Price setting behaviour of manufacturing firms in South Africa

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ABSTRACT

The literature on price setting has developed extensively in the last decade; albeit predominantly focused on the price setting behaviour of developed countries. This study reviews the survey results of price setting behaviours in the manufacturing sector within a developing economy. More than two thirds of manufacturing firms in South Africa purely follow time-dependent pricing rules; which, when compared to the results of surveys conducted in other international studies is almost three times as much, approximately one third of firms allow for components of state-dependent pricing rules.

Higher input costs (cost of raw materials and labour costs) are the most important driver behind price increases. Declining market share is the most important factor behind price reductions. Firms review their prices more often than they actually change them. The median firm in this study has only adjusted its prices twice in the last 12 months.

Co-ordination failure and temporary shocks are the most important sources of price stickiness. Mark-up pricing and price discrimination are common practices amongst South African manufacturing firms. The quality of a firm's product followed by its price is most important in determining the firm's level of competitiveness. Manufacturing firms in South Africa generally adopt a barometric price leadership strategy when setting their prices.

KEYWORDS

Price reviews, price adjustments, price stickiness, price leadership

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Signature: _____

Date: _____

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CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Introduction

Price setting is of crucial importance to both policy makers and firms in the business environment. Central banks have a significant role to play in inflation dynamics and monetary policy transmission. Therefore it is essential for policy makers to have a clear understanding of price setting. Inflation dynamics is driven by the manner in which firms set prices; that is the direction of price changes, the magnitude of these changes and how expectations of the market are formed. The manner in which firms set prices has an implication in the conduct of monetary policy through the speed at which the monetary authorities are able to bring inflation back to its targeted range after a shock (Amirault, Kwan, & Wilkinson, 2006).

Price stickiness plays a pivotal role in monetary policy transmission and is best understood by examining the pricing setting behaviours of firms at a micro economic level to determine what factors causes the sluggish adjustment in nominal prices (Amirault et al., 2006). Price setting also influences the way changes in monetary policy are transmitted into real activity of output and employment levels (Amirault et al., 2006).

As for the business environment, price setting determines the success or failure of firms and if price setting decisions are made hastily without proper research, market analysis and strategic evaluation, this could lead to a firm losing revenue (Christ, 2012). The process itself of setting prices is costly and if customers are unhappy with the new price, the firm is likely to incurr additional costs or lose customers (Amirault et al., 2006).

This study presents results of a survey among manufacturing firms in South Africa with the purposes of firstly understanding how firms in South Africa set their prices and secondly to gain a perspective of whether price setting practices in South Africa are similar or vastly different to that of practices in other countries. The emphasis of this study is to provide qualitative insights on price setting practices to policy makers and the business environment, insights that are lacking in pricing studies of micro data analysis at present.

1.2 Research Scope

The scope of this study was limited to the following:

- South African firms in the manufacturing sector that were registered with the Companies and Intellectual Property Commission (CIPC).
- The study excluded firms from the public sector and only focused on the private sector for-profit firms because "Economic theory of price setting is based on the actions of a profit-maximising firm" (Greenslade & Parker, 2010, p. 6).
- Firms that were subjected to regulatory price controls were also excluded from this study as firms had to be able to set their prices independently without any restrictions posed by a regulatory body or offshore parent (Amirault et al., 2006).

1.3 Research Motivation

Price setting has been at heart of economic research in the last decade with numerous empirical survey studies conducted to understand the price setting behaviour of firms. However, most of these studies have focused on countries that either fell within developed economies (examples include a study on price setting in Canada by Amirault et al. (2006), a study on price setting behaviour in the Euro Area by Fabiani et al. (2006) and a similar study on price setting in the United Kingdom (UK) by Greenslade & Parker (2010)) or developing economies outside the African continent, for example a study on Pakistan's price setting behaviour completed by Malik, Satti, & Saghir in 2010.

A price setting study of South Africa has been conducted by Creamer and Rankin (2008). However this study was based on micro-data which provided detailed descriptions of the periodicity and magnitude of price changes. Quantitative results of micro-data studies are not substantial in the quest to understand the underlying behaviours in price setters. Furthermore, certain characteristics of firms price setting practices can only be investigated on the basis of the qualitative information obtained from surveys for example why firms set their prices in a particular manner as opposed to only providing insights on how and when firms set prices (Fabiani et al., 2006).

South Africa (SA) was the focus of the current study, more specifically the manufacturing sector of South Africa. The rationale behind the focus of this study stems firstly from South Africa being the gateway to other African countries and secondly that SA is considered to be

the economic powerhouse of Africa (South Africa.info, n.d). The results of this study will contribute towards the literature on behavioural mechanisms underlying price setting in Africa. Inasmuch, the manufacturing sector was pursued as the focal point of the study as opposed to completing a comprehensive study across all sectors due to time constraints on the part of the researcher. The manufacturing sector was chosen due to the role and importance of this sector in the South African economy, as will be discussed in the next section.

1.3.1 The role of the manufacturing sector and relevance to South Africa

The manufacturing sector has been central to the performance of many economies in the world as growth in this sector creates jobs that spill over into other sectors of the economy, thereby increasing a country's intellectual capital and innovativeness and driving growth in the demand for highly skilled workers and scientists (Deloitte and the U. S. Council on Competitiveness, 2010). Each dollar's worth of manufactured goods is reported to create another $1.43 of activity in other sectors; this is twice the $0.71 multiplier created by the services sector (Working for America, n.d.).Furthermore the trend of globalisation has created an increasing openness for the manufacturing sector where manufactured goods still account for the largest share of international trade (Organisation for Economic and Co-operation and Development, 2007).

The manufacturing sector has been the key source of economic growth and recovery for the United States (US) after the 2008 financial crisis. In the first quarter of 2012 the country's growth output increased by 5.5% (United Nations Industrial Development Organisation, 2012). The sector was also responsible for restoring Japan's growth post its earthquake disaster where the country's manufacturing output increased by 2.6% in the first quarter of 2012 (United Nations Industrial Development Organisation, 2012).

The competitive landscape of the sector has changed rapidly over the last decade. The most competitive location for manufacturing now and in five years was reported to be Asia, more specifically with China holding the primary position, India revered as the second most competitive location for manufacturing and the Republic of Korea as number three. In effect, this shift has toppled the manufacturing super powers of the 20th century, namely the United States, Japan and Germany (Deloitte and the U. S. Council on Competitiveness, 2010).

South Africa is currently ranked 22nd in the global manufacturing index, but is expected to move to the 19th position in the next five years. SA would then surpass developed countries

like the United Kingdom, Ireland and Italy (Deloitte and the U. S. Council on Competitiveness, 2010).

Dr Rob Davies, the minister of Trade and Industry in South Africa stated that the manufacturing sector was crucial to the long term growth and economic well being of South Africa (Davies, 2012). While acknowledging the vital role the sector had to play in the South African economy, Dr Davies also expressed his concern over the less than satisfactory performance of the sector since the mid-1970s. The minister positioned the increasing domestic input costs in the form of rapid electricity increases and labour costs as main reasons the sector had experienced difficulties over the years (Davies, 2012).

The manufacturing sector has directly contributed to approximately 14.6% of South Africa's gross domestic product (GDP) in 2011, making it the second largest contributing sector to the South African economy after the finance, real estate and business services sector (Davies, 2012). The sector also contributed 31% to South Africa's R1.6 trillion turnover in the fourth quarter of 2011 and had been recognised as the fourth largest employer in South Africa, absorbing 14% of the country's total employment (Statistics South Africa, 2012).

The multiplier effect of R1 investment in the manufacturing sector in South Africa is reported to lead to a R1.13 in overall output, a R0.13 increase in total exports and a R0.35 increase in government fiscal revenues (Pan-African Investment & Research Services, 2011). The manufacturing sector has further been reported to attract the highest priority for South Africa where a projected 10 year forecast in the manufacturing GDP with a baseline average growth of 3.4% per annum would generate R184 billion in output, 158 000 new employment opportunities, R116 billion in investments and R52 billion in exports (Pan-African Investment & Research Services, 2011). In recognising the importance of the manufacturing sector to the world economy and more specifically South Africa; there is evidence to support the need of understanding price setting behaviour in this sector.

1.4 Research Problem

The behavioural mechanisms underlying price setting are not present in conventional approaches of micro-price data analysis. However, the understanding of these behaviours is crucial to central banks in managing inflation dynamics and monetary policy transmission.

This study was expected to firstly generate insights into the pricing setting behaviours (behavioural mechanisms) of firms in the manufacturing sector in South Africa through

ascertaining the decision process firms followed in their price setting practices and secondly, to determine whether the price setting practices of manufacturing firms in South Africa differed from results found in other international studies. The research aimed to address the following objectives within the context of understanding price setting decisions of manufacturing firms in South Africa:

- Establish whether firms had specific time intervals for reviewing and implementing price changes or whether firms adjusted their prices only when there was a demand or cost shock.

- Determine what factors were most important to firms when they decided to increase or decrease their prices.

- Establish whether firms were price sticky or price flexible and determine what factors influenced firm's decisions to keep their prices constant.

- Determine what price setting strategy manufacturing firms in South Africa generally followed; whether firms were price leaders or price followers and to understand what factors determined their competitiveness.

CHAPTER 2: THEORY AND LITERATURE REVIEW

2.1 Introduction

The literature reviewed in this section outlines and describes particular economic theories related to price setting by firms. These theories are points of reference in addressing the research problem identified in section 1.4. Figure 1 below illustrates the focus of the literature study in strategic themes that aid in understanding the behavioural mechanisms of price setting. The theory relating to price reviews is discussed first in terms of understanding when firms actually reviewed their prices and what factors were taken into consideration.

Subsequently, the literature reviewed focuses on the theory of price changes, taking into account what price setting methods and approaches firms adopted when setting their prices, the reasons for changing prices and the link between exchange rate movement and price setting. Thereafter the literature study focuses on the concept of price stickiness regarding whether companies were in fact reluctant to change their prices in accordance to what economic factors would suggest and what were the reasons justified for the sluggish adjustment of prices.

The literature review concludes with the discussion about the various price leadership strategies that firms choose to adopt and how these strategies are influenced by the factors of competitiveness.

Figure 1: Illustration of literature review focus

2.2 Price Reviews

Firms that have the available resources follow a two-stage process when setting or adjusting prices. The first stage is the price review where the firm determines the deviation of current prices from its optimal level (Fabiani et al., 2006). If prices did deviate the firm then moves to the second stage referred to as the price change stage. At this stage the firm must choose to change the price or not (Fabiani et al., 2006).

At the price review stage firms take into account the information they have at hand and evaluate the current price against the potential set price (Amirault et al., 2006). Firms that have adopted the time dependent pricing model will review their prices periodically whilst firms that have adopted the state dependent pricing model will review prices whenever there are large enough costs or demand shocks (Greenslade & Parker, 2010).

2.2.1 Time dependent versus state dependent pricing:

Taylor (1980) and Calvo (1983) in Klenow & Kryvtsov (2008) define time-dependent pricing as firms setting their prices every “nth” period or randomly (Klenow & Kryvtsov, 2008). A firm would set its price either in a deterministic manner according to Taylor (1980) or randomly according to Calvo (1983). Firms that adopt the time-dependent model make use of the calendar time as a function for price changes and not the cost of demand disturbances that affect the firm’s desired price (Midrigan, 2010).

Conversely, state dependent pricing allows firms choose to change prices subject to the importance of common or idiosyncratic shocks and other economic factors (Klenow & Kryvtsov, 2008). The main assumption in the state dependent pricing model is that there is no routine price setting and firms will change their prices only when they experience some state of shock (Klenow & Kryvtsov, 2008). State dependent pricing firms want to be aware of any shocks or sufficiently large shifts in market conditions so that they are able to react as rapidly as possible to external or internal shocks (Klenow & Kryvtsov, 2008).

There are costs incurred with every price change. These include the administrative cost of reprinting and issuing price lists and costs for retagging merchandise. These costs incurred are referred to as the “menu costs” for changing prices (Fabiani et al., 2006).

As a result of costs being associated with every price change intervention, firms following the time dependent pricing model would review their prices at specific dates or discrete time intervals, even when the potential gains from adjusting in other periods are large (Taylor 1980 & Calvo, 1983). In addition to menu costs, institutional restrictions, information gathering and decision making costs are also reasons justified for firms adopting a time dependent pricing rule (Midrigan, 2010).

Firms that follow the state dependent pricing rule will only adjust prices when the benefits outweigh the fixed costs associated with a price change (Devereux & Siu, 2007). There is a distinct asymmetry when adjusting prices in response to shocks; that is in relation to marginal costs, positive shocks generate greater price flexibility than negative shocks of the same size (Devereux & Siu, 2007).

Devereux & Siu (2007) claim that there is a strategic link for this asymmetry discussed above. In the case of a positive marginal cost shock, prices are treated as strategic complements since a firm has more incentive to increase its price when other firms increase theirs. In the case of a negative shock, prices are treated as a strategic substitute with less incentive for a firm to lower its price when other firms lower their prices (Devereux & Siu, 2007).

According to Midrigan (2010) the state dependent pricing model generates smaller real effects from monetary shocks. These smaller shocks in state dependent pricing, he suggests are a result of the endogenous shift in the identify of adjusting firms, implying that firms which need a larger price change will adjust their prices when idiosyncratic and aggregate shocks reinforce each other, thus triggering the desired price changes in the same direction (Midrigan, 2010).

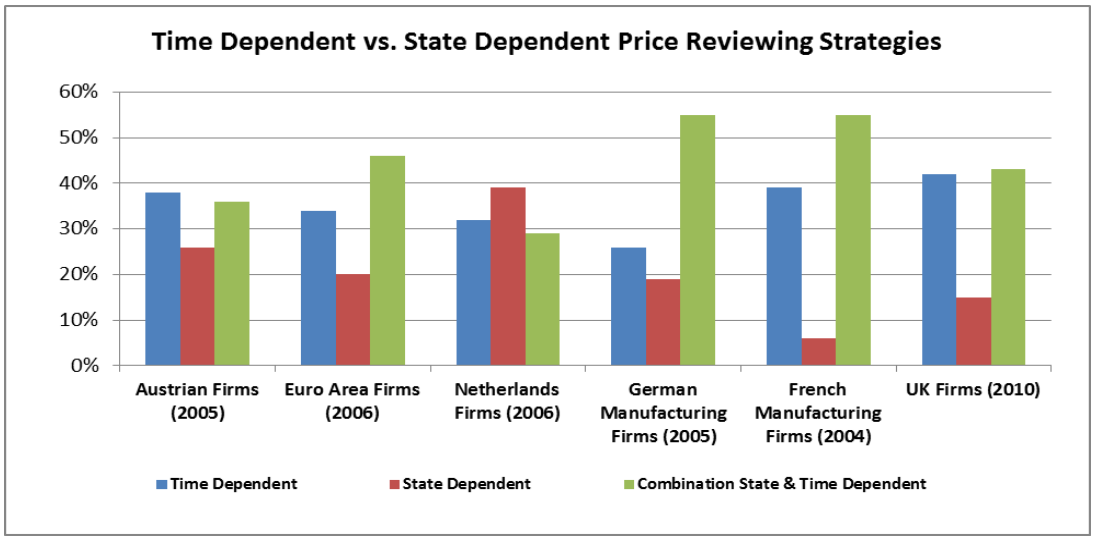
Firms that adjust their prices during periods of monetary expansions are typically firms that have received positive idiosyncratic shocks to their desired prices and those firms who do adjust their prices in a particular period are precisely those firms that need the largest price changes (Midrigan, 2010). In the case of a large enough shock where costs are unmanageable, a price review followed by a price change is likely to occur (Fabiani et al., 2006).

Blinder *et al.* (1998) in Midrigan (2010) argue that time-dependent rules of price-adjustment are twice as common as that of state dependent rules (Midrigan, 2010). There is evidence to support that the time-dependent strategy is the more preferred approach over the state dependent strategy.

The findings from the study conducted on German firms by Stahl (2005) reported that 26% of firms purely followed the time dependent strategy while 19% purely followed the state dependent strategy. In the Euro Area (Fabiani et al., 2006) 34% of firms purely followed the time dependent strategy while 20% purely followed the state dependent strategy. The Netherlands study (Hoeberichts & Stokman, 2006) which concentrated on the manufacturing and services sector reported that 32% of firms purely followed the time dependent strategy while 39% of firms purely followed the state dependent strategy.

Firms behaviour in the UK, however, show some support for Blinder et al.'s argument with 42% of firms having followed the time-dependent pricing rule only while 15% purely followed the state dependent pricing rule (Greenslade & Parker, 2010). There was also evidence to suggest that adopting the combination of both time and state dependent price reviewing strategies was a common practice for firms across the findings from previous studies alluded to above, illustrated in figure 2 below.

Figure 2: Time Dependent versus State Dependent Price Reviewing Strategies



Sources: (Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

Figure 2 above reports that between 29% and 55% of firms surveyed in the respective studies adopted the combination of both the time dependent and state dependent price reviewing strategies.

2.2.2 Information Set Used in Price Reviews

The information set that firms make use of in their price reviewing process plays an integral role and has vast implications to the speed at which prices are adjusted in response to the broad range of shocks encountered by these firms (Fabiani et al., 2006).

The New Keynesian Philips curve (NYPC) models claims that firms are "forward looking" in their price setting decisions (Greenslade & Parker (2010). However the authors Greenslade and Parker (2010) disputed this claim by stating that these models fail to explain the sluggishness observed in price adjustments and that a hybrid version of the NYPC is required where lagged inflation is assumed to also affect inflation (Greenslade & Parker 2010).

The findings from the studies conducted of firms in the Euro Area by Fabiani et al. (2006) and that of firms in the United Kingdom by Greenslade and Parker (2010) suggest four

approaches or sets of information that firms make use of when reviewing their prices. These are as follows:

- The first being the “rule of thumb” approach where a fixed percentage is applied or the CPI indexation rule is followed (Fabiani et al., 2006; Greenslade & Parker, 2010).
- The second is the “backward looking” approach where firms set prices primarily given the conditions that have been applied in the recent past; that is the use of historical information to make price setting decisions (Fabiani et al., 2006; Greenslade & Parker, 2010).
- The third approach is when firms set prices primarily in accordance with information on current trading conditions (Fabiani et al., 2006; Greenslade & Parker, 2010).
- Lastly the “forward looking” approach where firms make use of information sets relating to the expectations of the future economic environment; that is setting prices primarily based on their view of the near future (Fabiani et al., 2006; Greenslade & Parker, 2010).

One fifith of firms in the UK are reported to have adopted the “rule of thumb” or the “backward looking” approach, whilst a third of UK firms and 48% of firms in the Euro Area are reported to have adopted the “forward looking” approach (Fabiani et al., 2006 ; Greenslade & Parker, 2010). In terms of using information about current trading conditions, 45% of the firms in the UK and 34% of firms in the Euro Area are reported to have adopted this approach to review their prices (Fabiani et al., 2006; Greenslade & Parker, 2010).

Fabiani et al. (2006) report that in the Euro Area smaller firms tend to be more backward looking and larger firms attach more importance to expectations of future conditions (Fabiani et al., 2006).

2.2.3 Frequency of Price Reviews

While optimal strategies would suggest that firms review their prices every day, this may not be practical for all firms considering the costs associated with every price intervention. Greenslade and Parker (2010) argue that if reviewing prices were a costless exercise, firms would be continuously reviewing their prices (Greenslade & Parker, 2010).

Results from the Euro Area study reported that 57% of firms reviewed their prices a maxium of three times a year (Fabiani et al., 2006) whilst a quarter of the firms in the UK reviewed

their prices at most once a year (Greenslade & Parker, 2010). One third of firms in the UK and 26% of firms in the Euro Area reviewed their prices at least once a month (Fabiani et al., 2006; Greenslade & Parker, 2010).

The frequency of price reviews differ substantially across sectors. Price reviews were found to be most frequent in the wholesale and retail sectors but less frequent in manufacturing firms in the Netherlands (Hoeberichts & Stokman, 2006). In the UK, firms in the construction and retail sector reviewed their prices more often while firms in the manufacturing and services sector reviewed their prices less often (Greenslade & Parker, 2010).

There is a strong association between the frequency of price reviews and price changes, where firms are reported to review their prices more often but change their prices less frequently (Fabiani et al., 2006). The median firm in Austria is reported to have reviewed it prices quarterly but to have only changed its price once a year (Kwapil, Baumgartner and Scharler, 2005). Two thirds of the manufacturing firms in the Netherlands reviewed their prices more than once a year but only 25% of the firms changed their prices more than once a year (Hoeberichts & Stokman, 2006). The median firm in Germany reviewed its prices at least three times a year (Stahl, 2005) whilst the median firm in France reviewed its prices at least four times a year ((Loupias & Ricart, 2004) and both these studies focused on firms in the manufacturing sector.

The firm's size also plays an integral role in the frequency of price reviews as larger firms reviewed their prices more often than smaller firms (Amirault et al., 2006). A further factor which is cited as an important indicator to the frequency of price reviews is the competitive environment of firms. Firms that face intensive competition were more likely to review their prices more often (Greenslade & Parker, 2010).

2.3 Price Changes

2.3.1 Price Setting Considerations

2.3.1.1 Price setting methods

With regard to how firms set prices, two of the most widely used strategies by firms amongst others are the mark-up pricing approach and the marginal costing approach. In the case of mark-up pricing, firms would choose to charge their customers a price that represents a

certain mark-up over the marginal cost of producing the product (Fabiani et al., 2006). The mark-up decided upon by the firm could be constant or time varying (Greenslade & Parker, 2010).

Mark-up pricing is reported to be a significant practice in the South African manufacturing sector, almost twice as popular as instances of the practice found in the United States manufacturing sector (Fedderke, Kularatne, & Mariotti, 2005). The practice of mark-up pricing is reported to be a product of an imperfect competitive model and the reason that firms choose this pricing strategy is to ensure that they are able to resist adjusting their prices when facing any variations in actual costs (Fabiani et al., 2006).

On the opposite end where perfect competition exists, firms that belong to the same market would make use of the marginal costing approach. Essentially, these firms would set prices where the price is equal to the marginal cost of producing the product (Fabiani et al., 2006).

Mark-up pricing is the dominant strategy used by firms in the Euro Area, with 54% of the surveyed firms having confirmed that they use the mark-up pricing strategy (Fabiani et al., 2006). These findings are similar to that of the results of the UK study which reports 57% of the firms that consider mark-up pricing as “very important”; a combination of constant and varying uses of mark-up pricing (Greenslade & Parker, 2010).

33% of the sampled firms in the UK study regarded price which is determined by competitors price as “very important” (Greenslade & Parker, 2010) while 27% of the firms in the Euro Area set their prices according to the prices of their main competitors with the authors suggesting that firms in highly competitive environment are price takers (Fabiani et al., 2006). Other forms of pricing setting methods that firms make use of include setting prices that are: primarily specified by the firms principal customer, primarily specified by the firms competitors’ price, primarily determined by a regulatory agency, based on a targeted return on capital/assets and lastly price that is set at a statutory level (Greenslade & Parker, 2010). The size of firm also plays an important factor when deciding what pricing strategy to adopt, as larger firms are more likely to use some form of mark-up pricing in comparison to smaller firms (Greenslade & Parker, 2010).

2.3.1.2 Price Discrimination

A further characteristic of how firms differ from each other in their price setting strategies is through the practice of price discrimination. Price discrimination as defined by Elegido (2011) “is the practice of charging different customers different prices for the same product”

(Elegido, 2011, p. 633). Firms use price discrimination as a mechanism of extracting a higher fraction of consumer surplus where they would not be able to do so in the case of charging a uniform price (Fabiani et al., 2006). Whilst price discrimination maybe considered to be unfair by some, there is also the argument by economists that price discrimination as opposed to uniform pricing is likely to lead to greater welfare for all parties in the transaction (Elegido, 2011).

Tirole (1988) in Fabiani et al. (2006) stated that price discrimination can take various forms and provides the following examples where the price of the firm's product could vary: according to the type of customer, the geographical area in which the product is sold, the number of units (volume) in which the product is purchased and the specific time at which the product is sold (Fabiani et al., 2006).

The findings from both the Euro Area and the UK studies reported price discrimination as a common practice amongst firms. 82% of firms in the Euro Area set their prices either on a case by case basis or in accordance with the quantity sold (Fabiani et al., 2006) whilst in the UK, 78% of firms have been reported to set their prices by adopting either the case by case approach or in accordance with the quantity sold (Greenslade & Parker, 2010).

2.3.2 Reasons for Price Changes

At the price change stage where firms have the option to implement a price change the price setter must consider certain factors. Some of the factors that are reported as main drivers and influencers for firms changing their prices are: price changes by competitors (local or international rivals), changes in the cost of raw materials (input costs), change in the demand for the product/service, changes in labour costs (input costs), changes in inflation forecasts and changes in market share (Greenslade & Parker, 2010).

There is a variation in the reasons for changing price based on the direction of the price change. For price increases, labour costs and the costs of raw materials are the factors that firms in the Euro Area and in the UK considered as "most important" when deciding to change their price whilst changes in demand for the product or service was the "least" considered factor (Fabiani et al., 2006; Greenslade & Parker, 2010). For decisions regarding price reductions the competitor's prices followed by the costs of raw materials were regarded as the "most important" factors to firms in the Euro Area and in the UK (Fabiani et al., 2006; Greenslade & Parker, 2010).

Input costs in the form of raw materials and labour costs have an effect on the financial performance of a firm as any increase in these factors significantly effect the firm's profitability (Mary & Okelue, 2012). Inflation in the prices of barley and aluminium has led to steep increases in input costs for Nigerian breweries where in the "last two years brewer's gross margin fell by 350 billion pounds due to inflation in input costs" (Mary & Okelue, 2012, p. 81).

