

**Price Setting Behaviour of Pakistani
Firms: Evidence from Four
Industrial Cities of Punjab**

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ABSTRACT

Since the introduction of rational expectations in the literature, most of the research focus in the area of macroeconomics has been investigating micro foundations of macroeconomic theory and transmission channels of policy. In 1990s, macroeconomists started working on macro models incorporating the assumption of nominal rigidity with explicit modeling of optimal behaviour of individuals and firms. More recently, these models gained empirical support by looking at both aggregate as well as at firm-level data. In this regard, limited studies are available that focus on developing countries. For Pakistan, there has been little focus on micro level studies in the field of macro or monetary economics, so our study attempts to fill this gap. Besides capturing price setting behaviour, the potential effects of changes in financial cost on the overall pricing and production decisions have also been investigated. It is important to note that this study is different from others throughout carried in different countries in the sense that instead of sending questionnaires by mail, data are collected by enumerators and field supervisors. It was found that Pakistani firms perceive to be in competitive environment they operate in. Most of the clients of the firms are regular and firms' relationship with the customers is long-term. The large majority of firms use current information when reviewing prices. Around 70 percent of firms use either a state-dependent pricing rule or combination of both time-dependent and state-dependent rules. Pakistani firms revise and change their prices usually in the months of June and July. Moreover, costs of raw materials, cost of energy and inflation are the main determinants of price increase while the competitors' price, raw materials costs and demand changes are responsible for price decrease. When it comes to the main causes of price stickiness, implicit contract with the customers is at the top, while explicit fixed term contract of prices on the second. Further it was observed that most of the firms change their wages once in a year. About half of the firms index their workers' wages with inflation and past inflation rate is usually used for the purpose. Labour productivity and changes in inflation rate are found to be the main causes of wage change.

JEL classification: E24, E31, E52, E61

Keywords: Price Setting Behaviour, Effectiveness of Monetary Policy, Wage and Price Contracts

1. INTRODUCTION

Since the introduction of rational expectations in the literature much of the research in the area of macroeconomics has been focused on investigating micro foundations of macroeconomic theory and transmission channels of policy. In 1990s macroeconomists started working on macro models incorporating the assumption of nominal rigidity with explicit modelling of optimal behaviour of individuals and firms, [see for instance, Rotemberg and Woodford (1997); McCallum and Nelson (1999); Woodford (2003)]. These models incorporate various forms of price and wage rigidities allowing monetary policy to have real effects, though only in the short run. More recently these models gained empirical support¹ by looking at both aggregate as well as at firm-level data. In this regard micro-level evidence is more convincing as the evidence based on aggregated data may depend on the assumptions used and methodology employed, whereas micro-level research offers more direct evidence. For instance, micro level data directly investigates the price-setting behaviour of firms.

The literature on firms' price setting behaviour can be divided into three categories according to the issues dealt with in the data and the methodology employed. Some studies investigate the issue at hand by collecting data from a particular sector of the economy or a group of firms [e.g. Kashyap (1995); Dutta, *et al.* (1999); Copaciu (2004)]. Another strand of literature, with the pioneer work of Blinder (1991), uses a survey-based approach to investigate various aspects of price stickiness. These studies have an added advantage as they allow additional insights and permit a clear ranking of the causes and patterns of price stickiness. Hall, *et al.* (1997) extended Blinder's work for UK firms. Similarly Apel, *et al.* (2005) investigated the price setting behaviour of Swedish firms and Fabiani, *et al.* (2004) did the same for Italian firms. A number of survey-based studies conducted within the Eurosystem's Inflation Persistence Network used this approach.²

In this regard, limited number of studies is available that focus on developing countries. In case of Pakistan there has been little focus on micro level studies in the field of macro or monetary economics. So our study will fill this gap as it is the first attempt dealing with firms' price setting behaviour.

Acknowledgements: We are thankful to Eatjaz Ahmed, Abdul Sattar, Mahmood Khalid, and Zahid Asghar for their valuable comments.

¹See for instance Taylor (1999) and Wolman (2003).

²Fabiani, *et al.* (2005) offers a comprehensive overview of the results obtained through this research for the euro-area countries.

Besides capturing price setting behaviour, the potential effects of changes in financial cost on the overall pricing and production decisions have also been investigated. It is important to note that this study is different from others carried throughout in different countries in that instead of sending questionnaires by mail, data are collected by enumerators and field supervisors.

The study mainly focuses on four issues. First, which type of pricing rule is adopted by Pakistani firms: state or time dependent? Second, what type of information (past, current or future forecast) is used for price calculations and what are the frequency and size of average price change. Third, it deals with different theories of price stickiness by investigating the determinants of price stickiness. Wage setting behaviour, which has certain implications for the effectiveness of monetary policy, is the fourth area the study deals with.

Rest of the study proceeds as follows. Section 2 highlights the methodological issues. Section 3 outlines the main characteristics of the market. Section 4 deals with the price setting behaviour while Section 5 highlights determinants of price change and causes of price stickiness. Wage setting behaviour is investigated in Section 6 and Section 7 concludes the study.

2. METHODOLOGICAL ISSUES

The survey was financed through research grant of Pakistan Institute of Development Economics (PIDE), Islamabad. The survey was conducted in May – June 2008 in four industrial cities of Punjab Province (Faisalabad, Gujrat, Gujranwala and Sialkot). About fifty enumerators along with four field supervisors were hired who visited the firms and directly asked the questions to collect the data. Questions were asked either from owners or from managers of the firms. Each day enumerators used to discuss their problems with their field supervisors.

