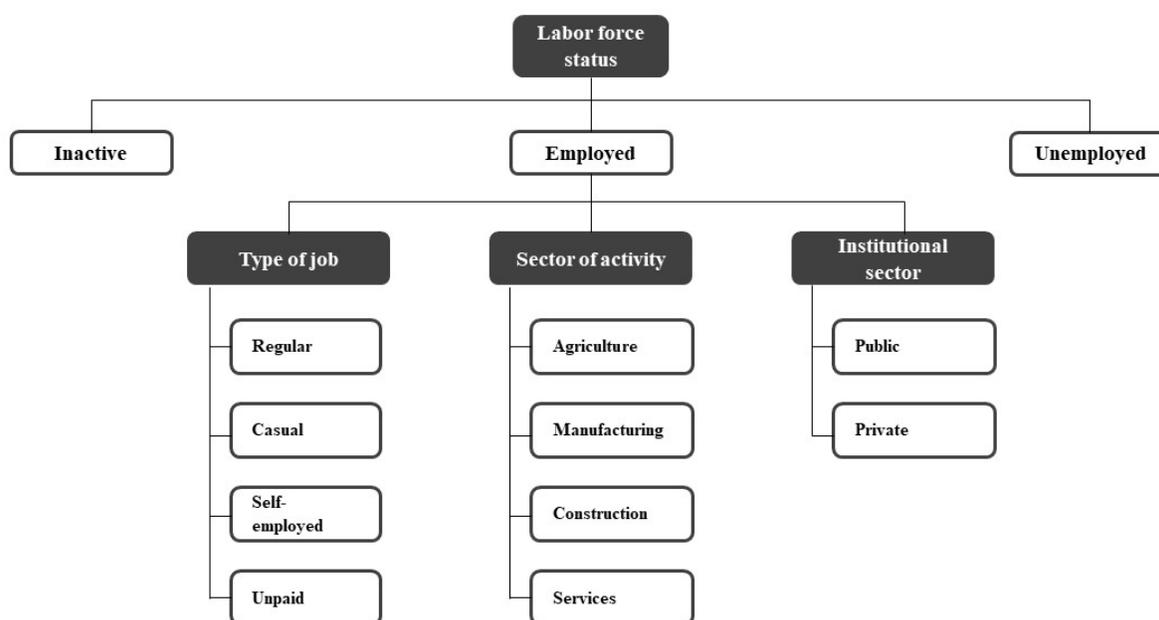
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Afghanistan			NRVA		NRVA		NRVA				NRVA		ALCS				ALCS	
Bangladesh	Census				HIES					HIES							HIES	
		LFS			LFS					LFS			LFS				LFS	
Bhutan		BLSS				BLSS					BLSS							BLSS
	LFS	LFS	LFS	LFS	Census	LFS			LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	Census
India					NSS-thick					NSS-thick			NSS-thick					
		NSS-thin	NSS-thin	NSS-thin	NSS-thin				NSS-thin									
	Census										Census							
										EUS	EUS		EUS			EUS		
Nepal		NLSS								NLSS								
	Census										Census							
							LFS											
Pakistan		PIHS			PSLM HIES	PSLM	HIES	PSLM		PSLM HIES	HIES	PSLM	HIES	PSLM	HIES			
	LFS		LFS		LFS	LFS	LFS	LFS	LFS	LFS		LFS	LFS	LFS	LFS			Census
						LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS
Sri Lanka		HIES			HIES	HIES			HIES			HIES				HIES		
	Census										Census							
	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS	LFS

Note: ALCS: Afghanistan Living Conditions Survey, EUS: Employment Unemployment Survey, HIES: Household Income and Expenditure Survey, HIES (for Pakistan): Household Integrated Economic Survey, HIICS: Household Integrated Income and Consumption Survey, LFS: Labor Force Survey, NRVA: National Risk and Vulnerability Assessment, NSS: National Sample Survey, PIHS: Pakistan Integrated Household Survey, PSLM: Pakistan Social and Living Standards Measurement. Access to primary data is indicated in **bold**. Surveys placed in between two years were collected in both years, for example, in Afghanistan the NRVA was collected in 2007-08.

2.2. Comparable employment indicators

We coded individual responses from the selected censuses and surveys to create comparable indicators across the region. Each respondent to the 62 censuses and surveys was classified as employed, unemployed or inactive based on standard definitions, matched as closely as possible to the corresponding questionnaires. Employed individuals were further classified based on the nature of their activity, as shown in Figure 1. Three breakdowns were considered: the type of job, the sector of activity, and whether the job was in the private or the public sector. Types of jobs included regular wage employment, casual wage employment, self-employment and unpaid work. The sectors of activity considered were agriculture, manufacturing, construction and services. Table A1 in the Appendix indicates how many primary data sources include observations about these variables in each country.

Figure 1. Information extracted to create comparable indicators across South Asian countries.



The measurement of key employment attributes often varies across sources and over time. Differences may be related to the types of work counted as employment, the activities belonging in each economic sector, the recall period considered by the questionnaires, or the date when the interview was conducted. Interestingly, some of the wider measurement gaps arise within countries rather than across countries. Consider first the activities classified as employment. Having a consistent definition is more difficult in economies where self-employment and casual wage work are the norm. A nine-to-five job with a written contract and benefits attached to it is easy to recognize. But relatively few jobs match this description in South Asia. In many cases, it is hence difficult to tell whether people are working, unemployed, or out of the labor force, and the answers vary depending on the source.

The difficulty is further exacerbated in the case of women, who tend to engage even more than men in activities falling in the gray area between work, unemployment and inactivity. For example, in Bangladesh the HIES does not consider unpaid family work as employment while the LFS does. Similarly, the LSS

2003-04 and 2010-11 (for Nepal) and the LFS (for Pakistan) count activities such as fetching water and collecting firewood and dung as employment, whereas sources in other countries do not. To ensure comparability, we excluded such activities in all countries.

The structure and framing of employment questions may vary even within the same primary source. In Afghanistan and Pakistan, for example, employment modules are different for males and females. In Bangladesh, the HIES asks employment questions in two different modules. A first set of questions is asked in the roster module while a second set appears later (module 5: A & B). This breakdown sometimes results in inconsistent responses.

A second difference in the definition of employment across data sources concerns the identification of the main activity of the respondent. For example, in the Bangladesh HIES each respondent lists several activities he or she was involved in, but only the activity absorbing the most time is registered. In India, on the other hand, the NSS makes a distinction between ‘principal’ and ‘subsidiary’ activities based on the duration of the work. We include only the ‘principal’ status in our dataset.

The recall period is a third important difference between data sources. For example, in Afghanistan the 2007-08 NRVA uses a recall period of one month when asking respondents whether they are employed, while the 2011-12 NRVA has a recall period of one week. The India NSS includes a weekly status, but it is constructed based on questions about time use over half-days. The yearly status, on the other hand, is identified based on a specific question to the respondent. The Pakistan LFS uses a recall period of one week, but the period is one month in the Pakistan HIES. In Sri Lanka, some of the surveys do not specify a recall period at all when inquiring about employment. The majority of Sri Lanka’s HIESs have information about the usual employment status, while the LFS reports the weekly employment status.

Fourth, the dates when information was collected vary, even within the same type of instrument. For instance, in Afghanistan and India (NSS thin rounds), most of the analyzed surveys did not follow a constant data collection pattern. Another example is the Bangladesh LFS, for which data for the 2002-03 round was collected during a short span (less than six months) while data for the 2005-06 round was collected during a whole year (from October 2005 to September 2006). If there is seasonality in employment, figures from surveys with different data collection periods are not strictly comparable.

In some cases, the dates when information was collected allow generating quarterly employment data, in addition to annual estimates. Censuses are conducted over a very short period of time, and most of the household and labor force surveys record the month when a respondent was interviewed. In these cases, individual observations can be mapped to specific quarters. However, this approach is only used in the case of surveys in which interviews were spread across space and over time in a relatively even way.

Because of these four differences, the way we defined employment varied across countries and sources, as shown in Table 2. We provide even more detailed information in Table A2 in the Appendix, where we report the exact language used in the corresponding questionnaires.

Table 2. Definition of employment indicators across countries.