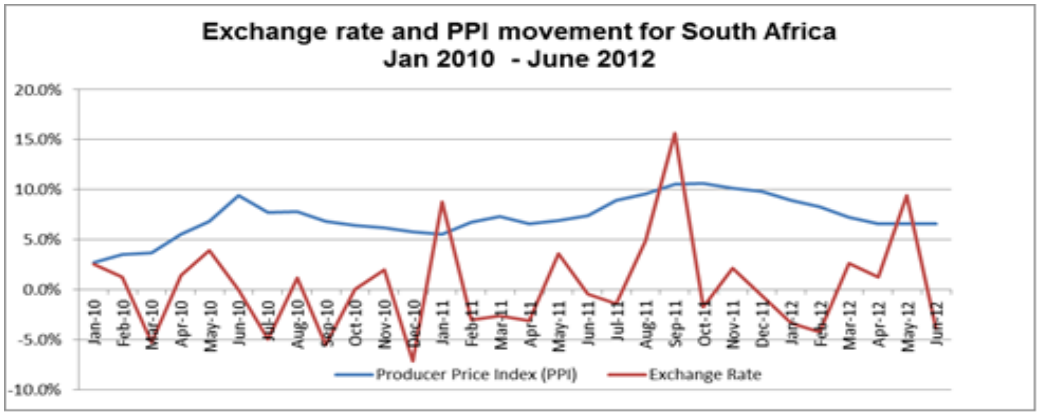
In terms of labour costs, the wage costs in South Africa exceeded that of all other developing countries in almost all sectors thereby having an adverse effect on the country's competitiveness (Edwards & Golub, 2002). A 1% rise in wages in developing countries like South Africa was reported to lead to a 1.6% reduction in total exports of the country (Edwards & Golub, 2002). Edwards and Golub (2002) argue that a substantial increase in real wages dissipates any competitive gains that South Africa has enjoyed from improved labour productivity and has led to negative effects on the country's export growth and employment levels gained from previous rising growth (Edwards & Golub, 2002).

2.3.3 The link between exchange rate movement and price setting

Yang (1997) states that exchange rate changes are considered as cost shocks to firms that produce locally and sell to international markets. Yang explained that "when the exchange rate changes, the firm may choose to pass the cost shock fully into its selling prices (complete pass-through), to absorb the shock to keep its selling price unchanged (no-pass-through), or some combination of these (partial pass-through)." (Yang, 1997, p. 95).

The exchange rate impacts manufacturing firms in the form of input costs (importing of raw materials or unfinished goods) or in the form of transactional costs (exporting of finished goods). In figure 3 below it is evident that the Rand/Dollar exchange rate has been volatile over the period between January 2010 and June 2012. However, the movement in the producer price index (PPI) which measures the average change in selling prices of local producers and services did not follow the movement of the exchange rate fluctuations. This suggests that local manufacturing firms absorbed the cost shocks from the exchange rate volatility to keep selling prices unchanged (Yang, 1997).

Figure 3: Exchange Rate and PPI movement for South Africa

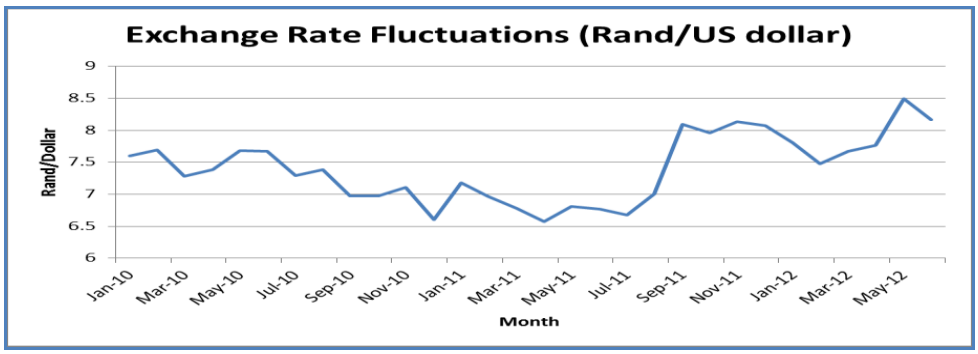


Source: (Statistics South Africa, 2012; Forexpros, 2012)

The strength (appreciation) or weakness (depreciation) of the Rand has different implications for the various stakeholders. For central bankers a strong Rand is preferred as this helps to maintain inflation levels; whilst for importers a strong Rand increases the demand for locally produced finished goods thus creating new employment and improving revenue streams (Fourie, 2011). For firms that export finished or intermediate goods, a weaker Rand is preferred as this creates more demand from international markets, contributes to additional employment opportunities locally and increases exporting revenues (Fourie, 2011).

Figure 4 below illustrates the exchange rate fluctuation for the South African Rand against the US Dollar. The exchange rate fluctuated with a range of 29% for the period between January 2010 and June 2012 and 21% in the last year from July 2011 to June 2012 (Forexpros, 2012).

Figure 4: Exchange Rate Fluctuations



Source: (Forexpros, 2012)

Firms are reported to take different actions to restore their margins when margins become smaller as a result of a depreciating currency. Some of the examples provided in previous studies included firms increasing their selling prices, shifting input to local suppliers, reducing other input costs, increasing productivity levels or reducing other costs (Amirault et al., 2006).

2.4 Price Stickiness

2.4.1 Frequency of Price Changes and Price Stickiness

In an open market when levels of supply and demand drift apart from each other, then under the state of equilibrium, price as a mechanism is used to restore balance and bring efficiency into the market. The concept of reducing market inefficiency through price is referred to as price flexibility (Bils & Klenow, 2004). The extent to which prices are unchanged or when there is resistance for a price to change in spite of changes in the economy, suggesting that a different price is optimal, this is referred to as “Price Stickiness” (Amirault et al., 2006).

Kehoe and Midrigan (2010) claim that there is a one-to-one relationship between the degree of price stickiness and the frequency of micro price changes. These authors report that if the individual prices of goods are rarely changed the aggregate price level is highly sticky and cannot offset monetary shock effects; however if the individual prices of goods change often then the aggregate price level is not sticky (Kehoe & Midrigan, 2010).

Bils and Klenow (2004) positioned that there are vast differences in the frequency of price changes across goods. An example from Bils and Klenow state that “prices of newspapers, men’s haircuts and taxi fares change less than 5 percent of months” whilst “prices of gasoline, tomatoes and airfares changing more than 70 percent of months” (Bils & Klenow, 2004, p. 948). Furthermore, Bils and Klenow reported that in the US price changes for goods are much more frequent than price changes for services, approximately 30% more (Bils & Klenow, 2004). Fabiani et al. (2006) lends support to the findings by Bils and Klenow (2004) by reporting that prices tended to be stickier in the services sector and more flexible in the trade sector (Fabiani et al., 2006).

Bils and Klenow (2004) claim that firms have become more price flexible in recent years. They support their claim with evidence that in 2004 the mean duration between price changes of firms in the US was 5.5 months in comparison to the results by Blinder, Canetti,

Lebow & Rudd (1998) in 1998 which reported the mean duration between price changes of firms as 8.8 months.

Kehoe and Midrigan (2010) disputed the claim that price changes of individual goods are much more frequent than previous years by suggesting that the research by Bils and Klenow (2004) did not take into account the effect of temporary micro price changes. Kehoe and Midrigan contended that the research by Bils and Klenow (2004) did not consider the effect of temporary micro price changes which, as the authors explain, cannot offset monetary shocks well (Kehoe & Midrigan, 2010). The authors report that regular price changes can offset monetary shocks well but do so infrequently, thereby indicating that regular prices are much stickier than temporary prices (Kehoe & Midrigan, 2010).

Kehoe and Midrigan (2010) explains that when a firm changes its price temporarily in a given period in response to an idiosyncratic shock, the firm is able to react to changes in the monetary policy. However when the price reverts to its old price, it no longer reflects the change in monetary policy (Kehoe & Midrigan, 2010). Since temporary price changes are highly clustered over time they have a less of an effect in offsetting persistent changes in monetary policy, therefore implying that even though price changes at a micro level may occur frequently, the aggregate price level is sticky (Kehoe & Midrigan, 2010).

The findings by authors Kehoe and Midrigan (2010) are further supported by the results from a more recent US study conducted by Nakamura and Steinsson (2008) which reported that the mean duration between price changes of firms in the US was 9.5 months, confirming that ultimately price changes in the US are sticky.

Figure 5 below supported by Table 1 (for reference to scope and study approach) provides an illustration of the mean duration between price changes for some of the various empirical studies conducted over time.

Figure 5: Mean duration between price changes

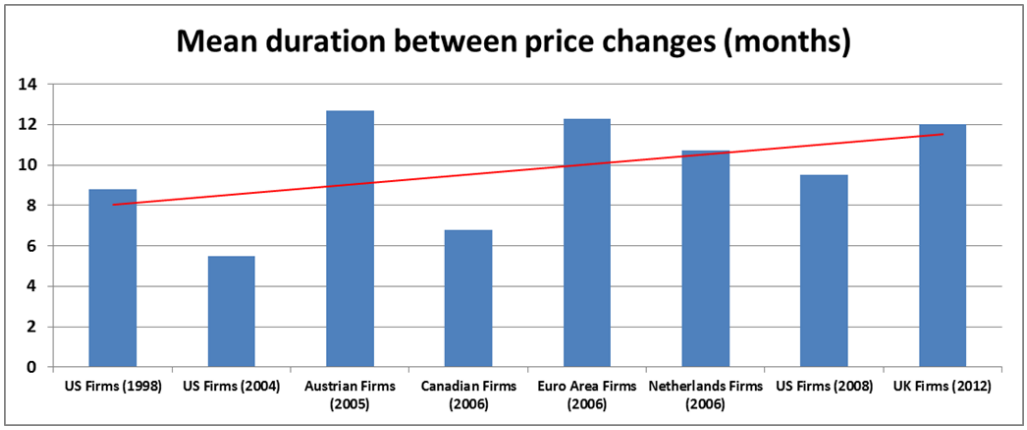


Table 1: Empirical studies conducted on price setting behaviour

Year of Study	Area of Study	Previous Studies	Study Approach	Scope of Study	Mean duration between price changes (months)
1998	US Firms	Blinder et al.	Survey	Industrial sector	8.8
2004	US Firms	Bils & Klenow	Micro Data	Across sectors	5.5
2005	Austrian Firms	Kwapil et al.	Survey	Mainly Manufacturing sector	12.7
2006	Canadian Firms	Amirault et al.	Survey	Across sectors	6.8
2006	Euro Area Firms	Fabiani et al.	Survey	Industrial sector	12.3
2006	Netherlands Firms	Hoeberichts & Stokman	Survey	Manufacturing and Services sectors	10.7
2008	US Firms	Nakamura & Steinsson	Micro Data	Across sectors	9.5
2010	UK Firms	Greenslade & Parker	Survey	Across sectors	12

The results from studies conducted in the United Kingdom (UK) by Greenslade and Parker (2012) and the Euro Area by Fabiani et al. (2006) reported that the mean duration between price changes is 12 months, lending further support to the argument that firms are in fact price sticky.

The studies conducted by Kwapil et al. (2005) and Hoeberichts and Stokman, (2006) reported that firms in the manufacturing sector were price sticky with the mean duration between price changes being 12.7 and 10.7 months respectively.

This study will validate whether the manufacturing sector in South Africa does in fact share the same characteristics of being price sticky to that of other international firms.

2.4.2 Factors that Influence Price Stickiness

Certain micro economic theories can explain why prices are not flexible in adjusting to optimal prices, because there are possible obstacles to firms changing their prices. Previous empirical studies (such as studies by Fabiani et al. (2006) detailing the Euro Area, as well as the Austrian firms study by Kwapil et al. (2005), the Canada study by Amirault et al. (2006) and the UK study by Greenslade and Parker (2010)) list amongst them the following micro economic theories as reasons for firms being price sticky:

2.4.2.1 Sticky-Information

Sticky information refers to information that is used in the price review process that is not readily available. This type of information leads to delays in the overall price adjustment process (Amirault et al., 2006).

Authors Mankiw and Reis (2002) using their “Sticky-information model” state that information regarding macroeconomic conditions diffuses slowly through the population as a result of the costs of acquiring information or costs of re-optimisation. These authors report that although prices are changing, the price decisions are not always based on the most current information (Mankiw & Reis, 2002).

Mackowiak and Wiederholt (2009) state that a convincing model of real effects on monetary policy due to imperfect information should have two features. Firstly the information regarding the current state of monetary policy should be publicly available and secondly it should be optimal for agents to pay little attention to this information.

The inability of price setters to attend perfectly to all available information is a constraint that firms face. This constraint of information flow leads to a trade-off between firms paying attention to aggregate conditions or paying attention to idiosyncratic conditions (Mackowiak & Wiederholt, 2009). These authors explain that firms adjust their prices every period and when idiosyncratic conditions are more variable than aggregate conditions; then prices will

respond more “strongly and quickly to idiosyncratic shocks, but only weakly and slowly to aggregate conditions” (Mackowiak & Wiederholt, 2009, p. 770). The fact that pricing decisions are not always based on the most current information could be an important factor regarding delays in actual price adjustments (Mankiw & Reis, 2002).

2.4.2.2 Cost Based Pricing

Costs are an important factor in a firm’s pricing decision to the extent that if the firm’s costs do not change then prices will not change either (Fabiani et al., 2006, p. 27). There are lags between price hikes as a result of demand or costs shocks, these lags even if short, once passed through the different stages of the production, can lead to considerable inertia at the aggregate price level (Amirault et al., 2006).

Firms will wait until their actual costs change before making a price adjustment and thus will not increase their prices in an anticipation of a cost increase (Amirault et al., 2006). In the case of likely costs increases, some firms (more typically in the manufacturing sectors) would hedge against cost increases or choose to buy in advance and store their inputs as opposed to increasing their prices (Amirault et al., 2006).

2.4.2.3 Explicit contracts

Explicit contracts are defined as the written or orally agreed contractual agreement the firm has with its customers to offer a particular product or service at a specific price (Fabiani et al., 2006). The authors Fabiani et al. (2006) allude to the fact that a firm’s customers are attracted by constant prices. This attraction for constant prices are a result of the customers’ desire to ensure that they able to manage their own future costs with the ability to predict and minimise transaction costs (Fabiani et al., 2006). In an effort to stabilise future sales and discourage customers from shopping elsewhere firms would thus engage in explicit contracts as a means to build long term relationships with their customers and guarantee future revenue streams (Fabiani et al., 2006).

2.4.2.4 Implicit contracts

The concept of implicit contracts refers to firms that have an implied understanding with their customers that prices will not increase during tough economic conditions in order to build long term relationships with their customers (Amirault et al., 2006). Prices generally would increase as a result of cost shocks or demand shocks. In the case of higher costs, the firms

customers would accept this rationale for an increase in prices. However, in the case of increases in demand this would be regarded as unfair by the firms customers (Fabiani et al., 2006). In order not to jeopardise relationships with customers, firms would hold their prices constant in the face of demand shocks and chose to adjust prices only in response to cost shocks (Fabiani et al., 2006).

2.4.2.5 Menu Costs

Menu costs are the physical costs associated with changing a price. An example would be the costs of reprinting price lists and the time and effort required to make a price change (Greenslade & Parker, 2010).

Fabiani et al. (2006) claimed that a company incurring these menu costs will change its prices less frequently than an identical firm not incurring such costs. Akerlof and Yellen (1985) and Mankiw (1985) in Fabiani et al. (2006) report that even "small" costs of changing prices could lead to nominal rigidities with "large" macroeconomic effects (Fabiani et al., 2006, p. 28). In order to differentiate between the different kinds of costs associated with price changes, the term "menu costs" was specified as a narrow focus for the physical costs of changing prices (Fabiani et al., 2006).

2.4.2.6 Coordination Failure

A price change does not only affect the firm's customers but also its competitors (Kwapil et al., 2005). After a cost or demand shock a firm may choose to change its price on condition that other firms change their prices and the reason for this behaviour is that if the respective firm is the "only one to increase its price, it might stand to lose customers" (Kwapil et al., 2005, p. 20). There is also the risk of initiating a price war if the respective firm decides to reduce its prices, thus leading to a detrimental effect to the firm's profits (Greenslade & Parker, 2010). If there is no coordinating mechanism to allow firms to move together then prices would remain unchanged (Fabiani et al., 2006).

2.4.2.7 Non Price Adjustments

Firms have other options regarding their reaction to the cost or demand shocks they face as opposed to changing the price of their product. The firms could change certain product features, vary the delivery time or alter the level of service they offer to customers (Fabiani et al., 2006).

2.4.2.8 Temporary Shocks

When firms assess certain cost or demand shocks to be short lived (temporary in nature) the firms may choose to forego a price adjustment as they would expect the new optimal price to be short lived as well (Fabiani et al., 2006).

2.4.2.9 Low Inflation

The rate of inflation has a role allowing firms to decide to change their prices. When inflation is low the frequency of prices changes is mild and when inflation is high the frequency and the average magnitude of price changes are strongly correlated with inflation (Gagnon, 2009).

Fabiani et al. (2006) reported that economic agents have an expectation of the inflation rate and any price increase above this targeted inflation rate is recognised as being a real price change as opposed to a nominal price change (Fabiani et al., 2006).

The authors in Fabiani *et al* state that while inflation is not a theory of price stickiness, the rate of inflation does however influence decisions on the magnitude of price increases (Fabiani et al., 2006). In cases where there is low inflation any large price increase made by firms will be noticed by customers. Inasmuch; 34% of firms surveyed in the Euro Area accepted this as the reason for keeping their prices constant (Fabiani et al., 2006).

The findings from the UK study reported explicit contracts followed by coordination failure as the most important reasons for firms being price sticky (Greenslade & Parker, 2010). The risk of damaging customer relationships (implicit and explicit contracts) was reported as the most important reason for firms in the Euro Area being price sticky, whilst for firms in Canada it was cost based pricing which was most important for firms being price sticky (Amirault et al., 2006; Fabiani et al., 2006).

2.5 Pricing Strategies and Factors of Competitiveness

2.5.1 Pricing Strategies

The authors Kwapil et al. (2005) stated that the degree of competition that a firm faces is crucial to the price setting behaviour of the firm, where in the case of perfect competition

there is only one unique price and individual firms are not able to set their own prices. The authors maintain that “market power is a prerequisite for price stickiness to be an equilibrium phenomenon” and furthermore adds that “In New Keynesian models with sticky prices, firms do indeed exercise some market power (monopolistic competition)” (Kwapil et al., 2005, p. 12).

The OECD (1993) in Fedderke & Simbanegavi (2008) define industry/market concentration as “the extent to which a small number of firms or enterprises account for a large proportion of economic activity such as total sales, assets or employment” (Fedderke & Simbanegavi, 2008, p. 2). Further, these authors state that industry concentration is a representation for market power of firms where higher concentration would imply that leading firms with larger market share would have a greater opportunity for exercising market power (Fedderke & Simbanegavi, 2008).

A firm that is a monopoly in its industry has a great deal of power over the price it sets whilst firms that operate in perfectly competitive markets have very little power and are considered to be price takers (Brennan, Canning, & McDowell, 2007). In the case of an oligopoly structure where the industry is dominated by a few substantial firms, price setting can be fairly intense with the risk of starting a price war (Brennan et al., 2007).

Conversely, monopolistic competition on the otherhand is a form of market structure where firms would have many competitors but each of the firms would sell slightly different products from each other (Ottaviano & Thisse, 2011). In a monopolistic market structure firms are considered to produce economies of scale within varieties but not economies of scope across varieties where each firm would supply one specific variety, thus being refered to as monopolistic (Ottaviano & Thisse , 2011). There are no major barriers to entry and exit in a monopolistic market structure and firms make their own independent decisions about their prices and output levels which are largely based on the firms product, market and costs of production (Ottaviano & Thisse , 2011).

In oligopoly market structures there is an explicit requirement for firms to have strategic interactions with each other whilst in monopolistic market structures the significant feature is that there is no such interaction required amongst firms (Ottaviano & Thisse , 2011).

There are two types of legal price behaviour which are characteristic of oligopoly firms; the first type is price leadership where the acknowledged leader in the industry is followed by rivals firms for leads on pricing decisions (Brennan et al., 2007). The second type is characteristic of price stability, where there is no acknowledged leader and the individual

firms adjust their production volumes as opposed to their prices in response to changing market conditions (Brennan et al., 2007).

In the price leadership approach when demand levels are slack the price leader is first to reduce its prices whilst rival firms will wait for a signal on the magnitude of price reductions (Brennan et al., 2007). At the other extreme is the price stability approach, when one competitor reduces its price and the other firms are expected to follow. However in the case of price increases there is no guarantee that the other firms will raise their prices when one firm decides to increase its price (Brennan et al., 2007).

The authors Brennan et al*.,* (2007) argue that whilst the two approaches discussed above in oligopoly markets are legal methods of handling price setting, the oligopoly market structure itself can lead to illegal and unethical practices like collusion (Brennan et al., 2007). When implementing a price change the price setters must consider whether the firm wants to be the price leader and change its prices first or be a price follower and wait for its competitors to change their prices first (Fabiani et al., 2006).

According to Mouraviev and Rey (2011) there are three types of price leadership strategies, the first being the dominant firm model where a large firm sets its price and a smaller firm then typically matches the larger firm's prices. Scherer (1970) in Deneckere and Kovenock (1992) explained that dominant firm price leadership is said to occur when an industry consists of one firm that controls at least 50% of the total industry output while the other firms that make up the complement of the industry are too small to exert a noticeable influence on price through their individual output decisions (Deneckere & Kovenock, 1992). Whilst the smaller firms act as price takers, the dominant firm is the only able firm that remains to set prices and in doing so maximises its profit and thus becomes the price leader (Deneckere & Kovenock, 1992).

The second strategy is referred to as barometric price leadership which arises when some firms are better informed than others (Mouraviev & Rey, 2011). The less informed firms delay their decisions until a more informed firm moves; thus providing a signal about market conditions. Therefore, the leader is referred to as the barometer (Mouraviev & Rey, 2011).

Cooper (1997) states that in the barometric price leadership strategy there is a unique equilibrium outcome for all competing firms where one firm acquires the information and becomes a price leader whilst the other firms do not purchase information and become a price follower. The author claims that leadership in the barometric model is a result of informational setting and not as a result of price setting mechanism. A price setting mechanism occurs where one firm possesses superior information about demand then the

less informed firms would find it profitable not to take on the price leadership role (Cooper, 1997).

The last of the price leadership strategies is the collusive strategy where price leadership occurs as a result of open collusion and firms use announcements to coordinate on a collusive outcome (Mouraviev & Rey, 2011). One of the reasons that firms would engage in collusive behaviour is due to the asymmetry in information, where in a specific period one firm would perfectly know the current demand levels while others would only know the distribution of the demand shocks (Rothemberg & Saloner, 1990). Collusive price leadership is likely to take place when firms face different cost conditions in different markets or when markets are non-identical in terms of factors of growth rates or changes in demand levels (Bernheim & Whinston, 1990).

The concentration of the manufacturing sector in South Africa was high and increasing up to the year 1996 (Fedderke & Naumann, 2005) in line with an oligopoly-like structure. However it has since declined and has been decreasing since 1996 (Fedderke & Naumann, 2005) resulting in more of a monopolistic/ perfect competition structure.

The impact of a decreasing industry concentration where the larger firms market shares have eroded over time would have resulted in fewer dominant firms and many more smaller firms emerging. From a price leadership perspective this would imply that there are fewer dominant price leaders in the manufacturing sector in South Africa and an increase in more firms following a barometric price leadership style.

The findings of the Netherlands study reported that firms that operated in a highly competitive market had more flexibility in their price setting and that they changed their prices more frequently and applied flexible mark-ups more often (Kwapil et al., 2005).

2.5.2 Factors of Competitiveness

The success of any firm is largely determined by the attractiveness of the industry in which it operates and the firms competitiveness within that industry. A firm is considered to possess a competitive advantage over its rivals when the firm is able to offer its customers greater value, either by means of lower prices or by providing greater benefits and service that justifies the higher prices charged by the firm (Porter, 1985).

Competitive advantage can be attained through two possible ways. Firstly through possessing a cost leadership advantage (low costs) and secondly through a differentiation

advantage, that is the offering of superior products and services to customers over those of competitor offerings (Porter, 1985).

Firms that focus on the price of its product as a differentiating factor would adopt the cost leadership approach as its' competitive advantage and thus set out to become the lowest cost producer in its industry (Porter, 1985). The use of the differentiation approach for competitive advantage allows a firm to focus on the development of products and services which offer unique attributes that are valued by customers. The uniqueness in the offerings allows the company to charge a premium price in the hope that the higher price will then cover the extra costs incurred in offering the unique attributes (Porter, 1980).

Firms that focus on differentiation approach would make use of non price factors like the degree to which their products can be differentiated from that of their competitors to determine their competiveness (Porter, 1985). This study undertaken was by no means suggesting that these firms did or did not have a competitive advantage. However it was aimed at evaluating how important these factors discussed above were to a firm's competitiveness which in effect would influence its overall price setting decisions.

2.6 Conclusion

The setting of prices is not a simple decision but rather a strategic process that pricing specialists follow. According to the literature reviewed firms must decide when and how often to review their prices by taking into account the available information they have and the costs associated with each price review.

Once the price review exercise has been completed firms must further decide whether to adjust their prices or keep their current prices constant. At this stage there are certain factors a firm must take into consideration; that is reasons for adjusting prices both up or down or at the other extreme reasons for leaving prices unchanged.

If the decision made is to adjust prices, firms must then decide on their strategy for setting optimal prices. Firms could choose between the use of the more dominant approaches (mark-up or marginal cost) or other forms of setting prices. In making these decisions firms must take into consideration their factors of competitiveness and their desired price leadership strategy.

This study should therefore aim to describe the decisions which South African manufacturing firms make in their strategic price setting process.

CHAPTER 3: THE RESEARCH PROPOSITIONS

3.1 Introduction

This study investigated the price setting behaviour of firms in terms of understanding the aspects of how often firms reviewed and changed their prices, whether firms were price flexible or price sticky, as well as the factors firms considered most important when deciding to increase or decrease prices and the factors that influenced firms to keep their prices constant in addition to what pricing strategy firms adopted when they set prices.

The propositions discussed below were developed with the intention of gaining a clearer understanding of the firms price setting practices in strategic areas as these areas then allowed the researcher to compare the results of this study to that of other international studies.

3.2 Proposition 1

***Firms make use of the state - dependent pricing model to review their prices*.**

In the South Africa where there have been significant shocks in the form of volatile exchange rates (Devarakonda, 2012), disruptions to work forces as a result of various strike actions (allAfrica, 2012) and decreased consumer demand contributed by growing unemployment levels (Oner, 2012), it would be accepted that firms in the manufacturing sector would have adopted the state-dependent price reviewing strategy as a likely means of dealing with these idiosyncratic shocks.

This study confirms whether this proposition in fact true; that firms in the South African manufacturing sector are more state dependent in their price reviewing approach.

3.3 Proposition 2

There are variations in the reasons for firms changing their prices and these variations are based on the direction of the price change.

Higher input costs were reported as the main reason for firms increasing their prices. However, competitors' prices or the reaction from competitors was the main reason why firms reduced their prices (Fabiani et al., 2006; Greenslade & Parker, 2012).

3.4 Proposition 3:

Firms in the manufacturing sector are actually price sticky and not price flexible.