2.1. The Sample Design

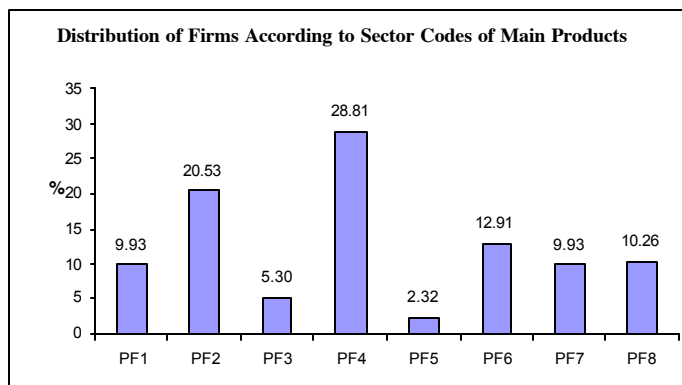
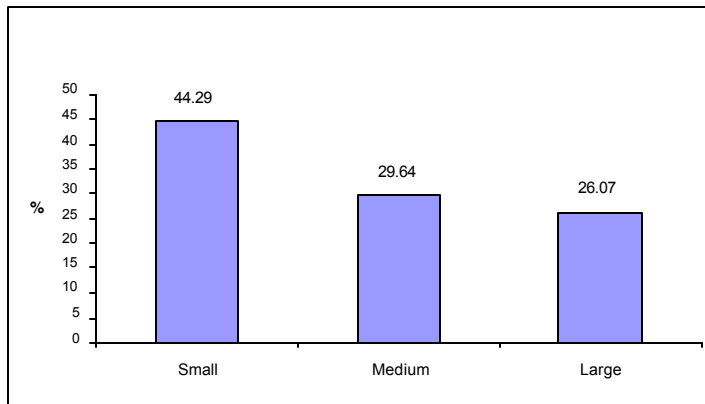
We started with the lists of firms provided by the Chambers of Commerce and Industry of all four cities. The lists include the firms who were registered before year 2008. Then the data were filtered in three steps. First of all the firms that were not involve in production process since the end of 2007 were ignored. After this filtering we get the population, which Neagu and Erdei (2006) called *initial population*.

In the second step we ignored the firms that involve only in trading and not in the production of goods. In this regard the firms actively involved in production were taken as population. Among these we ignored the firms with fewer than 10 employees. This cut-off is used in many studies like Alvarez and Hernando (2005) or Martins (2005). This has been done to avoid over-representation of small firms. The remaining companies after this filtering are considered as the *population*.

As Chambers of Commerce and Industry do not have member classification according to different sectors, we made our own classification based on the manufacturing activities taking place in the four cities under consideration. The study covers the sectors including manufacturing of agriculture related products, electrical appliances, engineering goods, food items and sanitary items, textile industry and steel, plastic and china utensils. The population also includes hotels and restaurants, sports items and leather garments and furniture.

Following Neagu and Erdei (2006), remaining firms were split into three groups, according to their number of employees: small firms (with 10 to 49 employees), medium firms (with 50 or more employees but less or equal than 250) and large firms (with more than 250 employees). In this way we got a total of 24 strata, eight sub sectors each having three categories according to size. Finally random sampling has been done within strata to select a sample.

Fig. 1. Distribution of Firms on the Basis of Number of Workers



In this way 347 firms were selected. Initially ten firms were selected randomly from the actual sample of Gujrat for pre-testing. As questionnaires were not sent through mail, we did not face the problem of no response. However four firms did not provide information on their pricing behaviour. In this way we finally got the sample of 343, which is about 8 percent of the population. The pilot survey has been conducted by the authors. In this process some of the questions were modified. It is clear from Figure 1 that there is still an overrepresentation bias in favour of small firms. So in drawing statistical inference for all Pakistani firms this overrepresentation must be considered. Throughout the survey 2007 has been considered as reference year.

2.2. The Questionnaire Design

Regarding the questionnaire we mainly focused on Neagu and Erdei (2006) and on those developed in the Eurosystem's Inflation Persistence Network (IPN). However the questionnaire has been modified significantly in many aspects. But basing our questionnaire design on others is to ensure comparability of our results with others'. Questionnaire is organised in six sections and it contains 44 questions.

Section A collects general information of the firm on its main product or service. Moreover, perceived number of competitors and market share in the market has been asked in this section. Finally a question has been included for the nature of the relationship with clients.

Section B includes information on the price setting behaviour of the firms. First, firms were asked about who set the price (themselves, parent company etc.). The firms that set their prices by themselves were then asked how they calculated the price (e.g., mark-up pricing). Firms were also asked about price discrimination and the information they used for price computations. Furthermore time dependent and state dependent pricing behaviour has been investigated. Frequency of price computations and price changes, both for the year 2007 and for other years, have been investigated. Firms were also asked about their perceived price elasticity of demand and about how did they manage when they were not able to change prices for sometime. This section also includes information on the price contracts for inputs.

Section C deals with the information regarding determinants (like inflation, labour cost, financial cost, cost of raw material, tax rate, seasonal factors and competition) of price increase and decrease to reveal the asymmetries between different directions of price change. Moreover different determinants of price stickiness are included to explain different theories of price stickiness.

In section D information has been gathered regarding the wage setting in the Pakistani firms. The information includes number of workers (permanent and daily wagers), frequency of wage changes, pattern of wage changes; wage

indexation to inflation, factors affecting future expectations about inflation, determinants of wage change and about fringe benefits provided to the workers.

Section E gathers information regarding the awareness of the firms about working of central bank. Questions were asked on reading the State Bank of Pakistan (SBP) reports, functions of SBP, using SBP forecast in different decisions and credibility of central bank's announcements. Being part of the society respondents were also asked about their preferences regarding inflation and unemployment.

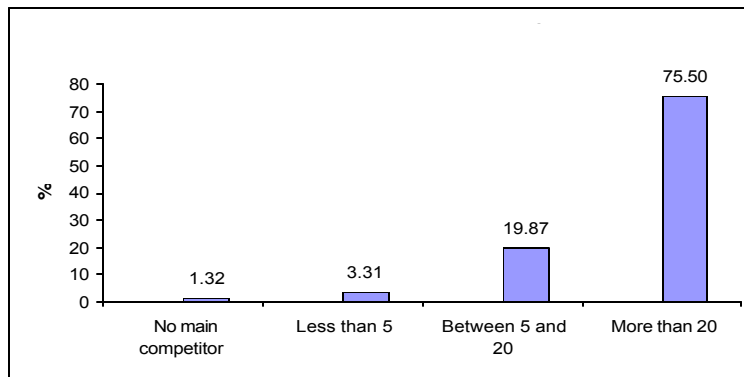
Finally, section F focuses on the cost channel of monetary policy. Information is collected regarding the firms' debt-equity ratio, percentage of interest cost in the unit cost and perceived response of the firms to a change in interest rate.