	Employed	Employment type	Public/Private
Afghanistan	Those who worked for any organization or any individual, have been involved in agricultural or non-agricultural work, or had permanent or long-term jobs (NRVA 07-08 / ALCS 13-14), or have found a job but it was going to start later, or had a job but were temporarily absent, or that were apprentice (ALL), or did any work for pay/profit/family gain (NRVA 11-12).	Regular: salaried workers. Casual: day laborers. Self-employed: self-employed, employers. Unpaid: unpaid family workers.	-
Bangladesh	Those who worked or worked for livelihood (ALL HIES), or for at least one hour for pay, or who had a job but was temporarily absent, or who have found a job but it was going to start later, or had any kind of business, or did any work for wage, or helped without being paid in any kind of business run by her/his household (ALL LFS).	Regular: employee (agri. and non-agri.). Casual: day laborer (agri. and non-agri.). Self-employed: self-employed and employer (agri. and non-agri.). Unpaid: unpaid family workers. (Unpaid worker not available for all HIES, not available in the Census too).	Public: Govt. organization, Autonomous body, Public mill/factory, Local govt. Private: Private mill/factory, NGO, Household, Others, Private office. Also coding private for self-employees and employers. (Not available in Census)
Bhutan	Those who did agricultural work, or who worked for money, or had profitable business, or did any unpaid work (ALL).	Regular: paid employee. Casual: casual paid employee. Self-employed: own account worker and employers Unpaid: unpaid family worker. (Casual employment types not available for 2003)	Public: government office or State enterprise. Private: cooperatives, collective farm, joint stock company, Joint venture, private non-farm enterprise, private farm, Foreign company/organ, Family business. (Not available for LSS 2012)
India	Those who worked in a household enterprise as an own account worker or as a helper, or as an employer, or as a regular salaried worker, or as a casual wage labor, or in other types of work (ALL).	Regular: salaried/ wage employee. Casual: casual wage labor in public works, in other types of work. Self-employed: workers in H.H. enterprise (own account worker), and employers. Unpaid: helper in H.H. enterprise.	Public: government/public sector. Private: proprietaries, partnerships, cooperatives, household workers. (Not available for the Thin-rounds)
Nepal	Those who worked as wage employed in agriculture/non-agriculture, or as self-employed, or who had a job but was temporarily absent; or who were receiving any pay or other returns from a job or business while not at work (LFS), or who have found a job but it will start later; or who worked between 1 to 105 hours a week; or who worked between 1 to 117 hours a week (ALL LSS).	Regular: paid employee. Casual: daily payment. Self-employed: operating own business or family business with and without regular paid employee. Unpaid: family worker. (No unpaid information available for all LSS).	Public: government service, financial public corporation, non-financial public corporation. Private: NGOs/INGOs, private registered financial company, private registered non-financial company, private unregistered organization, other. (Not available for LSS 2003-04)
Pakistan	Those who did any work for pay/profit/family gain, or who had a job or enterprise, or who worked at least one hour for earning money, or who worked without a wage at family farm, business (ALL PIHS); or who worked at least one hour for earning money (ALL PSLM/HIES/ HIICS).	Regular: paid employee. Casual: contract cultivator. Self-employed: owner cultivator, share cropper, livestock (only), and employers. Unpaid: family worker.	-
Sri Lanka	Those who were employed as usual status (ALL HIES), or who were involved in an economic activity, or who worked for pay/profit/family gain, or who had a job or enterprise at which she/he did not work when interviewed, or who were engaged, even for a few hours in paid employment, own account profitable work or contributing family work as an economic activity (including employer), or who already got a job and ready to go/already plan for self-employment activity (ALL LFS).	Regular: employees that didn't receive a daily payment. Casual: employees that did receive a daily payment. Self-employed: own account worker, and employers. Unpaid: unpaid family worker. (No employment type for HIES 2002)	Public: government employee and semi-government employee. Private: other type of ownership. (No public/private for HIES 2002)

2.3. *Employment outcomes across sources*

Given the data disparities across countries and over time, it is not surprising that employment outcomes depend very much on the data source and do not necessarily coincide with those reported by the ILO. Figure 2 compares observations in our dataset with both national estimates and model-based estimates publicly available from the ILO. The focus is on employment rates, defined as the ratio of total employment to the working-age population, defined as all individuals aged 15 and above.

In Bangladesh, employment rates from the HIES are much lower than those from the LFS. This is in part because the HIES does not fully account for unpaid work while the LFS does. Another difference between the LFS and the HIES that may explain the disparity is the procedure for employment data collection. While the HIES asks about employment directly, in the LFS the employment variable is constructed from activity descriptions. There are also differences with the ILO data. The national estimate reported by ILO shows a decline of the employment rate from 2010 to 2013 but an increase from 2013 to 2016. The LFS, on the other hand, shows a steady decrease. For the last observation, the national estimate reported by the ILO is 3 percentage points above ours.

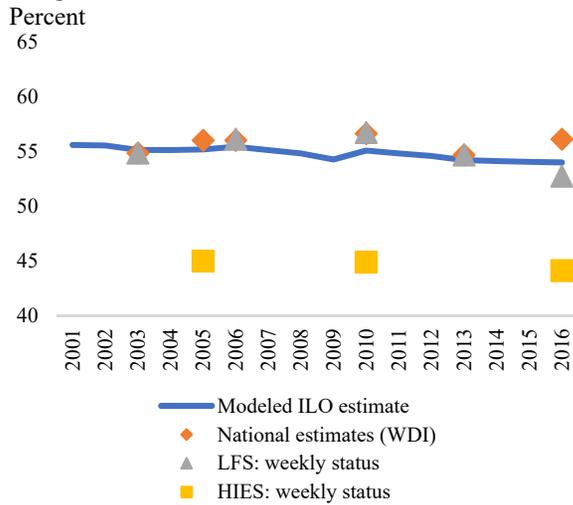
In India, the census delivers much lower employment rates than the LFS, a disparity that has been extensively discussed (e.g. Hirway 2012, Bardhan 2013, Shaw 2013, Papola 2014, Kasturi 2015). A first explanation for the gap is that the census classifies the population binarily into workers and non-workers while in the NSS a person's 'activity status' can be either employed, unemployed, or not being in the labor force. Second, the NSS underestimates the total population compared to the Census. Third, there are differences in the definition of economic activity. And fourth, there are differences in the minimum time a person has to spend working before being considered employed.

In Sri Lanka, Nepal and Pakistan, the ILO model-based estimates are generally above both the national estimates and our own data points. There are also differences among the latter. In the case of Sri Lanka, the main difference between data sources concerns the recall period, as discussed above. In Nepal and Pakistan, it relates to the treatment of activities such as fetching water or collecting firewood.

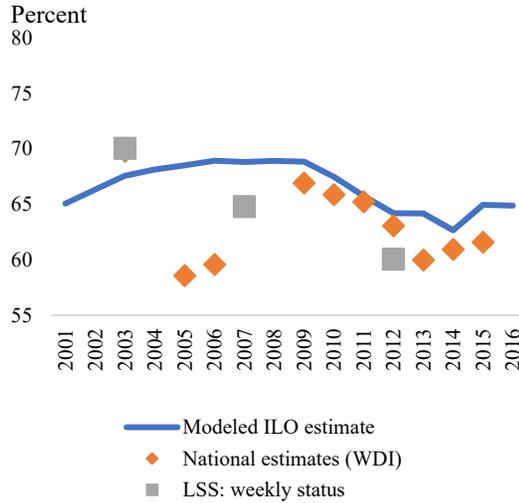
Our employment breakdowns by type of job and sector of activity are not identical to those reported by the ILO either. To begin with, our breakdowns are more disaggregated as we differentiate between regular and casual wage employment, as well as between manufacturing and construction. A comparison between our dataset and ILO estimates thus requires some prior aggregation. But even then, some differences emerge for specific countries, as shown in Table A3 in the Appendix. For example, in Bangladesh, India, Nepal and Pakistan, self-employment accounts for a slightly lower share of total employment in our dataset than in the ILO estimates. Conversely, our estimates for wage employment are slightly higher than those of the ILO. But differences can be wide in some cases. In Bhutan, wage and salaried employment is 7 percent of the total in our data, compared to 20 percent for the ILO. The biggest gaps concern the breakdown of employment by sector of activity. In Nepal, for instance, agriculture accounts for 41 percent of total employment in our dataset, but for 60 percent according to the ILO. In Afghanistan, the industry sector accounts for 10 percent of employment in our case, but for only 3 percent in the ILO estimates.

Figure 2. Employment rate by source.