The relationship that firms have with their customers would be an important factor for firms in the manufacturing sector to ensure continued and profitable revenue streams. Therefore contractual obligations either implicit or explicit in nature would be a focal reason for firms in the manufacturing sector to be price sticky, as adjusting prices continuously in response to market conditions would damage these customer relationships (Amirault et al., 2006).

3.5 Proposition 4:

Firms in the manufacturing sector generally adopt a barometric price leadership strategy

The manufacturing sector in South Africa is highly competitive and heterogeneous in nature with regard to the firm size and market power resulting in disparities in the information that firms possess about market conditions and demand levels (Cooper, 1997). These differences in the access to information and the decreasing concentration ratio of the manufacturing sector would have resulted in fewer firms with large market shares being dominant price leaders and an increasing number of firms being price followers (barometric price leadership) (Mouraviev & Rey, 2011).

3.6 Conclusion

The above propositions allowed the researcher to determine how firms in the manufacturing sector in South Africa set their prices and how the price setting specialists that agreed to be part of this study actually related to the strategic processes of price setting discussed in the literature review section.

The results from this study was then compared to the findings of previous empirical studies to determine whether firms in the manufacturing sector in South Africa shared any common characteristics to that of firms in other countries.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter specifies the study's research approach. The chapter describes the research method, the population and unit of analysis, the size and nature of the sample, the research instrument, the data collection and the analysis of the data. The chapter concludes with a brief overview of the potential limitations of this research.

4.2 Research Method

4.2.1 Rationale for method used

The research study was aimed at understanding the underlying behavioural mechanisms of a firm's price setting process. Greenslade and Parker (2010) and Amirault et al. (2006) had recommended the use of conducting surveys as opposed to using large sets of individual CPI and PPI data. A survey approach as opposed to using secondary data was undertaken so that the researcher could obtain qualitative information, such as the factors taken into consideration by firms when reviewing or adjusting their prices (Greenslade & Parker, 2010).

Zikmund, Babin, Carr and Griffin (2009) stated that a survey research technique is used when the researcher is required to observe or describe the behaviour of respondents in a sample, therefore for the purposes of this study where the researcher was required to understand and describe the price setting behaviours of pricing specialists, the use of a survey was an appropriate choice. Furthermore Amirault et al. (2006) stated that concept of "price stickiness can be best understood by examining pricing behaviours at the micro level, where pricing decisions are actually made" (Amirault et al., 2006, p 3).

The research undertaken was descriptive in nature and followed a quantitative design. Zikmund (2003) explained that the main purpose of descriptive research is to describe characteristics of a population or phenomenon. In the research propositions outlined in chapter 3 above, the researcher aimed to understand the behavioural mechanisms of price

setting which required describing the considerations price setting specialists in manufacturing firms took into account when setting their prices.

Descriptive studies are conducted when there is some previous understanding of the research problems (Zikmund, 2003). There have been various empirical studies conducted to understand the price setting behaviours of firms (some examples include the Canada study by Amirault et al. (2006), Euro Area study by Fabiani et al. (2006) and the UK study by Greenslade & Parker (2010). However these studies did not provide a perspective on the behaviour of firms in South Africa. Therefore a descriptive approach following a quantitative design was suitable in addressing the objectives of this study.

4.2.2 Research Process

The research study was carried out in the form of structured interviews among individuals that were responsible for the setting of prices at their respective firms. Saunders and Lewis (2012) state that in structured interviews the respondents are asked the same standard set of questions from a questionnaire by means of an interview conducted either telephonically or face to face.

The questions that were posed to the respondents for this study were standardised to ensure that the researcher asked all the respondents the same questions and in the same order. This process allowed the researcher to find similarities and differences across the firms interviewed. The respondents were selected by taking into consideration the exclusion criteria discussed in the research scope in chapter one.

4.3 Proposed Population and Unit of Analysis

Zikmund (2003) defined the target population as the complete group of a specific population element that is relevant to the research, hence for this study the target population comprised of manufacturing firms in South Africa. The sampling framework was all firms in the manufacturing sector that were registered with the Companies and Intellectual Property Commission (CIPC) at the time the study was undertaken. Zikmund et al. (2009) defined a sampling frame as “a list of elements from which a sample may be drawn” (Zikmund et al., 2009, p. 391).

The study excluded firms from the public sector, non-profit firms and those firms that were subjected to regulatory price controls. The firms interviewed comprised of small, medium

and large businesses in the manufacturing sector in South Africa. The classification of the size of firms was based on the number of employees the firms had employed at the stage when the interview was conducted. Small firms were defined as firms that had less than 50 employees, medium firms had between 50 to 249 employees and large firms had 250 employees or more. The classification was aligned to other international studies, such as the study that focussed on the UK's price setting strategies completed by Greenslade and Parker (2010) to ensure consistency when comparisons were made between studies.

The unit of analysis were individuals that were responsible for making price setting decisions in their respective firms. The unit of analysis is defined as "what or who should provide the data and at what level of aggregation" (Zikmund et al., 2009, p. 119).

4.4 Size and Nature of the Sample

A non-probability sampling technique was used for this study. This sampling technique is used when the units of the sample are selected on the basis of personal judgement or convenience and the "probability of any particular member of the population being chosen is unknown" (Zikmund et al., 2009, p. 395).

Judgemental (purposive) sampling was used for this study as the respondents targeted were required to fit a specific profile; that is the respondents had to be responsible for making price setting decisions at their respective firms. Saunders and Lewis (2012) referred to the use of judgemental sampling when the researcher uses his or her judgement to actively choose the respondents that will best be able to answer the research questions and meet the objectives.

Table 2 below illustrates a summary of the sampling framework and sample size of the study undertaken.

Table 2: Summary of Sampling Framework

Target Quota	Targeted Base	Declined	No Response	Completed Surveys	Expected Response Rate	Achieved Response Rate
50	167	69	64	34	30%	20%

A sample of 50 surveys was targeted by the researcher, the quota of 50 was a small sample in comparison to previous empirical studies such as the UK study with a sample size of 693 (Greenslade & Parker, 2010) and the Canada study with a sample size of 170 (Amirault et al., 2006).

The sample of 50 was chosen as this was realistic for the researcher to conduct within the limited time frame of two months. Furthermore, the sample size was supported by the fact that the Canada study had taken a time frame of 10 months to complete and was undertaken by more than one researcher (Amirault et al., 2006).

The researcher had only managed to complete 34 surveys from a targeted base of 167 possible firms; a response rate of 20% was achieved. The targeted response rate was initially 30% based on the researcher achieving the planned quota of 50 surveys, this was in line with the UK study (Greenslade & Parker, 2010). The targeted response rate was not achieved for this study as a result of the high decline rate of 42% (69 firms) and a non response rate of 38% (64 firms). The high decline rate was a result of the following reasons:

- The topic of price setting was a very sensitive subject and some firms were reluctant to disclose any insights relating to their price setting.
- The data collection period was at a time when some of the targeted firms were busy with their financial year end reporting and due to more pressing commitments; they were unable to assist the researcher.
- A large percentage of the respondents that declined to participate in the survey where from small firms. In these firms the pricing specialist was usually the owner or someone very senior in the firm, thus their availability to commit to an interview was a constraint.

4.5 Research Instrument and Data Gathering

4.5.1 Research Instrument

A questionnaire was designed for this study which consisted mostly of closed ended (list) and a few open ended questions (see appendix A). Saunders and Lewis (2012) stated that the use of open ended questions is to uncover what is uppermost in the respondent's mind, while the use of closed ended questions allows the respondent to consider all possible

answers. For the purposes of this study open ended questions were used to probe for other practices that may not have been covered in the various economic theories of price setting whilst the use of closed ended questions were to test the participants' responses in light of the existing theories of price setting discussed in the literature review.

The questions that were used in the UK study by Greenslade and Parker (2010) and in the Canada study by Amirault et al. (2006) were used in the design of this survey for two reasons. Firstly, by using the same questions used in previous studies it created an opportunity to determine whether there were any similarities or differences between the price setting behaviour of firms in developed countries in comparison to firms in developing countries. Secondly, these two studies had comprehensively covered the economic theories related to price setting and provided a good platform for the researcher to test price setting in South Africa. Additional questions were included in the questionnaire design based on the insights derived from the literature review discussed in Chapter 2.

The questionnaire comprised of the three sections, discussed below:

- Section-A – comprised of questions pertaining to the firm's characteristics such as its cost structures, industry, its customers, share of sales and its competition (direct). The questions posed in this section allowed the researcher to address proposition 4 and to test whether practices varied across firms.

- Section-B –focused on the firm's pricing decisions in order to understand the firm's price setting process. The questions that were included in this section examined the firm's degree of price flexibility and motivations behind the firm's decisions to adjust its prices (Amirault et al., 2006). Propositions 1 and 2 were addressed by the questions in this section.

- Section-C –absorbed the factors that lead to delays in price adjustments. The questions that were included in this section were to test the theory on price stickiness and to determine why firms delayed their price adjustments (Amirault et al., 2006). Proposition 3 was addressed by the questions in this section.

4.5.2 Questionnaire Pre-testing

The questionnaire design phase was followed by pre-testing the effectiveness of the questionnaire. Zikmund (2003) explained that pre-testing the questionnaire allows the researcher to detect any problems with the instructions and design of the questionnaire. The pre-testing phase involved the researcher uncovering any ambiguity in the questions posed,

recording signs of respondent fatigue and potential misunderstanding of concepts tested. The pre-testing phase also allowed the researcher to confirm whether the concepts proposed were relevant and applicable to the South African market.

There were seven respondents involved in the pre-testing phase which comprised of three senior researchers from the South African Reserve Bank, a research specialist from a research agency, the chairman of Manufacturing Circle of South Africa and two senior lecturers from the Gordon Institute of Business Science (GIBS).

The respondents from the South African Reserve Bank and the Manufacturing Circle of South Africa provided feedback and insights on the relevance and content validity of the questions posed for the survey, whilst the respondent from the research agency and the senior lecturers from GIBS provided feedback on the questionnaire design and instructions.

The feedback from the pre-testing phase identified the following issues:

- Ambiguity in certain terms and questions posed.
- The use of incorrect scales for specific questions.
- The questionnaire was too lengthy and consisted of too many concepts.
- Certain economic concepts were not explained upfront which led to some of the respondents not understanding the terminology used.
- Restructuring of specific questions into key themes.

Changes were to then made to the questionnaire taking into account the feedback from the participants in the pre-test phase, resulting in the final questionnaire as shown in appendix A.

4.5.3 Data Collection, Editing and Coding

The research comprised of mainly face to face interviews and a few telephonic and on-line surveys. Amirault et al. (2006) suggested that face-to-face interviews provided more reliable responses as opposed to telephone, mail, fax and internet surveys. Telephonic interviews and online surveys were also used in a few instances for this study for two reasons; firstly some of the respondents in question were located in different areas from where the researcher was based and secondly particular respondents could not take part in a face-to-face interview but they were willing to participate in the survey.

The face-to-face and telephonic approach allowed the researcher to clarify any ambiguity in the terms and concepts used in the research, thus allowing for more reliable and accurate responses. The questionnaire was personally administered by the researcher for both the face-to-face and telephonic interfaces. In terms of the online survey the researcher had provided definitions and clear explanations of certain economic concepts in the introduction of the survey. The researcher was also available telephonically to provide clarification to the respective respondents where the need arose.

Following the completion of the fieldwork the researcher then carried out a data processing exercise which involved the editing and coding of the responses. Zikmund et al., (2009) explained the editing process as how the researcher checks the "data collection forms for omissions, legibility and consistency in classification" and further stated that the editing process helps the researcher to correct interviewer problems before the data is transferred to the computer (Zikmund et al., 2009, p. 70). There were two questionnaires where the researcher picked up inconsistencies with responses provided; the researcher then contacted the respective respondents telephonically and clarified these inconsistencies.

The coding process included the researcher categorising the responses into codes as an acceptable format to be analysed in the SPSS tool. Zikmund et al. (2009) defines codes as "The rules for interpreting, categorising, recording and transferring the data to the data storage media" (Zikmund et al., 2009, p. 70). The data for this research comprised of both categorical and numerical types of data (Saunders & Lewis, 2012). The categorical data was allocated a numerical score in order to facilitate the transfer of the data from the questionnaires to the computer (Zikmund et al., 2009).

The categorical data represented the descriptive and ranked data (Saunders & Lewis, 2012). The descriptive data measured variables of frequencies and time dimensions while the ranked data measured variables of factors of importance. Numerical data included data that were discrete and continuous in nature, for example the number of employees a firm had and the number of price adjustments a firm had made in the last 12 months (Saunders & Lewis, 2012).

4.5.4 Data Analysis

The results of this study were analysed using largely descriptive analysis and one non-parametric statistical test. The analysis was completed using the SPSS research tool and Microsoft Excel. Descriptive analysis is "the elementary transformation of the data in a way that describes the basic characteristics such as central tendency, distribution and variability"

(Zikmund et al., 2009, p. 486). The use of descriptive analysis was appropriate for this study as the researcher wished to describe characteristics of firm's behavioural mechanisms of price setting as part of addressing the four research propositions.

The descriptive analysis for this study comprised primarily of central tendency tests where means and medians where generated to gain aggregate distribution scores of responses and to compare these scores to other international studies. Bar graphs and histograms were also used in the analysis, where the bar graphs displayed the results of certain questions into categories that were easy to evaluate and analyse whilst the use of histograms graphically presented the frequency distribution of the continuous variables (Zikmund et al., 2009).

The second set of analysis was in the form of tabular analysis using marginal and cross-tabulation (Zikmund et al., 2009). The marginal tabulation analysis informed the researcher how frequently each response occurred while the use of cross-tabulation analysis addressed questions that involved relationships amongst certain key variables (Zikmund et al., 2009).

The analysis also included the calculation of rank orders where the respondents were asked to rank their order of preference for certain items (Zikmund et al., 2009). The researcher needed to ascertain the importance of certain factors and economic theories (for example, the reasons for price adjustments, the reasons for price stickiness and the factors of importance for levels of competitiveness); therefore the use of this analysis was suitable for the study. The ranking required a weighting to be assigned to each construct to determine the respective importance of each construct. The researcher had made use of scales that were used in previous empirical studies undertaken as these provided consistency when making comparisons to other international studies. The ranking was then prepared on the overall mean scores for the respective constructs tested.

The non-parametric statistical test carried out was in the form of a Chi-square test in order to test for statistical significance between the frequency of price reviews and price changes (Zikmund et al., 2009). The use of a Chi-square test was appropriate when considering the small sample size of 34 respondents (Zikmund et al., 2009). The researcher attempted to run more statistical tests. However due to the limitation of the small sample size, the results were not applicable (for example, the researcher attempted to analyse whether price setting behaviours were statistically different or similar across firm size but due to the small number of respondents in each of these segments the analysis was not possible).

The detailed results of the analysis carried out by the researcher is available in Appendix B while the results presented in chapter 5 have been summarised to address the propositions outlined in chapter 3.

4.6 Potential Research Limitations

The following aspects were some of the limitations to this study:-

- Due to the time constraints only a limited sample of 34 interviews were conducted, therefore certain variables could not be statistically analysed due to the small number of respondents represented in the respective variables.
- The sample was not stratified to represent a specific quota within the respective industry types within the manufacturing sector thus the overall findings may be different to that of a study where a sample with a weighted representation of each industry type was used.
- Only South African firms that are registered with Companies Intellectual Property Commission (CIPC) were considered as target firms, the inclusion of unregistered firms may have provided a different perspective to the findings.
- Pricing information is a sensitive subject to firms thus respondents may have not been entirely honest in the responses they provided.

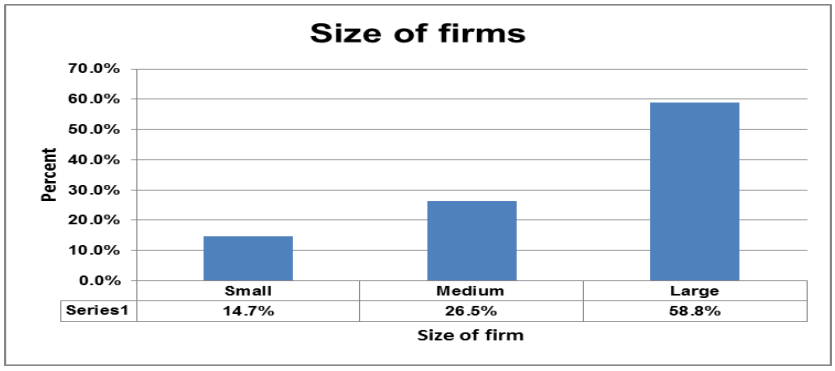
CHAPTER 5: RESEARCH RESULTS

5.1 Introduction to results

The previous chapter presented a description of the research methodology used to test the propositions outlined in chapter 3. This chapter presents the results of the research data. The findings were based on a total of 34 survey respondents and as a result of the small sample size, the analysis took the form of predominantly descriptive statistical analysis with one non-parametric statistical test. The chapter commences with a description of the characteristics of the sample followed by a summary of the results to support the discussion in chapter 6. The detailed results relating to the findings of all questions posed to the responding firms are available in Appendix B.

5.2 Sample Characteristics

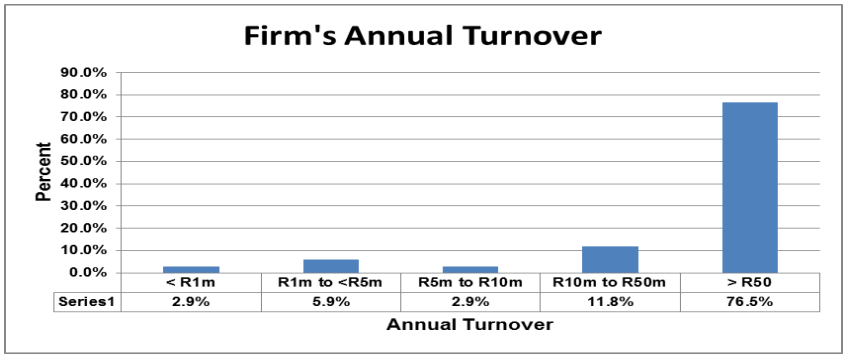
Figure 6: Respondents by firm size



*Small Firm = less than 50 employees / **Medium Firm = 50 to 249 employees / ***Large Firm = 250+ employees

The firms that participated in the survey were classified into firm size based on the number of employees that were employed at the respective firms at the time the survey was conducted. The number of employees included both temporary and permanent employees. The majority of the respondents as illustrated in figure 6 above were large firms (59%) followed medium size firms which comprised of 27%.

Figure 7: Firm turnover in the past financial year



The firms were profiled based on the turnover they achieved in the past financial year, as illustrated in figure 7 above. The majority of firms (76%) achieved a turnover of greater than R50 million, while 12% of the firms achieved a turnover of between R10 million and R50 million.

Table 3: Number of products firms sold in South Africa

Number of products		Frequency	Percent	Cumulative Percent
Valid	**1 to 5**	**10**	**29.4**	29.4
	6 to 10	3	8.8	38.2
	11 to 15	2	5.9	44.1
	16 to 20	3	8.8	52.9
	more than 20	**16**	**47.1**	100.0
	Total	34	100.0	

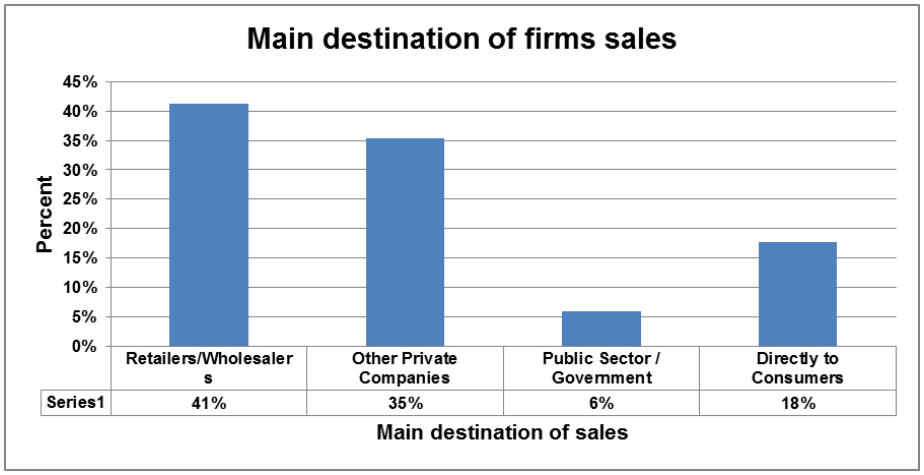
Firms were asked how many products they sold in South Africa. The results as shown in table 3 above indicated that 47% of the firms sold more that 20 products while 29% sold between 1 and 5 products.

Table 4: Proportion of sales sold outside South Africa

		Frequency	Percent	Cumulative Percent
Valid	0%	3	8.8	8.8
	>0% to 10%	12	35.3	44.1
	11% to 20%	6	17.6	61.8
	21% to 30%	6	17.6	79.4
	31% to 40%	2	5.9	85.3
	41% to 50%	1	2.9	88.2
	>50%	3	8.8	97.1
	Don't Know	1	2.9	100.0
	Total	34	100.0	

In terms of what proportion of the firms sales of its main product were sold outside South Africa, the results as depicted in table 4 above indicated that 35% of the firms sold 10% or less internationally while a further 35% indicated that they sold between 11% and 30% outside South Africa.

Figure 8: Firms main destination of their sales



For the distribution of the firm's sales, the results as presented in figure 8 above displayed that 41% of the firms sold their main product to retailers or wholesalers, whilst 35% sold their products to other private companies.

5.3 Descriptive Statistics - Research Findings

The findings that follow are reported in key themes related to the economic theories of price setting behaviours which is later adapted and discussed in Chapter 6 to answer the propositions put forth in Chapter 3 of this study.

5.3.1 Frequency of Price Reviews and Price Changes

Table 5: Frequency of price reviews

	Frequency	Percent	Cumulative Percent
Daily	1	2.9	2.9
Monthly	3	8.8	11.8
Quarterly	8	23.5	35.3
Half Yearly	4	11.8	47.1
Annually	7	20.6	67.6
Sporadically	2	5.9	73.5
In Response to specific event	5	14.7	88.2
Other (Combination)**	4	11.8	100
Total	34	100	

Mean	5.71
Median	6
Std. Deviation	2.082

Weighting used: 1= Daily, 2 = weekly, 3 = Monthly, 4 = Quarterly, 5 = Half yearly, 6 = Annually, 7 = Sporadically, 8 = In response to specific event and 9 = Other combination. ** **Other combination** - refers to respondents who selected a regular interval being daily, monthly, quarterly, half yearly or annually plus (sporadically or in response to specific event)

Table 6: Frequency of price reviews grouped

Period (grouped)		Frequency	Percent	Cumulative Percent
Valid	In regular intervals *	23	67.6	67.6
	In response to specific events **	7	20.6	88.2
	Generally in regular intervals but also in response to specific events	4	11.8	100.0
	Total	34	100.0	

***In Regular intervals** = daily/weekly /monthly/quarterly / half yearly / annually

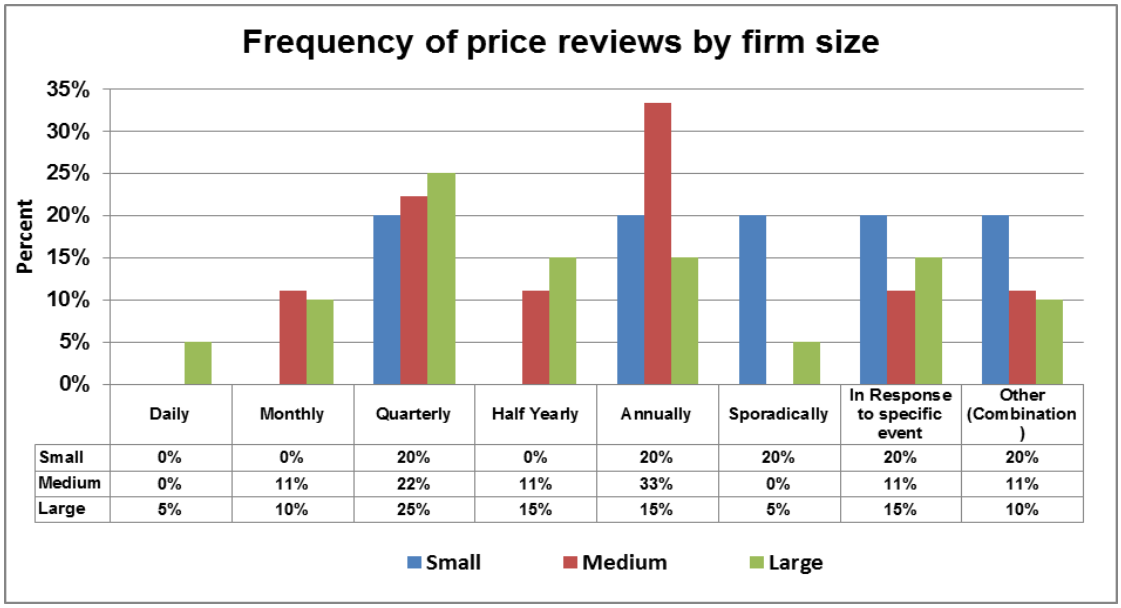
****In response to specific events** = sporadically / in response to specific events.

The results as displayed in table 5 above indicated that 47% of the firms reviewed their prices at least twice a year while the median firm reviewed its price annually (median score of 6 which was represented as annually in the weighting used). A small proportion of the firms (12%) reviewed their prices more regularly; that was either monthly or daily. 21% indicated that they reviewed their prices irregularly; that was either sporadically or in response to a specific event.

The results were then grouped into categories of whether firms reviewed their prices at regular intervals or in response to specific events or a combination of the two categories (see table 6 above). The results disclosed that almost 68% of the surveyed firms reviewed

their prices purely at regular intervals, whilst 21% of the firms reviewed their prices only in response to specific events.

Figure 9: Frequency of price reviews by firm size



	Daily	Monthly	Quarterly	Half Yearly	Annually	Sporadically	In Response to specific event	Other (Combination)
Small	0%	0%	20%	0%	20%	20%	20%	20%
Medium	0%	11%	22%	11%	33%	0%	11%	11%
Large	5%	10%	25%	15%	15%	5%	15%	10%

In determining if the frequency of price reviews varied or were similar across the size of firms, the results as depicted in figure 9 above indicated that larger firms reviewed their prices more frequently than smaller firms, with 55% of the large firms indicating that they reviewed their prices at least twice per year in comparison with the 20% of smaller firms who reviewed their prices biannually.

Table 7: Cross tabulation results of frequency of price reviews and competition intensity.