3. MAIN MARKET CHARACTERISTICS

3.1. Perceived Competition

The degree of competition the firms perceive is an important variable in the price setting process. If the firm faces more competition, then there are more chances that the firm set price close to the marginal cost. The questionnaire includes several questions to assess Pakistani firms' perceived degree of competition either directly or indirectly.

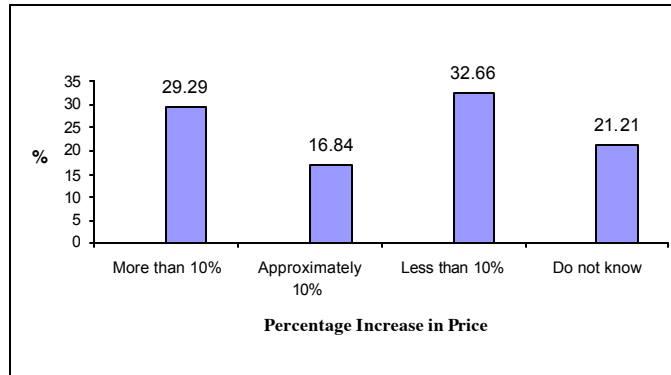
Fig.2. Distribution of Firms According to Perceived Competition



Question A.2 asks the firms about the perceived number of competitors in the Pakistani market. All other things equal the degree of competition increases with the increase in the number of competitors. About 75 percent of the firms perceive that they have more than 20 competitors in the market, with the percentage being higher in small firms. Only 3 percent of the firms responded that they have fewer than 5 competitors for the whole sample, but almost half of these are small firms.

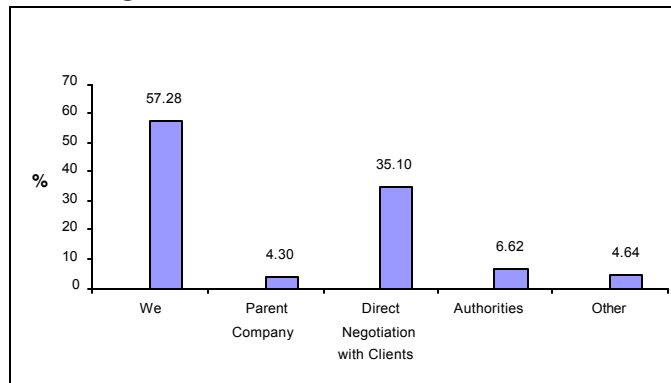
A relatively high degree of competition is confirmed by question B.11, which concerned the perceived elasticity of demand to a 10 percent price increase. 29 percent of firms estimated that the quantity sold would go down by more than 10 percent, 17 percent indicated a unit elasticity and 32 percent below unit elasticity. Almost 23 percent of the respondents did not answer this question. The highest percentage of firms reporting an above unit price elasticity was recorded in the agricultural sector, while the lowest percentage, across size, was displayed by large firms. Interestingly most of the small firms perceive that they would lose less than 10 percent share in the market.

Fig. 3. Percentage Fall of Quantity Sold if Price Goes Up by 10 Percent



To more concretely investigate the issue of market power question B.1 asks firms who sets the price of the main product. Despite the high degree of perceived competition suggested by the answers to question A.5, 57 percent of the firms declared to have full autonomy in setting their price followed by 35 percent of the firms who set their prices by direct negotiation with the clients. The pricing autonomy percentage is below average for large firms.

Fig. 4. Who Set the Price of Main Product?

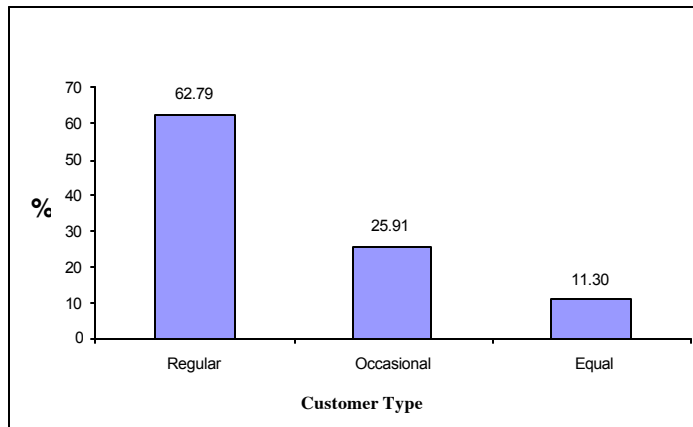


Overall, we can summarise that Pakistani firms operate in a competitive environment. This finding is further supported by the importance that firms attach to competitors' prices when setting their own; an aspect investigated in section 5 below. Furthermore, the degree of competition is higher for small firms when compared to large ones. The latter finding is a distinctively different result from that reported by Fabiani, *et al.* (2005) for the EMU countries surveyed under IPN, where the degree of perceived competition is directly proportional with the size of the firms.

3.2. Relationship with the Customers

We also asked from the firms whether their customers are regular or occasional. The existence of stable relationship might impede the price adjustment in the face of a shock. The answers are in line with those in most surveys. 62 percent of the firms considered that most clients are stable. With respect to size, larger firms indicate that most of the clients are regular while the proportion is slightly lower than the overall average for small firms. The results for large firms are in line with the findings that foreign firms and other large Pakistani companies are their main clients and the influencing role that these (clients) have in the price-setting process. Furthermore, the stable and regular relationship suggests an important role, contracts - both formal and informal—could have in providing incentives for firms to keep prices fixed.

