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Abstract

This paper describes the results of a survey of informal-sector firms in Pakistan. Firms belong to the informal sector mainly because of scarce financial resources. There are significant differences in the level of wages and the flexibility of wages with the informal sector having both lower wages and greater flexibility than the formal sector. While minimum wages are less binding in the informal sector, indexation of wages to inflation is more common. In spite of these differences the reasons for not cutting wages in a recession are similar between the two sectors.

Key words: Informal sector, wage setting, wage rigidity.

JEL: E24, E26, J31, J46 .

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1. Introduction

It is striking that most research in labour economics is focused on the developed economies while most workers in the world economy are employed in the informal labour markets in developing countries. The objective of this paper is to help bridge this gap by exploring wage-setting behaviour in the informal labour market in Pakistan and to compare it with wage setting in the formal sector.[1] Pakistan is ideally suited to the study of the informal labour market. The informal sector employment accounts for 76.43 per cent of the labour force, while 73.8 per cent of the non-agricultural labour force is employed in the informal market (see Figure A1 in Appendix A). The informal sector is therefore the largest source of total employment.

The informal economy in Pakistanis is comprised of small firms that are allowed to stay unregistered by the government while operating within the law in contrast to the underground economy and the illegal economy.[2] We define the informal sector as consisting of firms that employ less than ten paid employees. The *Pakistan Bureau of Statistics* has defined the informal economy as consisting of household enterprises employing less than ten persons and also including all agricultural activities. Instead of using those criteria we take the informal sector as consisting of enterprises operated by single individuals or households that are not separate legal entities from their owners and employ less than ten paid workers. These include "family units" (those operated by nonprofessional with or without contributing family workers) and/or "micro-enterprises" (productive units with no more than nine employees).[3] The main reason for choosing

[1] See Ahmed et al. (2014) on wage setting in the formal sector.

[2] The labour market can broadly be split into (i) the formal economy consisting of registered firms with businesses that comply with laws and regulations, (ii) the informal economy that comprises micro-house based firms that are allowed to be unregistered but operating within the law, (iii) the underground economy, where firms produce legal output but choose to remain unregistered mostly to avoid taxes, and lastly (iv) the illegal economy that produces illegal output in addition to remaining unregistered and avoiding taxes.

[3] Enumerators in our sample surveyed roughly 2 per cent of firms with more than nine paid workers. We do not exclude these firms from our analysis since that they are not registered firms. ??? are they included in the analysis of wage setting etc. or are they only included when describing the characteristics of firms?

ten workers as a threshold in our wage setting survey is that we wanted to study the wage setting behaviour of firms with at least some kind of paid work force while controlling for membership of the informal sector by ensuring that a firm is not registered as a legal entity.[4]

We will show how the informal sector differs from the formal one in many respects while also showing some similarities. Limited access to capital markets, credit constraints, higher failure rates, lower wages, more frequent wage setting and the irrelevance of the minimum wage set the two sectors apart while they share reservations about cutting wages in a recession out of fear of losing the best workers or seeing effort slide. In essence the informal sector has firms that are more sensitive to shocks employing workers with little bargaining power or protection by the state.

2. Survey

Our survey covers 960 informal-sector manufacturing firms and also draws on past surveys of wage- and price setting in the formal sector as a comparison.[5] The design of the survey is based on Druant et al. (2012), while the comparison is made with Ahmed et al. (2014) with some modification to suit the particularities of the informal sector. We included sections for profiling firms and proprietors, while the main survey covers a wide range of characteristics including employment size, remunerative decisions, cost minimizing strategies and linkages to the formal sector. We also queried about reasons for the firms belonging to the informal sector.

[4] There is an underground sector in Pakistan that includes firms that may have more than ten employees and are not registered anywhere; also there might be registered firms that are partially informal in order to keep a fraction of their workers and/or sales hidden from government regulators, and/or fail to comply with at least some government regulations. These firms are not included in our survey. There are also firms that might underreport their workforce to avoid being registered, so there might be many firms in our study that might actually have ten or more employees and underreport their workers to our enumerators.

[5] Survey results for the price and wage setting behaviour of formal sector firms are presented in Choudhary et al. (2011) and Ahmed et al. (2014) respectively.

The survey sample consists of informal sector manufacturing firms in Punjab and Sindh[6] and took place between January and February 2011 and between October 2012 and January 2013,respectively, in collaboration with the statistical agencies of Pakistan.[7,8]For the province of Punjab, we found that the *Small and Medium Enterprises Development Authority* (SMEDA) maintains a data base on small and medium enterprises (SMEs) in Punjab province, although they included many medium-sized registered firms as well.[9] For the purpose of our survey we only include enterprises with less than ten employees.[10] Another benefit of using the SMEDA frame is that, as in the formal sector sampling frame such as the *Census of Manufacturing Industries* (CMI), these firms are categorized as per *International Standard Industrial Classification* (ISIC). From this survey we have selected a sample of 500 informal-sector firms stratified over the subsectors within manufacturing using the *Pakistan Standard Industrial Classification*(PSIC) classification (code 15 to 36, excluding 30).[11] Unfortunately, SMEDA did not maintain such extensive firm listing for Sindh. After exploring many other options we were left with no other choice than to select a non-probability sample. However, we went through

[6] Two other provinces i.e. Khyber PakhtunKhuwa and Baluchistan were not selected for security reasons.
[7] The interviewers were very experienced and were provided with specialized training, both theoretical and practical. In addition, economists from the Central Bank randomly audited 10% of live interviews for quality assurance of the interviewing process.
[8] The process of selecting an informal sector sample with adequate sub-sector representation is not an easy task because most of these small firms are not registered and have no proper record register by law. A few agencies do maintain some sort of registers for details on small firms. However, the lack of coordination among these agencies usually makes it difficult to find an appropriate sampling frame for the informal sector firms.
[9]This is a public sector institution that helps to develop small and medium enterprises by facilitating business development through seminars, workshops and training programmes. SMEDA Punjab regularly prepares profiles of different industrial clusters in Punjab. These profiles provide basic information on the history and background of clusters, core cluster actors, current scenario of cluster, and the analysis of business operations, institutional setups, issues and problems and potential businesses in particular cluster.
[10] Around 220,000 firms are included in their database, while short listing of firms as per our definition resulted in around 207,000 firms remaining in our frame.
[11] The activities are: 15-(food products & beverages), 16-(tobacco products), 17-(manufacture of textiles), 18-(wearing apparel), 19-(leather products), 20-(wood & wood products), 21-(paper & paper products), 22-(publishing, printing & reproduction), 23-(petroleum), 24-(chemicals & chemical products), 25-(rubber & plastics products), 26-(other non-metallic mineral products), 27-(basic metals), 28-(fabricated metal products), 29-(machinery & equipment N.E.C.), 31-(electrical machinery & apparatus N.E.C.), 32-(radio, TV & communication equipment), 33-(medical & optical instruments), 34-(motor vehicles & trailers), 35-(other transport equipment), 36-(furniture).

internal exercises to ensure adequate geographical, size and sector representations.[12] To verify the extent of sample representativeness of the population of industries within the manufacturing sector, we compared the sector-wise distribution of *own-account workers´* category in the manufacturing sector of Punjab from Labour Force Survey (LFS) with SMEDA's Punjab sample. The distribution turned out to be similar.[13] This exercise increased our confidence in using Sindh's distribution of *own account workers* from LFS for the industry representation of Sindh. We resorted to this approximation because, as explained earlier, in Sindh no frame was available and this move helped us avoid over representation of easily searchable industries. In addition, we also utilised many other sources of information to find geographical details such as: Sindh Employees' Social Security Institution (SESSI), newspapers, knowledge of local enumerators as well other informal firms. The sample for Sindh includes 350 private informal enterprises.[14]