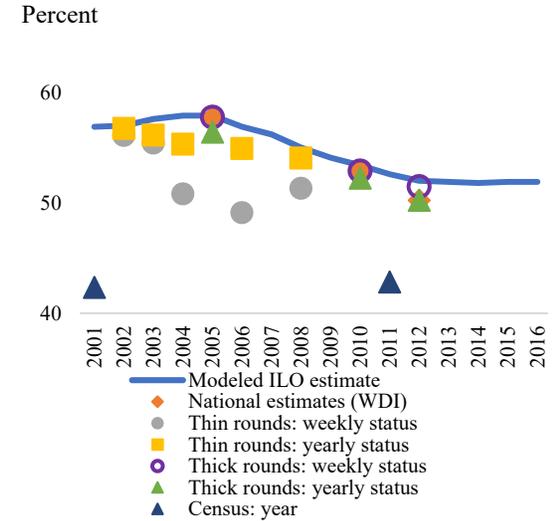
Bangladesh



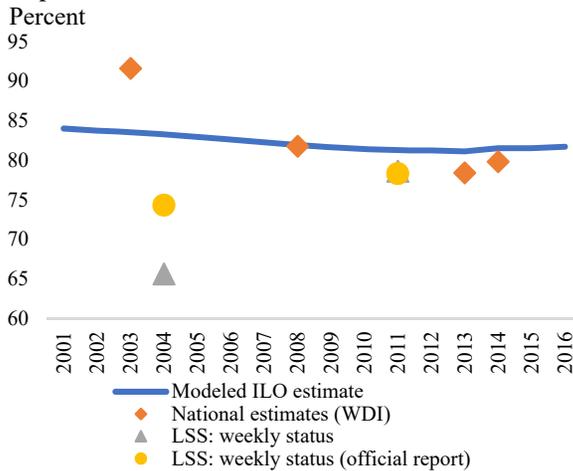
Bhutan



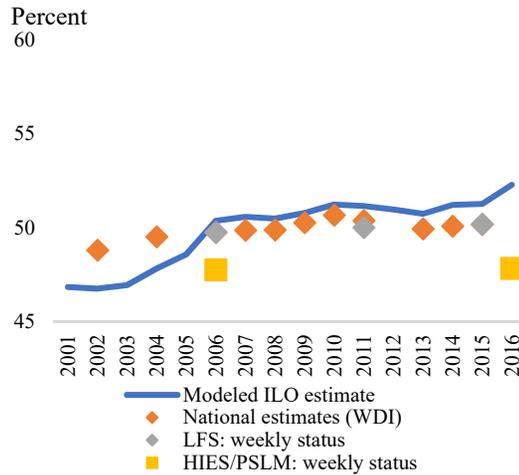
India



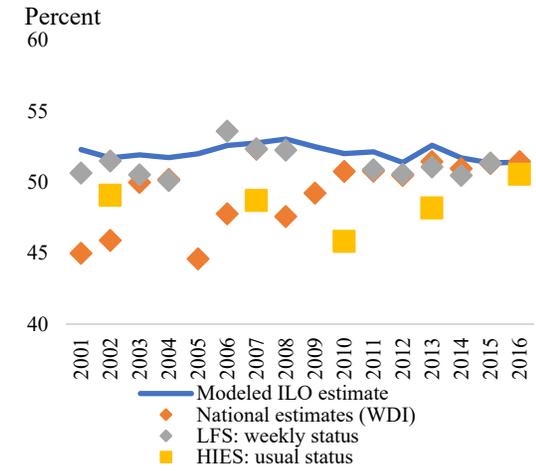
Nepal



Pakistan



Sri Lanka



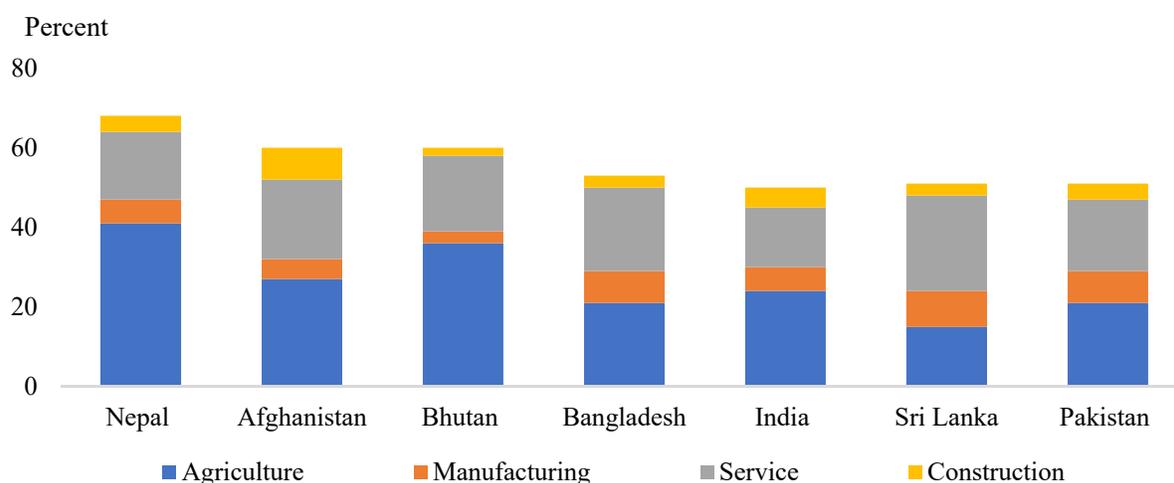
Source: International Labor Organization, World Development Indicators, South Asia Employment Dataset.

3. Employment in South Asia

3.1. Current employment structure

For the overview of employment in South Asia, we rely on information only from sources that allow the construction of comparable data.⁴ As shown in Figure 3, agriculture continues to employ a majority of the working-age population across the region. This is especially so in Nepal and Bhutan, but the share is high in Afghanistan and India as well. The second most important source of jobs is the services sector. Sri Lanka is the only country in the region where the services sector employs more people than agriculture, and in Bangladesh the two sectors are even. On the other hand, the share of the manufacturing sector is relatively low across all countries in the region, ranging from 3 percent in Bhutan to 9 percent in Sri Lanka. In many countries in the region, construction employs as many people as manufacturing.

Figure 3. Employment rate by sector of activity.



Source: South Asia Employment Dataset.

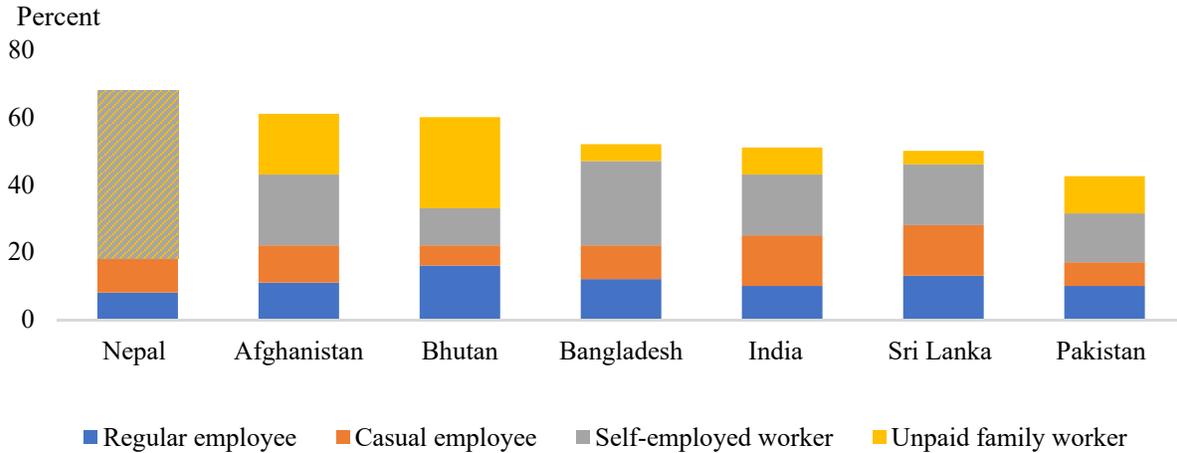
Note: Period of reference specified in footnote 4.

Regarding the type of jobs, it is important to keep in mind that regular wage employment is not the same as formal employment. It only means that there is a stable and predictable employer-employee relationship, and that the worker can expect to still have the job the following month. But even with this definition, only around one-tenth of the working-age population has a regular job across South Asia, as shown in Figure 4. The share is higher in Bhutan, but it still reaches only 16 percent. Even casual wage work, which is defined as a temporary employer-employee relationship, is relatively uncommon across the region. The corresponding share of the working-age population is highest in India (15 percent) and in Sri Lanka (15 percent), and lowest in Bhutan (11 percent).

Except for Sri Lanka, the sum of self-employment and unpaid family work accounts for more than half of employment across the region. Among the countries for which a breakdown is possible, unpaid family workers account for a quarter of the working-age population in Bhutan and a fifth in Afghanistan. At around one-tenth, the share is lower in India and Pakistan.

⁴ For the analyses in this section we use the following surveys: Afghanistan 2013/14 ALCS; Bangladesh 2005-2015 LFS; Bhutan 2003-2012 LSS; India 2004/05-2011/12 NSS-Thick, Pakistan 2005/06-2014/15 LFS; and Sri Lanka 2006-2015 LFS.

Figure 4. Employment rate by type of job.