Frequency of Price Reviews * Competition-Intensity Cross-tabulation

Count

Frequency of Price Reviews	Competition-Intensity			Total
	Don't Know	Weak	Strong	
Daily	0	1	**0**	1
Monthly	0	0	**3**	3
Quarterly	0	0	**8**	8
Half Yearly	0	0	**4**	4
Annually	0	1	**6**	7
Sporadically	0	0	**2**	2
In Response to specific event	1	0	**4**	5
Other (Combination)	0	0	**4**	4
Total	1	2	**31**	34

In determining whether the intensity of the levels of competition that firms faced had an influence in the frequency of price reviews, the results as displayed in table 7 above could

not provide any conclusive insights as 91% of the firms indicated that they experienced strong levels of competition and the frequency of reviews was spread across the periods measured.

Table 8: Frequency of price changes/adjustments

	Frequency	Percent	Cumulative Percent
Monthly	2	5.9	5.9
Quarterly	5	14.7	20.6
Half Yearly	4	11.8	**32.4**
Annually	**12**	**35.3**	67.6
Sporadically	1	2.9	70.6
In Response to specific event	7	20.6	91.2
Other (combination)**	3	8.8	100
Total	34	100	
Mean	**6.12**		
Median	**6.00**		
Mode	**6**		
Std. Deviation	1.719		

Weighting used: 1= Daily, 2 = weekly, 3 = Monthly, 4 = Quarterly, 5 = Half yearly, 6 = Annually, 7 = Sporadically, 8 = In response to specific event and 9 = Other combination. ** **Other combination** - refers to respondents who selected a regular interval being daily, monthly, quarterly, half yearly or annually plus (sporadically or in response to specific event)

According to the results shown in table 8 above, 32% of the firms changed their prices at least twice a year while the median firm changed its price annually (median score of 6 which was represented as annually in the weighting used). 35% of the firms indicated that they changed their prices annually whereas a very small proportion of firms (6%) actually changed their prices on a monthly basis.

Figure 10: Frequency of price reviews and price changes - Grouped

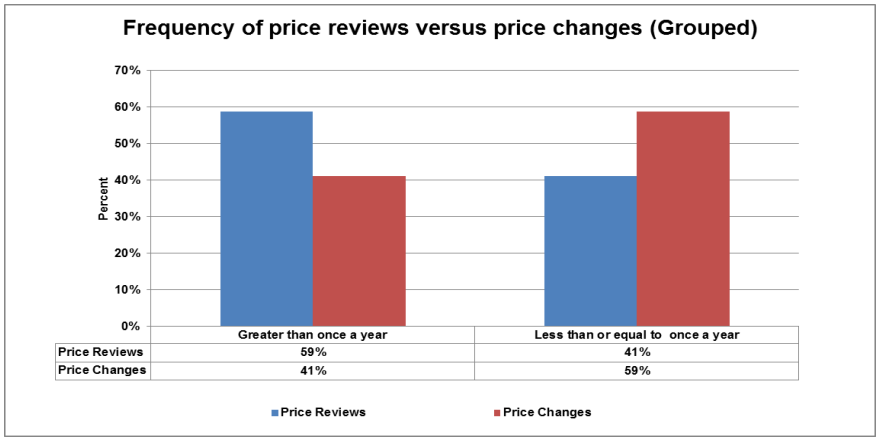


Table 9: Chi Square tests between frequency of price reviews and price changes

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.105[a]	1	.008		
Continuity Correction[b]	5.343	1	**.021**		
Likelihood Ratio	7.666	1	.006		
Fisher's Exact Test				.013	.009
Linear-by-Linear Association	6.896	1	.009		
N of Valid Cases	34				

To determine the significance in difference between the frequency of price reviews and price changes, the responses where then grouped into two categories: “greater than once a year” and “less than or equal to once a year”. The results shown in figure 10 above indicated that 59% of firms reviewed their prices more than once a year, however 59% of the firms only changed their prices less than or equal to once a year.

A Pearson Chi-square test was then carried out, the results of which are presented in table 9 above. The results from the Chi-square test provided a significant value of .021 which was smaller than the alpha value of .05, therefore concluding that the frequency of price changes were significantly less than the frequency of price reviews.

5.3.2 Information used in price setting decisions

Table 10: Information set firms used for pricing decisions

		Frequency	Percent	Cumulative Percent
Valid	Rule Of Thumb	6	17.6	17.6
	Conditions applied in recent past	2	5.9	23.5
	Accordance with current trading conditions	**18**	**52.9**	76.5
	View on the near future	8	23.5	100.0
	Total	34	100.0	

In terms of the information set firms used for their pricing decisions; the results as displayed in table 10 above indicated that 53% of the firms used information relating to current trading conditions when they set the prices of their products, whilst 24% had used information relating to the view on the near future of the economic environment to set their prices. There were 18% that indicated using the “rule of thumb” approach to set their prices and only 6% had used information relating to conditions that applied in the recent past.

Table 11: Cross tabulation results of when firms review prices (grouped) and information set used by firms in their pricing decisions

Firms review of prices: Regular intervals or in response to specific events * Information set used by firms for pricing decisions
Cross-tabulation
Count

Firms review of prices: Regular intervals or in response to specific events		Information set used by firms for pricing decisions				Total
		Rule Of Thumb	Conditions applied in recent past	Accordance with current trading conditions	View on the near future	
	In regular intervals	3	2	**12**	**6**	23
	In response to specific events	3	0	3	1	7
	Generally in regular intervals but also in response to specific events	0	0	3	1	4
Total		6	2	18	8	34

The findings as displayed in table 11 above indicated that of the 23 firms that had set their prices at regular intervals, 52% did so by using information sets related to conditions of the current trading conditions while 26% had used information sets related to the expectations of the near future of the economic environment.

For firms who had indicated that they reviewed prices only in response to specific events, there was dissimilarity between what information set they had used to set their prices. Three of the seven firms (42%) indicated that they used the "rule of thumb" approach while a further 42% indicated that they used information relating to current trading conditions.

Table 12: Cross tabulation results of frequency main information updated and how current the information was at the time firms received it.

Frequency of information updated used in pricing decisions * How current is the information at the time you receive it?
Cross-tabulation
Count

Frequency of information used in pricing decisions updated		How current was the information at the time firms received it						Total
		real time (no lag)	less than 1 day old	less than 1 week old	less than 1 month old	less than 1 quarter old	more than 1 quarter old	
	Daily	2	1	0	0	0	0	3
	Weekly	1	0	1	1	0	0	3
	Monthly	**6**	**0**	**3**	**5**	**1**	**0**	**15**
	Quarterly	**3**	**0**	**0**	**3**	**2**	**2**	**10**
	Annually	0	0	0	0	2	0	2
	Sporadically	0	0	1	0	0	0	1
Total		**12**	**1**	**5**	**9**	**5**	**2**	**34**

The respondents were asked to provide an indication of how frequently the information they had used in their pricing decisions was updated and how current the information was when they had received it. The results as displayed in table 12 above indicated that for 44% of the firms the information was updated monthly, whilst for 29% the information were updated on a quarterly basis. In terms of how current the information was when firms received their information; 53% of the firms indicated that the information was at least less than a week old in comparison to the other 47% of the firms that used information which was older than one week old when they received it.

5.3.3 Price changes

Table 13: Number of times firms actually changed/adjusted their prices in last 12 months

Times changed	Frequency	Percent	Cumulative Percent
1	**14**	**41.2**	41.2
2	**11**	**32.4**	**73.5**
3	2	5.9	79.4
4	6	17.6	97.1
6	1	2.9	100.0
Total	**34**	100.0	
Mean	**2.12**		
Median	**2.00**		
Mode	**1**		
Std. Deviation	**1.297**		

Table 14: Survey results for the duration between price changes made in last 12 months

Duration between price changes (in months)		
N	Valid	34
	Missing	0
Mean		**7.76**
Median		6
Mode		12
Std. Deviation		3.806

In terms of how many times firms had actually changed their prices in the past 12 months; the results as shown in table 13 above indicated that the average and median firm changed prices at most twice in the last 12 months.

Regarding the duration between these changes, the mean duration between price changes was 7.76 months while the median duration was 6 months as illustrated in table 14 above.

5.3.4 Pricing setting considerations

Table 15: Survey results for how firms determine the prices for their main product

Rank	Determining Factors	Not Applicable	Not Important	Slightly Important	Fairly Important	Very Important	Mean	Median
1	Price is made up of direct costs plus a variable percentage mark-up	5.9%	2.9%	17.6%	35.3%	38.2%	2.97	3.0
2	Price is primarily specified by competitors' price	5.9%	5.9%	29.4%	26.5%	32.4%	2.74	3.0
3	Price is made up of direct cost plus a fixed percentage mark-up	14.7%	8.8%	20.6%	20.6%	35.3%	2.53	3.0
4	Price is based on targeted return on Capital/Assets	20.6%	5.9%	17.6%	29.4%	26.5%	2.35	3.0
5	Price is primarily specified by principal customer	20.6%	23.5%	26.5%	26.5%	2.9%	1.68	2.0
6	Price is determined by a regulatory agency	58.8%	17.6%	14.7%	0.0%	8.8%	0.82	0.0
7	Price is set at a statutory level	58.8%	14.7%	20.6%	2.9%	2.9%	0.76	0.0

Colour Key

Highest Score	
Top 3 Mean Score	

Ranking based on mean scores

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

The respondents were asked how the prices for their main products were determined and the importance of these factors. The factors as displayed in table 15 above were ranked using the overall mean scores for each of the respective factors.

The results indicated that the mark-up approach was the most common strategy used by firms over any costs form of pricing. The highest ranked factor was mark-up with a variable percentage where 74% of the firms indicated that this factor was “fairly important” to “very important” while mark-up with a fixed percentage was ranked as the third highest factor with almost 56% of firms indicating this factor as “fairly important” to “very important”.

The second most important factor was where firms set their prices largely based on their competitors' prices with almost 60% of the firms regarding this factor as "fairly important" to "very important". The median firm regarded mark-up pricing (fixed or variable percentage), competitors pricing and targeted return on capital/assets as "fairly important" factors while the price which is determined by the principal customer was only of slight importance.

Table 16: Cross tabulation results of types of price setting (top 3) and number of competitors

Type of Price Setting	Share of Response for "Very Important"	Less than 5 competitors	between 5 and 20 competitors	more than 20 competitors
Price is made up of direct costs plus a variable percentage mark-up	38%	31%	40%	33%
Price is made up of direct cost plus a fixed percentage mark-up	35%	31%	35%	33%
Price is primarily specified by competitors' price	32%	38%	25%	33%

Colour Key		
Highest Score		

A cross tabulation analysis was carried out on the factors that firms considered as the top 3 factors that which firms rated as "very important" when setting their prices against the number of competitors that firms faced. The results as shown in table 16 above indicated that mark-up pricing, whether fixed or variable, is more important to firms with larger number of competitors more specifically firms that faced 5 or more competitors.

Table 17: Survey results for the price firms charged for their main product

		Frequency	Percent	Cumulative Percent
Valid	The same for all customers irrespective of quantities sold	4	11.8	11.8
	Depends on the quantity sold	10	29.4	41.2
	Decided case by case	**20**	**58.8**	100.0
	Total	34	100.0	

In order to understand whether firms discriminated in their pricing; that is, if the price they charged their customers for their main product was the same for all customers (uniform) or differed amongst customers (discrimination), firms were asked to choose the most applicable option from a list of variables that describe how firms charged their customers.

The results as displayed in table 17 above indicated that price discrimination was a very common practice as opposed to uniform pricing amongst firms; almost 88% indicated that they either charged their customers on a case-by-case basis or on the quantity/volume of

product the customers purchased. Only 12% indicated charging their customers a uniform price.

5.3.5 Reasons for adjusting prices

Table 18: Survey results for factors of importance for causing an increase in prices.

Rank	Factor	Not Applicable	Not Important	Slightly Important	Fairly Important	Very Important	Mean	Median
1	Increase in the price of fuel, raw materials or inputs / components.	0.0%	0.0%	8.8%	20.6%	70.6%	3.62	4.0
2	Labour Costs increase	0.0%	5.9%	23.5%	38.2%	32.4%	2.97	3.0
3	Fixed Costs increase	0.0%	5.9%	26.5%	38.2%	29.4%	2.91	3.0
4	Actual Price increase by domestic rivals	5.9%	14.7%	20.6%	41.2%	17.6%	2.50	3.0
5	Finance Costs increase	5.9%	17.6%	32.4%	26.5%	17.6%	2.32	2.0
6	Actual Rise in Demand	5.9%	26.5%	26.5%	20.6%	20.6%	2.24	2.0
7	Market Share Increase	8.8%	26.5%	17.6%	26.5%	20.6%	2.24	2.0
8	Expected Price increase by domestic rivals	8.8%	20.6%	26.5%	35.3%	8.8%	2.15	2.0
9	Expected Rise in Demand	11.8%	26.5%	26.5%	29.4%	5.9%	1.91	2.0
10	Actual Price increase by overseas rivals	11.8%	35.3%	23.5%	14.7%	14.7%	1.85	2.0
11	Regulation Costs increase	29.4%	14.7%	23.5%	17.6%	14.7%	1.74	2.0
12	Expected Price increase by overseas rivals	17.6%	35.3%	26.5%	11.8%	8.8%	1.59	1.0
13	Increase-Never	85.3%	0.0%	5.9%	2.9%	5.9%	0.45	0.0

Colour Key	
Highest Score	
Top 3 Mean Score	

Ranking based on mean scores

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

Table 19: Survey results for factors of importance for causing a reduction in prices

Rank	Factor	Not Applicable	Not Important	Slightly Important	Fairly Important	Very Important	Mean	Median
1	Market share decline	2.9%	2.9%	17.6%	35.3%	41.2%	3.09	3.0
2	Decrease in the price of fuel, raw materials or inputs / components	11.8%	8.8%	14.7%	17.6%	47.1%	2.79	3.0
3	Demand Decline Actual	2.9%	14.7%	17.6%	38.2%	26.5%	2.71	3.0
4	Actual price reduction of domestic rivals	2.9%	11.8%	20.6%	44.1%	20.6%	2.68	3.0
5	Demand Decline Expected	2.9%	17.6%	20.6%	41.2%	17.6%	2.53	3.0
6	Expected price reduction of domestic rivals	2.9%	20.6%	29.4%	35.3%	11.8%	2.32	2.0
7	Productivity Increase	8.8%	29.4%	23.5%	29.4%	8.8%	2.00	2.0
8	Actual price reduction of overseas rivals	14.7%	35.3%	17.6%	17.6%	14.7%	1.88	2.0
9	Finance Costs decrease	17.6%	32.4%	26.5%	8.8%	14.7%	1.71	1.5
10	Labour Costs decrease	20.6%	29.4%	26.5%	8.8%	14.7%	1.68	1.5
11	Expected price reduction of overseas rivals	11.8%	44.1%	23.5%	11.8%	8.8%	1.62	1.0
12	Regulation Costs decrease	47.1%	11.8%	14.7%	14.7%	11.8%	1.32	1.0
13	Reduction-Never	79.4%	2.9%	2.9%	8.8%	5.9%	0.59	0.0

Colour Key

Highest Score	
Top 3 Mean Score	

Ranking based on mean scores

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

To understand what factors firms took into consideration when deciding to increase or reduce their prices and the importance of these factors, the respondents were provided with a comprehensive list of possible costs and market factors (Greenslade & Parker, 2010) and asked to separately rate the importance of these factors when making decisions to either increase or reduce prices. The mean scores of the respective factors were then used to rank these factors in terms of the level of importance.

In terms of factors that caused firms to increase their prices, the results as shown in table 18 above indicated that firms regarded an increase in input costs (raw material, fuel, components and labour costs) as the main reason to cause an increase in prices. An increase in the price of fuel or raw materials or components was ranked as the highest factor with 71% of the firms regarding this factor as “very important” while other input costs in the

form of labour costs was indicated as the second most important factor with 70% of the firms regarding this factor as “fairly important” to “very important”. The average firm regarded an increase in the price of fuel or raw materials or components as a “very important” factor for causing an increase in prices (mean score of 3.62).

When it came to addressing factors of importance that caused firms to reduce their prices, the results as per table 19 above indicated it was a decline in market share that was ranked as the most important factor that caused firms to reduce their prices, with 76% of the firms regarding this factor as “fairly important” to “very important”. The second most important factor was a decrease in the costs of the price of fuel or raw materials or components with 64% of the firms regarding this factor as “fairly important” to “very important”.

5.3.6 Exchange Rates

Table 20: Impact of Rand exchange rate depreciation on firm’s profit margin

	Frequency	Percent	Cumulative Percent
Not applicable	6	17.6	17.6
No significant effect	3	8.8	26.5
Moderate negative effect	**12**	**35.3**	61.8
Significant negative effect	**13**	**38.2**	100.0
Total	34	100.0	

In terms of understanding what effect the exchange rate had on a firm’s profitability, the respondents were asked to explain what impact the depreciation of the South African Rand against the US Dollar would have on their firm’s profit margins. The results as reported in table 20 above indicated that around 74% of the firms would experience some sort of negative effect, whilst for 38% of these firms this negative effect would have a significant impact on the firm’s gross profit margins should the Rand depreciate against the US Dollar.

Table 21: Cross-tabulation results for: percentage exchange rate has to decrease before prices are adjusted and firms that import or export intermediate inputs or finished goods.

How much does the exchange rate depreciate before adjust prices * Do you import/export intermediate inputs or finished goods Cross-tabulation

Count

How much does the exchange rate depreciate before adjust prices	Do you import/export intermediate inputs or finished goods		Total
	Yes	No	
Don't know	5	6	11
less than 5%	**8**	0	8
5% to 10%	**4**	0	4
10% to 20%	**9**	0	9
20% to 30%	**2**	0	2
Total	28	6	34

Regarding the level to which the exchange rate had to depreciate before firms would adjust their prices, the results as reported in table 21 above showed that for 8 of the 23 firms (35%) that could answer the question, the Rand would need to depreciate at a rate of less than 5% before the firms would adjust their prices. For the other 65% (15 firms) the Rand would have to have depreciated in the range of between 5% and 30% before the firms would adjust their prices.

Table 22: Ranking of actions that firms would resort to as means of restoring margins when the Rand depreciates and margins become smaller

Scale Used (1 = Most important and 6 = least important)

		Most Important					Least Important			
Rank	**Factor**	**1**	**2**	**3**	**4**	**5**	**6**	**Not applicable**	**Mean**	**Median**
1	Increase selling prices	50%	12%	3%	9%	3%	6%	18%	1.68	1.0
2	Reduce other input costs	6%	18%	29%	21%	6%	3%	18%	2.59	3.0
3	Reduce other costs	15%	18%	15%	15%	18%	3%	18%	2.59	2.5
4	Increase productivity or volumes of activity	3%	21%	24%	18%	15%	3%	18%	2.76	3.0
5	Shift input to local supplier	9%	15%	6%	12%	29%	12%	18%	3.21	4.0
6	Other means	0%	0%	6%	9%	12%	56%	18%	4.47	6.0

Colour Key	
Highest Score	
Top 3 Mean Score	

Within the context of margins becoming smaller as a result of a depreciated Rand, the respondents were asked to rank, in order of importance, the actions they would take to restore their margins. The mean scores were used to rank the actions and the results as shown in table 22 above indicated that firms would predominantly consider increasing their prices first. 50% of the applicable firms considered this action as "most important" followed by the action of reducing other input costs.

5.3.7 Price Stickiness

Table 23: Survey results for applicable factors/theories that lead to delays in price adjustment

Rank	Theories of Price stickiness	N	Minimum	Maximum	Mean	Std. Deviation
1	Prices do not change until costs change	34	1	3	2.26	0.864
2	Fixed price contracts make it difficult to pass on increases when contract is active (Explicit Contracts)	34	1	3	1.59	0.783
3	Do not want to be first in industry to increase prices	34	1	3	1.35	0.597
4	Implied understanding with customers will not increase prices in depressed markets (Implicit Contracts)	34	1	2	1.35	0.485
5	Information Set used to review and change prices - available infrequently	34	1	3	1.32	0.535
6	Do not want to be first in the industry to reduce prices	34	1	2	1.32	0.475

Colour Key	
Top 2 Mean Score	

Ranking based on mean scores

Weighting Used (1 = No, 2 = Yes, slightly applicable and 3= Yes, very applicable)

In terms of understanding what factors were applicable to firms when they decided to delay price adjustments even though they would have wanted to increase or reduce their prices, firms where asked to select from a list of theories which were relevant to them, the responses were then ranked based on the mean scores.

The results as shown in table 23 indicated that the costs of labour and raw materials used in the production of goods were most applicable to firms, in that the firm's prices would not change until the costs actually changed. The next most relevant theory to firms were the explicit contracts that firms had with their customers which made it difficult for firms to pass on increases when the contract was active.

Table 24: Cross tabulation results for: Prices do not change until costs change and the actions taken when firms expected costs to increase.

Action taken when firms expected costs to increase- * Prices don't change until costs change (Applicability) Cross-tabulation

Count

Action taken when firms expected costs to increase		Prices do not change until costs change (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	9	0	0	9
	Buy in advance and store in inventory	0	**5**	**4**	9
	Hedge against cost increases	0	1	**6**	7
	Increase own prices in anticipation	0	0	**5**	5
	Take no action	0	1	3	4
Total		9	7	18	34

For those firms that indicated that their prices did not change until their costs changed, 36% indicated that they would purchase raw materials in advance and stock in inventory, while 28% indicated that they would hedge against cost increases. Only 20% indicated that they would increase their own prices. See table 24 above for details on the actions firms would take in anticipation of costs increases.

Table 25: Ranking of factors that firms considered important as reasons to decide not to increase prices.

Rank	Factor	Not Applicable	Not Important	Slightly Important	Fairly Important	Very Important	Mean	Median
1	The risk is too high that our competitors do not change their prices. **(Co-ordination Failure**)	8.8%	11.8%	17.6%	44.1%	17.6%	2.50	3.0
2	It would antagonise our customers	11.8%	8.8%	23.5%	35.3%	20.6%	2.44	3.0
3	The risk is too high that we subsequently have to re-adjust our prices in the opposite direction. **(Temporary Shocks)**	8.8%	17.6%	26.5%	29.4%	17.6%	2.29	2.0
4	The existence of written contracts specifying that prices can only be changed when the contract is renegotiated. **(Explicit Contracts**)	11.8%	29.4%	26.5%	17.6%	14.7%	1.94	2.0
5	The variable costs in our company do not change by much with market conditions, making our price quite stable. **(Cost based Pricing**)	14.7%	29.4%	32.4%	17.6%	5.9%	1.71	2.0
6	The existence of an implicit contract (regular contact with a customer without any written contract**). (Implicit Contracts)**	14.7%	29.4%	35.3%	17.6%	2.9%	1.65	2.0
7	The costs implied by price changes (e.g. printing of price lists or information gathering costs). **(Menu Costs)**	23.5%	58.8%	8.8%	8.8%	0.0%	1.03	1.0
8	The preference for maintaining prices at a certain threshold (e.g. you would rather charge R9.99 than R10.00). (**Pricing Threshold)**	38.2%	35.3%	17.6%	5.9%	2.9%	1.00	1.0

Colour Key	
Highest Score	
Top 3 Mean Score	

Ranking based on mean scores

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

Table 26: Survey results for factors of importance as reasons to decide not to reduce prices.

Rank	Factor	Not Applicable	Not Important	Slightly Important	Fairly Important	Very Important	Mean	Median
1	The risk is too high that we subsequently have to re-adjust our prices in the opposite direction. **(Temporary Shocks)**	5.9%	20.6%	35.3%	26.5%	11.8%	2.18	2.0
2	The risk is too high that our competitors do not change their prices. **(Co-ordination Failure)**	11.8%	29.4%	26.5%	20.6%	11.8%	1.91	2.0
3	The existence of written contracts specifying that prices can only be changed when the contract is renegotiated. **(Explicit Contracts)**	14.7%	29.4%	29.4%	8.8%	17.6%	1.85	2.0
4	The variable costs in our company do not change by much with market conditions, making our price quite stable**. (Cost based Pricing)**	11.8%	32.4%	26.5%	17.6%	11.8%	1.85	2.0
5	The existence of an implicit contract (regular contact with a customer without any written contract). **(Implicit Contracts)**	11.8%	41.2%	29.4%	11.8%	5.9%	1.59	1.0
6	It would antagonise our customers	20.6%	32.4%	29.4%	8.8%	8.8%	1.53	1.0
7	The costs implied by price changes (e.g. printing of price lists or information gathering costs). **(Menu Costs)**	26.5%	52.9%	14.7%	2.9%	2.9%	1.03	1.0
8	The preference for maintaining prices at a certain threshold (e.g. you would rather charge R9.99 than R10.00). **(Pricing Threshold)**	35.3%	41.2%	14.7%	5.9%	2.9%	1.00	1.0

Colour Key	
Highest Score	
Top 3 Mean Score	

Ranking based on mean scores

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

In exploring what factors firms considered as important reasons for not increasing or not reducing their prices, firms where provided a list of price stickiness theories and then asked to rate these theories separately as reasons why they would not increase or reduce their prices. The responses were then ranked based on the mean scores.

For reasons about why firms did not increase their prices, the results as displayed in table 25 above indicated that the risk the firms competitors did not change their prices was highest with almost 62% of the firms regarding this reason as “fairly important” to “very important”. The second highest reason was the fact that increasing prices would antagonise the firm’s customers with 56% of the firms regarding this reason as “fairly important” to “very important”.

For reasons why firms did not reduce their prices, the results as shown in table 26 above indicated that the risk that firms had to readjust their prices in the opposite direction was too high, was ranked highest with 38% of the firms regarding this reason as “fairly important” to “very important”.

Table 27: Other compelling reasons as to why prices would adjust slowly

Other compelling arguments why prices adjust slowly

	N	Minimum	Maximum	Mean
Too costly to change prices more often	34	0	1	.24
Factors influencing prices don’t change often enough to warrant changes	34	0	1	.29
Prices could not change more often without disturbing customer relations	34	0	1	.56
We are more likely to amend product characteristics	34	0	0	.00
Low inflation makes large price changes more noticeable	34	0	1	.35

Weighting used: (1= Applicable and 0 = Not applicable)

Firms were asked whether there were any other reasons that were not covered in the theories of price stickiness as possible reasons regarding why prices would adjust slowly. The results as presented in table 27 above indicated that customer relations were most applicable where prices could not change more often without disturbing the relationships firms had with their customers.