Fig. 5. Relationship with Customers



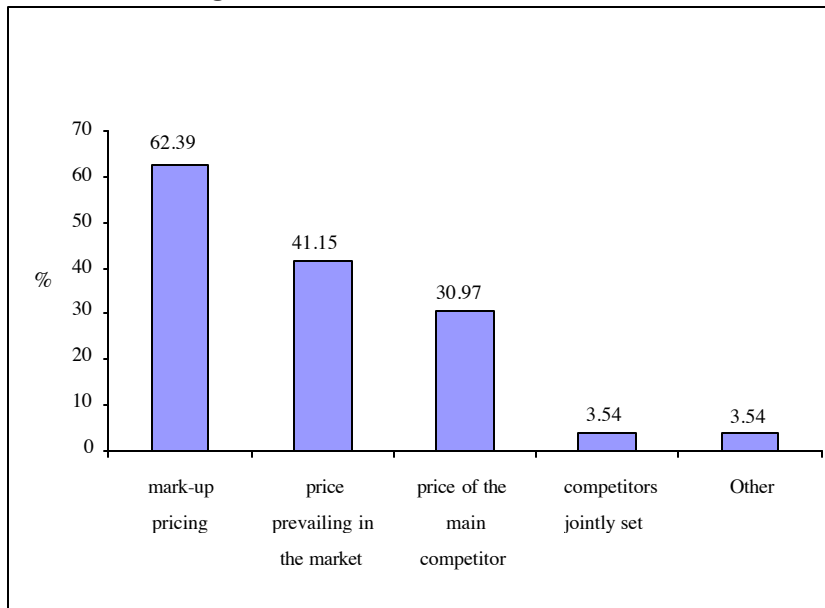
4. PRICE SETTING BEHAVIOUR

4.1. How is the Price Set?

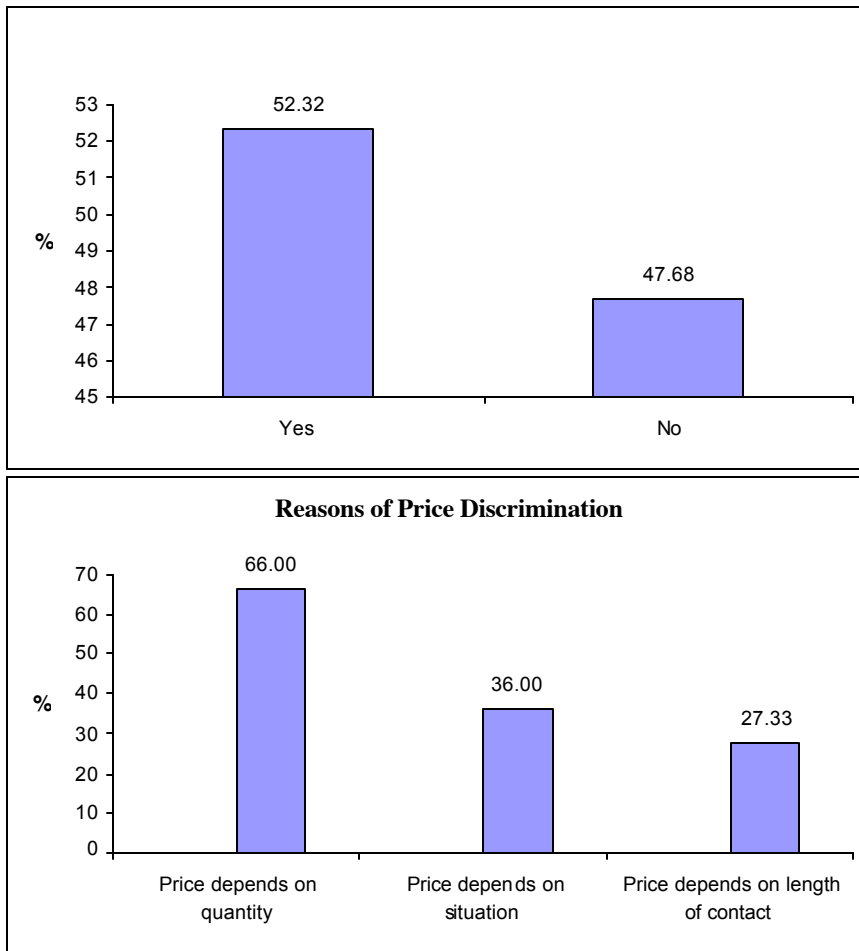
For the 57 percent of firms which set the price on their own, question B.2 tried to capture the way the price is set. 62 percent of these firms set their price

as a mark-up over cost. About 41 percent of the firms are adopting the market price, which is consistent with our previous finding that most firms are operating in a relatively competitive environment. Across different sectors, mark-up over cost is a dominant strategy only for firms in the manufacturing sector, with 53 percent of the firms in this sector following such a pricing strategy. Medium-sized and especially large firms that establish the price of the product inside the company adopt a mark-up pricing strategy, while for small firms, the market price is dominant. This pattern is consistent with the earlier results on perceived competition, and the relatively higher occurrence of long-term relations with customers for medium and large firms when compared with smaller ones.

Fig. 6. How the Price is Set Inside the Firm?



This result is also in line with traditional theory, as larger firms, having full autonomy over their price setting process and operating in a close to monopolistic market, would tend to have a higher probability of choosing mark-up pricing when compared with smaller firms. The opposite is reported by Fabiani, *et al.* (2005) for the EMU countries in which similar surveys have been carried out. In most of such countries, smaller firms adopt mark-up pricing in higher proportion than larger ones. This remains however correlated with the degree of perceived competition, since, as mentioned, EMU large firms face a more competitive market compared to small ones. Price discrimination can represent an additional feature of the price setting for a specific firm in order to extract a higher consumer surplus.

Fig. 7. Price Discrimination

Only 48 percent of the firms declared that they charge the same price for all customers. This figure might seem low at first glance, but when compared with similar figures from other countries, it is in fact relatively high³. In our sample, 66 percent of companies who discriminate prices do so depending on the quantity sold and the rest decide the price on a case by case basis. Price discrimination according to the quantity sold is higher for large firms (54 percent), while medium firms discriminate less than the small and larger ones (43 percent charge the same price). The latter fact might reflect the higher degree of competition perceived by small firms.

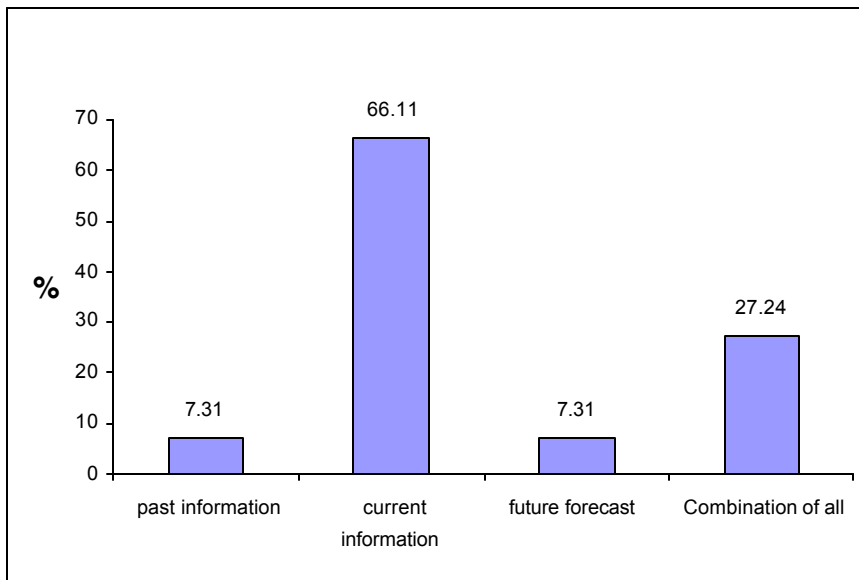
³For instance, Loupias and Ricart (2004) report that only 19 percent of French firms charge same price.