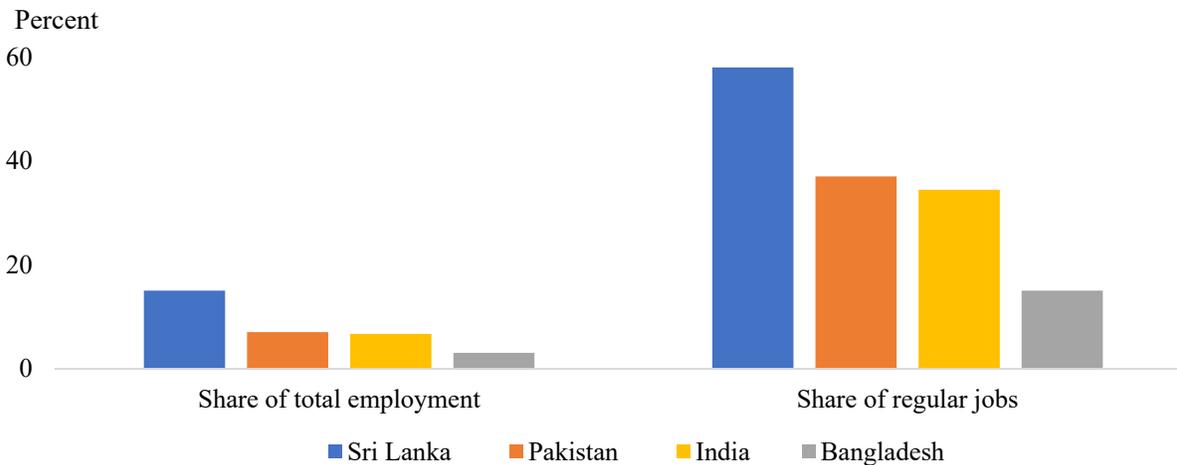


Source: South Asia Employment Dataset.

Note: Period of reference specified in footnote 4. The survey design of Nepal did not allow us to separate unpaid family workers from self-employed workers.

The public sector accounts for less than one-tenth of total employment across South Asia with the exception of Sri Lanka, where the share attains 15 percent (Figure 5). Bangladesh is at the other extreme, with only 3 percent of the employment being in the public sector. However, a high share of regular wage employment is accounted for by the public sector in all South Asian countries. More than half of the regular wage jobs in Sri Lanka are in the public sector and the share is also high in India and Pakistan. At around 15 percent, Bangladesh has the lowest share of public sector employment among regular wage employment in South Asia.

Figure 5. Employment by institutional sector.



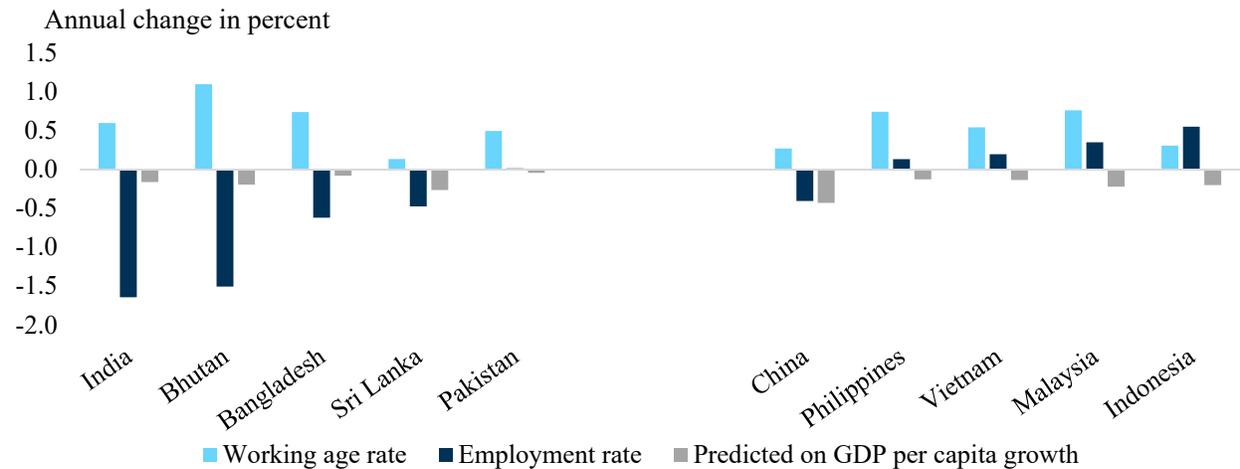
Source: South Asia Employment Dataset.

Note: Period of reference specified in footnote 4.

3.2. Changes over time

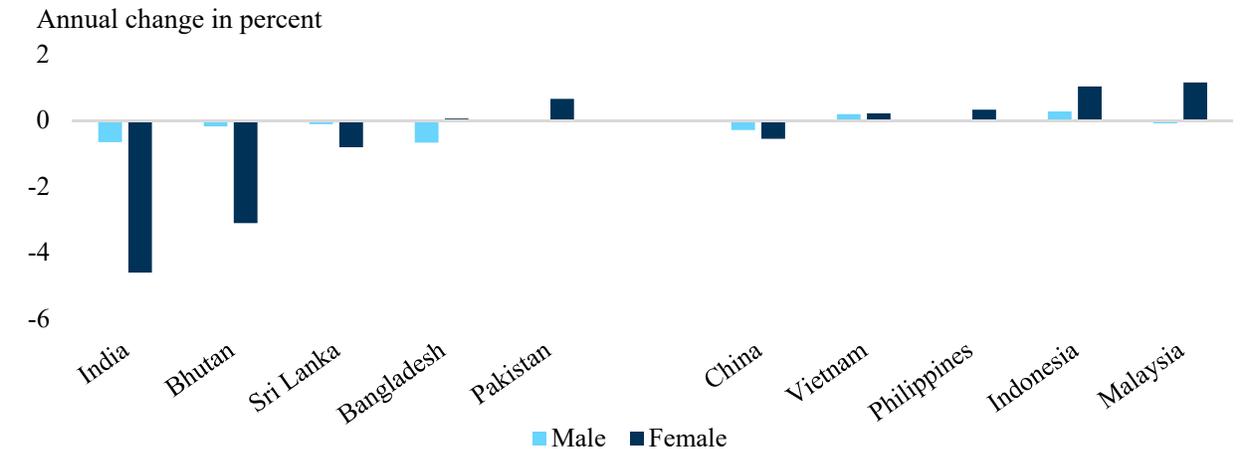
Almost all South Asian countries have a very large number of young people reaching working age every year. Between 2005 and 2015, the number of South Asians aged 15 and above grew by 1.8 million per month, a trend that will only moderate gradually over time. In relative terms, the share of the working-age group in the total population increased by over 1 percent per year in Bhutan, and by around 0.5 percent in Bangladesh, India, and Pakistan (Figure 6). At the same time, the employment rate decreased on average more than 1.5 percent per year in Bhutan and India and by more than 0.5 percent per year in Bangladesh. Since income per capita grew considerably in all these countries from 2005 to 2015, some decline in the employment rates could be anticipated. However, the declines in employment rates are much larger than can be explained by increasing incomes per capita alone (World Bank 2018a). This contrasts with the experience of many East Asian countries like the Philippines, Vietnam, Malaysia, or Indonesia, for which the employment rate even increased between 2005 and 2015.

Figure 6. Changes in the working-age share and the employment rate from 2005 to 2015.



Source: South Asia Employment Dataset.

Figure 7. Changes in employment rates from 2005 to 2015, by gender.

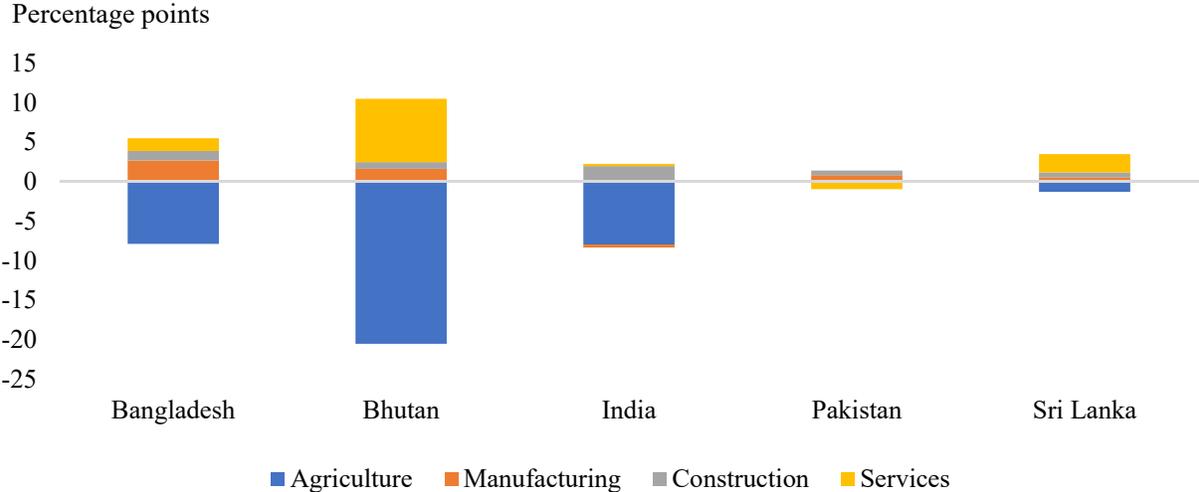


Source: South Asia Employment Dataset.