We will compare the informal sector to its formal sector counterpart. A description of the formal manufacturing sector sample is included in Ahmed et al. (2014) and Choudhary et al. (2011). We describe the sample here only briefly. The survey was carried out in Punjab and Sindh between December 2009-March 2010 and June 2010-October 2011 respectively for 1025 formal sector firms in the manufacturing sector.[15] The manufacturing sample was based on the data register maintained by the *Bureau of Statistics of Punjab and Sindh* for a census of manufacturing industries (CMI).[16] We selected a stratified random sample based on economic

[12] There is a possibility of over-representation of very small enterprises (three or fewer employees) due to their abundance. Also not controlling for geography might result in the overrepresentation of certain localities. Surveyors were instructed not to select too many firms within one locality or sector.
[13]The distribution of economic activities remains quite similar except for two economic activities; the correlation of sector-wise distribution after omitting the two outliers is 0.7.
[14] Family businesses with no paid workforce were omitted from the study of wage-setting behaviour and replaced by firms in the same type of economic activity having fewer than ten paid workers. This explains why the observations on firm and proprietor's profiles are 960 while surveys on wage-setting behaviour include only 850 firms.
[15]The provinces of Khyber Pakhtun-khuwa and Baluchistan are also missing from this survey due to security reason.
[16]The manufacturing sample covers firms with economic activity codes from 15 to 36 (excluding 30) according to the *Pakistan Standard Industrial Classification* (PSIC).

activity (subeconomic activities in manufacturing) and firm size (small, medium and large).[17] The survey was designed to obtain answers with respect to the main occupational group of permanent employees divided into three broad categories: white collar, skilled blue collar, skilled worker and unskilled blue collar workers.

3. **Characteristics of firms and their owners**

The firms in our informal-sector sample have on average of 5.1 workers, out of which there is on average only one working proprietor (1.1 average) and every other firm has one unpaid family member (0.61 average).[18] Firms that have paid employees have on average 3.6 regular employees. Note that we omit all surveyed firms that do not have any paid workers when analysing wage setting, but we include these while describing the characteristics of the informal-sector firms. Younger firms are more likely to belong to the informal sector while older firms are more likely to belong to the formal sector reflecting stability of business activity. Formal-sector small firms are more profitable and micro-firms created in the informal sector may eventually face the decision to remain at a certain size or move to the formal sector to extend the scale of production (Di Giannatale et al. (2013).[19]

As shown in Table 1 below, around half of the firms (48.6 %) are younger than ten years; 80 percent of firms are younger than 20 years, and the distribution shows a sharp decline with older businesses. Average years in business in our sample are 14.6 years with a median of 12

[17] Firm size in manufacturing industry was defined on the basis of employment; firms in the manufacturing sector were split into three categories: 10- 50, 51-250 and more than 250 employees as small, medium and large firms respectively. We are comparing only manufacturing sectors for both the formal and the informal sector.
[18] See questionnaire in Appendix B.
[19] Ingram et al. (2007) show that for Africa, 50 per cent of informal-sector firms are less than ten years old suggesting that either informal firms tend to fail within the first ten years or join the formal sector.

years.[20] Informal businesses have smaller chances of being sold as a business entity; instead they run in the family. In our sample, only 4 percent of informal-sector firms were purchased as operating businesses, 62 per cent were created by the current owner and 34 percent were passed on within the family. Statistics for the age and forms of acquisition of firms are consistent, i.e. self-established firms are younger (12 years) than businesses run within a family (19 years) or businesses that have been purchased (16 years).

Table 1. Informal sector Firm Profile

	Total	No paid worker	1-3 paid workers	3 or more paid workers
Firm age (Average years)	14.6	15.1	14.6	14.5
Firm Age Distribution (%)				
1-5 Years	17.3	16.0	17.8	17.0
6-10 Years	30.4	33.0	30.5	29.4
11-20 Years	31.9	26.4	30.1	35.8
21-50 Years	17.3	21.7	18.6	14.3
More than 50 years	3.1	2.8	2.9	3.4
Business Acquired (% Distn.)				
Self –established	61.7	49.5	62.7	64.0
Family business	34.5	44.8	34.0	32.3
Purchased	3.8	5.7	3.4	3.7

Table 2 shows the personal characteristics of proprietors in the informal sector. A higher percentage of relatively old/ mature and married entrepreneurs are likely to belong to the informal sector on a permanent basis.[21] Similarly, informal-sector, family-run enterprises may count on unpaid family workers and women, so married people are more likely to be self-employed in the informal sector. Due to cultural norms, we may not find a lot of these businesses headed by females though and proprietors' profiles show that 98 percent of informal proprietors

[20] Burki (1990) find a similar trend for informal sector enterprises in Pakistan.
[21] A study of Mexican micro-firms shows that the average age of owners of micro-firms is 44 years, around 70 per cent of them are married and about 26 per cent of all micro-firms are run by women. It is observed that most of the micro-firm owners have only finished primary or elementary high school education; only 8 per cent of informal micro-firm owners have completed a college education Di Giannatale et al. (2013).

are male, 92 percent are married and their average age is 42 years (median 40 years). The median age of proprietors in the informal sector is higher than the median age of the labour force in Pakistan i.e. 30-34 years.[22]

We asked the owners of firms in the informal sector about their investment in human capital through education and training expecting employment in the informal sector to be more common among workers with the less formal education, although formal education doesn't guarantee employment in the formal sector as shown by Bivens et al. (2005). The education profile reveals that 84 percent of employees have formal education, although 41 per cent have only completed primary school. Similarly, 95 percent do not have any formal technical training in their relevant field. Finally, the level of formal (and technical) education tends to increase with firm size. There is the possibility that the informal sector may act as a transition for workers to migrate from rural areas to enter the urban labour force, Todaro's (1969) hypothesis. However, it turns out that only 22.3% of proprietors migrated from rural to urban areas, although there might be many others who migrated with their parents.[23]

[22](Burki, Urban Informal Sector in Pakistan: Some Selected Issues, 1990) show that the median age range of entrepreneurs in the informal sector in Pakistan is 21-40 years, while Kemal and Mahmood (1998) find the average age of self-employed workers in the informal manufacturing sector is 37 years.

[23] A similar trend was found for informal-sector workers as well in an older study where 28 per cent of workers in the informal sector had rural links with only ten per cent having migrated themselves (Burki, 1990).

Table 2. Informal Sector Proprietor Profile

	Total	No paid worker	1-3 paid workers	3 or more paid workers
Proprietors' Age (Average Years)	42.0	42.7	42.1	41.7
Education Profile (% Distn.)				
Illiterate	15.7	32.4	15.5	11.2
Below primary	10.2	16.2	10.5	8.3
Primary Passed	30.8	41.9	31.8	26.5
Matric Passed	22.8	8.6	22.2	27.5
Intermediate Passed	13.1	1.0	12.3	17.4
Degree Holder	7.4	0.0	7.7	9.1
Formal Technical Education *(% Share)*	4.6	1.9	4.7	5.2
Current Earning Status (% Distn.)				
Higher	67.8	76.7	67.1	66.3
Lower	14.3	11.6	15.7	13.3
Same	17.8	11.6	17.2	20.3
Rural to Urban Migration*(% Share)*	22.3	16.3	22.6	23.5

Responses to questions about the owners' previous employment history are reported below in Table 3, while Table 4 shows a further break down. The responses reveal that 64.3 percent of our 960 subjects were involved in the same or a similar business in the past, while 19.5 percent moved from other businesses. Leaving out the 16.2 percent who were either unemployed or out of labour force, the rest of them have previous employment experience that helps them manage and run their businesses efficiently.[24]This shows that occupational-choice is sticky. These results are partitioned in Table 4 by employment (self- versus paid employment) and sector (formal- versus informal) types. Out of the 64.3 percent of owners who had been working in a similar business, we find that 95.8 percent were already working in the informal sector; 54.6 percent of these were previously in paid employment within the informal sector and became business owners in the informal sector, while 45.4 percent of them were already self-

[24] Young firms usually run by younger workers have higher rates of failure (Evans and Leighton, 1989; Jovanovic, 1982).

employed. Similarly, out of the 19.5 percent of owners of informal-sector workers who had been working in other firms, 83.1 percent were already working in the informal sector; for 48 percent of owners it was only a change of business, while 52 percent of them were in paid employment. The remaining 17 percent came from the formal sector, out of which 94 per cent were previously in paid employment in the formal sector.[25] This appears to suggest that employment in the informal sector tends to be sticky.