5.3.8 Firms competition and price setting strategies

Table 28: Survey results for intensity of competition for your main product

	Frequency	Percent	Cumulative Percent
Do not know	1	2.9	2.9
Weak	2	5.9	8.8
Strong	**31**	**91.2**	100.0
Total	34	100.0	

Table 29: Cross tabulation results of number of competitors now and number of competitors a decade ago

Number of Competitors Now * Number of Competitors Decade Ago
Cross-tabulation
Count

Number of competitors now	Number of competitors decade ago			Total
	the same	more	fewer	
Less than 5	2	**8**	2	12
between 5 and 20	0	**18**	3	21
more than 20	0	**1**	0	1
Total	2	27	5	34

In terms of the degree of competition the firms faced, 91% of the firms indicated that the competition was strong as shown in table 28 above. With regard to whether the degree of competition had changed in the past decade, 79% of the firms as revealed in table 29 above indicated that the current competition had increased from a decade ago.

Table 30: Cross tabulation results of is there a price leader in the industry and firms price setting strategy

Firms Price setting Strategy * Is there a Price Leader in your industry
Cross-tabulation
Count

Firms Price Setting Strategy	Is there a price leader in your industry			Total
	yes	no	don't know	
Price leader	**13**	2	0	15
Price follower	2	1	0	3
Independent	4	**7**	3	14
Don't Know	0	2	0	2
Total	19	12	3	34

To understand what pricing setting strategy firms adopted, the respondents were asked if there was a price leader in their industry and to confirm what approach they had adopted when setting their prices. The results as presented in table 30 above indicated that 44% were price leaders whilst 41% of the firms set their prices independent of the knowledge of their competitors' prices.

Table 31: Cross tabulation results of firms price setting strategy and market share of firms main product in SA

Firms Price Setting Strategy * Market share of main product in SA
Cross-tabulation

Count

Firms Price Setting Strategy	Market share							Total
	<5%	5% to 10%	11% to 20%	21% to 30%	31% to 40%	41% to 50%	>50%	
Price leader	**2**	**0**	**0**	**4**	**1**	**2**	**6**	**15**
Price follower	0	0	0	0	2	0	1	3
Independent	**4**	**1**	**4**	**2**	**2**	**0**	**1**	**14**
Don't Know	0	0	0	1	1	0	0	2
Total	6	1	4	7	6	2	8	34

In determining whether market share had an influence on the firm's price setting strategy, a cross tabulation analysis was conducted between the firm's market share and the firm's price setting strategies. The results as shown in table 31 above specified that only 18% of the firms controlled greater than 50% of the market share and were price leaders. A further 26% of firms were price leaders; however they controlled less than 50% of the market share. With regard to firms that followed an independent price setting strategy 64% controlled 20% or less market share.

Table 32: Cross tabulation results for firm's price setting strategy and the ease of finding out competitors prices

Price Setting Strategy * Ease of finding competitors prices

Cross-tabulation

Count

Price Setting Strategy	Ease of finding competitors prices				Total
	Easily	Not at all	With difficulty/effort	Don't know / No answer	
Price leader	5	0	**10**	0	15
Price follower	1	0	**2**	0	3
Independent	4	0	**8**	2	14
Don't Know	0	1	**1**	0	2
Total	10	1	**21**	2	34

Overall, 62% of the firms indicated that it was difficult to find out their competitors' prices and this was across the strategies that firms adopted for their price setting. 29% of the firms indicated that it was easy to find out their competitors prices. Table 32 above provides a detailed breakdown of the firm's responses.

Table 33: Ranking of factors that determines a firm's competitiveness

Rank	Factor	Not Applicable	Not Important	Slightly Important	Fairly Important	Very Important	Mean	Median
1	Quality of your product	0%	0%	3%	24%	74%	3.71	4.0
2	Price of your product	0%	0%	3%	29%	68%	3.65	4.0
3	Long term relationship with customers	0%	0%	9%	18%	74%	3.65	4.0
4	Delivery Period	0%	3%	9%	29%	59%	3.44	4.0
5	After sales service	0%	3%	9%	38%	50%	3.35	3.5
6	Degree to which product can be distinguished from that of competitors	3%	12%	18%	35%	32%	2.82	3.0

Colour Key	
Highest Score	
Top 3 Mean Score	

Ranking based on mean scores

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

Firms were required to rate the importance of specific factors that determined their competitiveness, the factors were then ranked based on the mean scores. The results as shown in table 33 above indicated that the quality of the firm's product was most important in determining their competitiveness with 98% of the firms regarding this factor as "fairly important" to "very important" followed very closely by the firm's price of its product with 97% of firms regarding this factor as "fairly important" to "very important".

CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

The objective of this research was to gain an understanding of the price setting behaviour of manufacturing firms in South Africa for the reasons motivated in chapter 1. The literature reviewed in chapter 2 discussed the various economic theories relating to price setting and chapter 3 identified the propositions to be tested in this study. In chapter 4 the research approach undertaken for this study was discussed while chapter 5 provided the results received from the surveys conducted. This chapter discusses the results outlined in the previous chapter and includes additional qualitative insights provided by the respondents. The discussion is presented within the context of the individual propositions outlined in chapter 3. The discussion will make use of the insights and analysis from the previous chapters to formulate a holistic understanding of how firms in the South African manufacturing sector set their prices.

6.2 Proposition 1: Firms make use of the state - dependent pricing model to review their prices.

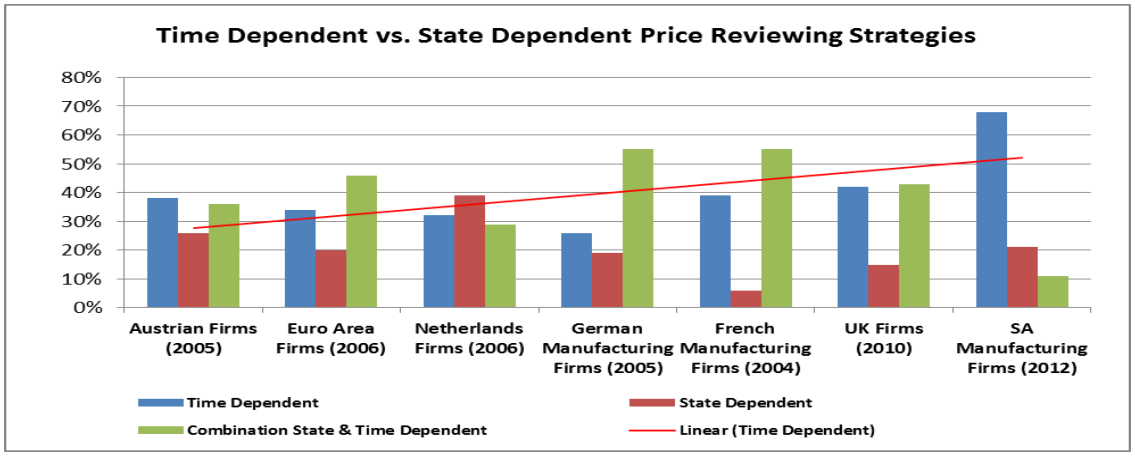
As discussed in chapter 2 firms that have the available resources would generally follow a two stage price setting approach. The first stage is the price review stage where the firms would determine if their current prices deviated from optimal price. The theoretical literature suggested two strategies that firms would follow when reviewing their prices, the time-dependent strategy (Calvo, 1983 and Taylor, 1980) or the state-dependent strategy (Klenow & Kryvtsov, 2008).

Firms that followed the time-dependent pricing strategy would review their prices perodically while in the state-dependent pricing strategy firms would review their prices only when a large enough shock occurred. According to the results shown in tables 5 and 6, more than two thirds of the firms reviewed their prices at regular intervals (68%) therefore suggesting that firms in the South African manufacturing sector largely followed a time-dependent pricing strategy.

The findings were a contrast to the proposition put forth considering the tough economic climate that these firms operated in. The fact that a large portion of these firms reviewed their prices purely at regular intervals implied that the cost disturbances suffered by these firms were not large enough to validate the incurring of costs associated with the additional price reviews outside the firms set calendar period (Midrigan, 2010).

The results were vastly different to that of surveys conducted in other international studies (see figure 11 below) where the frequency of firms following the time-dependent pricing strategy was almost three times as much amongst South African manufacturing firms (68%) to that of manufacturing firms in Germany (26%) (Stahl, 2005). The share of firms that followed some sort of state-dependent pricing strategy, either purely or through adopting the combination of both time and state-dependent, where again somewhat surprising as the results indicated that only 32% of firms did so. This was almost half of the number of firms found in the other studies; Austrian firms with 62% (Kwapil et al., 2005), Euro Area firms with 66% (Fabiani et al., 2006), Netherlands firms with 68% (Hoeberichts & Stokman, 2006) the UK firms with 58% (Greenslade & Parker, 2010), German firms with 55% (Stahl, 2005) and French firms with 55% (Loupias & Ricart, 2004).

Figure 11: Comparison across international studies for price reviewing strategies (share of firms %)



Sources: (Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

The theorical literature suggests that the information set which firms make use of to set their prices plays an integral part in the speed at which prices are adjusted in response to the various shocks firms are exposed to (Greenslade & Parker, 2010). The results from table 10 showed that just over half (53%) of the manufacturing firms in South Africa made price

setting decisions on information relating to their current trading conditions, this was similar to the results of UK firms (45%). Only a quarter of the firms were forward looking in basing their decisions on the expectations about future conditions, suggesting that most of the firms either behaved non-optimally by not taking the future outlook sufficiently into account or there was great uncertainty about the future predictions.

Manufacturing firms in South Africa were dissimilar to the manufacturing firms in Germany and France. The median German firm reviewed its prices at least three times a year (Stahl, 2005); the median firm in France reviewed its prices at least four times a year (Loupias & Ricart, 2004) whilst the median manufacturing firm in South Africa reviewed its prices only once a year. The South African firms shared a similarity with firms in the Euro Area in that the larger firms reviewed their prices more often than smaller firms, this was largely due to the fact that smaller firms firstly did not have sufficient resources to review prices more frequently and secondly due to the time it took and the costs associated with reviewing prices and obtaining new information.

The competitive environment had been suggested as an important indicator in terms of how frequently the firms reviewed their prices (Greenslade & Parker, 2010). The results as shown in table 7 indicated that 91% of the firms faced strong competition but could not provide any correlation to suggest that the level of competition had any bearing on the frequencies of price reviews as recommended by the authors Kwapil et al. (2005). The number of reviews varied across the firms that mentioned they experienced strong levels of competition.

The second step of the price adjustment process is the actual price changes and as per the results presented in table 8 and 9, South African manufacturing firms actually changed their prices less frequently than they reviewed their prices. In particular, as depicted in figure 9, 59% of the firms indicated that they reviewed their prices more than once a year. However 59% of the firms also indicated that they changed their prices at least once per year, but sometimes less than that.

The fact that prices were changed less frequently than they were reviewed would suggest that these firms felt that there was no pressing need to change their prices or the additional costs (menu costs) to be incurred for changing these prices was more than the benefits that would be derived from changing the prices (Fabiani et al., 2006). The result further supported the theory that price adjustments takes place in two steps where the frequency of price reviews occurred more often than the frequency of prices changes. This indicates that firms used their resources to review their prices and only if it was beneficial to the firm did they change their prices (Fabiani et al., 2006).

The results were further surprising in that these practices would have been typical of firms following a more state dependent price rule. In those environments of macroeconomic volatility and economic imbalances; firms would have naturally reviewed their prices more often and only if necessary changed their prices (Klenow & Kryvstov, 2008).

The results for South African manufacturing firms were different to that of the results for manufacturing firms in Germany and France. The median firm in South Africa reviewed and changed its price once per year in comparison to the median German and French firm which reviewed its price three and four times respectively but only adjusted their prices once per year (Loupias & Ricart, 2004; Stahl, 2005).

6.3 Summary for Proposition 1

The proposition presented that manufacturing firms is South Africa followed a state-dependent pricing strategy was not valid. The results proved that South African manufacturing firms predominantly followed a time-dependent pricing rule where 68% of firms reviewed their prices at regular intervals.

Only a quarter of the firms were forward looking in their pricing setting decisions and this was related to the uncertainty surrounding future economic predictions. Larger firms reviewed their prices more frequently than smaller firms as smaller firms did not have sufficient resources to review their prices more frequently. Price changes were found to be significantly less frequent than price reviews and this could have been a result of the additional menu costs which prevented more frequent price adjustments. The median manufacturing firm in South Africa reviewed and adjusted its price only once per year.

6.4 Price setting considerations

In understanding whether there were variations in the reasons why firms changed their prices, the researcher required to uncover some of the considerations firms took into account when setting their prices. The price setting method firms used to set their prices and how firms charged their customers are discussed below before addressing proposition 2.

6.4.1 Price setting methods

The results as shown in table 15 indicated that mark-up pricing with a variable or fixed percentage was found to be a very common price setting method for the manufacturing firms in South Africa. More than 50% of the firms considered this approach to be 'fairly important" to "very important" in their price setting decisions.

The results from this study confirmed the findings of Fedderke et al. (2005) that mark-up pricing was a significant practice in the South African manufacturing sector. These results were similar to that of the firms in the Euro Area and the UK where more than half of the firms surveyed used some form of mark-up pricing strategy (Fabiani et al., 2006; Greenslade & Parker, 2010).

The practice of mark-up pricing was a result of the manufacturing firms operating in an environment of imperfect competition and had chosen this pricing strategy in order to have some room for not adjusting their prices when they faced any variations in actual costs (Fabiani et al., 2006). This was proven to be true when it was considered that a large proportion of these firms only reviewed and adjusted their prices at regular intervals even though they had experienced cost shocks.

The results as indicated in table 15 showed that around one third of the firms (32%) set their prices largely dependent on their competitors' prices, thus suggesting that these firms were price takers (Greenslade & Parker, 2010). This practice was not uncommon and was found to be similar to that of firms in the UK where 33% of the firms (refer to table 34 below) regarded price which was determined by competitors' prices as "very important" (Greenslade & Parker, 2010).

The results as shown in table 16 indicated that firms with fewer competitors (less than 5) leaned towards competitors prices as more important than firms with more competitors who regarded mark-up pricing as more important. The results were surprising in contrast to the findings by Fabiani et al. (2006) who stated that in highly competitive markets the use of competitors pricing was the more preferred approach.

Table 34: International comparison of survey results for type of price setting (share of firms selected "very important")

Type of Price Setting	UK	Euro Area	Canada	Netherlands	Austria	Germany	France	SA (Manufacturing firms)
Fixed Mark-up	25%	54%	n/a	24%	n/a	4%	37%	35%
Variable Mark-up	33%		n/a	35%	n/a	69%		38%
Competitors Prices	33%	27%	n/a	22%	n/a	17%	35%	32%

Key

Not Available	n/a
Mark-up combination	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

6.4.2 Price discrimination

The results as shown in table 17 indicated that price discrimination was a very common practice amongst the South African manufacturing firms where 88% of the firms charged their customers either on a case-by-case basis or on the quantity or volume of product the customer purchased. These findings were similar to that of firms in the Euro Area and UK firms which reported 82% and 78% respectively of firms that practiced some form of price discrimination (refer to table 35 below).

The reason why firms discriminated in their prices was largely due to the firms wanting to extract a higher fraction of consumer surplus which would not have been possible had they charged a more uniform price (Fabiani et al., 2006). Some of the respondents alluded to the use of this practice as means of dealing with the cheaper Chinese imports and their customers comparing their prices to that of competitors.

Table 35: International comparison of survey results for extent of price discrimination (share of firms)

Price of Main product is	UK	Euro Area	Canada	Netherlands	Austria	Germany	France	SA (Manufacturing firms)
The same for all customers	22%	18%	n/a	n/a	n/a	8%	19%	12%
Different dependent on quantity/volume sold	22%	42%	n/a	n/a	n/a	51%	26%	29%
Decided case by case	57%	40%	n/a	n/a	n/a	41%	48%	59%

Key

Not Available	n/a
Price Discrimination	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

6.5 Proposition 2: There are variations in the reasons for firms changing their prices and these variations are based on the direction of the price change.

The results of this study confirmed the findings of previous empirical studies that there were asymmetries in the reasons for firms changing their prices and that these asymmetries were based on the direction of the price change. As exposed in table 18, rising input costs in the form of raw materials costs and labours costs were the most important reasons for causing firms to increase their prices, while the results revealed in table 19 indicated that it was the decline in market share followed by a decrease in raw materials costs that were the most important reasons for causing firms to reduce their prices.

The reason of rising input costs being the most important consideration when firms decided to increase prices was consistent to the results where firms were asked how quickly they would respond to certain factors relating to changes in demand and costs (see appendix B41). It was a significant increase in production costs that firms reacted most speedily towards in terms of changing their prices. This could have been a result of an increase in the firms labour and raw material costs which significantly affected the firm's profitability (Mary & Okelue, 2012).

The results for the manufacturing firms in South Africa were similar to the results of other international studies, except for firms in Canada (refer to table 36 below) in that rising input costs were the main driver causing firms to increase their prices.

With regard to the reasons that caused firms to reduce their prices, the results for this study were quite different to the results of other international studies. In South Africa, the manufacturing firms were the only ones to indicate that declining market share was the most important reason for them to reduce their prices (see table 37 below).

For firms in Austria, France and Canada the decrease in competitors' prices were most important while for firms in the Euro Area and Germany it was the decrease in raw materials cost that was most important. For firms in the UK it was the decline in demand that was the most important reason for firms reducing their prices.

The reason of the declining market share as indicated by the South African manufacturing firms made sense when considering the these firms had experienced a growth in the number of competitors in the past decade (see table 29). Market share was an important factor for these manufacturing firms profitability and firms resorted to reducing their prices if they felt that their market share was being threatened.

Table 36: International comparison of survey results for importance of factors driving price increases (ranked)

Factors driving price increases	UK	Euro Area	Canada	Netherlands	Austria	Germany	France	SA (Manufacturing firms)
Labour costs	2	2	4	1	1	2	2	2
Costs of Raw Materials	1	1	2	2	2	1	1	1
Competitors prices	4	3	1	3	3	4	3	3
Demand	3	4	3	4	4	3	4	5
Market share	6	n/a	n/a	n/a	n/a	n/a	n/a	6
Finance costs	5	5	5	n/a	5	5	n/a	4

Key

Not Available	n/a
Highest Ranked	
2nd Ranked	
3rd Ranked	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

Table 37: International comparison of survey results for importance of factors driving price reductions (ranked)

Factors driving price reductions	UK	Euro Area	Canada	Netherlands	Austria	Germany	France	SA (Manufacturing firms)
Labour costs	5	2	4	1	5	4	4	6
Costs of Raw Materials	3	1	2	2	2	1	2	2
Competitors prices	2	3	1	3	1	2	1	4
Demand	1	4	3	4	3	3	3	3
Market share	4	n/a	n/a	n/a	n/a	n/a	n/a	1
Finance costs	6	5	5	n/a	4	5	n/a	5

Key

Not Available	n/a
Highest Ranked	
2nd Ranked	
3rd Ranked	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

The exchange rate was also considered to be an important factor for firms adjusting their prices, as shown in table 20. 74% of the firms indicated that the depreciation of the Rand against the US Dollar would have had a negative effect on the firm's profit margins. In the case where 65% of the firms confirmed that they would adjust their prices if the Rand depreciated in the range of 5% to 30% (see table 21) this would then imply that the volatility of the Rand against the US dollar would have been a major reason for the firms changing their prices in the past three years when it is considered that the Rand fluctuated in the range of 29% during this three year period (see figure 4). The volatility of the exchange rate would have resulted in at least 50% of these manufacturing firms increasing their selling prices as means of restoring their profit margins when the Rand depreciated against the US Dollar (see table 22).

6.6 Summary for Proposition 2

Mark-up pricing (variable or constant) was a common practice amongst manufacturing firms in South Africa as this approach provided firms with the room for not adjusting their prices when they faced variations in actual costs. However when firms were forced to adjust their prices there were variations in the reasons that caused the firms to adjust their prices. These variations were based on the direction of the price change. The proposition put forth in this case was supported by the results in that there was a variation in the reasons for firms changing their prices and these variations are based on the direction of the price change.

Increasing input costs (raw material and labour costs) was the most important driver forcing firms to increase their prices while declining market share was the most important reason that caused firms to reduce their prices.

The findings of reasons which caused firms to increase their prices were similar to other international studies. However, when it came to reasons that caused firms to reduce their prices, the manufacturing firms in South Africa were quite unique in comparison to the other international studies. For the manufacturing firms in South Africa it was the declining market share which was most important to the firms whereas it was a decrease in input costs or a decrease in competitors' prices that were most important for other international studies in causing a decrease in the firm's prices. There was evidence to support this rationale when it was considered that the number of competitors have increased in the past decade, thus eroding the firms market share.

Price discrimination was also found to be a common practice amongst the manufacturing firms in South Africa, an intervention by the firms to deal with competitors' pricing and eroding market shares.

6.7 Proposition 3: Firms in the manufacturing sector are actually price sticky and not price flexible.

In proposition 1 it was highlighted that price changes were significantly less frequent than price reviews. This could have been interpreted as evidence that firms delayed their prices adjustments for a variety of reasons. When the firms were asked how many times they changed their prices in the last 12 months, the results as shown in table 13 indicated that the average and median firm changed its' price at most twice in the last 12 months. Amirault et al. (2006) mentions that if there was resistance to change prices in spite of the changes in the economy which suggested that a different price was optimal then these firms were price sticky.

In this case where 82% of the firms (see table 21) confirmed that they imported or exported intermediate inputs or finished goods, these firms would have been impacted by the volatility of the Rand against the US Dollar exchange rate, where the exchange rate had fluctuated in the range of 21% in the last 12 months (see figure 4). The fact that the median firm only changed its prices twice in the last 12 months suggested that the manufacturing firms were price sticky.

The results for this study were different to that of the German and France studies where the median number of price changes amongst the manufacturing firms in South Africa was two in the last 12 months, whilst the median number of price changes amongst manufacturing firms in Germany and France was one in the last 12 months (see table 38 below) (Loupias & Ricart, 2004; Stahl, 2005). This suggests that while the South African manufacturing firms were price sticky, they were also more price flexible than manufacturing firms in Germany and France.

The results did however share some similarity with the other international studies, except for firms in Canada, in that the largest proportion of firms changed their prices as most once in the last 12 months (see table 38). The results further indicated that Canadian firms were the most price flexible with the largest proportion of firms having confirmed that they changed their prices four or more times in the last 12 months (Amirault et al., 2006).

Table 38: International comparison of survey results for how many times firms changed their prices in the last 12 months

Price Changes in Past 12 months (Share of firms)	UK	Euro Area	Canada	Netherlands	Austria	Germany	France	SA (Manufacturing firms)
Median number of price changes	1	1	n/a	1	1	1	1	2
< 1 price change	n/a	27	n/a	10%	24%	44%	21%	n/a
1 price change	33%	39%	27%	60%	51%	14%	46%	41%
2 to 3 price changes	31%	20%	23%	19%	15%	21%	24%	38%
4 and more price changes	20%	14%	44%	11%	11%	21%	9%	21%

Key

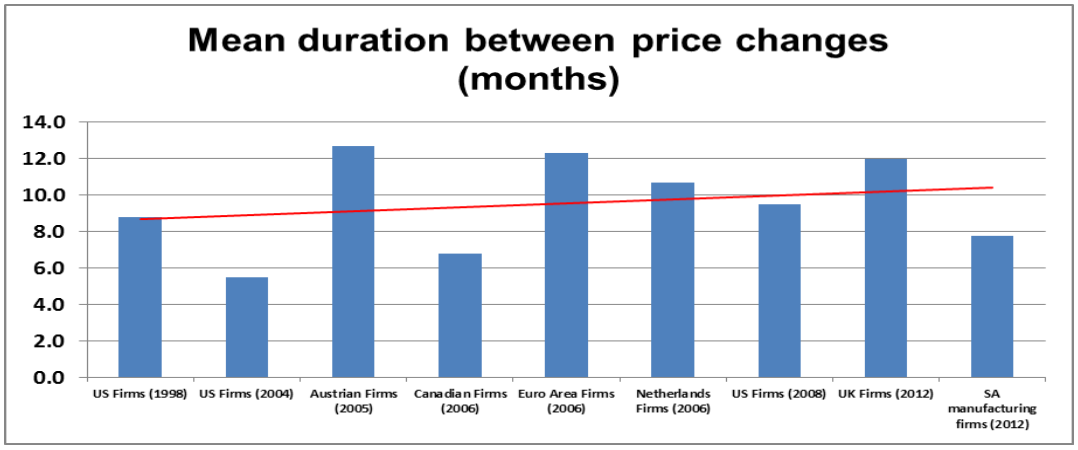
Not Available	n/a
Highest Score	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Loupias & Ricart, 2004; Stahl, 2005)

Note: (Some totals do not add up to 100% due to responses for "no price adjustments" being removed)

When comparing the duration between price changes, the results as shown in table 14 indicated that the mean duration between price changes for the South African manufacturing firms was around 7.8 months. The results, when compared to international studies (see figure 12 below), demonstrated that price adjustments were more frequent amongst South African manufacturing firms than the other studies except for Canadian firms, where the mean duration between price changes ranged from 8.8 months (US study, 1998) to 12.7 months (Austrian study, 2005). The results could therefore be interpreted as evidence that manufacturing firms in South Africa are price sticky. However, the firms are more price flexible than most international studies. The reasons why the firms are price sticky are discussed below.

Figure 12: Comparison across international studies for mean duration between price changes (months)



Sources: (Amirault et al., 2006; Bils & Klenow, 2004; Blinder et al., 1998; Fabiani et al., 2006; Greenslade & Parker, 2012; Hoeberichts & Stokman, 2006; Kwapil et al., 2005; Nakamura & Steinsson, 2008)

When firms were asked what were the possible reasons for delaying their price adjustments, the most applicable reasons provided were the fact that firms prices would not change if costs did not change followed by the fact that firms had explicit contracts in place with their customers and could not change prices while the contract was still active (see table 23).

Firms would wait until their actual costs changed before making a price adjustment therefore when firms where asked what would they do if they expected an increase in costs, most of the firms indicated that they would purchase raw materials in advance and stock in inventory or hedge against cost increases as opposed to increasing their own prices (see table 24). Amirault et al. (2006) suggested that this was a typical approach for firms in the manufacturing sector.

The respondents were then probed further for their reasons for not adjusting prices more frequently. The researcher asked the respondents to rate the importance of certain micro economic theories separately, as reasons for not increasing and not reducing their prices. The rationale behind asking the respondents to rate the importance separately was to determine whether there was any asymmetry in the reasons. The results are discussed below and proved that there was in fact asymmetry in the reasons provided.