The decline in employment rates was not even for men and women. Between 2005 and 2015, the male employment rate in India decreased by 1 percent per year, while the female employment rate decreased by nearly 5 percent per year (Figure 7). In Bhutan, the male employment rate decreased at 0.2 percent per year, while the female employment rate decreased by over 3 percent per year. However, not all countries in the region display the same pattern. In Bangladesh, male employment declined by close to 1 percent per year, whereas female employment remained constant. And in Pakistan, female employment even increased at 0.6 percent per year – though from a very low level.

As economies develop, individuals usually move out of agriculture into more productive, non-agricultural employment. South Asia is not an exception to this pattern, but the pace of structural transformation varies across countries. Such transformation took place at a rapid pace in Bhutan, where there was a clear shift in employment from agriculture to services between 2005 and 2015 (Figure 8). While agricultural employment decreased by 20 percentage points, services sector employment increased by 8 percentage points. The transformation was slower in Bangladesh and India. The agricultural employment rate decreased by around 7 percentage points in both countries; but while manufacturing employment increased by 3 percentage points in Bangladesh, it did not vary in India. In Pakistan, structural changes in employment have been almost inexistent.

Figure 8. Change in employment rates by sector of activity from 2005 to 2015.



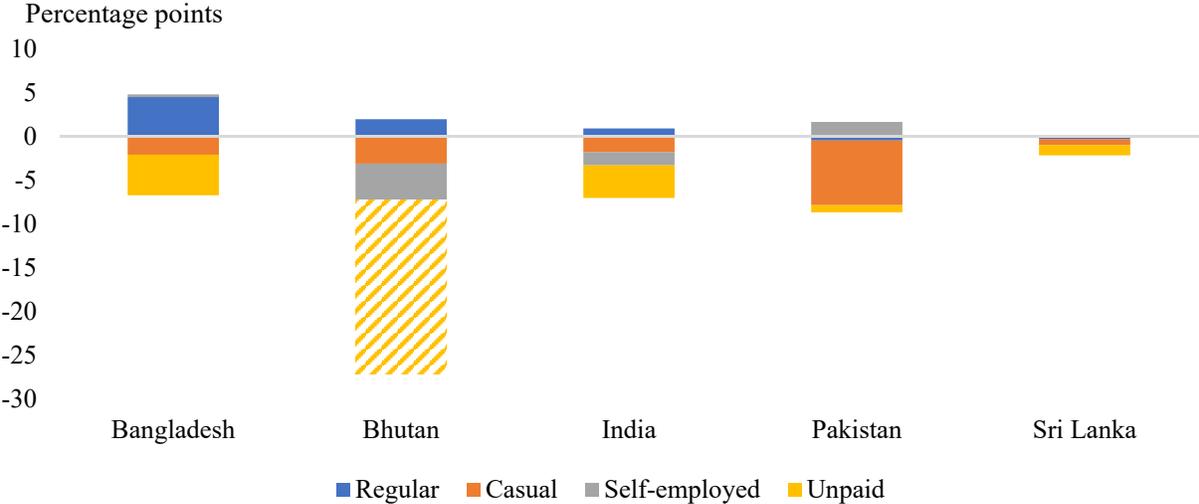
Source: South Asia Employment Dataset.

The region has not experienced a considerable creation of more regular employment between 2005 and 2015. As shown in Figure 9, the only strong expansion in regular employment happened in Bangladesh, where the share of regular wage jobs in the working-age population increased by 4.5 percentage points. Regular wage employment also increased in Bhutan, but only by 2 percentage points. In terms of other types of employment, casual work and unpaid employment declined across the region in the same period. In Pakistan, for example, casual employment decreased by almost 8 percentage points. In India and Bangladesh, unpaid employment decreased by 4 and 5 percentage points respectively.

Worldwide, a vast majority of jobs is created by the private sector. And the public sector can create only a limited number of jobs in countries where government revenue is modest, as is the case in South Asia. In Bangladesh and Pakistan, the share of public sector employment in the working-age population declined

by around 0.5 percentage points between 2005 and 2015 (Figure 10). In India and Sri Lanka, on the other hand, the share of public sector employment increased during this period. The change was a modest 0.25 percentage points in India, but a more substantial 1.5 percentage points in Sri Lanka, making it the only country with a substantial increase in the share of public sector employment.

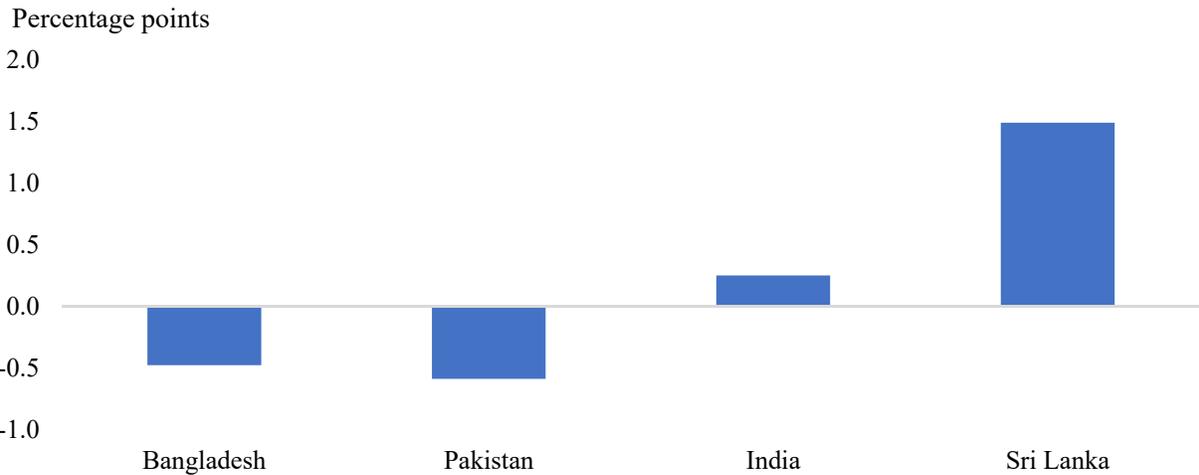
Figure 9. Change in employment rates by type of job from 2005 to 2015.



Source: South Asia Employment Dataset.

Note: For Bhutan the comparison of unpaid family work between the two surveys is not comparable due to a reframing of the questionnaire.

Figure 10: Change in the employment share of the public sector from 2005 to 2015.



Source: South Asia Employment Dataset.

4. Economic growth and employment growth

In South Asia, like in the rest of the world, politicians and researchers are concerned about job creation, and the kind of economic growth needed to absorb all the new young labor force entrants brought by the demographic transition. We use our dataset to estimate the short-term and long-term relationship between employment and growth to try to address this concern. In doing so, we note an important trade-off.

In the short term, growth can boost employment rates as greater labor demand pulls people out of unemployment and inactivity. Growth can also lead to better jobs, for example when farm employment is replaced by work in factories and offices. In the long term, on the other hand, growth could reduce employment rates. When comparing employment rates across countries with different levels of income per capita, a U-shaped curve emerges. Many of the poorest countries in the world have very high employment rates. In these countries, people start working young, and do not have the means to be unemployed or retired. Not only adult men, but also women, the young and the elderly are part of the labor force. As countries become richer and living standards improve, families can afford to keep their children in school longer, the ill and the disabled can stay home, old-age pension programs are put in place, and women may withdraw from the labor force. But this downward trend reverses at higher levels of income per capita. In richer countries a growing number of youths reach tertiary education, and they are keen to work in the field of their study (Goldin 1994, Mehrotra and Parida 2017). Higher wages, safer transportation and workplaces, and more easily available childcare also bring large numbers of women back into the labor force (World Bank 2018a). In assessing whether growth is jobless or not, it is therefore important to distinguish between the short- and long-run effect of economic growth on employment growth (World Bank 2018a).

Estimating the short-term relationship between economic growth and employment rates has been the subject of a vast literature in advanced economies. This short-term relationship has often been interpreted in connection with Okun's Law, which posits that when growth accelerates above potential, the unemployment rate falls below its natural level (Lee 2000, Ball et al. 2017). In advanced economies, the consensus is that rapid economic growth reduces unemployment rates in the short term, while slowdowns are associated with increases in unemployment. The literature is much scarier in developing countries, partly due to data limitations. Ball et al. (2016) conclude that the relationship in developing countries is only half as strong as in advanced countries and varies considerably across countries. The weakness of the relationship in these countries is not surprising as many are too poor to afford being idle and unemployment is hence a poor indicator of the situation in the labor market.