4.2. Information Used in Price Setting Process

The New Keynesian literature highlights the importance of forward looking behaviour in modelling macroeconomic variables such as inflation. While purely forward-looking

Phillips curve is rarely used in forecasting models; the most widespread specification has become that of a hybrid Phillips curve, such as the one given in Fuhrer (1997) and Smets (2003). Our results seem to support such a specification, since only 7 percent of the firms claim to use exclusively past information when setting their prices and only 7 percent use forecasts alone, while 27 percent of the firms use a combination of past information and price projections. About 66 percent of the firms use current inflation for pricing decision.

Fig. 8. Information Used for Price Setting



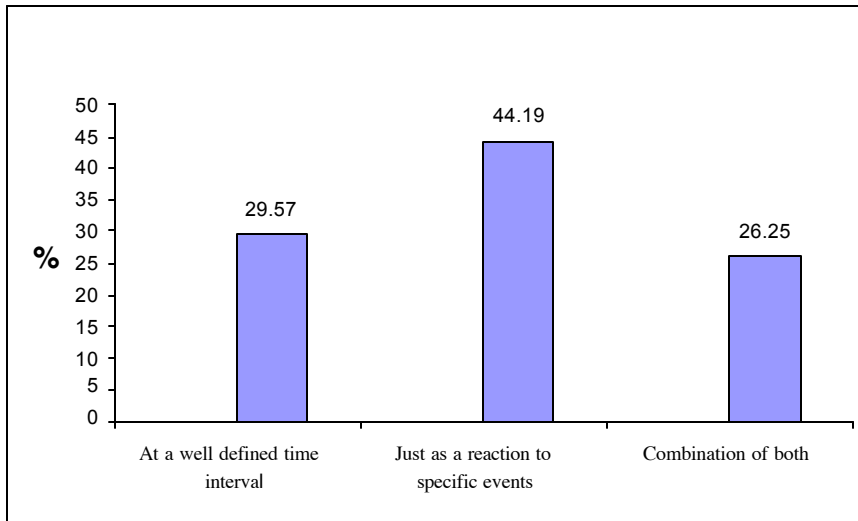
4.3. When are Prices Changed?

4.3.1. Time-Dependent versus State-Dependent Strategies

According to the nature of the price adjustment process, two main branches of the literature on price stickiness can be identified, one is based on time dependent models and the other which involves state-dependent models.

Both types of models assume that firms operate in an environment of imperfect competition, that is, they are price setters.

Fig. 9. Computations Regarding Price of Product are Made



The models that assume companies follow a time-dependent pricing policy, like the ones developed by Taylor (1977) or Calvo (1983), imply a constant duration of price quotations. While Taylor assumes that price setter knows in advance, through contracts, the path of the price adjustment process, in Calvo's model the price is altered only when the firm has an opportunity to do so which is random in the model. Fischer (1980) instead assumes that prices are predetermined but not fixed; different prices for each period are possible when multiperiod contracts are established. The main advantage of time-dependent models of price adjustment is the analytical tractability that allows the analysis of aggregate dynamics. However, their major drawback is that firms are assumed to be unable to respond to shocks that occur in the intervals between two consecutive dates of price adjustment. In contrast prices are not fixed at any moment in time between exogenously fixed periods of adjustment, in state-dependent pricing models. Prices are fixed only as long as they are not driven too far from the optimal one. Moreover, firms are allowed to respond to shocks. As pioneered by Sheshinski and Weiss (1977, 1992), the optimal policy for stores facing a fixed cost of price adjustment is one of type, in which firms change the nominal price in a discrete manner each time the real price falls below a predetermined level. The frequency of price adjustments in these models is therefore random. It should be mentioned here that the expected inflation rate is an important determinant in choosing the target and threshold prices.

In order to test which of these theories seems to be closer to Pakistani firms' practice, the firms were asked whether their prices are reviewed—without

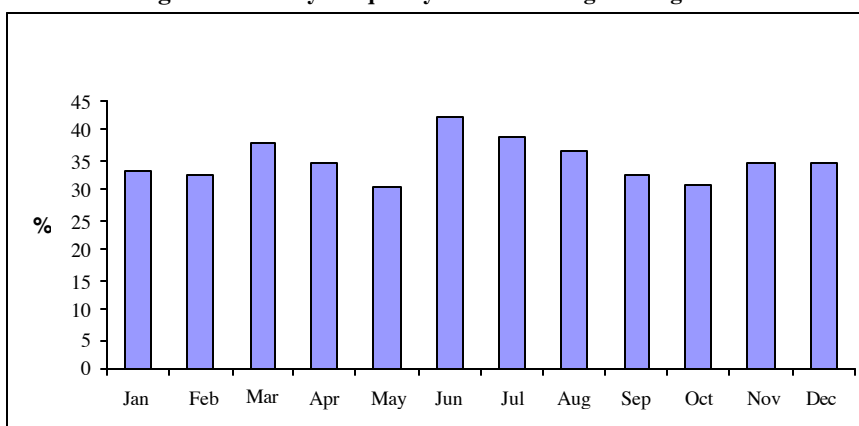
necessarily being changed—(i) at regular time intervals, (ii) just as a reaction to shocks (e.g. fluctuations in demand), or (iii) combination of both.