Table 3. Employment History of Informal Sector Proprietor

Similar business	64.3
Other business	19.5
Unemployed	13.3
Out of labour force	2.9
Total	100

Table 4.Employment History of Informal Sector Proprietor

	Similar Business			Different Business		
Previous Employment Status	Formal	Informal	Total	Formal	Informal	Total
Total	4.2	95.8	100	16.9	83.1	100
Within Distribution of Sectors						
Employed	80.8	54.6	55.7	93.5	52.0	59.0
Self employed	19.2	45.4	44.3	6.5	48.0	41.0
Age	45.3	41.3		48.0	44.7	

Indeed to further corroborate the sticky informal-sector employment phenomenon, we find in Table 5 below that a majority of our 960 owners with previous employment history were already working in the informal sector (92.9 percent to be precise) and only 7 percent came from the formal sector. Therefore, migration out of the informal sector is low. Similarly, out of the same

[25] Middle-aged workers who lose their job in the informal sector and are unable to find a new one may turn to self-employment in the informal sector as a safety net (Perry et al., 2007) (p. 59).

group 43.6 percent were already working as self-employed in the same or a similar business and the remaining 56.4 percent were paid employees at other firms.

Table 5. History of Current Earnings compared to Past

	Previous employment		Previous Sector		
	Employed	Self employed	Formal	Informal	Total
Percentage Distribution	56.4	43.6	7.1	92.9	
Distribution within Each Category					
Higher	72.6	61.9	50.0	69.3	68.0
Lower	13.8	14.8	26.8	13.2	14.1
Same	13.6	23.3	23.2	17.5	17.9

We asked the business owners to compare their current earnings to previous earnings and report the results in Table 5. The table shows that 68 per cent (last column) reported that their earnings had increased; 14.1 percent of entrepreneur reported a fall in their current earnings, while for 17.9 percent earnings remained similar. Thus a total of 85.7 percent of business owners are enjoying either the same or higher current earnings with probably higher employment status. Workers who have transited from being a paid employee to becoming a business owners reported the greatest increase of income, especially within similar businesses. This implies that workers first learn the trade as employees and then establish their own businesses. Similarly, migration from the formal sector shows the smallest increase in current earnings.

4. Reasons for Operating in the Informal Sector

We asked owners of informal sector firms to rank their reasons for being in that sector. The results are in Table 6 below. Scarce financial resources is the number one reason for businesses to be stuck in the informal sector. The nature of their businesses and the ease of running

businesses in the informal sector come second and third as reasons for operating in the informal sector. An interesting picture emerges when we re-rank the top three mean scores by employment size (i.e. no regular paid worker,[26] 1to 3 regular workers and more than 3 paid workers): While scarce financial resources remain the most important factor for all the three categories, the ease of running a business is among top three reasons for staying in the informal sector only for relatively bigger firms (i.e. 3 or more regular workers). In other words, larger informal firms simply find it cumbersome to join the formal sector. As more efficient firms survive and become larger their needs for enforceable contracts, formal credit markets, and access to public risk-pooling mechanisms increase, and so does their degree of formality or depth of participation in societal institutions.

Table 6. Reasons for operating in the informal sector

			Rank for Importance		
	Mean Scores[a]	% of Firms[b]	No Paid workers	1-3 Paid Workers	3> Paid Workers
Low Financial Resources	1.7	81.5	1	1	1
Nature and Scale of Business suitable for IB	2.4	57.0	3	2	2
Easy to run IB	2.7	48.7	7	5	3
Lack of Opportunity in Formal Sector	2.7	47.5	8	3	4
Hard to register business due to cost	2.7	49.9	4	4	6
Avoid bureaucracy/ Government	2.8	42.7	6	7	5
Low skill level	2.8	38.7	2	6	10
Hard to register business due to information	2.9	41.9	5	8	7
Returns in IB are higher	3.0	31.7	10	9	8
Do not value benefits of formal Business	3.2	22.6	9	10	12
Sufficient product demand by other firms	3.2	22.7	11	11	9
Client are large formal Firms	3.4	17.1	12	12	11

a: 1, 2, 3 and 4 denote "very important", "important", "of minor importance" and "unimportant"
b: percentage of firms responding "important" or "very important"

[26] We omit these firms from the sample when studying wage setting but include them when exploring the nature of informal sector firms.

5. Wage-Setting behaviour

Understanding the wage-setting behaviour of any developing economy would be incomplete without studying the informal sector that constitutes a large chunk of its economy.

5.1 Wage Levels

In this Section we select firms that have more than one regularly paid worker. There are 681 such businesses in our total sample of 960 firms. Although, we do not report results here, as expected, employment in the informal manufacturing sector is heavily concentrated in skilled blue-collar jobs (79.4 %), the formal sector counterpart has a lower concentration in the blue-collar group (63.4 %).[27] More interestingly, we ask informal sector proprietors about average wage levels in their firms using given wage ranges. Based on our experience in the formal sector survey, we decided to use smaller wage ranges than in the formal sector, especially at the lower end.

The wage ranges in the informal sector survey were (i) Up to Rs. 5000 , (ii) Rs. 5001-6000, (iii) Rs. 6001-7000 (iv) Rs. 7001-8000, (v) Rs. 8001-10000 and (vi) Rs. 10001 and above.[28] The results in Table 7 show that average wages in the informal sector range between 7 to 8 thousand rupees which lies within the average range in the formal sector (seven to ten thousand rupees), but at the extreme lower end. To identify the wage differential between the formal and the informal sector, we calculate the wage distribution for the two sectors, which gives a clearer picture. Specifically, 47.6 percent of the informal sector firms are paying less than the official minimum wage i.e. Rs. 7000 in contrast to 17.5 percent for the formal sector.[29]

[27] Employment in the informal manufacturing sector is heavily concentrated in skilled blue-collar jobs (79.4 %), the formal sector counterpart has a lower concentration in the blue-collar group (63.4 %).

[28] In a similar question in the formal sector survey in Ahmed et al. (2014), the wage ranges were wider than in the informal sector, the lower three ranges were (i) less than 7000, (ii) 7001-10,000 and (iii) 10,001-15,000 rupees.

[29] Many previous studies also find wage differentials between the two sectors for different countries: Rand and Torm (2012) show that average wages are 10-20% higher in the formal sector among Vietnamese micro-firms and show that most of the gap is due to observable factors such as firm size, location and workplace environment. Studying the wage penalty for working in the South African informal sector, Badaoui et al. (2007) find a 12 per cent wage penalty that disappears once account has been taken of taxation.

Both blue collar and white collar workers are paid below the minimum wage in the informal sector. Interestingly, 61.5 percent of the white collar employees in the informal sector are paid less than the official minimum wage levels, though the percentage is highest for unskilled blue collar workers. In contrast, white collar employees are much better paid in the formal sector than in the informal sector (average range of 15-25 thousand rupees).[30] The greater wage penalty for white collar workers in the informal sector may suggest that these workers are willing but not able to enter the formal sector due to lower levels of education or training. Working in the informal sector is probably a way of avoiding unemployment (Haanwinckel and Soares, 2013); the informal sector being an employer of last resort.