The results as shown in table 25 indicated that co-ordination failure followed by the risk of antagonising customers was most important for firms as reasons for not increasing their prices more frequently. It was however surprising to discover that explicit contracts were only rated as the fourth most important reason for firms not increasing their prices more

frequently, when considering the fact that the respondents identified this factor as the second most applicable factor for not increasing prices more frequently (table 23).

The reason for co-ordination failure being most important was valid when considering that 91% of the firms experienced strong levels of competition (see table 28). If there was a reason for all firms to change their prices due to demand or cost shocks but only one firm increased its price, the risk for this firm would have been in losing its customers (Kwapil et al., 2005).

The results were further supported by the findings when firms were asked what effect a rise in domestic competitors' prices would have on their gross profit margins. Firms responded that it would have an upward effect on their gross profit margins (see appendix B39), therefore if a specific firm was the only firm to increase its prices, its competitors would in effect have enjoyed higher gross profit margins as a result of the lower prices charged and the increased sales volumes (firm's customers moving to competitors). When it is considered that 82% of the firms indicated that their five largest buyers generated 26% or more of their sales (see appendix B18), it would be applicable for these firms to maintain strong relationships with their customers and not antagonise their customers by increasing prices more frequently as means of stabilising their future sales and discouraging customers from shopping elsewhere (Fabiani et al., 2006).

The most important reason, as shown in table 26, for firms not wanting to reduce their prices when the opportunity presented itself, was firstly that the price reduction may have been temporary in nature and that firms would have had to readjust their prices in the opposite direction. The second most important reason for firms not wanting to reduce their prices was co-ordination failure, in that there was the risk that the firm's competitors did not simultaneously reduce their prices.

The two most important reasons provided by the firms as reasons for not reducing their prices was related to the assertion that if one firm reduced its prices due to a cost or demand shock, albeit a short-lived one, there would be an even greater risk for the firm in loosing potential profit margins to its competitors if the respective firm's competitors had not simultaneously reduced their prices. There was also the risk of the firm starting a price war if the one firm had reduced it prices whilst the other firms had decided to keep their prices unchanged (Greenslade & Parker, 2010).

The results for the manufacturing firms in South Africa were dissimilar to that of other international studies where the most important reason for the other studies were contractual obligations (explicit or implicit in nature), except for the Canadian firms which rated cost

based pricing as most important (see table 39 below). The only country that considered co-ordination failure as one of its more important reasons for not increasing prices more frequently was the UK, where this factor was rated as the second most important reason.

When it came to reasons for firms not reducing their prices more frequently, the results for South African manufacturing firms were again dissimilar to that of the other international studies where contractual obligations (explicit or implicit in nature) were most important; except for the Canadian firms which rated cost based pricing as most important (see table 40 below).

The results also confirmed that there was some level of symmetry with the other international studies for the reasons provided for not increasing or reducing prices more frequently. However the South African manufacturing firms were unique in this case in that there was a distinct level of asymmetry in the reasons provided. For the manufacturing firms in South Africa it was co-ordination failure followed by customer relations that was most important for firms not to increase their prices more frequently. Reasons for South African firms not reducing prices more frequently included temporary shocks followed by co-ordination failure as the most important factors for firms.

Table 39: International comparison of survey results for factors of importance as reasons for not increasing prices

Factors for deciding not to increase prices	UK	Euro Area	Canada	Netherlands	Austria	SA (Manufacturing firms)
Implicit contracts	4	1	6	2	1	6
Explicit contracts	1	2	3	1	2	4
Temporary shocks	5	5	7	3	7	3
Co-ordination failure	2	4	5	4	4	1
Pricing Threshold	7	8	n/a	6	8	8
Menu costs	8	7	8	7	5	7
Change non-price factors	n/a	6	4	5	6	n/a
Antagonise customers	3	n/a	2	n/a	n/a	2
Cost-based pricing	6	3	1	n/a	3	5

Key

Not Available	n/a
Highest Ranked	
2nd Ranked	
3rd Ranked	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005)

Table 40: International comparison of survey results for factors of importance as reasons for not reducing prices

Factors for deciding not to reduce prices	UK	Euro Area	Canada	Netherlands	Austria	SA (Manufacturing firms)
Implicit contracts	3	1	6	2	1	5
Explicit contracts	1	2	3	1	2	3
Temporary shocks	5	5	7	3	7	1
Co-ordination failure	2	4	5	4	4	2
Pricing Threshold	7	8	n/a	6	8	8
Menu costs	8	7	8	7	5	7
Change non-price factors	n/a	6	4	5	6	n/a
Antagonise customers	4	n/a	2	n/a	n/a	6
Cost-based pricing	6	3	1	n/a	3	4

Key

Not Available	n/a
Highest Ranked	
2nd Ranked	
3rd Ranked	

Sources: (Amirault et al., 2006; Fabiani et al., 2006; Greenslade & Parker, 2010; Hoeberichts & Stokman, 2006; Kwapil et al., 2005)

6.8 Summary for Proposition 3

The proposition stated was supported in that the manufacturing firms in South Africa were in fact price sticky, as the average and median firm changed prices at most twice in the last 12 months even though changes in the economy suggested that a different price was optimal. The manufacturing firms in South Africa were however more price flexible than manufacturing firms in Germany and France where the median firms in these countries adjusted its' prices once in the last 12 months while the median firm in the manufacturing sector in South Africa adjusted it price twice in the last 12 months.

The mean duration between price changes for manufacturing firms in South Africa was 7.8 months. This was shorter than that of firms in other international studies apart from Canadian firms. This confirmed that manufacturing firms in South Africa, although price sticky were more price flexible than firms in most other countries.

There was evidence of asymmetry between the reasons why South African manufacturing firms did not increase their prices when compared to why they did not reduce their prices more frequently. The risk that competitors did not increase their prices and enjoyed the benefits of higher gross profit margins (co-ordination failure) followed by the risk of antagonising customers were the most important reasons why South African manufacturing firms did not increase their prices more frequently.

The risk that price reductions were short lived and that firms had to readjust their prices in the opposite direction (temporary shocks) followed by the risk of causing a price war when competitors did not change their prices (co-ordination failure) were considered the most important reasons explaining why manufacturing firms in South Africa did not reduce their prices more frequently.

Overall South African manufacturing firms were found to be dissimilar to the other international studies in terms of the factors that prevented them from adjusting prices more frequently, where contractual obligations (explicit and implicit contracts) were found to be the most important reason for both not increasing and not reducing prices more often in other international studies.

6.9 Proposition 4: Firms in the manufacturing sector generally adopt a barometric price leadership strategy

In order to address the proposition put forth that the firms in the manufacturing sector adopted a barometric price leadership, the researcher found it necessary to understand the competitive landscape of firms in the manufacturing sector in South Africa and the factors that firms regarded as most important in determining their competitiveness. These insights provided the relevant context for the price leadership style that firms had adopted.

The quality of the firm's product, followed by firms pricing of their products and then the long term relationship the firm had with its customers were the most important factors in determining a firms level of competitiveness (see table 33). The level at which the firms products could be differentiated from their competitors was rated least important, therefore

suggesting that the South African manufacturing firms focused on a cost leadership strategy for possible competitive advantages and not product differentiation (Porter, 1985). This was further supported by the fact that the average firm's variable costs were just over 50% of its total costs to produce its product (see appendix B2).

The results as presented in table 28 and 29 further suggested that the manufacturing firms operated in a highly competitive environment where there were strong levels of competition and the number of competitors had increased in the past decade. With 65% of the firms having indicated that they operated in an environment where they faced more than 5 competitors this implied that the manufacturing firms operated in a monopolistic type market structure (Ottaviano & Thisse , 2011). The fact that firms have experienced an increased number of competitors and that the levels of competition was strong was typical of a monopolistic market structure as there are no barriers to entry and exit in this market structure, thus making it easier for more competitors to enter the market (Ottaviano & Thisse , 2011).

Ottaviano and Thisse (2011) stated that in a monopolistic market structure firms made their own independent decisions about their prices which was largely based on the firms products, their market and costs of productions. The results as shown in table 30 provided further evidence to support the fact that the firms operated in a monopolistic market structure where 41% of the firms indicated that they set their prices independently,

The results as shown in table 31 indicated that 18% of the firms controlled more than 50% of the market share and adopted a price leadership approach when setting their prices, therefore these firms could be characterised as dominant price leaders (Deneckere & Kovenock, 1992). There were however 76% of firms that indicated having a market share of less than 50% and most of these firms either adopted a price leadership or an independent strategy in setting these prices (see table 31), therefore suggesting that these firms followed a barometric price leadership strategy as there were no dominant leader (Mouraviev & Rey, 2011).

The fact that there was only a few dominant price leaders in the market implied that the remaining firms were actually price takers and looked towards the dominant price leaders for a signal about market conditions (Deneckere & Kovenock, 1992)

The results in table 32 provided further support to indicate that the manufacturing firms in South Africa followed a barometric price leadership strategy as 62% of the firms indicated that it was difficult to find out their competitors' prices. The firms therefore delayed their

decisions until a more informed firm moved first while the less informed firms followed (Mouraviev & Rey, 2011).

6.10 Summary for Proposition 4

The manufacturing sector in South Africa is characteristic of a monopolistic competitive environment where the quality followed by the pricing of the firm's product were the most important factors in determining a firm's level of competitiveness. Cost leadership was therefore important to these firms as opposed to product differentiation. The sector was furthermore representative of firms following a barometric price leadership strategy when setting their prices, which was largely a result of most firms experiencing difficulty in finding out their competitors' prices, and therefore looked towards the few dominant price leaders to provide a signal of market conditions. Therefore the proposition put forth was supported by the results that manufacturing firms in South Africa generally adopted a barometric price leadership strategy in setting their prices.

CHAPTER 7: CONCLUSION

7.1 Introduction

This chapter synthesizes the findings of the research and presents insights for those interested in understanding the price setting behaviours of manufacturing firms in South Africa. It reviews the research background and objectives, and summarises the research findings. The chapter concludes with recommendations for future research.

7.2 Review of research background and objectives

This study was aimed at firstly at generating insights on the pricing setting behaviours of firms in the manufacturing sector in South Africa and secondly to determine whether price setting practices of the manufacturing firms in South Africa were similar or vastly different to that of practices in other international studies.

The study focused on addressing the following objectives:

- Establish whether firms had specific time intervals for reviewing and implementing price changes or if firms adjusted their prices only when there was a demand or cost shock.
- Determine what factors were most important to firms when they decided to increase or decrease their prices.
- Establish whether firms were price sticky or price flexible and determine what factors influenced the decisions of firms to keep their prices constant.
- Determine what price setting strategy manufacturing firms in South Africa generally followed, whether firms were price leaders or price followers and to understand what factors determined their competitiveness.

7.3 Research Findings

The results were able to indicate that firms in the manufacturing sector in South Africa largely reviewed their prices at regular time intervals, therefore suggesting that the manufacturing firms followed a time-dependent pricing strategy. The results were dissimilar to that of German manufacturing firms (Stahl, 2005). The frequency of firms that followed the time-dependent pricing strategy was three times as much in the manufacturing sector in South Africa when compared to German manufacturing firms.

Only a quarter of the firms were forward looking in their price setting decisions as most firms were uncertain around the predictions of future economic conditions. The results also showed that price changes were significantly less frequent than price reviews. Larger firms in the manufacturing sector in South Africa reviewed their prices more frequently than smaller firms as smaller firms did not have sufficient resources to review their prices more frequently.

The results disclosed that mark-up pricing and price discrimination were common practices amongst manufacturing firms in South Africa. This was found to be similar to firms in the Euro Area, the UK and other manufacturing firms in Germany and France (Fabiani et al., 2006; Greenslade & Parker, 2010; Loupias & Ricart, 2004; Stahl, 2005).

The results showed that there were asymmetries in the reasons for firms changing their prices and these variations were based on the direction of the price adjustment. Rising input costs (raw material and labour costs) was the most important reason causing firms to increase their prices whilst it was declining market share that was the most important reason causing firms to reduce their prices.

The results were similar to other international studies for the most important reason causing firms to increase their prices. However the results for the reason provided as most important in causing firms to reduce their prices were dissimilar to the other international studies.

The results showed that South African manufacturing firms are in fact price sticky as the mean and median firm changed its price twice in the last 12 months. The mean duration between price changes was 7.8 months for manufacturing firms in South Africa.

The results showed that manufacturing firms in South Africa were more price flexible than manufacturing firms in Germany and France with the median manufacturing firm in South Africa adjusting its price twice in last the 12 months whilst the median firm in Germany and

France adjusted it prices only once in the last 12 months (Loupias & Ricart, 2004; Stahl, 2005).

The results demonstrated that co-ordination failure was the most important reason that manufacturing firms in South Africa did not increase their prices more often whilst it was temporary shocks that was the most important reason for firms not reducing their prices more often. The results were found to be dissimilar to the results of other international studies as it was contractual obligations (explicit and implicit contracts) that were most important to international firms for both not increasing and not reducing their prices more often.

The results also showed that manufacturing firms in South Africa operated in a monopolistic type market structure where firms generally adopted a barometric price leadership strategy in setting their prices. The quality of a firm's product followed by its' price was most important in determining the firm's level of competitiveness.

7.4 Recommendations for Future Research

This study focused specifically on the manufacturing sector of South Africa. A more extensive study which includes other economic sectors like the retail, wholesale, business services, transportation and construction sectors is recommended. A study of this scope will allow for comparisons on price setting behaviours across sectors to be undertaken and to determine whether the price setting practices of manufacturing firms are unique or similar to the other economic sectors.

The results of this study showed that the median firm reviewed and adjusted its prices once a year, changed its price twice in the last 12 months and that firms were price sticky; however this may differ in other economic sectors, for example the retail sector, which is largely influenced by temporary price changes and where uniform pricing is more applicable than discriminatory pricing, therefore the aggregate result of including firms from all economic sectors may prove to be different to the results presented in this study.

A study of this magnitude will be time consuming and should be taken into consideration by the researchers. However, the insights generated from a study of this scope will be beneficial to policy makers in having a broader view of pricing behaviours across the economy.

7.5 Conclusion

The international literature on price setting has grown extensively over the last decade in the form of micro-data analysis and survey studies. This study on manufacturing firms in South Africa aimed to contribute to the literature of price setting within developing economies and more specifically the African continent.

Although the research was undertaken regarding the manufacturing sector, the results provide valuable insights to both policy makers and business stakeholders within the manufacturing sector as well as across other sectors. The role and importance of the manufacturing sector as discussed in Chapter 1 has implications to the rest of the economy. Therefore having an understanding of price setting behaviours in this sector provides the relevant context and considerations to all parties affected or impacted by the manufacturing sector.

The results find that price setting practices of manufacturing firms in South Africa were largely similar to that of firms in other countries, despite the fact that South Africa is a developing economy. There were some differences shown amongst manufacturing firms in South Africa in comparison to the other international studies and this could largely be characteristic of a developing economy or related to the different levels of inflation experienced by firms across economies.

Overall the findings have successfully addressed the objectives of this study in providing the relevant insights and understanding for stakeholders interested in the price setting behaviours of manufacturing firms in South Africa.

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APPENDIX A: QUANTITATIVE QUESTIONNAIRE

We are conducting a study on the current price setting practices of South African companies. The objective of this study is to test some of the economic theories on price setting behaviours and to identify possible new trends in how prices are set.

The survey is divided into three sections.

Section A deals with general information about your company and its main products and services.
Section B gathers information on pricing behaviour and factors influencing pricing decisions.
Section C addresses factors that may lead to delays in price adjustments.

Confidentiality Agreement
Your participation is voluntary and you may withdraw at any time. All information provided by you will be kept confidential and analysed at an aggregated level.

If you have any concerns or questions please contact me or my supervisor, our details are as follows:

	Researcher 1	Researcher 2	Researcher 3	Supervisor
Name				
Email				
Contact Number				

EXPLANATION OF SOME IMPORTANT CONCEPTS

Representative Business Line
Since it is likely that your company sells many different types of goods and services, it will be difficult to generalize questions based on each. For this reason, we would like you to consider one of your main business lines when answering these questions.
Furthermore, if your company sells in both the domestic and international market, please answer all questions with specific reference to the South African markets.

Firm or Company
If your firm is a holding company of two or more different types of business, choose the business type that accounts for the largest portion of revenues or for which you feel most comfortable answering questions.

Price
By price we mean the actual transaction sales price, not the list price. Therefore, if discounts from the list price are common in your industry, refer to the after-discount price of your good or service. If you have different prices for different types of customers, base your answer on the most common type of customer.

Surveying Different Types of Firms
The survey is designed to be answered by companies of many sizes in the manufacturing sector of the economy. If you are unable to answer a question, please provide as much information as possible.

Fixed and Variable Costs
Fixed costs remain constant regardless of the volume of production, while variable costs fluctuate with production levels.

Date (Survey collected) _____

Section A: General Information

COMPANY INFORMATION

A1. Company name _____ Phone number _____

A2. Contact name _____ Title _____

A3. What is your company's main product or service? _____

A4. What would you say is the approximate market share of your company's main product or service in South Africa as mentioned in question A3 above?
[ ] < 5% [ ] 5% to 10% [ ] 11% to 20%
[ ] 21% to 30% [ ] 31% to 40% [ ] 41% to 50%
[ ] > 50% [ ] Don't Know

A5. How many types of products does your company currently sell in South *Africa*?
[ ] 1 to 5 [ ] 6 to 10 [ ] 11 to 15
[ ] 16 to 20 [ ] more than 20

A6. How many staff is currently employed by your company in South Africa? (Permanent and temporary) _____

A7. What was the approximate size of your company's turnover in the past financial year?
[ ] < R1m [ ] R1m to <R5m [ ] R5m to R10m [ ] R10m to R50m
[ ] > R50m

A8. What proportion of your sales of your main product is sold outside South Africa?
[ ] 0% [ ] >0% to 10% [ ] 11% to 20%
[ ] 21% to 30% [ ] 31% to 40% [ ] 41% to 50%
[ ] > 50% [ ] Don't Know

A9. What is the main destination of your sales? (choose only one option)
[ ] Retailers/wholesalers [ ] Other private companies
[ ] Public sector/government [ ] Directly to consumers

A10. If you have indicated retailers/wholesalers or other private sector companies in question A9 above, are these companies within your group of companies?
[ ] Yes [ ] No

PRICE FLEXIBILITY

A11. What constraints do you currently face with regards to the prices you set?

[ ] No constraint [ ] Legal/Regulatory [ ] Common International Price
[ ] Parent Company Directive

COMPETITION

A12. How intense is the competition you experience for your main product or service?
[ ] Strong [ ] Weak [ ] None [ ] Don't know

A13. Approximately how many direct competitors do you have in your main market for your main product or service? (choose only one option below)
[ ] none [ ] less than 5 [ ] between 5 and 20
[ ] more than 20 [ ] Don't Know

A14. How would you describe the number of competitors your company faces compared to a decade ago?
[ ] The same [ ] More [ ] Fewer

A15. Is there a price leader in your industry?
[ ] Yes [ ] No [ ] Don't know

A16. When it comes to setting prices, which of the following options best describe your company in relation to your competitors?
[ ] Price Leader [ ] Price Follower [ ] Independent [ ] Don't know

A17. How easily can you find out what the price is that your competitors have set?
[ ] Easily [ ] Not at all
[ ] With difficulty/effort [ ] Don't know / No answer

A18. Different factors can determine your competiveness. What is the importance in your company of the factors listed below?

Factor	Very Important (4)	Fairly Important (3)	Slightly Important (2)	Not Important (1)	Not Applicable (0)
The price of your product					
The quality of your product.					
The degree to which your product can be distinguished from that of your competitors.					
Delivery period					
Long-term relationship with customers					
The after sales service					
Other factors (please specify)					

COST TRENDS

A19. Approximately what percentage of your main product or service costs is variable _____% versus fixed _____ %?

SALES DISTRIBUTION

A20. Which of the following best describes your company's largest share of turnover generated?
[ ] From contract customers
[ ] From non-contract customers
[ ] equal share from both contract and non-contract customers

A21. Approximately what percentage of the sales of your main product or service goes to your five largest buyers, **today**?
[ ] <10% [ ] 11-25% [ ] 26-50% [ ] >50%

A22. What was the approximate sale percentage to the five largest buyers of your main product **a decade ago**?
[ ] <10% [ ] 11-25% [ ] 26-50% [ ] >50%

GENERAL PRICING

A23. Do you have publicly available price lists or posted prices available to your customers?
[ ] Yes [ ] No [ ] Don't know

If you have answered yes to question A23, then answer the following question, otherwise move to question A25

A24. How are these prices lists communicated to your customers?
[ ] Email [ ] Post [ ] Website
[ ] Other, please specify _____

A25. Do your transaction/invoice prices differ from your list prices (i.e. discounted)?
[ ] Yes [ ] No [ ] Don't know

A26. The price charged for your company's main product or service is (choose only one option)
[ ] The same for all customers irrespective of quantities sold.
[ ] Depends on the quantity sold (but accordingly to a standard price list)
[ ] Decided case by case

A27. At what level can the decision be made to discount / vary the transaction price from the list price?
[ ] No deviation to the list price is allowed
[ ] Finance and senior management can approve deviations in extreme circumstances
[ ] Sales managers can approve price changes to facilitate business
[ ] Sales people have the flexibility to alter the transaction price as they see fit on a case by case basis.

Section B: The pricing decision

Some companies often review their prices without necessarily changing/adjusting them afterwards.

FREQUENCY OF PRICE REVIEWS

B1. How frequently do you review your SA selling prices?

[ ] Daily [ ] Weekly [ ] Monthly
[ ] Quarterly [ ] Half Yearly [ ] Annually
[ ] Sporadically [ ] In response to specific event (please specify)
_____

B2. If you answered "sporadically" or "in response to specific event", how many times have pricing decisions been reviewed in the last 12 months? _____

FREQUENCY OF PRICE CHANGES / ADJUSTMENTS

B3. How frequently do you change/adjust the price of your main product or service?

[ ] Daily [ ] Weekly [ ] Monthly
[ ] Quarterly [ ] Half Yearly [ ] Annually
[ ] Sporadically [ ] In response to specific event (please specify)
_____

B4. In the past 12 months how many times have you actually adjusted prices? _____

B5. To the best of your knowledge, has the frequency of price changes/adjustments changed in the **past decade**?

[ ] No, it has not changed [ ] Yes, we change prices more frequently
[ ] Yes, we change prices less frequently [ ] Don't know / Can't remember

B6. If yes, why? _____

CONSIDERATIONS FOR PRICE SETTING

B7. Which of the following methods best describe how you set your prices? (choose only one option)

[ ] By a fixed amount or percentage linked to the current inflation rate.
[ ] We set the price primarily given conditions that have applied in the recent past
[ ] We set the price primarily in accordance with current trading conditions.
[ ] We set the price primarily based on our view of the near future.

B8. How are prices for your main product or service determined? Please rank each of the following statements by ticking the appropriate box on the right-hand side of each statement.

Determining Factors	Very Important (4)	Fairly Important (3)	Slightly Important (2)	Not Important (1)	Not Applicable (0)
Price is made up of direct (i.e. prime or variable) cost per unit plus a fixed percentage mark up					
Price is made up of direct (i.e. prime or variable) cost per unit as above, but the percentage of mark-up is not fixed.					
Price is primarily specified by your principal customer.					
Price is primarily specified by your competitors' price					
Price is primarily determined by a regulatory agency					
Price is set at a statutory level					
Price is based on targeted return on capital/assets.					
Price is primarily determined in other ways (please specify)					

B9. How important are the following factors listed below in terms of causing an *increase* in prices?

Factor	Very Important (4)	Fairly Important (3)	Slightly Important (2)	Not Important (1)	Not Applicable (0)
Not applicable – upward adjustment never takes place (go to Q. B11).					
Increase in cost of labour					
Increase in the price of fuel, raw materials or inputs / components.					
Increase in financing costs.					
Increases in fixed costs.					
Actual rise in demand.					
Expected rise in demand.					
Actual price increase by one or more of your domestic rivals.					
Expected price increase by one or more of your domestic rivals					
Actual price increase by one or more of your overseas rivals.					
Expected price increase by one or more of your overseas rivals					
Significant increase in market share					
Increase in costs arising from regulation					

B10. What other factor(s) not listed above motivate price increases?

B11. How important are the following factors listed below in terms of causing a *reduction* in prices?

Factors	Very Important (4)	Fairly Important (3)	Slightly Important (2)	Not Important (1)	Not Applicable (0)
Not applicable – downward adjustment never takes place (go to **Q. B13**).					
Decrease in cost of labour					
Decrease in the price of fuel, raw materials or inputs / components.					
Decrease in financing costs.					
Actual decline in demand.					
Increase in productivity.					
Expected decline in demand.					
Actual price reduction by one or more of your domestic rivals.					
Expected price reduction by one or more of your domestic rivals					
Actual price reduction by one or more of your overseas rivals.					
Expected price reduction by one or more of your overseas rivals					
Significant reduction in market share					
Decrease in costs arising out of regulation					

B12. What other factor(s) not listed above motivate price reductions?

B13. What effect will the following have on your gross profit margins?

Market Condition	No effect on gross margins	Upward effect on gross margins	Downward effect on gross margins
A rise in market demand for your product			
A rise in domestic competitors' prices			
A rise in overseas competitors prices			

B14. How quickly does your company change prices in response to changes in demand and costs?

Statement	Less than 1 week	From 1 week to 1 month	From 1 month to 3 months	From 3 to 6 months	From 6 months to 1 year	More than 1 year	The price remains unchanged
After a significant increase in demand, how much time on average lapses before you raise your prices?							
After a significant increase in production costs, how much time on average elapses before you raise your prices?							
After a significant reduction in demand, how much time on average lapses before you reduce your prices?							
After a significant reduction in production costs, how much time on average elapses before you reduce your prices?							

INFORMATION USED TO SET PRICES

B15. How frequently is the main information your company uses to form your pricing decisions updated?

[ ] Daily [ ] Weekly [ ] Monthly
[ ] Quarterly [ ] Annually [ ] Sporadically

B16. How current is the information at the time when you receive it?

[ ] real time (no lag) [ ] less than 1 day old [ ] less than 1 week old
[ ] less than 1 month old [ ] less than 1 quarter old [ ] more than 1 quarter old.

EXCHANGE RATES AND PRICES *(the exchange rate refers to the Rand/U.S Dollar. exchange rate)*

B17. Do you import/export intermediate inputs or finished goods?

[ ] Yes [ ] No ***If no, skip to Section C***

B18. Which statement best exemplifies the immediate impact of a rand exchange rate depreciation (the value of the rand decreases against other currencies) on your company's profit margin.