The responses reveal that approximately 30 percent of the firms appear to follow a purely time-dependent rule, 44 percent follow a purely state-dependent rule, while the rest employs a mixed strategy. Time-dependent pricing is more prominent in the case of firms from sanitary and utensils sector. Small and Medium firms follow mostly state-dependent strategies, while for large firms the mixed strategy is the most preferred one.⁴

4.3.2. Frequency of Price Revisions/Changes

Firms were asked the number of price revisions and the number of price changes for the year 2007. All firms were asked these questions, but the main focus was on firms which indicated to follow time-dependent and/or mixed pricing rules. This is also related to the fact that, when asked if there is a specific month when the price is changed, only firms with time-dependent and mixed rules completed the answers.

Fig. 10. Monthly Frequency of Price Change during 2007



Large firms reviewed their prices more often than medium or small ones do. This might be the result of their stronger concern regarding cost of wrong pricing, a higher diversity of their products, as well as the lower degree of competition perceived.

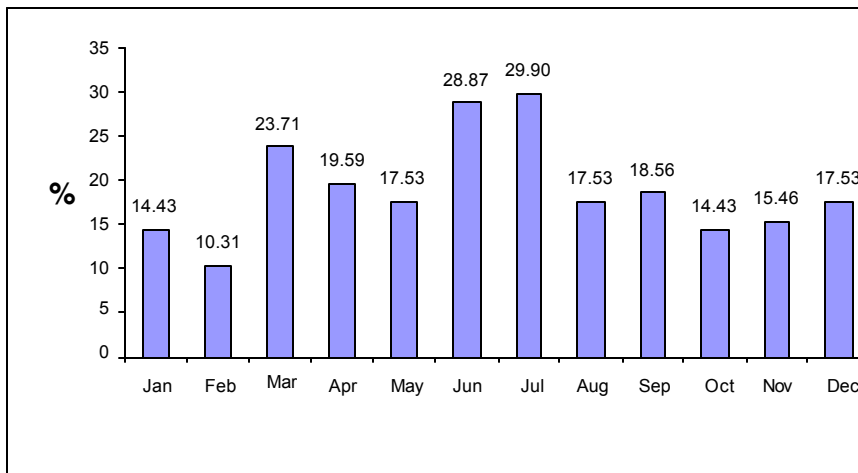
⁴Overall, the share of firms choosing a time-dependent strategy alone is smaller when compared with the average for the US (40 percent reported in Blinder et al., 1998), the UK (79 percent reported in Hall, *et al.* 1997) and the euro area (34 percent reported in Fabiani, *et al.* 2005), but there are some similarities to the results obtained in some of the countries such as Belgium (26 percent reported in Aucremanne and Druant (2005) and Sweden (23 percent reported in Apel, *et al.* 2005).

The average number of price reviews and changes for all firms in the sample is slightly higher than the similar measure computed only for firms which indicated to follow a time dependent or a mixed pricing strategy.

When asked about the month(s) when prices were changed in 2007, no significant spikes were observed in the answers. Furthermore, firms that followed a price setting strategy incorporating a time dependent pattern were asked if, *in general* there are specific months when the price is changed. Surprisingly, almost 40 percent indicated that there is no such month. This can be reconciled with the strategy followed if the decision is taken for example in a certain quarter and not a specific month. Among those indicating a specific month, the distribution is quite uniform with some minor spikes in March, June, July, and September.

Besides the frequency of price reviews and price changes, firms were also asked to indicate the magnitude of a typical price increase/decrease in 2007. The answers to this question suggest a certain asymmetry between price increases and price decreases, with the former being more evenly distributed between the 0-4 percent and the 4-8 percent brackets (38 percent-38 percent), while the latter are obviously skewed towards the 0-4 percent interval (55 percent for price decreases of these magnitudes and 29 percent for price decrease between 4 percent and 8 percent). While the prevalence of upward price changes is to be expected in a moderate-to-high inflation environment, one may also emphasize the role of the higher frequency and magnitude of upward price shocks in 2007. The highest proportion of large price increases, (i.e., larger than 12 percent) was obtained for firms in the manufacturing sector.

Fig. 11. Months in which Prices are Usually Changed



5. DETERMINANTS OF PRICE CHANGES AND

CAUSES OF PRICE STICKINESS

Section C of the questionnaire deals with the determinants of price changes and the main causes of price stickiness.

5.1. Determinants of Price Changes

To explore the main determinants of price changes, respondents were asked to assess, on a scale from 1(not important) to 4(very important), the importance of each of the factors in the list, separately for price increases and for price decreases. The factors considered were similar to those used in similar studies except that we included additional determinants, exchange rate fluctuations and the inflation rate. The change in the cost of raw material, overall inflation, and the cost of energy are found to be at the top of the drivers of price increases, whereas the change in competitors' prices, raw material's cost and the fluctuations in demand lead to price decrease. Overall we find that supply side factors are more relevant for price increases and less so for price decreases, while the reverse is true about demand side factors.

Table 1

Determinants of Price Increase

	No	Minimum	Maximum	Mean	S.E
Inflation	302	1	4	3.33	0.05
Labour costs	300	1	4	2.77	0.06
Change in financial costs (e.g., interest rate)	299	1	4	2.09	0.06
Change in the cost of raw material	302	1	4	3.56	0.04
Change in the cost of energy	301	1	4	3.04	0.05
Change in the exchange rate	300	1	4	1.9	0.06
Change in the demand for your product	301	1	4	2.29	0.06
Change in the price of the competitors	301	1	4	2.45	0.06
Seasonal factors	301	1	4	2.06	0.06
Changes in the tax	300	1	4	2	0.06
Government regulation	298	1	4	2.05	0.06
Change in the level of competition	295	1	4	2.07	0.06
Valid N (list wise)	288				

5.2. Determinants of Price Stickiness

Different explanations have been advanced by economists to motivate price stickiness. In the present case, following Neagu and Erdei (2006), the following seven possible explanations were listed for firms to assess their importance: explicit contracts, menu cost, information and decision cost, coordination failure, implicit contract, price readjustment and quality by price. The answers received to this question indicate that only three of the above

factors were regarded as important (scored above 2), namely, the existence of explicit contracts (2.41) and the fear of being the first in changing price (2.35) and stable relationship with customers (2.66). All of the other options received little importance (scored close to 2 or below).