Table 7. Wage Distribution for Formal and Informal Sector Firms

Formal Sector	White Collar Employees	Blue Collar Employees	Unskilled Blue Collar Employees	Total
less than 7	6.8	13.7	31.3	17.5
7-10	50.7	74.2	64.2	69.1
10 or more	42.5	12.1	4.5	13.4
Average wage range[a]	10-25	7-10	7-10	7-10
Informal Sector	White Collar Employees	Blue Collar Employees	Unskilled Blue Collar Employees	Total
less than 7	61.5	45.6	68.2	47.6
7-10	38.5	42.5	22.7	41
10 or more	0	12	9.1	11.4
Average wage range[a]	6-7	7-8	6-7	7-8

a: Average wages are written in thousand rupees

Recent studies have divided the informal sector into two segments; a competitive voluntary sector and a lower-tier sector where jobs are rationed (Bargain and Kwenda, 2009); Fields

[30] The average wage of white collar workers is calculated as the average wage of firms with more white-collar workers.

(2005), where workers in the latter segment are willing to accept lower wages to escape unemployment (Rand and Torm, 2012). This argument gets support from statistics taken from our formal sector survey where firms are willing to pay higher than average wages to attract better quality workers, which implies that white collar workers in the informal sector may be inferior to those working in the formal sector given their lower average wages. Skilled and unskilled blue collar workers in the formal sector are mostly paid competitive wages so may not necessarily show similar wage penalty in the informal sector Ahmed et al. (2014).[31]

5.2 Wage adjustment

We have found that a higher share of informal-sector workers are paid less than the minimum wage and that this penalty applies especially to white-collar workers when compared with their formal sector peers. We next turn to analysing the frequency of wage changes.

5.2.1 Frequency

In Druant et al. (2012) and Ahmed et al. (2014) formal-sector firms were asked to state the frequency of wage changes and the reasons for changing wages where three reasons were listed, i.e. inflation, tenure and changes due to reasons other than these. Respondents were asked to indicate whether these wage changes occur (i) quarterly (ii) bi-annually (iii) annually (iv) once in every two year[32] (v) never. The shortest of the wage frequency from any of these frequencies is assigned as the overall frequency of wage changes for each firm.

[31] For Mexico, Gong and Van Soest (2002) find that wage differentials between the formal and informal sector are typically small for the less educated, and only arise higher levels of education, while Rand and Torm (2012) show that the level of education is not significant in explaining formal-informal sector wage gaps.

[32] Questionnaire in the Punjab missed the every-two-year option, but it does not affect the quality of the wage duration estimate as there are only three firms in the Punjab that have not selected the annual or the less than annual category.

We expect wages in the informal economy to be less rigid than in the formal sector because of limited workers' protection and low entry-exit frictions. This prediction is confirmed by the survey responses shown in Table 8 below. Specifically, we find stark differences in the shortest wage frequency (i.e. less than annual changes) category; with 3.5 percent firms in the formal sector changing wages at that frequency while the percentage is 47.7 percent in the informal sector. Also in the formal sector, wage changes are dominated by annual wage changes mainly due to tenure (around 89.8 percent of wage changes are annual) while only 49.3 per cent of firms in the informal sector change their wages on an annual basis. In informal sector firms annual wage changes are mainly determined by tenure, while inflation is an equally strong driver for wage changes that are more frequent than once a year. The higher frequency of wage changes affects all occupational groups in the informal sector, more so the white collar group with 63% changing wages annually.

Table 8. Wage Change Frequency for Formal and Informal Sector

	Informal		**Formal**	
	Less than Annual	Annual	Less than Annual	Annual
Over all	47.7	49.3	3.5	89.8
Inflation	31.4	49.5	2.7	54.9
Tenure	14.8	71.5	0.7	86.2
Others	19.4	32.2	0.6	52.8
Occupational Group				
WC	63.0	37.0	0.0	86.9
BC	46.5	50.2	4.0	90.6
UBC	41.8	53.4	4.0	89.2
Size[a]				
Small			3.5	89.7
Medium			6.6	89.7
Large			0.2	91.3

a: We have also calculated the statistics for a subgroup of small firms employing 11 to 20 workers to see if we find any similarity between them and the informal sector enterprises. However, the statistics are not significantly different from that of the small firms and for this reason we do not report them

.As expected, wages in the informal sector are significantly more flexible than in the formal sector; mean wage duration is 9.6 months in the informal sector compared to 12.7 months in the formal sector as shown in Table 9 (Ahmed et al., 2014).[33]Also, mean duration shows a negative relation to the skill level i.e., 8.4, 9.7 and 10.3 months for white, blue and unskilled blue collar employees respectively. The pattern is exactly the opposite in the formal sector where white collar employees have the longest average wage duration. This is probably because white collar employees in the informal sector are better able to negotiate up their low-wages given their superior job stature relative to their blue collar peers. We also find in Table 9 that firms with more unskilled blue collar workers, businesses that were bought by their owners, firms that do not hire from the formal sector, very young and very old firms have longer wage duration (i.e. close to ten months) although a shorter duration than in the formal sector. A firm's age is positively related to wage duration except for very young firms that have the longest wage duration.

Similarly, we asked firms if they have cut wages during the last five years, and if they could describe the reasons for cutting wages. While 97 percent of firms change wages annually or more frequently, there are only 3.1 per cent of firms with a history of wage cuts during the last five years. However, it is important to note that most wage changes happen due to inflation and so the probability of having downward wage changes in high inflation years is also relatively low. Indeed, the annualized inflation rate was 12 % during the survey period. The proportion of firms that had cut wages during the last five years was 1.3 per cent in the formal sector.[34]

The reasons for wage flexibility in the informal sector include lower bureaucratic requirements and less regulation, especially the regulation of hiring and firing. Second, the

[33] For calculations of mean wage duration see Druant et al. (2012).
[34] Decrease in product price, turnover and profits remained top three reasons for wage cuts in the informal sector.

absence of collective bargaining power of workers in the informal sector makes it easier to hire new workers or fire existing ones and to adjust wages, which is difficult for formal sector firms due to the existence of labour unions. Third, informal sector technology itself generates flexibility since it is easier to monitor effort and manage relations with workers in small firms, which in turn increases the likelihood of competitive wages and wage flexibility (Esfahani and Salehi-Isfahani, 1989).[35]

Table 9. Wage Durations in the Informal Sector

Wage Duration in months

	Months
Over all	9.6
WC	8.4
BC	9.7
UBC	10.3
Self establishes	9.6
Family Business	9.6
Purchased	10.1
1-5 Years	10.0
6-10 Years	9.3
11-20 Years	9.6
21-50	9.8
51 or more	10.2
1-3 employees	9.6
more than 3	9.8
Hire from formal sector	
Yes	8.7
No	10.2

5.2.2 Timing and wage-setting rules

In adjusting wages a firm may decide to follow a time-dependent rule, a state-dependent rule or a combination of the two. Firms following a time-dependent rule change their wages only

[35]Woltermann (2003) links the informal sector to better information and job search; he argues that labour market segmentations arises from the lack of information on available vacancies in the formal sector, making wages relatively rigid in the formal sector.

periodically.[36] Time-dependent rules are common in both the formal and the informal sector, specifically 46.4 percent of informal sector enterprises follow time dependent rule, compared to 80.3 percent in the formal sector (see Table 10 below). Nonetheless, we see striking differences in the percentages between these wage adjustment rules in that significantly fewer firms in the informal sector follow strictly time-dependent rule. If anything, this implies that informal sector firms respond to large shocks by adjusting wages even though they may normally follow time-dependent rules. There are also differences between the sectors in the average frequency of wage changes under state-dependent rules. Indeed, there is a large contingent of informal-sector businesses, 24.4 percent, following state-dependent rules. In sum, the evidence suggests that wage setting in the informal sector is more flexible and responsive to changes in the external environment, which indirectly implies the predominance of state-dependent wage-setting strategies.