Instead of analyzing unemployment, we correlate quarterly economic growth with quarterly changes in employment. Some sources, such as the Sri Lanka LFS, are explicitly designed to generate quarterly data. For other sources, the month of the interview can be relied upon to disaggregate annual data by quarters. This approach can be used for Bangladesh, India and Pakistan. Combining genuine quarterly employment data with constructed breakdowns by quarter, 123 observations on quarterly changes in employment can be generated. As for GDP data, both India and Sri Lanka publish quarterly series, whereas Bangladesh and Pakistan do not. For the latter two countries we used the Denton method to interpolate annual GDP with quarterly industrial production. The Denton method imposes the constraint that the interpolated series adds up to the annual GDP totals.⁵

⁵ The Denton method aims to achieve consistency between time series related to the same target variables but measured at different frequencies (Scholtus 2014).

We report the short-term correlations between quarterly GDP growth and employment growth in South Asia in Table 3. The results suggest that seasonal variation in economic growth affects the composition of employment. With higher seasonal growth, self-employment decreases while employment in other types of jobs increases. But these changes net out and we do not find evidence of an overall increase in employment with economic growth if the latter is not seasonally adjusted. Conversely, seasonally-adjusted economic growth has no impact on the composition of employment, but it has an impact on overall job creation. With each additional annualized percentage point of seasonally adjusted quarterly growth, employment increases by 0.16 percent.

More distant points are needed to assess how much employment is created per percentage point of economic growth in the longer term. We follow a four-step procedure to this effect. First, we compute comparable employment rates for all observations in our dataset. Second, we apply these employment rates to consistent estimates of the working-age population, obtained from readily-available demographic series, to obtain employment levels. The advantage of using demographic series is that they are comparable over time. Third, we compute percentage changes in the resulting employment for all the pairs of observations available for each country. And fourth, all the percentage changes in employment levels are divided by the percentage change in GDP over the corresponding period.

Table 3. Correlations of quarterly changes in employment rates and GDP growth.

South Asia		Correlation coefficient
Between non-seasonally adjusted GDP and	total employment	-0.03 (0.7206)
	self-employment	-0.30*** (0.0006)
	rest	0.24*** (0.0078)
Between seasonally adjusted GDP and	total employment	0.16* (0.0794)
	self-employment	0.14 (0.1302)
	rest	0.04 (0.6353)

Note: *** p<0.01, ** p<0.05, * p<0.10. Number of observations (n=123).

Source: South Asia Employment Dataset.

Each of the resulting figures is an estimate of the elasticity of employment growth to economic growth, or the percentage change in employment for every percentage point of GDP growth. We summarize the distribution of these elasticities for South Asian countries in Table 4. On average, one percentage point of economic growth has led to an increase of employment by 0.34 percent. When only considering the data points furthest away from each other, the elasticity decreases to 0.19 as in the long-run rising GDP per capita negatively affects the employment rate (World Bank 2018a). Using these long-run estimates, Bangladesh has generated 110,000 jobs per percentage point of growth, India 750,000, Pakistan 200,000 and Sri Lanka 9,000.

Table 4. Distribution of employment elasticities in South Asia.

South Asia	Elasticity
25 th percentile	0.10
Median	0.20
75 th percentile	0.60
Mean	0.34
Long-run	0.19

Source: All comparable surveys highlighted in Table 1.

We report employment elasticities by country, sector of activity and type of job in Table 5, while also providing a breakdown by gender. Except for Bhutan, faster growth in South Asian countries has translated into more employment. The employment elasticity has been very low in India, driven by a negative elasticity in the case of female employment. Conversely, the elasticity is high in Pakistan, driven by a positive elasticity for female employment. However, the sectoral breakdown shows that in the case of Pakistan, the growth elasticity of female employment in agriculture is huge, whereas it is negative in India.

For most South Asian countries, the employment elasticity was strongest for the manufacturing sector. While jobs created in the manufacturing sector benefitted mainly male workers, the opposite was true in the services sector. In Sri Lanka, for example, the employment elasticity of the services sector was zero for men, but 0.5 for women. The elasticity of regular wage employment was especially high in Bangladesh, which can partly be explained by the large growth of manufacturing employment in urban areas (Farole and Cho 2017). In all countries the elasticity of regular wage employment is higher for women than for men.

Table 5. Employment elasticities by sector of activity and type of job.

Country	Years	Survey	Employment	Industry				Employment type				
				Agriculture	Manufacturing	Service	Construction	Regular	Casual	Self-employed	Unpaid	
Bangladesh	2002 - 2015	LFS	Total	0.23	-0.05	0.84	0.37	1.00	0.96	0.07	0.23	-0.26
			Male	0.17	-0.18	1.09	0.34	1.01	0.84	0.05	0.11	-0.44
			Female	0.43	0.35	0.46	0.52	0.80	1.40	0.19	1.09	-0.13
Bhutan	2003 - 2012	LSS	Total	-0.04	-0.26	2.37	1.07	1.26	n/a	n/a	-0.19	-0.34
			Male	0.08	-0.21	3.04	0.98	1.10	n/a	n/a	-0.24	-0.30
			Female	-0.17	-0.30	1.41	1.32	2.91	n/a	n/a	-0.12	-0.38
India	2004 - 2011	NSS-Thick	Total	0.07	-0.16	0.16	0.28	1.16	0.41	0.08	0.12	-0.28
			Male	0.18	-0.03	0.21	0.29	1.15	0.40	0.24	0.14	-0.15
			Female	-0.20	-0.38	0.01	0.26	1.25	0.45	-0.27	0.01	-0.40
Pakistan	2005 - 2014	LFS	Total	0.86	0.81	1.24	0.68	1.47	0.67	0.89	1.23	0.59
			Male	0.70	0.36	1.18	0.67	1.49	0.65	0.82	0.94	0.02
			Female	1.57	1.83	1.50	0.68	-0.41	0.78	1.36	4.07	1.28
Sri Lanka	2001 - 2015	LFS	Total	0.21	0.09	0.17	0.15	n/a	-0.10	0.75	0.33	0.02
			Male	0.16	0.06	0.12	0.04	n/a	-0.16	0.67	0.24	-0.29
			Female	0.31	0.13	0.23	0.52	n/a	-0.01	0.99	0.71	0.19

Note: n/a: information not available.

Source: South Asia Employment Dataset.

5. Conclusion

While the dataset presented in this paper certainly has room for improvement, the figures emerging from it seem meaningful and provide valuable insights on some of the employment issues more hotly debated in South Asia these days. The contribution of the dataset is to provide employment information that is curated in a systematic way from individual responses to over 60 primary data sources in seven countries from 2000 to 2017. The coding of the dataset is fully transparent and replicable, as we report how the different questionnaires have been used to generate information on the employment status, the sector of activity, the type of job and the institutional sector of all respondents. We show that employment outcomes are sensitive to data sources, even within the same country. But we also show that comparable data from our new dataset shed light on some of the ongoing debates in South Asia.

Thus, we show that the agricultural sector still employs the most people in all countries in the region with the exception of Sri Lanka. We also show that the employment share of the manufacturing sector is relatively low across the region, and in many countries is even matched by the employment share of the construction sector. Probably related to this pattern, only around one-tenth of the working-age population has a regular job across South Asia and even casual wage employment is relatively uncommon. Instead, self-employed and unpaid family work are the predominate forms of employment. In addition, a high share of regular wage employment is accounted for by the public sector in all South Asian countries.

The dataset confirms that the number of people at work in South Asia has not increased in line with the working-age population and that employment rates mostly declined during the last decade. This contrasts with the experience of many East Asian countries, in which the employment rate increased during the same period. The decline in overall employment rates was mostly driven by declining employment rates of women.

Last but not least, our dataset provides valuable insights on the relationship between economic growth and employment growth in South Asia, both in the short term and in the long term. We show that seasonal growth patterns affect the composition of employment, while non-seasonal changes in short-run growth affect its overall level. In the long-run, every percentage point of economic growth leads on average to an increase of employment by 0.34 percent.

The new dataset presented in this paper can be used to deepen these insights. For example, it would be interesting to analyze the determining factors of the employment structure and the drivers of structural employment changes. In addition, researchers may be interested in studying how the relationship between employment growth and economics growth is influenced by the institutional characteristics of countries, and the composition of their economic growth. We hope that our dataset will help provide reliable answers to these and other pressing employment-related questions debated in South Asia these days.

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Appendix

Table A1. Employment data is compiled from over 60 surveys.