Table 2

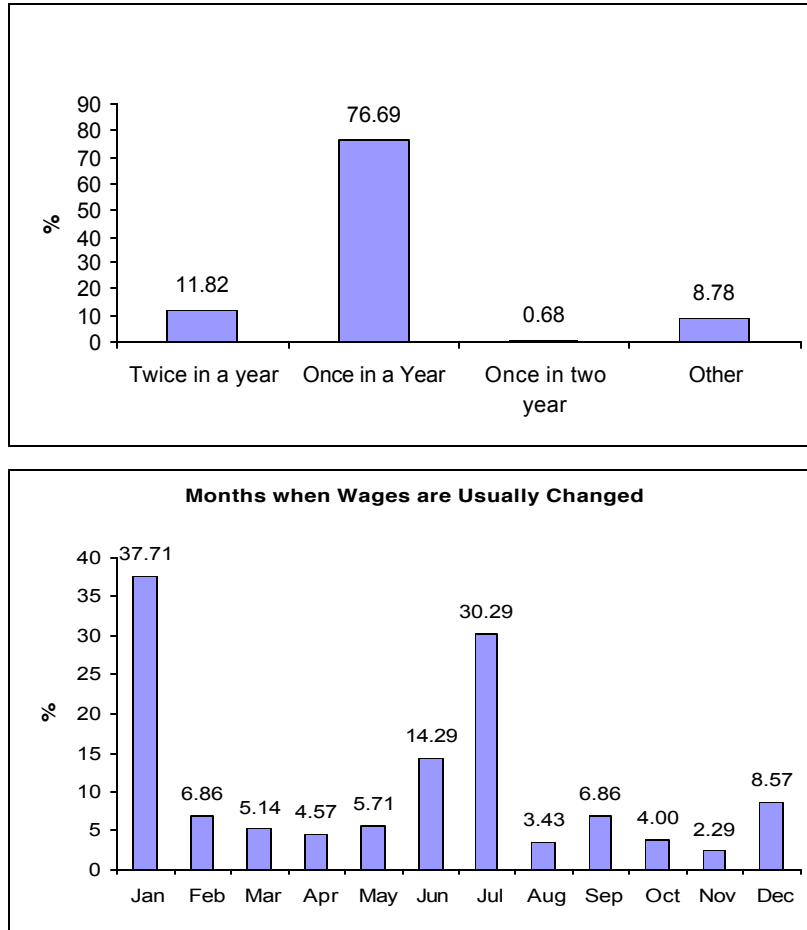
<i>Determinants of Price Stickiness</i>					
	No	Minimum	Maximum	Mean	S.E
The existence of a fixed term contract	300	1	4	2.41	0.07
Price changes imply printing cost	302	1	4	1.59	0.05
The information necessary to change the price is costly in terms of money and time	302	1	4	1.62	0.05
There is the risk of being the first to adjust the prices.	302	1	4	2.35	0.06
Our customers prefer stable	301	1	4	2.66	0.06
There is the risk that shortly we may have to change the price again in the opposite direction	299	1	4	1.84	0.05
A price reduction might be interpreted as a change in quality	295	1	4	1.84	0.06

6. WAGE SETTING BEHAVIOUR

Wage setting behaviour is an important aspect to consider when assessing the impact of monetary policy on both the real side and the nominal side of the economy. Thus, wage stickiness is often brought up in the context of a New Keynesian model as an explanation of the empirically founded inertia in inflation [see for example Blanchard and Gali (2006)] as well as in real output [see Christiano, *et al.* (2001)].

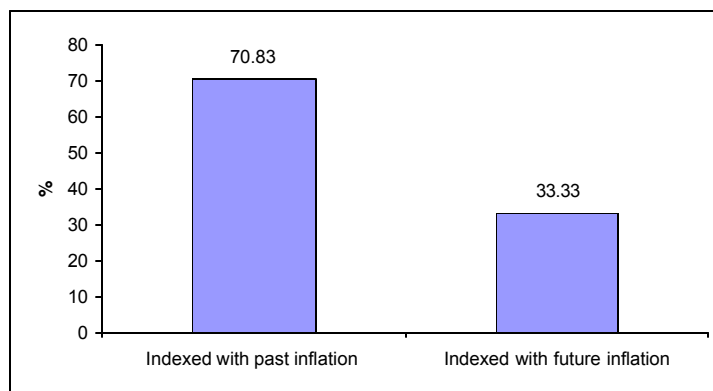
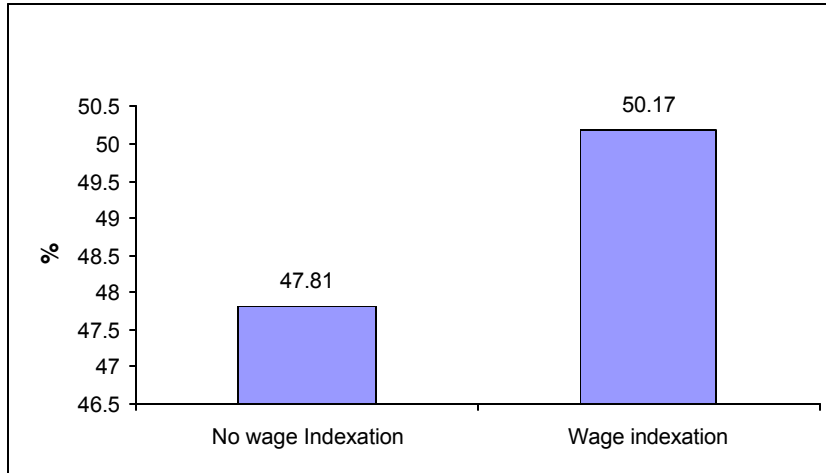
Our results suggest that in the case of Pakistan wages are more sticky than prices are. According to the answers we received, more than half (77 percent) of the sampled firms generally change their employees' wages only once per year while 12 percent have 2 changes per year.

Fig. 12. Frequency of Wage Change



When asked if there are particular month(s) when the wages are most likely to be changed, 51 percent of the answers mention that there is no such month. However, in contrast to the similar question on price setting, where the distribution across months was pretty uniform, in the case of wage setting January sticks out as a month preferred for changes. These results are close to the ones obtained for Portugal, where about 56 percent of the firms change their wages in a particular month, and out of these almost half in January [Martins (2005)].