Table 10. Wage Adjustment Rules

% of total firms	Informal	Formal	Small	Medium	Large
Time dependent	46.4	80.3	80.1	82.7	80.8
State Dependent	24.4	5.0	5	4.2	6.4
Both time and state	29.1	14.7	15	13.1	12.9
No Pattern for Wage Changes	73.5	17.9	18.6	10.1	18
Highest Frequency	11.2	43.4	41.1	54.3	61.9
Month of Highest frequency	Jan	Jul	Jul	Jul	Jul

Time-dependent rules imply that wage changes may be concentrated in specific months. This prediction however does not apply to state-dependent rules, which are more likely to be applicable in the informal sector as we discovered earlier. This is important, as the exact timing of wage decisions and shocks co-determine the strength of shock transmission and neutrality of

[36] Staggered price models: Taylor (1980); Calvo (1983)); state-dependent firms tend to change wages whenever there is large shock to the economy (state dependent prices: Hall et al. (2000)).

money supply shocks.[37] As expected, in comparison to the formal sector, there is significantly less concentration of wage changes in any specific month in the informal sector; around 73.5 percent of informal sector enterprises do not have any pattern of wage change and the highest wage change frequency in any month remained 11.2 per cent in January. In the formal sector, the highest frequency of wage changes in any month is 43.4 percent in July[38] and only 17.9 percent of firms have no set pattern of wage revisions.

5.3 Determinants of wage changes

The survey results in Table 11 show that important reasons for upward wage adjustments in the informal sector are: i) an increase in a competitor's wage, ii) high inflation levels and iii) an increase in workers' efficiency. All of the top five reasons are translated into wage adjustments within six months.[39]

A similar question in the formal sector survey, though with slightly different factors listed, showed that the important factors determining wage adjustments are company policy, workers' efficiency and higher profits. The common factor among the top five factors between the formal and the informal sectors are: competitors' wage changes, workers' efficiency and higher profits. Two major differences between the two sectors are the importance of the minimum wage in the formal sector and the importance of inflation, a state-dependent variable, in the informal sector, both are significantly less important in the other sector.

[37] Olivei and Tenreyro (2008) find that the adjustment to shocks actually depends on the timing of wage changes and economic disturbances. They show that monetary policy innovations in Japan that occur during the first half of the year, when most wages are reset, have a relatively smaller effect on output than those occurring later in the year.

[38] January is the second most frequent month for wage changes while formal sector wage changes are closely linked to official minimum wage changes that usually occur in July.

[39] Alcaraz (2009) finds that wages in the informal sector adjust quicker than informal sector wages to shocks to the economy in Mexico.

5.3.1 Minimum wages

In the informal sector, where labour is more vulnerable to exploitation due to illiteracy, lower skill levels and less bargaining power, government's intervention becomes necessary both from the perspective of social justice and also for increasing efficiency and productivity in the economy. However, these laws may not be binding in the informal sector.

Table 11. Determinants of wage changes

		Mean Scores[a]	Mean Lag	Rank	Lags[c]	% important or very important[b]
1	Inc in turnover	2.59	4.67	6	7	52.3
2	Inc in price of product	2.65	4.62	7	6	47.9
3	Inc in employee efficiency	2.50	4.51	3	4	52.9
4	Inc in profits	2.54	4.68	5	8	51.6
5	Inc in wage of competitor firms	2.33	3.84	1	1	63.7
6	High inflation level	2.41	4.46	2	3	56.1
7	Low inflation Level	3.43	5.62	11	12	14.2
8	Rise in demand for labor	3.03	4.83	8	9	31.9
9	Fall in supply of labor	3.24	5.07	10	10	22.6
10	Increase in informal sector wage	2.53	4.11	4	2	55.0
11	Increase in public sector wage	3.60	5.44	12	11	11.0
12	Impact of Minimum wage	3.12	4.60	9	5	31.8
13	Increase in 'formal' sector wage	3.74	5.64	13	13	7.7

a: 1, 2, 3 and 4 denote "very important", "important", "of minor importance" and "unimportant"
b: percentage of firms responding "important" or "very important"
c: 2, 3, 4 and 5 denote wage revisions within 1, 3, 6 and 12 months, while 6 represents no change.

We have found that minimum wage changes play an important role in wage adjustments in the formal sector, see Ahmed et al. (2014). In contrast, minimum wages are less important and non-binding in the informal sector. The minimum wage was among the five least important factors for wage adjustments in the informal sector; only 31.8 percent of firms ranked it as either

a very important or an important factor for wage adjustment (74 percent in the formal sector), for firms with average wages below minimum wage level the percentage was 47.6 per cent (17.4 percent in the formal sector). For 85.3 percent of the firms in the informal sector changes in the official minimum wages do not have any employment effects either.[40]

5.3.2 Wage indexation

Theoretically, workers, being more risk averse than the employers, are concerned about real wages more than nominal wages and want to be insured against any unanticipated change in their real wages (for details see Keeney and Lawless, 2010).[41] Wages may be indexed to inflation, either completely or partially, as an alternative to costly collective bargaining.

Table 12. Wage Indexation

% of total Firms	Informal	Formal	Small	Medium	Large
No Indexation	52.3	69.7	71.1	60.2	63.0
Indexation	47.7	30.2	28.9	39.8	37.0
Complete Indexation	12.8	7.0	7.7	1.5	4.8
Partial Indexation	34.9	23.2	21.2	38.3	32.2
Past	68.5	66.2	64.6	71.2	76.4
Expected	31.6	33.9	35.4	28.8	23.6

We asked firms about the extent of wage indexation and if they do whether the reference inflation is past inflation or expected inflation. Results are in Table 12 above. The frequency of wage indexation is higher in the informal than in the formal sector, 47.7 percent of firms index their wages to inflation, out of which 12.8 percent of firms have complete indexation. In contrast,

[40] We asked firms about their employment reaction to changes in the minimum wage level: Making some of their permanent employees redundant, casual employees redundant or no change. The results show 85.3 percent of firms report that they don't respond to changes in the minimum wage, only 14.4 percent of the firms reduce their use of casual workers.

[41] In the presence of nominal wage rigidity, the optimal level of inflation to facilitate wage adjustment is high, holding all else equal (Akerlof et al, 1996).

only 30 percent of firms in the formal sector index their wage to inflation either completely or partially.

The reference inflation rate for indexation also has important policy implications.[42] Perez (2003) concludes that a higher proportion of labour contracts with wages indexed to past observed inflation implies that a higher degree of current inflation is explained by past inflation, hence inflation may behave as if there were backward-looking expectations in the presence of wage indexation (see Vargas et al, 2009; Fraga et al, 2003).[43]

To analyse the reference inflation rate, we asked firms about the inflation reference to which they index their wages. Although indexing wages to inflation is much more common in the informal sector, the dependence on lagged inflation is prevalent in both sectors. This backward-looking nature can explain inflation persistence in Pakistan.[44]

To explain wage indexation behaviour further, we run an ordered probit regression where the dependent variable takes value 2 for complete indexation, 1 for partial indexation and 0 if there is no wage indexation. The list of explanatory variables includes a dummy for firms with 1 to 3 workers in informal sector and greater than 250 employees in the formal sector, dummy variables for the share of blue collar workers, firms give bonuses, the age of firms, the level of competition in product and labour market, employee turnover and if the firms checked time dependency rules (for complete details of all regression variables see Table A1 in Appendix A).

The results in Table 13 below show that determinants of indexation behaviour vary across two sectors. Indexation behaviour also varies significantly between two provinces. Wage-price

[42] While current inflation rate is associated with the stabilizing effects of full indexation from monetary disturbances (Gray, 1976; Fischer, 1977), indexation to the already observed or lagged value has negative stabilization effects (Simonsen, 1983; Fischer, 1985; 1988; Jadresic, 1996).

[43] Backward-looking indexation is not very surprising for developed countries with stable inflation histories; however, for developing countries, where wage indexation is more prevalent, it may not be an optimal arrangement (Moreno, 2009; Lefort and Schmidt-Hebbel, 2002; Druant et al, 2009).