Countries	Employed			Unemployed	Employment type	Sector	Public/Private	Total No. survey
	week	month	year/usual					
Afghanistan	2	2	n/a	3	3	3	n/a	3
Bangladesh	8	n/a	n/a	8	5 (3)	8	8	8
Bhutan	3	n/a	2	3	2 (1)	3	2	3
India	7	n/a	9	9	7	7	3	9
Nepal	3	n/a	2	3	1 (2)	3	1	3
Pakistan	10	12	10	19	17 (2)	19	10	19
Sri Lanka	14	n/a	4	17	12 (4)	17	16	17

x (y): Information for all categories from x surveys and for some categories from y surveys.

n/a: No information

Table A2. Detailed definitions of variables in the South Asia Employment Dataset

Country / Survey type / Year	Employed	Employment type	Public / private	Notes	
Afghanistan	NRVA 07-08	Males who worked for any organization or any individual; or did any agricultural work, even free; or who did any non-agricultural work, on own account, - in a business enterprise belonging to the household or member of the household; or who had long-term jobs from which he/she was temporarily absent; or did any occasional paid job during this period; or who had already found a job which will start later in the last 30 days. Females who worked for the government or for any organization or for any individual who is not a HH member; or did any agricultural or livestock work, even free; or who did any non-agricultural work, on own account, - in a business enterprise belonging to the household or member of the household, in the last 30 days.	Regular: salaried workers (private and public sector). Casual: day laborers. Self-employed: self-employers and employers. Unpaid: unpaid family worker.	No information.	Recall period: 30 days.
	11-12	Those who did any work for pay/profit/ family gain, including farm work or tending livestock or poultry, or any occasional work in the last week; or who had work from which he/she was temporarily absent in the last week; or who were apprentice or had already found a job in the last week.	Same as 2007-08.	Same as 2007-08.	Recall period: last week.
	ALCS 13-14	Males who worked for any business, organization or person that does not belong to this household; or who did any farm work on own land or land of others; or who did any non-agricultural work, on own account or in a business that belongs to this household; or who did any of the activities mentioned before, just for even only one hour; or who had work from which was temporarily absent last week; or who were apprentice or had already found a job. Females who spent any time, even only for one hour, on: agricultural or livestock work; or who spent time on non-agricultural work on own account or in a family business; or who spent any time making clothes, carpets, or other durable goods for use by this household; or were apprentice or had already found a job.	Type of job: Regular: salaried workers. Casual: day laborers. Self-employed: self-employed without paid employees, and self-employed with paid employees. Unpaid: unpaid family worker.	Same as 2007-08.	Same as 2011-12.

Country / Survey type / Year		Employed	Employment type	Public / private	Notes	
Bangladesh	HIES	05	Those who worked or who are waiting to start a new job during the past 7 days.	Regular: employee (agri. and non-agri.). Casual: day laborer (agri. and non-agri.). Self-employed: self-employed and employer (agri. and non-agri.). Unpaid: No information.	Public: govt. organization, autonomous body, public mill/factory, local govt. Private: private mill/factory, NGO, household, others, private office. Also, private for self-employees and employers.	Recall period: last week. Since each person declared more than one activity, it was kept the activity that involved more hours. In the case of multiple activities with the same amount of time, it was randomly chosen only one.
		10	Those worked for livelihood or who were waiting to start a new job during the past 7 days.	Same as 2005.	Same as 2005.	Same as 2005.
		16	Same as 2010.	Same as 2005.	Same as 2005.	Same as 2005.
	LFS	02-03	Those who worked for at least one hour on any day during last week for pay or profit, family gain or for own final use or consumption; or did not work during the past 7 days for some reasons but have a job, business or enterprise or attachment to a job such as business, farm, a shop.	Regular: paid employee. Casual: paid casual worker/day laborer, domestic worker, and paid/unpaid apprentice. Self-employed: own account worker/self-employed, and employer. Unpaid: unpaid family worker.	Public: government sector/establishment. Private: private, formal and informal sector, non-government formal sector. Also coding private for self-employees and employers.	Recall period: last week.
		05-06	Those who did any economic activity for at least one hour or more during the last week as paid worker or for family gain or profit or for own use or consumption; or did not work during the past 7 days for some reasons but have a job attachment or engagement in any economic activity.	Regular: paid employee (HH work/irregular lab/apprentice). Casual: irregular paid worker, day laborers (agri. and non-agri.), domestic workers, paid/unpaid apprentices. Self-employed: self-employed and employers. Unpaid: unpaid family worker.	Public: government. Private: private formal sector, personal household, personal establishment. Also coding private for self-employees and employers.	Same as 2002-03.
		10	Those who did any economic activity for at least one hour or more during the last week as paid worker or for family gain or profit or for own use or consumption; or had any work, business, or economic activity from which they were absent during the last 7 days; or were waiting to start a new job.	Regular: employee. Casual: casual/irregular paid worker, day laborer (agri. and non-agri.). Self-employed: self-employed and employer (agri. and non-agri.). Unpaid: unpaid family worker, domestic worker in a private household.	Public: government, autonomous, local government. Private: NGO, private enterprise, individually owned, private households. Also coding private for self-employees and employers.	Same as 2002-03.
		13	Those who had any kind of business/farm, for her/his own or with one or more partners (self-employed); or did any work for wage, salary or in kind (excluding domestic work) (employee); or did any work as a domestic worker for a wage, salary or any payment in kind (domestic worker); or helped, without being paid, in any kind of business run by her/his household (Contributing family member); or had a job or business where he was temporarily absent and to which she/ he will return to work in the past 7 days.	Employment status (last week): Regular: paid employee. Casual: day laborer (agri. and non-agri.), apprentices/intern/trainees (If paid), domestic worker. Self-employed: self-employed (agri. and non-agri.). Unpaid: contributing family member.	Type of ownership (last week) Public: People that coded Govt./autonomous, local government. Private: People that coded NGO, private enterprise (agri.), enterprise (non-agri.), household. Also coding private for self-employees and employers.	Same as 2002-03.

Country / Survey type / Year	Employed	Employment type	Public / private	Notes		
Census	15-16	Those who worked for at least 1 (one) hour in return of pay or profit in the past 7 days; or who worked at least for 1 (one) hour for producing goods and services for the household in the past 7 days; or that had a job or business where they were absent temporarily and to which their will return to work in the past 7 days; or People that were waiting for joining in the past 7 days.	Employment status (last week): Regular: employee. Casual: day laborers, intern (not without pay), domestic worker. Self-employed: self-employees and employers (self-employed with own business). Unpaid: family helper.	Same as 2002-03.	Same as 2002-03.	
	11	Those who were employed in the activity status question (usual).	No information.	No information.	-	
Bhutan	LSS	03	Those who did any farming, fishing, hunting, or gathering of fruits; or who worked for money or had profitable business; or who did any unpaid work in friends or relatives' enterprise or farm in the last 7 days.	Regular: employees. Casual: no information. Self-employed: member of cooperative, own account worker, collective farmer, or employers. Unpaid: family worker.	Public: government office or state enterprise. Private: cooperative, collective farm, joint stock company, joint venture, private non-farm enterprise, private farm, foreign company/organ, family business.	Recall period: last week. Annual recall period employed variable is available too.
		07	Same as 2003.	Regular: no information. Casual: casual paid employee. Self-employed: own account worker, and employers. Unpaid: unpaid family worker.	Public: government, armed force. Private: corporation, agri. farming, private business, joint stock company, cooperative, joint venture, collective farm.	Same as 2003.
	12	Same as 2003.	Same as 2007.	No information.	Same as 2003.	
	India	NSS - Thin	01-02	Those who worked in H.H. enterprise, or who worked as an employer, or who worked as helper in H.H. enterprise (unpaid family worker), or who worked as regular salaried/wage employee, or who worked as casual wage labor in public works, or who worked in other types of work in the past year.	Regular: salaried/wage employee. Casual: casual wage labor in public works, in other types of work. Self-employed: worked in H.H. enterprise, own account worker, employers. Unpaid: helper in H.H. enterprise (unpaid family worker).	No information.
03			Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.
04			Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Recall period: last year. Weekly recall period variables available too. Since each person declared more than one activity, it was kept the activity that involved more hours. In the case of multiple activities with the same amount of time, it was randomly chosen only one.
05-06			Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2004.