Fig. 13. Wage Indexation with Inflation



In a relatively high inflationary environment, indexation of wages to inflation is considered a common practice. This is the topic that question D.2 was designed to investigate. Surprisingly, 48 percent of the answers indicate that inflation indexation does not take place. Among those 50 percent firms which index wages to inflation, approximately 71 percent of the firms declared to index wages to past inflation and 33 percent to the expected inflation rate. These results combined with the answers on determinants of wage changes are evidence against the widespread use of wage indexation practices to inflation. Results across economic sectors are generally similar, but for the agriculture and energy, gas and water supply sectors where inflation indexation (either to past or expected inflation) accounts for more than 50 percent of the answers. Moreover the relevance of inflation indexation seems to be marginally higher only in the case of medium-sized firms.

Firms were also asked about the main factors affecting wage changes. Respondents had to choose from seven factors: changes in the change in labour

productivity, change in the overall inflation rate, change in tax rate, change in the demand of firm's product, overall employment level in the economy, government regulation, and pressure of labour unions. Only change in the availability of labour is found to be important factor as a determinant of wage change. The results are generally similar across different sectors and firm size.

Table 3

Determinants of Wage Change

	No	Minimum	Maximum	Mean	S.E
Change in the labour productivity	301	1	4	2.88	0.063
Change in the inflation	302	1	4	2.70	0.06
Change in taxes	301	1	4	1.57	0.05
Changes in demand for your product	302	1	4	2.13	0.06
Employment level in the economy	300	1	4	1.58	0.05
Government regulations (e.g. minimum wage law)	301	1	4	2.34	0.07
Pressure from the labour (e.g. labour unions)	293	1	4	1.70	0.05

7. CONCLUSION

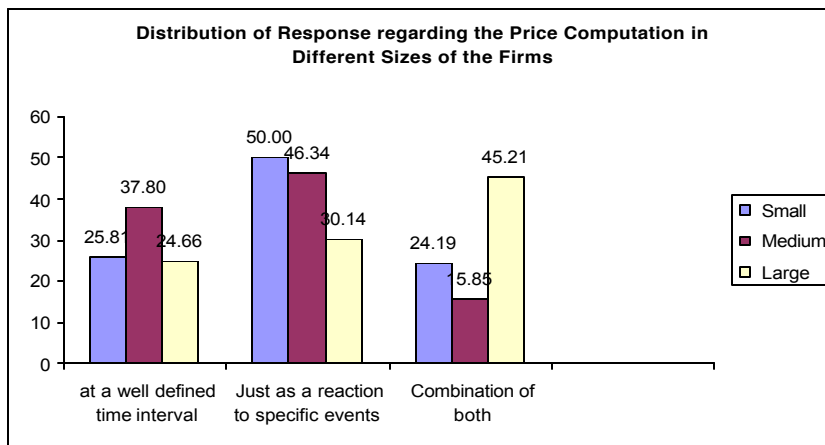
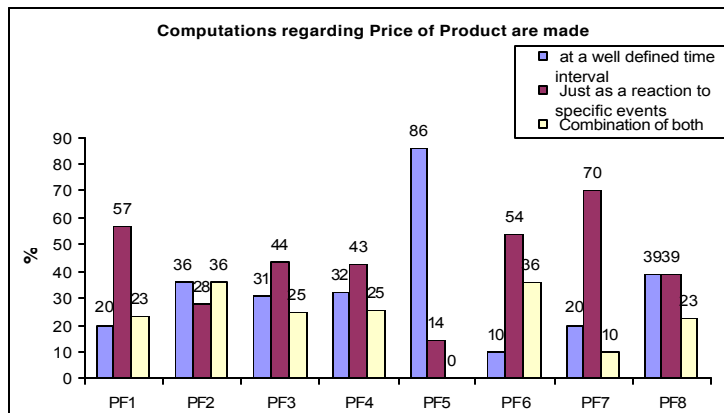
The study presents the results of a survey on price setting behaviour of Pakistani firms carried out in May 2008. The main conclusions drawn are the following:

Pakistani firms perceive to be in competitive environment they operate in. This is mainly due to more representation of small firms in the sample and the degree of competition is higher for small firms when compared to large ones. Most of the firms set their own prices. Among these, around 62 percent of the firms use mark-up pricing, whereas about 41 percent set their prices at the market price. Most of the clients of the firms are regular and firms' relationship with the customers is long-term. Most of the firms discriminate prices which is due to the quantity purchased by the customers.

The large majority of firms use current information when reviewing prices. Around 70 percent of firms use either a state-dependent pricing rule or combination of both time-dependent and state-dependent rules. Pakistani firms revise and change their prices usually in the months of June and July. Moreover, costs of raw materials, cost of energy and inflation are the main determinants of price increase while the competitors' price, raw materials costs and demand changes are responsible for price decrease. When it comes to the main causes of price stickiness, implicit contract with the customers is at the top, while explicit fixed term contract of prices on the second.

Most of the firms change their wages once in a year. January and July are the months in which wages are most probable to change. About half of the firms index their workers' wages with inflation and past inflation rate is usually used for the purpose. Labour productivity and changes in inflation rate are found to be the main causes of wage change.

Appendix A



Price Computation Frequencies

Computation of the price(a)	Responses	Percent of Cases	
		N	Percent
mark-up pricing	141	44.1%	62.4%
price prevailing in the market	93	29.1%	41.2%
price of the main competitor	70	21.9%	31.0%
We and other competitors jointly set th	8	2.5%	3.5%
Other	8	2.5%	3.5%
Total	320	100.0%	141.6%

a Dichotomy group tabulated at value 1.

D02 Permanent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	35	11.6	11.8	11.8
	2	227	75.2	76.7	88.5
	3	2	.7	.7	89.2
	4	26	8.6	8.8	98.0
	66	6	2.0	2.0	100.0
	Total	296	98.0	100.0	
Missing	System	6	2.0		
Total		302	100.0		

D02 Daily wage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	36	11.9	12.5	12.5
	2	119	39.4	41.5	54.0
	3	3	1.0	1.0	55.1
	4	45	14.9	15.7	70.7
	66	84	27.8	29.3	100.0
	Total	287	95.0	100.0	
Missing	System	15	5.0		
Total		302	100.0		

What is the Ratio of Indexation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25%	65	21.5	23.1	23.1
	50%	48	15.9	17.1	40.2
	75%	18	6.0	6.4	93.6
	100%	17	5.6	6.0	100.0
	Total	281	93.0	100.0	
Missing	System	21	7.0		
Total		302	100.0		

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