[44] Persistence of inflation levels is in double digits between Sept 2008-Dec 2013.

link, the provision of bonuses, share of labour costs and time dependent reviews remained significant in the informal sector, while labour market competition and hiring from informal sector increased the likelihood of wage indexation in the formal economy.

Table 13. Ordered Probit Model for Wage Indexation

	Informal		Formal	
Dependent Variable Wage Indexation[a]	Coef.	p-value[b]	Coef.	p-value[b]
1. Province Dummy	-0.17	0.065	0.54	0.030**
2. Firm Size Dummy	0.10	0.268	0.10	0.291
3. Firm Age Dummy	0.00	0.836		
4. Share of Labour cost	-0.01	0.087*	0.00	0.877
5. Bonus Dummy	0.55	0.000***	0.29	0.138
6. Share of Blue Collar Worker	0.00	0.562	0.00	0.207
7. Time dependent Dummy	-0.19	0.048**	-0.12	0.622
8. Product Market competition	-0.01	0.879	-0.04	0.860
9. Labor Market competition	-0.12	0.221	-0.50	0.011**
10. Wage-Price Link	0.32	0.000***	0.09	0.590
11. Firm hire Dummy	0.13	0.186	0.53	0.004***
Observations	692		929	
Pseudo-R square	6.6%		6.5%	

a: takes value 2 for complete indexation, 1 for partial indexation and 0 for no indexation
b: * if p<0.1, ** if p<.05 and *** if p<0.01

6. Wage Theories

Several different explanations for wage rigidity were presented and respondents were asked to rank the importance of these theories in preventing wage cuts as very important, important, of minor importance or not important. Table 15 shows mean scores for each of the theory explaining wage rigidity. Adverse selection, efficiency wages and morale related issues are the top three reasons for postponing wage cuts in the informal sector (for details on each of the theories consult questionnaire in Appendix B).

A comparison of wage theories across the two sectors shows that the top three wage theories in the informal sector were in the top four places in the formal sector; the only exception is comparative-wage theory that remained the second most important theory for wage stickiness in the formal sector, and shifted down to fifth place in the informal sector suggesting a lower level of competition in the informal labour market. Nonetheless, the top five reasons remained the same in the two sectors.

Table 14. Wage Theories

	Mean Score[a]	% important[b]	Rank	
			Informal	Formal
Adverse selection quit	1.6	89.6	1	1
Outside options attractive	2.0	77.5	2	4
Workers morale	2.0	74.8	3	3
Adverse selection Hires	2.2	65.3	4	5
Comparative wages	2.4	60.6	5	2
Turnover model	2.5	52.9	6	7
Insider theory	2.5	51.8	7	6
Implicit contract	2.6	45.7	8	8

a: 1, 2, 3 and 4 denote "very important", "important", "of minor importance" and "unimportant"
b: percentage of firms responding "important" or "very important"

We now move on to study the factors that can explain differences in the level of wage rigidity across the two sectors in Pakistan. Our dependent variable is the degree of stickiness based on the frequency of wage changes. It takes value 1 if the firm changes wages more frequently than a year, 2 if wages are revised annually and 3 if wage changes are less frequent than yearly. Hence, our dependent variable is increasing in the degree of stickiness (for complete details of all regression variables see Table A1 Appendix A). We explain this stickiness using

three broad categories of variables: firm cost structure and product and labour market characteristics.[45]

Table 15. Wage rigidity explained: Ordered Probit Model

Dependent Variable:	Informal		Formal	
Wage Stickiness[a]	Coef.	P>z	Coef.	P>z
Province Dummy	0.06	0.532	-0.07	0.794
Firm Size Dummy	0.17	0.082*	0.08	0.461
Firm Age	0.00	0.524		
Share of Labour cost	0.01	0.166	0.03	0.113
% of Blue Collar	0.00	0.998	0.00	0.529
Time Dependent Rules	0.44	0.000***	-0.19	0.440
Product Mkt Competition	-0.02	0.870	-0.21	0.378
Labor Mkt Competition	-0.16	0.105	-0.45	0.047**
Wage-Price Link	-0.09	0.200	0.02	0.933
Employee Turnover	-0.42	0.000***	-0.68	0.000***
Alternative Cost	-0.17	0.086*	0.20	0.330
Wage Indexation	-0.03	0.662	-0.11	0.595
Firm hire dummy	-0.32	0.002***	-0.01	0.955
Observations	687		916	
Pseudo R-square	8.3%		11.7%	

a: It takes value 1 if the firm changes wages more frequently than a year, 2 if wages are revised annually and 3 if wage changes are less frequent than yearly.
b: * if p<0.1, ** if p<.05 and *** if p<0.01

Wages are less rigid when there is a link between wages and prices, the turnover among workers is high, there is competition in the labour market and there are alternative cost-cutting strategies. While labour market competition and employees turnover are important for both sector, alternative cost cutting strategies are important only for informal sector firms may be due to their size. However, a link between wage and prices remained insignificant for wage rigidity in our sample. In the informal sector, time-dependent wage setting rules increase wage rigidity, as predicted by theory. This is however not the case for the formal sector.

[45] This specification is commonly used for developed economies for wage -setting, see for example Druant et al. (2012) and the literature therein.

8. Discussion

We have explored the wage-setting practices of informal sector firms and compared them to those of formal sector firms as described in Ahmed et al. (2014). The results can be summarised as follows.

1. *Low-wage informal sector*.

   47.6% of firm in the informal sector pay workers below the minimum wage, while only 17.5% of the formal sector pay below the minimum wage. Wage differentials between formal and informal sectors are especially pronounced for white collar workers.

2. *Sticky informal sector employment and occupations.*

   64.3% of respondents were involved in the same or similar business in the past, while 19.5% moved from other businesses. In a similar vein, employment history suggests that 92.9% of the respondents were previously working in the informal.

3. *Wage setting without rules*.

   Wage duration in the informal sector is lower; 9.6 versus 13.1 months in the informal and the formal sector respectively. There is a weaker pattern in wage-setting; 73.5 per cent versus 18.1 per cent of firms having no pattern for wage-setting in the informal and the formal sector respectively. Informal sector firms rely more on state dependent rules, 24.4 per cent relative to 6.8 per cent in the formal sector.

4. *Indexation to inflation.*

   47.7 % of informal sector firms say that wages are indexed, while only 30% in the formal sector say that wages inflation-indexed. In particular, past inflation and *not* future inflation or productivity matter wage-setting. Inflation is an important

anchor in wage negotiation in the informal labour market, both in terms of frequency (greater state dependence and high inflation is among top three reasons for wage changes) and magnitude (higher inflation indexation).

5. *Minimum wages not binding.*

   In contrast, minimum wages are less important and non-binding in the informal sector. The minimum wage was among the five least important factors for wage adjustments in the informal sector.

6. *Wage rigidity for same reasons.*

   Similar reasons are found for not cutting wages in a depression between sectors. The most important reasons for wage rigidity are: (i) adverse selection (the fear of losing better workers), (ii) efficiency wage theory (outside options to workers appearing more attractive and (iii) workers' morale (gift exchange: a type of goodwill investment on workers).

7. *Frequent wage changes.*

   Informal sector firms have higher frequency of wages changes in both directions relative to formal sector firms and the frequencies are lower than a year.

Informal sector firms list financial constraints as one of the most important reason for staying in the informal sector. This implies that their ability to absorb shocks is limited, as clearly seen in their lower life expectancy.[46] The fact that firms rely on state-dependent rules, the fact that wage changes are mostly due to inflation; and the fact that indexation is prevalent in wage setting imply that (i) workers have low bargaining power (ii) wage expectations are anchored with

[46] Firm age of sampled formal sector firms is 22.8 years (median 19 years), while average age of the informal sector firms is 14.6 years (median 12 years).

inflation; (iii) inflation determines the amount of wage growth and (iii) inflation also affects the frequency of wage revisions.