Country / Survey type / Year	Employed	Employment type	Public / private	Notes	
Nepal	NSS - Thick 07-08	Same as 2001-02.	Same as 2001-02.	Same as 2004.	
	NSS - Thick 04-05	Those who worked in H.H. enterprise, or who worked as an employer, or who worked as helper in H.H. enterprise (unpaid family worker), or who worked as regular salaried/wage employee, or who worked as casual wage labor in public works, or who worked in other types of work in the past year.	Regular: salaried/wage employee. Casual: casual wage labor in public works, in other types of work. Self-employed: worked in H.H. enterprise, own account worker, employers. Unpaid: helper in H.H. enterprise (unpaid family worker).	Public: government/public sector. Private: proprietaries, partnerships, cooperatives, household workers.	Recall period: last year. Weekly recall period variables available too.
	NSS - Thick 09-10	Same as 2004-05.	Same as 2004-05.	Same as 2004-05.	Same as 2004-05.
	NSS - Thick 11-12	Same as 2004-05.	Same as 2004-05.	Same as 2004-05.	Same as 2004-05.
Nepal	LFS 07-08	Those who worked as wage employed (in Agriculture, Non-agriculture) or as self-employed (in Business, Agriculture, Milling and food processing, Handicrafts, tailoring, Construction and major repairs; or who did not work in last 7 days, but had a job or business to which he/she will return to work in the last week; or who have received any pay or other returns from a job or business while not at work in the last week; or who have been away from work for less than 2 months; or who were waiting to start arranged job/business in the last week.	Regular: paid employee (+12 months). Casual: daily paid (1-12 months). Self-employed: operating own business or farm without regular paid employee. Employer: operating own business or farm with regular paid employees. Unpaid: family worker.	Public: government service, financial public corporation, non-financial public corporation. Private: NGOs/INGOs, private registered financial company, in private registered non-financial company, in private unregistered organization, other.	Recall period: last week. Employed year if people worked one or more months last year.
	LSS 03-04	Those who worked between 1 to 105 hours a week and did not code household work & extended economic work in the last week; or those who were awaiting to start a job in the last week.	Regular: wage employed in agriculture & receive wages on long term basis or wage employed in non-agriculture & receive wages on long term basis. Casual: wage employed in agri. and non-agri. & receive wages on daily/piece-rate basis. Self-employed: self-employed, hired permanent farmers if self-employed in agriculture & hired anyone if self-employed in non-agriculture. Unpaid: No information.	No information.	Recall period: last week. Employed year if people worked one or more months last year. Since each person declared more than one activity, it was kept the activity that involved more hours. In the case of multiple activities with the same amount of time, it was randomly chosen only one activity.
	LSS 10-11	Those who worked between 1 to 117 hours a week and did not code household work & extended economic work in the last week; or who were awaiting to start a job in the last week.	Regular: wage employed & receive wages on long term basis. Casual: wage employed & receive wages on daily/piece-rate basis. Self-employed: self-employed and not employer. Employer: hired anyone if self-employed in non-agriculture. Unpaid: No information.	Same as 2003-04.	Same as 2003-04.

Country / Survey type / Year	Employed	Employment type	Public / private	Notes			
Pakistan	PIHS 01-02	Those who did any work for pay, profit or family gain during the last month at least for one hour on any day; or who even if did not work last month, but had a job or enterprise such as shop, business, farm or service establishment (fixed/mobile) during the last month.	Regular: paid employee. Casual: contract cultivator. Self-employed: owner cultivator, share cropper, livestock (only), employers that had less than 10 persons or more people. Unpaid: unpaid family worker.	No information.	Recall period: last month.		
	PSLM/HIES/ HICS	04-05	Those who did worked at least one hour for earning money; or who even did not work but had any business, shop, farm or any service provider work; or who worked without wage at family farm, business, trade etc., in last week.	Regular: paid employee. Casual: own cultivator. Self-employed: self-employed (non-agriculture), contract cropper, share cropper, livestock (only); and employers. Unpaid: family helper.	Public: government. Private: private business, private person /household, NGO.	Recall period: last week. Monthly and annual recall period employed variable is available too.	
		05-06	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
		06-07	Those who worked at least for an hour on any day for monetary return; or who even did not work but had any business, shop, trade, farm or any service institution; or who worked for home farm, business, trade etc. as a helper (without any payment) during the last week.	Same as 2004-05.	Same as 2004-05.	Same as 2004-05.	
		07-08	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
		08-09	Same as 2006-07.	Same as 2004-05.	Same as 2004-05.	Same as 2004-05.	
		10-11	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
		11-12	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
		12-13	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
		13-14	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
		14-15	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	
	15-16	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.	Same as 2001-02.		
	Sri Lanka	HIES	02	Those who were employed as usual status.	No information.	No information.	Recall period: usual status
			6-07	Same as 2002.	Same as 2002.	Public: government employee and semi-government employee. Private: other type of ownership.	Same as 2002.
			09-10	Same as 2002.	Same as 2002.	Same as 2006-07.	Same as 2002.
12-13			Those who were involved in an economic activity during last week.	Same as 2002.	Same as 2006-07	Same as 2002.	
16			Same as 2012-13.	Same as 2012-13.	Same as 2006-07.	Same as 2002.	

Country / Survey type / Year	Employed	Employment type	Public / private	Notes	
LFS	01	Those who did any work for pay, profit, or family gain; or who had a job or enterprise at which she/he did not work last week.	Regular: employees and didn't receive a daily payment. Casual: employees and did receive a daily payment. Self-employed: own account worker and employers. Unpaid: unpaid family worker.	Public: public work. Private: private work.	Recall period: last week.
	02	Same as 2001.	Same as 2001.	Same as 2001.	Same as 2001.
	03	Same as 2001.	Same as 2001.	Same as 2001.	Same as 2001.
	04	Same as 2001.	Same as 2001.	Same as 2001.	Same as 2001.
	05	Same as 2001.	Same as 2001.	Same as 2001.	Same as 2001.
	06	Those were engaged even for a few hours in paid employment, own account profitable work or contributing family work as an economic activity (including employer); or who even were not engaged in any of the above economic activity during last week; or did have an economic activity to be engaged in; or did that already got a job and ready to go/already plan for self-employment activity.	Regular: employee that had a permanent occupation. Casual: employee that had a temporary/casual/no permanent employer. Self-employed: own account worker and employers. Unpaid: unpaid family worker.	Public: government employee and semi-government employee. Private: other type of ownership.	Same as 2001.
	07	Same as 2006.	Same as 2006.	Same as 2006.	Same as 2001.
	08	Same as 2006.	Same as 2006.	Same as 2006.	Same as 2001.
	11	Same as 2006.	Same as 2006.	Same as 2006.	Same as 2001.
	12	Same as 2006.	Same as 2006.	Same as 2006.	Same as 2001.
	13	Those were engaged even for a few hours in paid employment, own account profitable work or contributing family work as an economic activity (including employer); or who even were not engaged in any of the above economic activity during last week, did you have an economic activity to be engaged in; or who already got a job and ready to go/already plan for self-employment activity.	Regular: employees that had a permanent occupation. Casual: employees that had a temporary/casual/no permanent employer. Self-employed: own account worker and employers. Unpaid: unpaid family worker.	Public: government employee and semi-government employee. Private: other type of ownership.	Same as 2001.
	14	Same as 2013.	Same as 2013.	Same as 2013.	Same as 2001.
	15	Same as 2013.	Same as 2013.	Same as 2013.	Same as 2001.

Table A3. Employment rates in our data and the WDI by sector and employment type for 2015.

Country	Dataset	Industry			Employment type	
		Agriculture	Industry	Services	Wage and salaried workers	Self-employed worker (incl. unpaid)
Nepal	WDI	60	6	15	15	66
	SAED	41	10	17	14	39
Bhutan	WDI	40	6	19	20	44
	SAED	36	5	19	7	46
Afghanistan	WDI	30	3	16	16	32
	SAED	33	10	17	16	37
India	WDI	24	13	15	10	42
	SAED	24	12	15	25	28
Bangladesh	WDI	22	11	21	21	33
	SAED	21	11	21	24	28
Pakistan	WDI	21	12	18	20	31
	SAED	21	12	18	26	27
Sri Lanka	WDI	14	13	24	29	22
	SAED	15	13	24	30	23

Source: South Asia Employment Dataset and World Development Indicators.

Table A4. Employment rates in 2015 separated by sector and employment type.

Employment rates, 2015								
Country	Total	Sector			Employment type			
		Agriculture	Manufacturing	Service	Regular	Casual	Self	Unpaid
India	50	24	6	14	10	14	18	8
Bhutan	60	35	2	18	16	5	10	26
Bangladesh	53	21	8	21	12	10	24	5
Sri Lanka	51	15	9	24	13	15	17	4
Pakistan	48	19	6	18	27	1	11	9
Nepal	68	41	6	17	8	10	50	
China	68	13	18	36	43		25	
Vietnam	77	34	18	25	30		47	
Philippines	61	18	10	33	37		24	
Indonesia	63	21	14	28	32		31	
Malaysia	61	8	17	37	45		16	

Source: South Asia Employment Dataset for South Asian countries and World Development Indicators for East Asian countries.