Statement	Tick if applicable
Significant negative effect	
Moderate negative effect	
No significant effect	
Moderate positive effect	
Significant positive effect	

B19. Within the context of margins becoming smaller as a result of a depreciating Rand, please rank the following in order of their importance as a means of restoring margins in recent years.

Option	*1= Most important and 6 = least important*
Increase selling prices	
Shift input to local supplier	
Reduce other input costs	
Increase productivity or volumes of activity	
Reduce other costs	
Other means of restoring margin (specify)	

B20. On average, how often do you increase prices to adjust for an increase in input costs (that is to maintain profit margins) following the depreciation of the rand exchange rate?
[ ] virtually never [ ] less than half the time [ ] about half the time
[ ] more than half the time [ ] virtually all the time [ ] Don't know

B21. How much does the exchange rate have to depreciate before you adjust prices?
[ ] less than 5% [ ] 5% to 10% [ ] 10% to 20%
[ ] 20% to 30% [ ] more than 30% [ ] not applicable/don't know

B22. Are costs associated with exchange rate changes more difficult to pass on to consumers now than a decade ago?
[ ] Yes [ ] No

If yes, why? (Choose all applicable)

Statement	Tick if applicable
Competition from domestic sources	
Competition from foreign sources	
Fewer buyers exert more power on our company to keep prices low	
The low inflation environment makes price increases more visible and more difficult to justify	
Other	

If other factors, please specify

_____

_____

B23. During significant exchange rate depreciation, do suppliers reduce their price to offset part of the higher import cost?
[ ] No [ ] Yes, infrequently [ ] Yes, often
[ ] Yes, but I don't know how often.

Section C: Factors leading to delays in price adjustments

This section deals with potential theories as to why price adjustments may be delayed, even though companies may want to increase or decrease their prices.

Statement A: The information used to review (and ultimately change) prices are available infrequently. Therefore, prices may be slow to adjust to new conditions.

C1. Does this statement apply to your company?
[ ] No [ ] Yes, slightly applicable [ ] Yes, very applicable

(If No, Skip to Statement B1)

C2. Has information technology made this factor less relevant over the past 10 years?
[ ] Yes [ ] No

C3. Would your company change prices more quickly or more often if information was available more frequently?
[ ] Yes [ ] No

Statement B1: Companies delay price reductions because they don't want to be the first in the industry to reduce prices.

C4. Does this statement apply to your company?
[ ] No [ ] Yes, slightly applicable [ ] Yes, very applicable
(If No, Skip to Statement B2)

C5. Why does this statement apply to your company? *(Choose all applicable)*

Statement	Tick if applicable
Price reductions may trigger a price war	
If we reduce prices first, new business demand would exceed our capacity	
Lower prices reduce our margins	
We are concerned that the need for a price reduction may be temporary	
Other	

If other, please specify _____

_____

Statement B2: Companies delay increasing prices because they don't want to be the first in the industry to increase prices.

C6. Does this statement apply to your company?
[ ] No [ ] Yes, slightly important [ ] Yes, very important
(If No, Skip to Statement C)

C7. Why does the statement apply to your company? *(Choose all applicable)*

Statement	Tick if applicable
Cannot sell anything above competitors' prices	
We would lose too many customers/market share	
If a competitor increases prices first, customers are less upset with our company	
Other	

If other, please specify _____

_____

Statement C: Prices depend mainly on the costs of labour and raw materials used in producing goods and services. Therefore, prices don't change until costs change.

C8. Does this statement apply to your company?
[ ] No [ ] Yes, slightly important [ ] Yes, very important
(If No, Skip to Statement D)

C9. Are temporary cost increases more difficult to pass into prices than increases viewed as permanent?
[ ] Yes [ ] No

C10. If you foresee an increase in your future costs (such as raw materials), do you *(Choose any of the following)*

Statement	Tick if applicable
Buy in advance and store in inventory	
Hedge against cost increases	
Increase own prices in anticipation	
Take no action	

C11. If you take no action, why? *(Choose all applicable)*

Statement	Tick if applicable
It would antagonize our customers	
We are not confident in our forecasts or estimates	
We are reluctant to take the lead in increasing prices.	
We can easily increase prices when actually required	
Take no action	

Statement D: Companies would like to adjust prices more often to reflect market conditions, but fixed-price contracts make it difficult to pass on price increases when a contract is active.

C12. Does this statement apply to your company?
[ ] No [ ] Yes, slightly important [ ] Yes, very important

(If No, Skip to Statement E)

C13. Do contracts prevent prices from decreasing when demand or costs fall?
[ ] Yes [ ] No

C14. Do you offer discounts on posted contract prices?
[ ] Yes [ ] No

C15. What is the average period of time over which prices are fixed in contracts? _____

C16. Compared to 10 years ago, is this period generally?
[ ] longer [ ] shorter or [ ] the same

Statement E: Companies delay price increases because they have an implied understanding with customers that they will not increase prices in depressed markets.

C17. Does this statement apply to your company?
[ ] No [ ] Yes, slightly important [ ] Yes, very important

(If No, Skip to Question C19)

C18. Does the opposite hold true in strong markets (companies delay price decreases)?
[ ] Yes [ ] No

C19. Please indicate how important each of these factors are as reasons to decide NOT to *increase* the price?

Factors	Very Important (4)	Fairly Important (3)	Slightly Important (2)	Not Important (1)	Not Applicable (0)
The risk is too high that our competitors do not change their prices.					
The risk is too high that we subsequently have to re-adjust our prices in the opposite direction.					
The existence of written contracts specifying that prices can only be changed when the contract is renegotiated.					
The existence of an implicit contract (regular contact with a customer without any written contract).					
The preference for maintaining prices at a certain threshold (e.g. you would rather charge R9.99 than R10.00).					
The costs implied by price changes (e.g. printing of price lists or information gathering costs).					
The variable costs in our company do not change by much with market conditions, making our price quite stable.					
It would antagonise our customers					
Other (please specify)					

C20. Please indicate how important each of these factors are as reasons to decide NOT to *reduce* the price?

Factors	Very Important (4)	Fairly Important (3)	Slightly Important (2)	Not Important (1)	Not Applicable (0)
The risk is too high that our competitors do not change their prices.					
The risk is too high that we subsequently have to re-adjust our prices in the opposite direction.					
The existence of written contracts specifying that prices can only be changed when the contract is renegotiated.					
The existence of an implicit contract (regular contact with a customer without any written contract).					
The preference for maintaining prices at a certain threshold (e.g. you would rather charge R9.99 than R10.00).					
The costs implied by price changes (e.g. printing of prices lists or information gathering costs).					
The variable costs in our company do not change by much with market conditions, making our price quite stable.					
It would antagonise our customers					
Other (please specify)					

FINAL COMMENTS

C21. Are there any other compelling arguments as to why prices adjust slowly? *(Choose all applicable)*

Statement	Tick if applicable
It would be too costly to change prices more often (time, effort, out-of-pocket costs).	
Factors influencing prices do not change often enough to warrant changes.	
Prices could not change more often without disturbing customer relations.	
We are more likely to amend product characteristics (e.g. warranty, delivery lag) than prices.	
Low inflation makes large price changes more noticeable.	
Other	

If other please specify,

,

_____

C22. To what extent do your responses regarding your main product or service also represent your other product lines?

[ ] Mostly representative [ ] Not representative

[ ] Not applicable, company has only one product.

Thank you for your participation in this survey.

APPENDIX B: SURVEY DATA

Price Flexibility

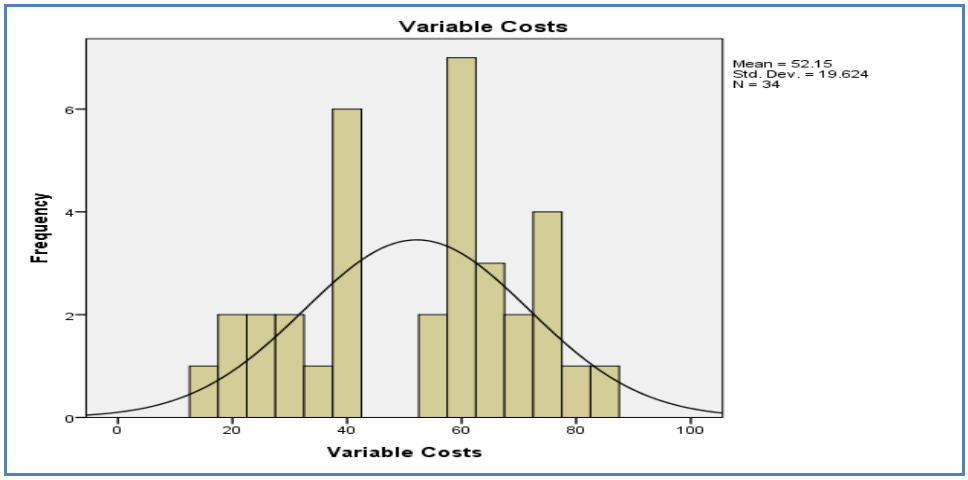
B1. What constraints do you currently face with regards to the prices you set?

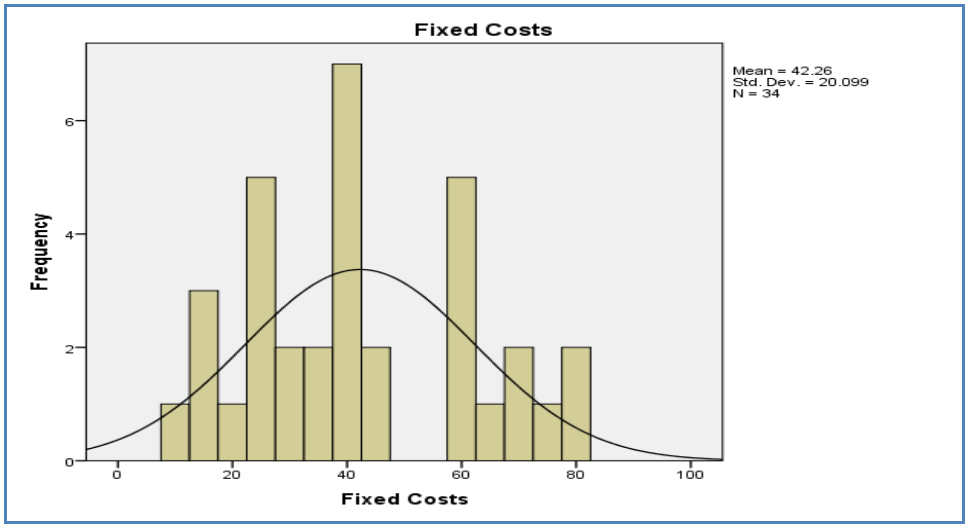
Constraints faced with regards to setting prices

	Frequency	Percent	Valid Percent	Cumulative Percent
No Constraint	15	44.1	44.1	44.1
Legal / Regulatory	2	5.9	5.9	50.0
Common International Price	10	29.4	29.4	79.4
Parent Company Directive	7	20.6	20.6	100.0
Total	34	100.0	100.0	

Cost Trends

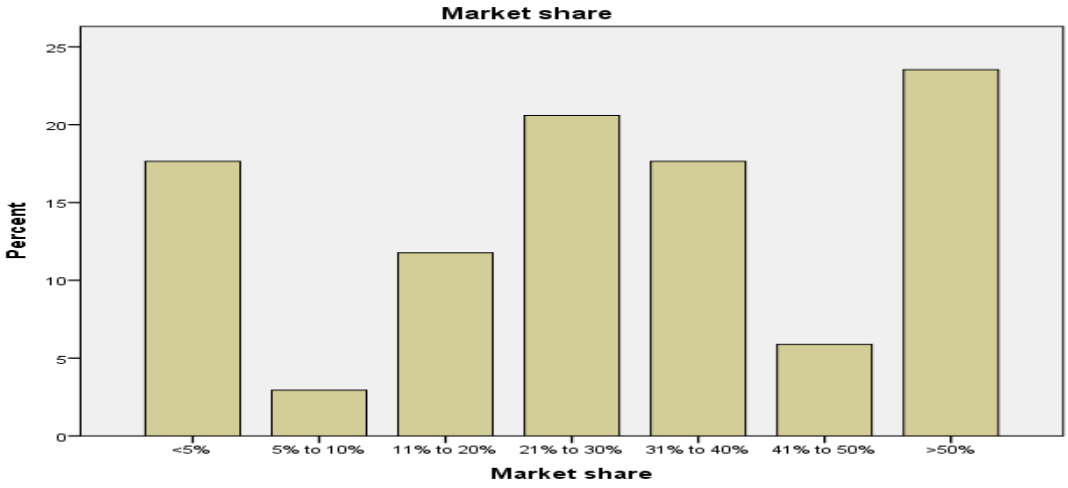
B2. Percentage of main products variable versus fixed costs?





Competition

B3. Market Share of firms main product in SA (Share of response, %)

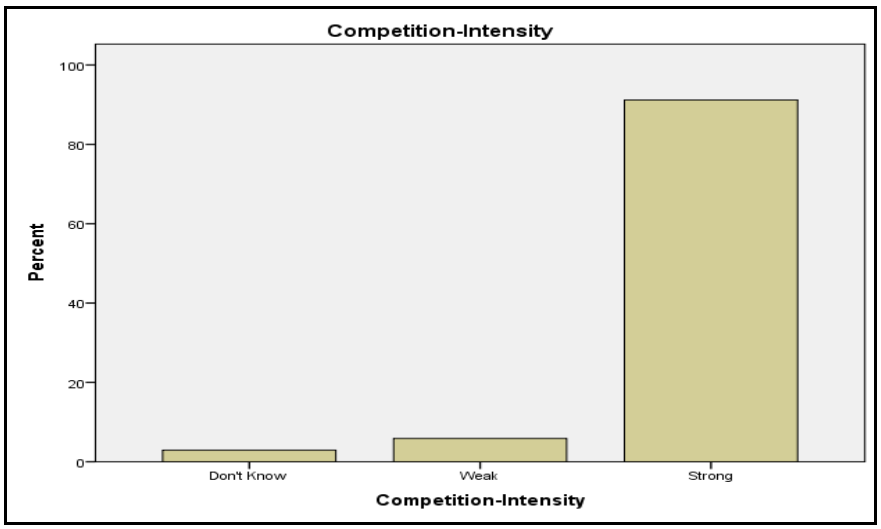


B4. How intense is the competition you experience for your main product?

Competition-Intensity for main product

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Don't Know	1	2.9	2.9	2.9
	Weak	2	5.9	5.9	8.8
	Strong	**31**	**91.2**	**91.2**	100.0
	Total	34	100.0	100.0	

B5. Competition Intensity (share of response, %)

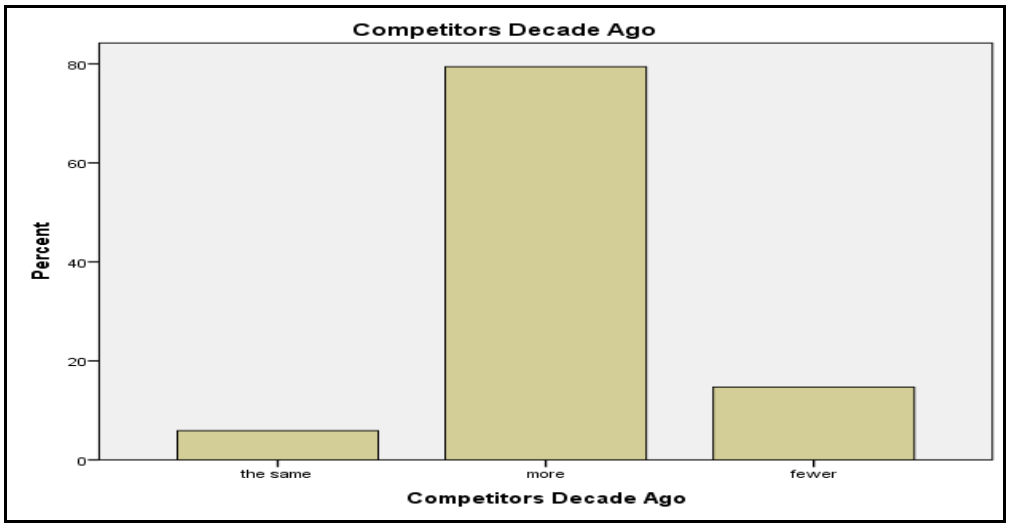


B6. Current number of direct competitors in main market for main product

Number of direct competitors now

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5	12	35.3	35.3	35.3
	between 5 and 20	**21**	**61.8**	**61.8**	97.1
	more than 20	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

B7. Number of competitors a decade ago (share of response, %)



B8. Cross tabulation results of number of competitors now and number of competitors a decade ago

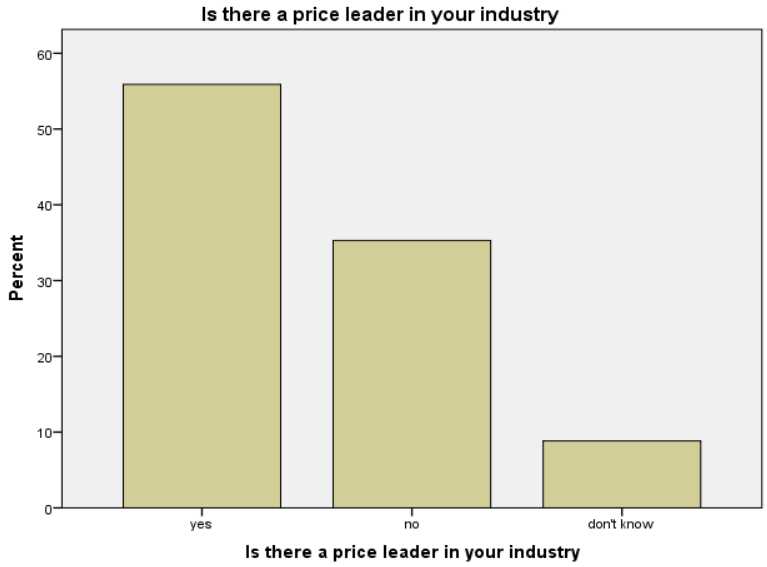
Number of Competitors Now * Number of Competitors Decade Ago

Cross-tabulation

Count

Number of competitors now	Number of competitors decade ago			Total
	the same	more	fewer	
Less than 5	2	**8**	2	12
between 5 and 20	0	**18**	3	21
more than 20	0	**1**	0	1
Total	2	27	5	34

B9. Price Leader in the industry (share of response, %)



B10. Firms price setting strategy in relation to competitors

Firms Price Setting Strategy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Price leader	15	44.1	44.1	44.1
	Price follower	3	8.8	8.8	52.9
	Independent	14	41.2	41.2	94.1
	Don't Know	2	5.9	5.9	100.0
	Total	34	100.0	100.0	

B11. Cross tabulation results of is there a price leader in the industry and firms price setting strategy

Firms Price setting Strategy * Is there a Price Leader in your industry

Cross-tabulation

Count

Firms Price Setting Strategy	Is there a price leader in your industry			Total
	yes	no	don't know	
Price leader	**13**	2	0	15
Price follower	2	1	0	3
Independent	4	**7**	3	14
Don't Know	0	2	0	2
Total	19	12	3	34

B12. Cross tabulation results of firm's price setting strategy and market share of firm's main product in SA

Firms Price Setting Strategy * Market share of main product in SA

Cross-tabulation

Count

Firms Price Setting Strategy	Market share							Total
	<5%	5% to 10%	11% to 20%	21% to 30%	31% to 40%	41% to 50%	>50%	
Price leader	**2**	**0**	**0**	**4**	**1**	**2**	**6**	**15**
Price follower	0	0	0	0	2	0	1	3
Independent	**4**	**1**	**4**	**2**	**2**	**0**	**1**	**14**
Don't Know	0	0	0	1	1	0	0	2
Total	6	1	4	7	6	2	8	34

B13. Ease of finding out competitors' prices

Ease of finding competitors prices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Easily	10	29.4	29.4	29.4
	Not at all	1	2.9	2.9	32.4
	With difficulty/effort	**21**	**61.8**	**61.8**	94.1
	Don't know / No answer	2	5.9	5.9	100.0
	Total	34	100.0	100.0	

B14. Importance of factors in determining competitiveness

Importance of factors that determine competitiveness

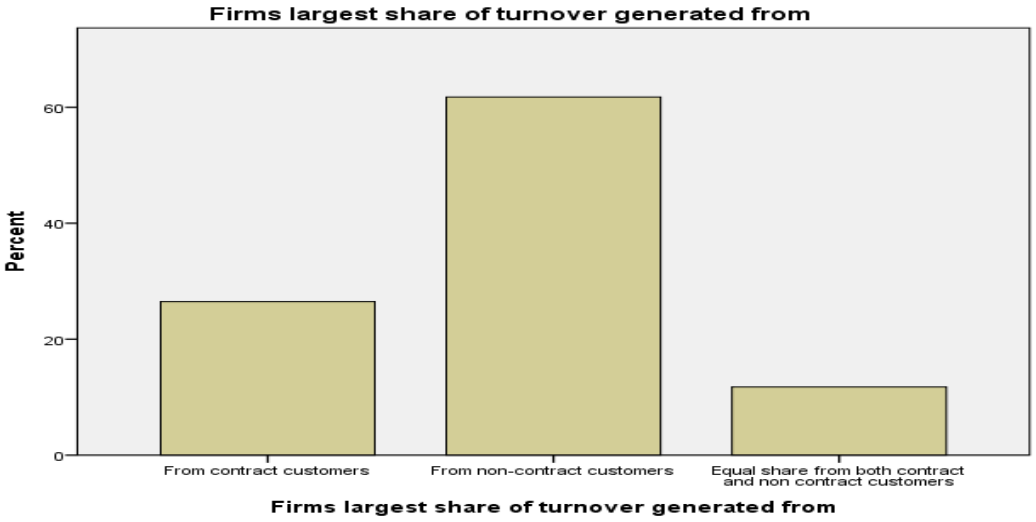
	N	Minimum	Maximum	Mean
The price of your product	34	2	4	3.65
The quality of your product	**34**	**2**	**4**	**3.71**
Degree to which product can be distinguished from that of your competitors	34	0	4	2.82
Delivery Period	34	1	4	3.44
Long -term relationship with customers	34	2	4	3.65
The after sales service	34	1	4	3.35

Sales Distribution

B15. Firm's largest share of turnover generated from

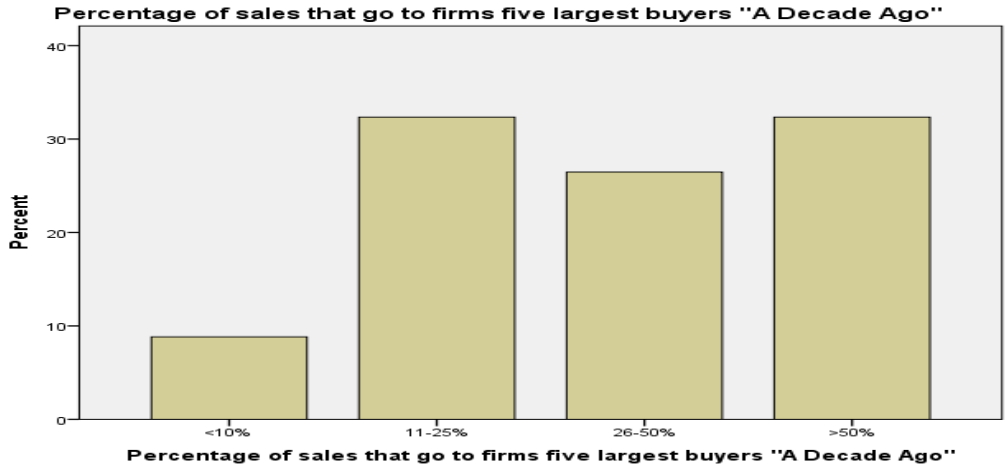
Firms largest share of turnover generated from

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	From contract customers	9	26.5	26.5	26.5
	From non-contract customers	**21**	**61.8**	**61.8**	88.2
	Equal share from both contract and non-contract customers	4	11.8	11.8	100.0
	Total	34	100.0	100.0	



B16. Percentage of sales of firms main product that goes to the firms 5 largest buyers “today” (share of response, %)

B17. Percentage of sales of firms main product that goes to the firms 5 largest buyers “A Decade Ago” (share of response, %)



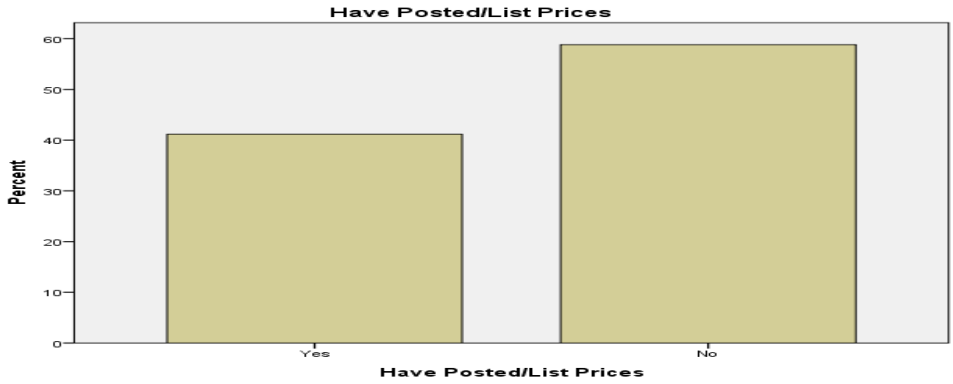
B18. Cross tabulation results of firms' sales that go to firms five largest buyers "today" versus "a decade ago"

Percentage of sales that go to firms five largest buyers "Today" * Percentage of sales that go to firms five largest buyers "A Decade Ago" Cross-tabulation

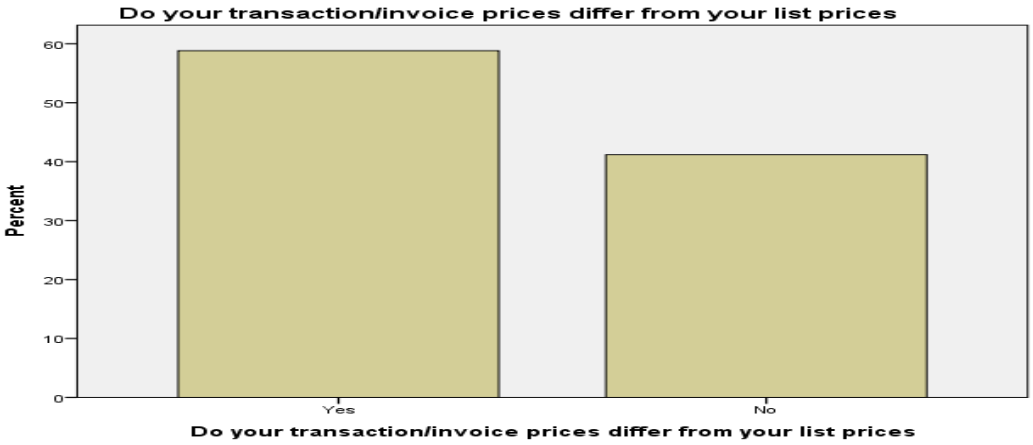
Count

Percentage of sales that go to firms five largest buyers "Today"	Percentage of sales that go to firms five largest buyers "A Decade Ago"				Total
	<10%	11-25%	26-50%	>50%	
<10%	**1**	1	1	0	3
11-25%	2	**6**	1	0	9
26-50%	0	3	**4**	2	**9**
>50%	0	1	3	**9**	**13**
Total	3	11	9	11	34

B19. Firms have publicly available price lists or posted prices available to customers (share of response, %)



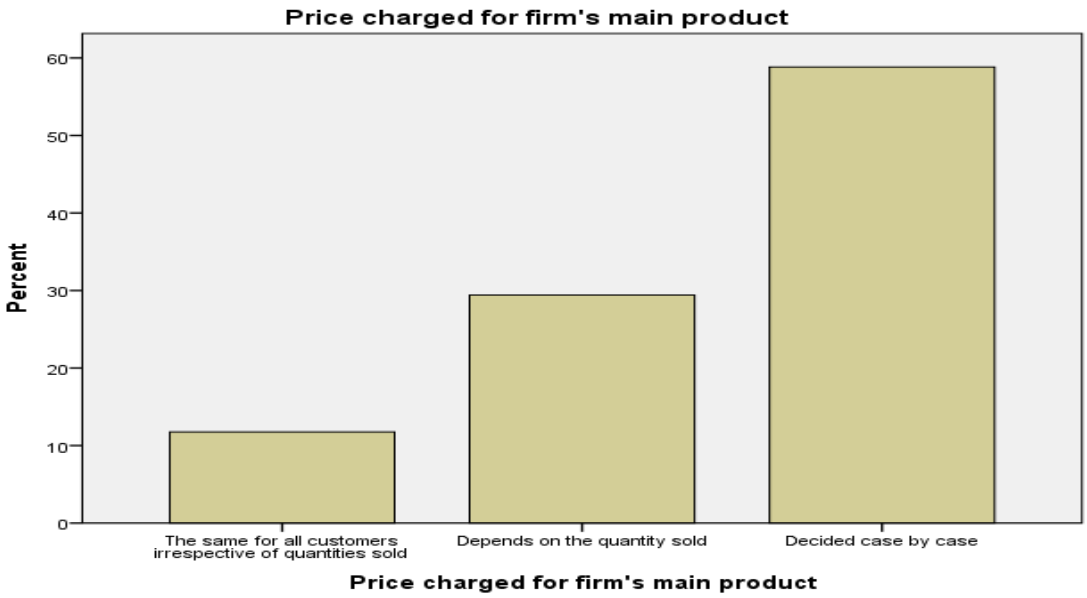
B20. Transaction / invoice prices differ from list prices (share of response, %)



B21. Price charged for firm's main product

Price charged for firm's main product

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	The same for all customers irrespective of quantities sold	4	11.8	11.8	11.8
	Depends on the quantity sold	10	29.4	29.4	41.2
	Decided case by case	20	58.8	58.8	100.0
	Total	34	100.0	100.0	



B22. The level decisions can be made to discount /vary the transaction price from the list price.