9. Conclusions

We conclude that the reason for firms belonging to the informal sectors can mainly be found in their lack of working capital and limited access to financial markets. This makes their future more uncertain since informal-sector firms face a much higher probability of failure than formal sector firms. Belonging to the informal market makes it possible to reduce costs and have more flexibility in wage setting in addition to hiring and firing, which can be explained by the absence of buffers in the form of working capital or access to bank loans. Informal sector firms live by the day and are more insecure, can easily wind up shop and are less keen to invest in physical capital – given their lack of access to finance – and the hiring and training of new workers – given their low average wages. This implies that entrepreneurs have a shorter time horizon which implies that they have a higher discount rate. The informal sector firms employ many workers who cannot enter the formal labour market because of a lack of skills, qualifications or networking within the formal sector, as manifested by the large wage gap between formal- and informal-sector while-collar workers.

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Appendix A

Figure A1: Snapshot of Labour Force Survey 2008/9

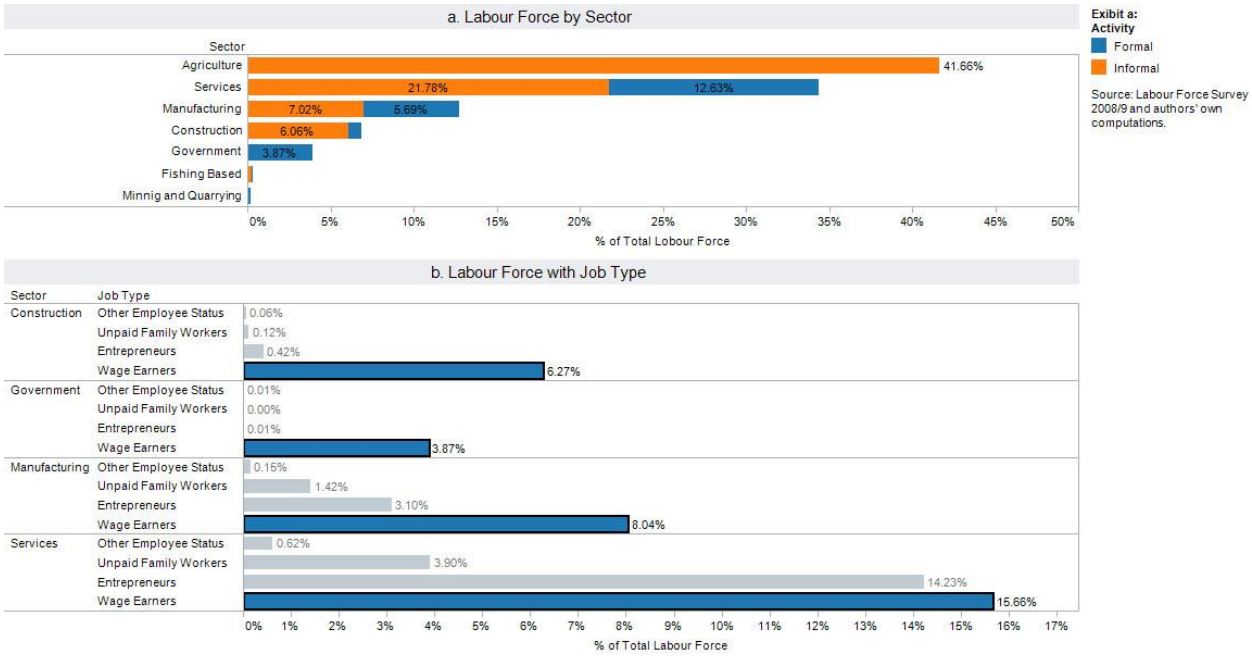

Table A1. Variable details for Regressions

Variable name	Details
Province Dummy	Takes value 1 for province of Punjab, and 0 for Sindh.
Firm size	For informal sector, firm size is defined as: 0 if firm has employer only, 1 if firm has 1 to 3 workers and 2 if firm has more than 3 workers. For the formal sector size dummy takes value 1 for 10-50 employees, 2 for 51-250 employees and 3 for large firms (i.e. greater than 250 employees).
Firm age	firm age in years
Product market competition	Product market competition is equal to 1 if the competition is very tight or tight, 0 otherwise.
Labour market competition	1 if wages of competitive firms are very important or important for wage revisions, 0 otherwise.
Labour cost	share of labour cost in total cost
Wage-price-Link	0 for no link or don't know, 1 weak link, 2 definite link (either wage follow prices or prices follow wage),
Employee turnover	1 if employee turnover model is ranked as very important or important, 0 otherwise
Indexation	Equals 2 in case of complete indexation, 1 for partial indexation and 0 if firm has not indexed its wages to inflation
Firm hire	1 if firm in one sector of economy has hired from the other sector (i.e a formal firm has hired employees from the informal sector or for informal sector firm if it has hired from formal sector), 0 otherwise.
Alternative cost	1 if firm has used any alternative labour cost cutting strategy, 0 otherwise
Bonus	1 if firms provide bonuses, 0 otherwise
BC	share of blue collar workers
Time dependent	1 if firm follows strictly time dependent wage review rule, 0 otherwise.
Wage frequency	Equals 0 if , 1 if and 2 if 1 if firm change wage more frequent that a

Appendix B: The Survey

PRICE & WAGE SETTING

BEHAVIOUR SURVEY
OF INFORMAL SECTOR OF THE ECONOMY

Conducted By

State Bank of Pakistan

And

Bureau of Statistics, Planning & Development Department,
Government of Sindh

2012

Status	completed	Incomplete
Profile		
Price Survey		
Wage Survey		

Survey Code

Profile Section

Note: ***Please confirm before the interview that***

- ***the selected firm is not registered***
- ***the firm has 10 or less than 10 employees who are not registered with Social security and/or EOBI and***
- ***that you are talking with decision maker***

Firm Profile

We would like to have following information about your firm.

1. Name of the firm/proprietor:
_____

2. Address of the firm (if available)_____

_____

3. Contact numbers (if available) Office _____Cell _____

4. How many persons of the following categories are engaged in the enterprise?

4.1 Working proprietor ☐ numbers

4.2 Unpaid family workers ☐ numbers

4.3 Paid Employees[47] ☐ numbers

4.3.1 Regular Employees with fixed wage ☐ numbers

4.3.2 Casual employees ☐ numbers

4.3.3 Paid worker by piece rate or work performed ☐ numbers

4.3.4 Paid non-family apprentice ☐ numbers

5. Type of business/Sector

5.1 Manufacturing _____5.1.1 Sub Sector _____

6. How many years has the firm been in this business: _____

7. How did you acquire this business (Please tick one)

7.1 Self establishment ☐

7.2 Passed on by family ☐

_____ ☐

[47] The standardized definition of a paid employee, regular employee and casual employee should be consulted from the Wage Survey.

7.3 Purchased a running business

Proprietor Profile

1. Age ☐ years
2. Sex Male ☐ Female ☐
3. Marital status Married ☐ Unmarried ☐
4. Level of education (Please tick one)
   - 4.1 Illiterate ☐
   - 4.2 Below primary ☐
   - 4.3 Primary passed ☐
   - 4.4 Matric passed ☐
   - 4.5 Intermediate passed ☐
   - 4.6 Degree holder or higher education ☐
5. Have you ever completed any formal technical/vocational training related to your business
   - 5.1 Yes ☐ 5.2 No ☐
6. Have you moved from a rural to an urban area to work in this business?
   - 6.1 Yes ☐ 6.2 No ☐
7. Prior to being involved in this business, what was your employment status?
   - 7.1 Involved in a similar business ☐ (Skip Q9)
   - 7.2 Involved in other business ☐ (Skip Q8)
   - 7.3 Unemployed ☐ (Go to Q11)
   - 7.4 Unemployed and also did not tried to find any job ☐ (Go to Q11)
8. If you were involved in a similar business, then what was your employment status? (Please circle one box only)

	Formal	Informal
8.1 Employed in the	1	2
8.2 Self employed in the	1	2

9. If you were involved in other business, then what was your employment status? (Please circle one box only)

	Formal	Informal
9.1 Employed in the	1	2
9.2 Self employed in the	1	2

10. If either employed or self employed, how does you previous monthly income compare your current monthly earnings. Is it

10.1 Higher ☐ 10.2 Lower ☐ 10.3 Similar ☐

11. How much are the following factors important for your current status of business? (Please indicate their importance by choosing one option per row)		**Very important (1)**	**Important (2)**	**Of Minor Importance (3)**	**Un-important (4)**
11.1	Lack of opportunities in the formal sector forced me to start my own business	**1**	**2**	**3**	**4**
11.2	My skills do not meet the requirement of the formal sector	**1**	**2**	**3**	**4**
11.3	I do not have the financial resources to operate in the formal sector	**1**	**2**	**3**	**4**
11.4	The nature and scale of production is more suitable in this setup	**1**	**2**	**3**	**4**
11.5	There is sufficient demand for my product by other firms	**1**	**2**	**3**	**4**
11.6	My clients are large, formal firms who sub contract aspects of their production/services as I am able to produce cheaply	**1**	**2**	**3**	**4**
11.7	I find it burdensome in terms of time and information gathering to register my business	**1**	**2**	**3**	**4**
11.8	I find it costly to register my business	**1**	**2**	**3**	**4**
11.9	I want to avoid dealing with bureaucracy/government on a continuous basis	**1**	**2**	**3**	**4**
11.10	I can operate in the formal sector, but the returns in the informal sector are higher	**1**	**2**	**3**	**4**
11.11	I can operate in the formal sector, but the informal sector allows greater flexibility in all aspects of running my business	**1**	**2**	**3**	**4**
11.12	I do not value the benefits, such as pensions, official recognition etc. that I may be able to derive by operating in the formal sector	**1**	**2**	**3**	**4**

Survey of Wage Setting Behaviour in Pakistan

Preliminary Remarks:

- This survey intends to find out about your wage setting behavior.
- It focuses on EMPLOYEES defined as those workers working in continuation for at least one month and receiving monetary wages in return.
- Some questions ask about CASUAL EMPLOYEES i.e. the employees who work for less than a month and should not be confused with the Employees stated above.
- This survey does not apply to any firm where there are no employees falling into the definition of EMPLOYEE stated above e.g. own account workers, unpaid family workers.
- State Bank of Pakistan guarantees that your answers will be treated with high degree of confidentiality and will only be used for research purposes. The information collected will be shared/used at the aggregate level rather than at the firm level.

Q.1: How many employees on average worked in your firm in 2011? _____

Q.2A: What is the composition of employees in your firm in the following categories?

2.1 Office or service level employees (White Collar) %_____ or _____ Nos.

2.2 Skilled workers (Blue Collar) %_____ or _____ Nos.

2.3 Unskilled workers (Blue Collar) %_____ or _____ Nos.

Q.2B: What was the average wage in your firm in 2011?[48]

- Up to Rs. 5000
- Rs. 5001-6000
- Rs. 6001-7000
- Rs. 7001-8000
- Rs. 8001-10000
- Rs. 10001 and above

Q 3.1: Do your employees receive bonuses?

- YES
- NO

[48] This question was included only for Sindh province

Q.3.2: If YES what are they based on? (Circle all relevant options)

3.2.1 Performance

3.2.2 Profit

3.2.3 Turnover

3.2.4 Others (please specify) ----------

Q.6: In response to the following factors, on average, how soon are the wages of employees' change in your firm?

	Within a month	Within a quarter	Within 6 months	Within a year	Within two years	Never
6.1) Due to inflation						
6.2) Due to tenure						
6.3) Due to reasons other than tenure and/ or inflation (e.g. productivity, profit. high turnover)						

Q.7: Under normal circumstances, in which months are wages usually revised?

January	July
February	August
March	September
April	October
May	November
June	December
	There is no fixed time

Q.8.1: Is there any sort of indexation between inflation and wage revisions?

- Complete
- Partial
- None

Q. 8.2: If the above answer is (1.Complete) or (2.Partial) then how are wages indexed to inflation?

- Past Inflation
- Expected Inflation
- If a combination of both then specify the respective percentages:

a) Past Inflation _____%

b) Expected Inflation_____%

(Sum should be 100%)

Q.10: In revising wages upwards, how important are the following factors and how quickly do you respond to them?

	Very Important	Important	Of minor importance	Unimportant	*Tenure (No. 1 is not applicable)
10.1) Increase in turnover					
10.2) Increase in prices of your product/services					
10.3) Increase in employee efficiency					
10.4) Increase in profit					
10.5) Increase in wages of competitive firms					
10.6) High inflation level					
10.7) Low inflation level					
10.8) Rise in demand for labour					

10.9) Fall in supply of labour					
10.10)Increase in wages in the informal sector					
10.11)Increase in wages in public sector					
10.12)Impact of change in Minimum Wage Level on the wages of all employees					
10.13)Increase in wages in formal sector					
*Tenure: 2= Within 1 month, 3= Within 3 months, 4= Within 6 months, 5= Within 1 year, 6= No change					

Q11: Over the last 5 years have the wages of employees in your firm ever been cut/ reduced?

- YES (Go to Q.12)
- NO (Skip Q.12)

Q.12: In revising wages downwards, how important are the following factors and how quickly do you respond to them?

	Very Important	Important	Of minor importance	Unimportant	*Tenure (No. 1 is not applicable)
12.1) Decrease in turnover					
12.2) Decrease in prices of your					
12.3) Decrease in employee efficiency					
12.4) Decrease in profits					

12.5) Decrease in wages of competitive firms					
12.6) Fall in demand for labour					
12.7) Rise in supply of labour					
*Tenure: 2= Within 1 month, 3= Within 3 months, 4= Within 6 months, 5= Within 1 year, 6= No change					

Q. 13: How important are the following in preventing wage cuts?

13.1) It would reduce employees' effort, resulting in less output or poorer service because outside opportunities appear more attractive

13.2) It would have a negative impact on employees' morale and loyalty to the firm

13.3) In the presence of wage cut, the most productive employees may quit the firm

13.4) It would create difficulties in attracting new workers

13.5) A wage cut would increase the number of employees who quit; increasing the cost of hiring and training new workers

13.6) Workers dislike unpredictable reductions in income. Therefore, workers and firm reach an implicit understanding that wages neither fall in recessions nor rise in expansions

13.7) Employees compare their wages to that of similarly qualified workers in other firms in the same market

13.8) Fear of non-cooperation by existing employees prevents average wage reduction

Note: 1: very important, 2: Important, 3: Of minor importance and 4: Unimportant

Q. 14: Has any of the following strategies ever been used in your firm to reduce labour costs?

(Please circle all options applicable to your firm.)

14.1 Reduction or elimination of bonuses.

14.2 Adjustment of hours worked per employee.

14.3 Recruitment of new workers at lower wage in place of those who left/retired.

14.4 Reduce the number of casual employees.

14.5 None

Q15.3: If government raises the Minimum Wage, which of the following strategies will you use?

(Please circle all options applicable to your firm.)

15.3.1 Reduce employees

15.3.2 Reduce casual employees

15.3.3 No change

Q. 17: What was the percentage of labour cost in total cost of production for your firm in 2011?

- Up to 10 percent
- 11-25 percent
- 26-50 percent
- 51-75 percent
- 76-100 percent

Q. 18: Is training provided to new employees?

- Yes
- No

Q. 19: Do you employ workers who, before joining your firm, worked in the formal sector?

- Yes (Skip Q.21)
- No (Skip Q.20)