Level decision can be made to discount/vary transaction price from list price

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Deviation	3	8.8	8.8	8.8
	Finance and Senior Management	15	44.1	44.1	52.9
	Sales Managers	10	29.4	29.4	82.4
	Sales People	6	17.6	17.6	100.0
	Total	34	100.0	100.0	

Frequency of Price reviews and Price Changes

B23. Frequency of price reviews of SA selling prices

Frequency of Price Reviews

	Period	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	1	2.9	2.9	2.9
	Monthly	3	8.8	8.8	11.8
	Quarterly	**8**	**23.5**	**23.5**	35.3
	Half Yearly	4	11.8	11.8	47.1
	Annually	**7**	**20.6**	**20.6**	67.6
	Sporadically	2	5.9	5.9	73.5
	In Response to specific event	5	14.7	14.7	88.2
	Other (Combination)**	4	11.8	11.8	100.0
	Total	34	100.0	100.0	

****Other combination** - refers to respondents who selected a regular interval plus (sporadically or in response to specific event)

B24. Frequency of price reviews of SA selling prices: grouped by "regular intervals" or "in response to specific events"?

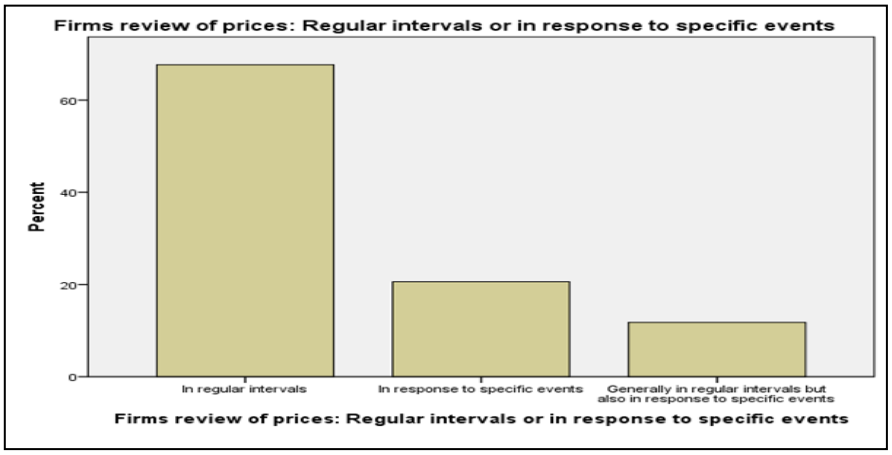
Firms review of prices: Regular intervals or in response to specific events (grouped)

	Period (grouped)	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**In regular intervals ***	**23**	**67.6**	**67.6**	**67.6**
	In response to specific events **	7	20.6	20.6	88.2
	Generally in regular intervals but also in response to specific events	4	11.8	11.8	100.0
	Total	34	100.0	100.0	

***In Regular intervals** = Daily/Monthly/Quarterly / Half yearly / Annually

****In response to specific events** = Sporadically / In response to specific events.

B25. Frequency of price reviews grouped (share of responses %)



B26. Frequency of price changes/adjustments of main product

Frequency of Price Changes

	Period	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Monthly	2	5.9	5.9	5.9
	Quarterly	5	14.7	14.7	20.6
	Half Yearly	4	11.8	11.8	32.4
	Annually	12	35.3	35.3	67.6
	Sporadically	1	2.9	2.9	70.6
	In Response to specific event	7	20.6	20.6	91.2
	Other (combination)**	3	8.8	8.8	100.0
	Total	34	100.0	100.0	

****Other combination** - refers to respondents who selected a regular interval plus (sporadically or in response to specific event)

B27. Frequency of price changes/adjustments of main product: grouped by "regular intervals" or "in response to specific events"?

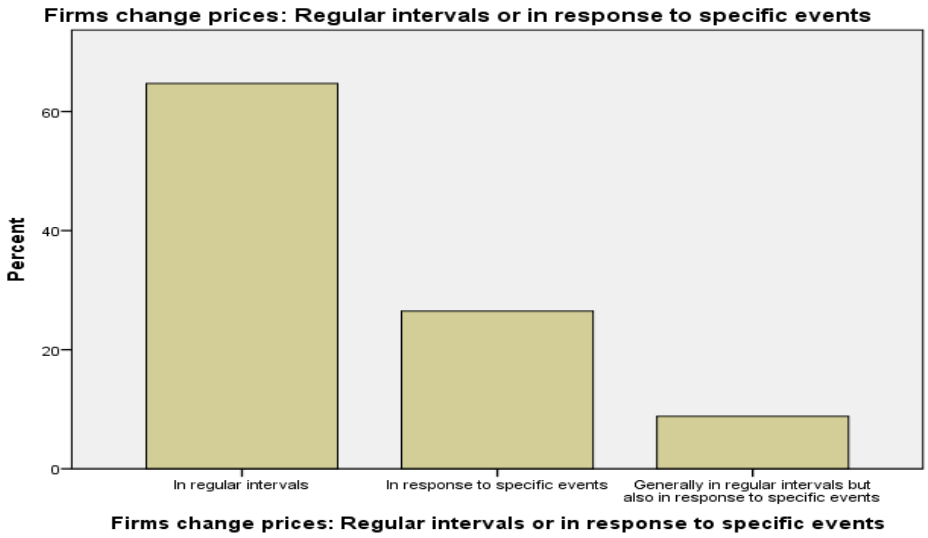
Firms change prices: Regular intervals or in response to specific events

	Period (Grouped)	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**In regular intervals***	**22**	**64.7**	**64.7**	**64.7**
	In response to specific events**	9	26.5	26.5	91.2
	Generally in regular intervals but also in response to specific events	3	8.8	8.8	100.0
	Total	34	100.0	100.0	

***In Regular intervals** = Daily/Monthly/Quarterly / Half yearly / Annually

****In response to specific events** = Sporadically / In response to specific events.

B28. Frequency of price changes/adjustments grouped (Share of response, %)



B29. Number of times prices actually changed/adjusted in last 12 months

Number of times changed prices in the past 12 months

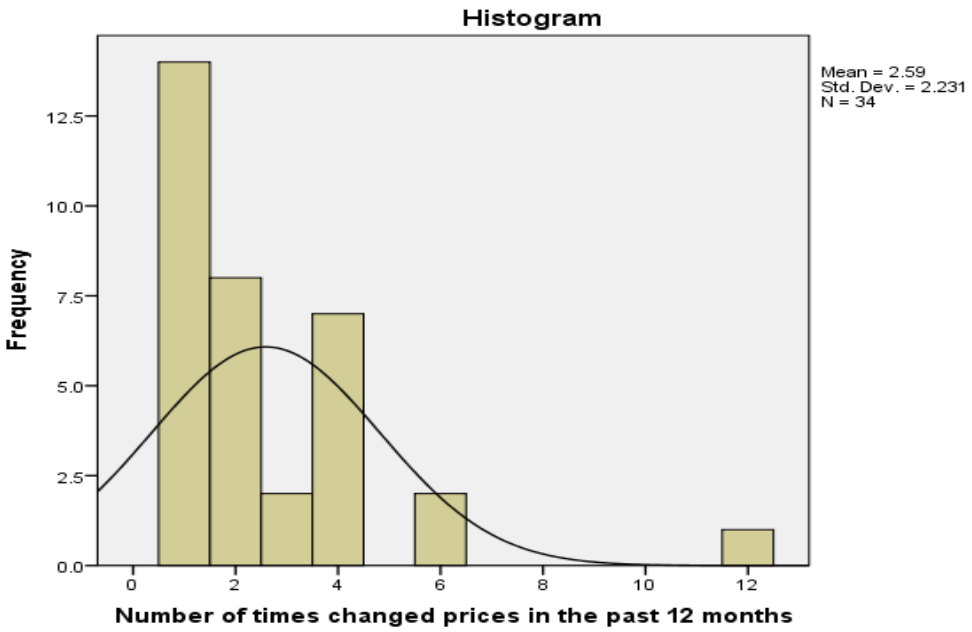
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	41.2	41.2	41.2
	2	8	23.5	23.5	64.7
	3	2	5.9	5.9	70.6
	4	7	20.6	20.6	91.2
	6	2	5.9	5.9	97.1
	12	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

Statistics

Number of times changed prices in the past 12 months

N	Valid	34
	Missing	0
Mean		**2.59**
Median		**2.00**
Std. Deviation		2.231

B30. Histogram on number of times changed prices in past 12 months



B31. Cross tabulation results of frequency of price reviews versus frequency of price changes

Firms review of prices: Regular intervals or in response to specific events * Firms change prices: Regular intervals or in response to specific events Cross tabulation

Count

Firms review of prices: Regular intervals or in response to specific events		Firms change prices: Regular intervals or in response to specific events			Total
		In regular intervals	In response to specific events	Generally in regular intervals but also in response to specific events	
	In regular intervals	17	4	2	23
	In response to specific events	2	5	0	7
	Generally in regular intervals but also in response to specific events	3	0	1	4
Total		22	9	3	34

Information set used for pricing decisions

B32. Information set used for pricing decisions

Information set used by firms for pricing decisions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rule Of Thumb	6	17.6	17.6	17.6
	Conditions applied in recent past	2	5.9	5.9	23.5
	Accordance with current trading conditions	**18**	**52.9**	**52.9**	76.5
	View on the near future	8	23.5	23.5	100.0
	Total	34	100.0	100.0	

B33. Cross tabulation results of when firms review prices and information set used in reviewing prices

Firms review of prices: Regular intervals or in response to specific events * Information set used by firms for pricing decisions

Cross-tabulation

Count

Firms review of prices: Regular intervals or in response to specific events		Information set used by firms for pricing decisions				Total
		Rule Of Thumb	Conditions applied in recent past	Accordance with current trading conditions	View on the near future	
	In regular intervals	3	2	**12**	**6**	23
	In response to specific events	3	0	3	1	7
	Generally in regular intervals but also in response to specific events	0	0	3	1	4
Total		6	2	18	8	34

B34. Cross tabulation results of frequency main information updated and how current the information is at the time received

Frequency of information updated used in pricing decisions * How current is the information at the time you receive it Cross-tabulation

Count

Frequency of information used in pricing decisions updated	How current is the information at the time you receive it						Total
	real time (no lag)	less than 1 day old	less than 1 week old	less than 1 month old	less than 1 quarter old	more than 1 quarter old	
Daily	2	1	0	0	0	0	3
Weekly	1	0	1	1	0	0	3
Monthly	**6**	0	3	**5**	1	0	15
Quarterly	**3**	0	0	**3**	2	2	10
Annually	0	0	0	0	2	0	2
Sporadically	0	0	1	0	0	0	1
Total	12	1	5	9	5	2	34

Considerations for price setting

B35. How prices for firms main product is determined

How are prices for main product determined

	N	Minimum	Maximum	Mean	Std. Deviation
Price is made up of direct cost plus a fixed percentage mark-up	34	0	4	2.53	1.440
Price is made up of direct costs plus a variable percentage mark-up	**34**	**0**	**4**	**2.97**	**1.114**
Price is primarily specified by principal customer	34	0	4	1.68	1.173
Price is primarily specified by competitors' price	**34**	**0**	**4**	**2.74**	**1.163**
Price is determined by a regulatory agency	34	0	4	.82	1.242
Price is set at a statutory level	34	0	4	.76	1.075
Price is based on targeted return on Capital/Assets	34	0	4	2.35	1.475
Valid N (listwise)	34				

Factors of importance for causing an increase in prices

B36. Factors of importance for causing an increase in prices

Factors of Importance for Increase in Prices

	N	Minimum	Maximum	Mean
Upward Adjustment Never	34	0	4	.45
Labour Costs increase	**34**	**1**	**4**	**2.97**
Input Costs increase	**34**	**2**	**4**	**3.62**
Finance Costs increase	34	0	4	2.32
Fixed Costs increase	34	1	4	2.91
Actual Rise in Demand	34	0	4	2.24
Expected Rise in Demand	34	0	4	1.91
Actual Price increase by domestic rivals	34	0	4	2.50
Expected Price increase by domestic rivals	34	0	4	2.15
Actual Price increase by overseas rivals	34	0	4	1.85
Expected Price increase by overseas rivals	34	0	4	1.59
Market Share Increase	34	0	4	2.24
Regulation Costs increase	34	0	4	1.74

Factors of importance for causing a reduction in prices

B37. Factors of importance for causing a reduction in prices

Factors of Importance for Decrease in Prices

	N	Minimum	Maximum	Mean
Reduction-Never	34	0	4	.59
Reduction-Labour Costs decrease	34	0	4	1.68
Reduction-Input Costs decrease	**34**	**0**	**4**	**2.79**
Reduction-Finance Costs decrease	34	0	4	1.71
Reduction-Demand Decline Actual	34	0	4	2.71
Reduction-Productivity Increase	34	0	4	2.00
Reduction-Demand Decline Expected	34	0	4	2.53
Reduction-Actual price reduction of domestic rivals	34	0	4	2.68
Reduction-Expected price reduction of domestic rivals	34	0	4	2.32
Reduction-Actual price reduction of overseas rivals	34	0	4	1.88
Reduction-Expected price reduction of overseas rivals	34	0	4	1.62
Reduction-Market Share Decline	**34**	**0**	**4**	**3.09**
Reduction-Regulation Costs decrease	34	0	4	1.32

Effect of market conditions on gross profit margins

B38. Cross tabulation results of size of firm and effect of rise in market demand on gross profit margins

Size of Firm * A rise in market demand for your product Cross-tabulation

Count

Size of Firm	A rise in market demand for your product		Total
	No effect on gross margins	Upward effect on gross margins	
Small	1	**4**	5
Medium	1	**8**	9
Large	2	**18**	20
Total	4	**30**	34

B39. Cross tabulation results of size of firm and effect of rise in domestic competitors prices on gross profit margins

Size of Firm * A rise in domestic competitors prices Cross-tabulation

Count

Size of Firm	A rise in domestic competitors prices			Total
	No effect on gross margins	Upward effect on gross margins	Downward effect on gross margins	
Small	2	**3**	0	5
Medium	4	**4**	1	9
Large	3	**17**	0	20
Total	9	**24**	1	34

B40. Cross tabulation results of size of firm and effect of rise in overseas competitors prices on gross profit margins

Size of Firm * A rise in overseas competitors prices Cross-tabulation

Count

Size of Firm	A rise in overseas competitors prices			Total
	No effect on gross margins	Upward effect on gross margins	Downward effect on gross margins	
Small	**4**	0	1	5
Medium	**4**	3	2	9
Large	**9**	10	1	20
Total	**17**	13	4	34

B41. Firms speed to change prices in response to changes in demand and costs

Speed to respond to changes in demand and costs

	N	Minimum	Maximum	Mean	Std. Deviation
Significant increase in demand	34	1	7	3.76	1.876
Significant increase in production costs	**34**	**1**	**7**	**4.50**	1.441
Significant reduction in demand	34	1	7	4.06	1.938
Significant reduction in production costs	34	1	7	3.65	1.756
Valid N (listwise)	34				

Weighting used (1= the price remains unchanged, 2= more than 1 year, 3= from 6 months to 1 year, 4= from 3 to 6 months, 5= from 1 month to 3 months, 6= from 1 week to 1 month and 7= less than 1 week)

B42. Firms speed to change prices in response to significant increase in demand

Significant increase in demand

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Price remains unchanged	7	20.6	20.6	20.6
	More than 1 year	1	2.9	2.9	23.5
	From 6 months to 1 Year	9	26.5	26.5	50.0
	From 3 to 6 months	1	2.9	2.9	52.9
	From 1 month to 3 months	9	26.5	26.5	79.4
	From 1 week to 1 month	6	17.6	17.6	97.1
	Less than 1 week	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

B43. Firms speed to change prices in response to significant increase in production costs

Significant increase in production costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Price remains unchanged	1	2.9	2.9	2.9
	More than 1 year	1	2.9	2.9	5.9
	From 6 months to 1 Year	8	23.5	23.5	29.4
	From 3 to 6 months	6	17.6	17.6	47.1
	From 1 month to 3 months	7	20.6	20.6	67.6
	From 1 week to 1 month	10	29.4	29.4	97.1
	Less than 1 week	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

B44. Firms speed to change prices in response to significant reduction in demand

Significant reduction in demand

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Price remains unchanged	6	17.6	17.6	17.6
	More than 1 year	2	5.9	5.9	23.5
	From 6 months to 1 Year	5	14.7	14.7	38.2
	From 3 to 6 months	3	8.8	8.8	47.1
	From 1 month to 3 months	10	29.4	29.4	76.5
	From 1 week to 1 month	5	14.7	14.7	91.2
	Less than 1 week	3	8.8	8.8	100.0
	Total	34	100.0	100.0	

B45. Firms speed to change prices in response to significant reduction in production costs

Significant reduction in production costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Price remains unchanged	6	17.6	17.6	17.6
	More than 1 year	3	8.8	8.8	26.5
	From 6 months to 1 Year	6	17.6	17.6	44.1
	From 3 to 6 months	7	20.6	20.6	64.7
	From 1 month to 3 months	8	23.5	23.5	88.2
	From 1 week to 1 month	2	5.9	5.9	94.1
	Less than 1 week	2	5.9	5.9	100.0
	Total	34	100.0	100.0	

Exchange rates and prices

B46. Do you import/export intermediate inputs or finished goods?

Do you import/export intermediate inputs or finished goods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	**28**	**82.4**	**82.4**	82.4
	No	6	17.6	17.6	100.0
	Total	34	100.0	100.0	

B47. Impact of Rand exchange rate depreciation on your firm's profit margin

Best explains impact of exchange rate depreciation on firm's profit margin

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not applicable	6	17.6	17.6	17.6
	No significant effect	3	8.8	8.8	26.5
	Moderate negative effect	**12**	**35.3**	**35.3**	61.8
	Significant negative effect	**13**	**38.2**	**38.2**	100.0
	Total	34	100.0	100.0	

B48. Cross tabulation results of impact of exchange rate depreciation on firm's profit margin and do you import/export intermediate inputs or finished goods

Impact of exchange rate depreciation on firm's profit margin * Do you import/export intermediate inputs or finished goods

Cross-tabulation

Count

Impact of exchange rate depreciation on firm's profit margin		Do you import/export intermediate inputs or finished goods		Total
		Yes	No	
	Not applicable	0	6	6
	No significant effect	3	0	3
	Moderate negative effect	**12**	0	12
	Significant negative effect	**13**	0	13
Total		28	6	34

Importance of actions taken when margins become smaller as a result of a depreciating Rand (Ranked)

Weighting Used (0 = Not applicable, 1 = Most important and 6 = Least important)

B49. Exchange rate depreciates then increase selling prices

Exchange rate depreciation - increase selling prices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	17.6	17.6	17.6
	1	**17**	**50.0**	**50.0**	67.6
	2	4	11.8	11.8	79.4
	3	1	2.9	2.9	82.4
	4	3	8.8	8.8	91.2
	5	1	2.9	2.9	94.1
	6	2	5.9	5.9	100.0
	Total	34	100.0	100.0	

B50. Exchange rate depreciates then shift input to local supplier

Exchange rate depreciation - Shift input to local supplier

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	17.6	17.6	17.6
	1	3	8.8	8.8	26.5
	2	5	14.7	14.7	41.2
	3	2	5.9	5.9	47.1
	4	4	11.8	11.8	58.8
	5	10	29.4	29.4	88.2
	6	4	11.8	11.8	100.0
	Total	34	100.0	100.0	

B51. Exchange rate depreciates then reduces other input costs

Exchange rate depreciation-reduce other input costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	17.6	17.6	17.6
	1	2	5.9	5.9	23.5
	2	6	17.6	17.6	41.2
	3	**10**	**29.4**	**29.4**	70.6
	4	**7**	**20.6**	**20.6**	91.2
	5	2	5.9	5.9	97.1
	6	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

B52. Exchange rate depreciates then increases productivity or volumes of activity

Exchange rate depreciation-increase productivity or volumes of activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	17.6	17.6	17.6
	1	1	2.9	2.9	20.6
	2	7	20.6	20.6	41.2
	3	8	23.5	23.5	64.7
	4	6	17.6	17.6	82.4
	5	5	14.7	14.7	97.1
	6	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

B53. Exchange rate depreciates then reduces other costs

Exchange rate depreciation-reduce other costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	17.6	17.6	17.6
	1	5	14.7	14.7	32.4
	2	6	17.6	17.6	50.0
	3	5	14.7	14.7	64.7
	4	5	14.7	14.7	79.4
	5	6	17.6	17.6	97.1
	6	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

B54. Exchange rate depreciates then adopts other means of restoring margins

Exchange rate depreciation-other means

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	17.6	17.6	17.6
	3	2	5.9	5.9	23.5
	4	3	8.8	8.8	32.4
	5	4	11.8	11.8	44.1
	6	19	55.9	55.9	100.0
	Total	34	100.0	100.0	

B55. Summary of importance of actions taken when exchange rate depreciates

Weighting Used (0 = Not applicable, 1 = Most important and 6 = Least important)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Exchange rate depreciation - increase selling prices	34	0	6	**1.68**	1.665
Exchange rate depreciation - Shift input to local supplier	34	0	6	3.21	2.129
Exchange rate depreciation-reduce other input costs	34	0	6	2.59	1.617
Exchange rate depreciation-increase productivity or volumes of activity	34	0	6	2.76	1.724
Exchange rate depreciation-reduce other costs	34	0	6	2.59	1.844
Exchange rate depreciation-other means	34	0	6	4.47	2.273
Valid N (listwise)	34				

B56. Frequency of price increases to adjust for an increase in input costs (that is to maintain profit margins) following the depreciation of the rand exchange rate?

How often increase prices to adjust for increase in input costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not applicable	6	17.6	17.6	17.6
	Virtually never	5	14.7	14.7	32.4
	less than half the time	4	11.8	11.8	44.1
	about half the time	**7**	**20.6**	**20.6**	64.7
	more than half the time	**5**	**14.7**	**14.7**	79.4
	virtually all the time	**7**	**20.6**	**20.6**	100.0
	Total	34	100.0	100.0	

B57. Cross-tabulation results for: percentage exchange rate has to decrease before prices are adjusted and firms that import or export intermediate inputs or finished goods.

How much does the exchange rate depreciate before adjust prices * Do you import/export intermediate inputs or finished goods

Cross-tabulation

Count

How much does the exchange rate depreciate before adjust prices		Do you import/export intermediate inputs or finished goods		Total
		Yes	No	
	Don't know	5	6	11
	less than 5%	8	0	8
	5% to 10%	4	0	4
	10% to 20%	9	0	9
	20% to 30%	2	0	2
Total		28	6	34

B58. Cross tabulation results for: Are costs associated with exchange rate changes more difficult to pass on to consumers now than a decade ago and firms that import or export intermediate inputs or finished goods.

Are costs associated with exchange rates more difficult to pass through than a decade ago * Do you import/export intermediate inputs or finished goods (Cross-tabulation)

Count

Are costs associated with exchange rates more difficult to pass through than a decade ago		Do you import/export intermediate inputs or finished goods		Total
		Yes	No	
	Not Applicable	0	6	6
	Yes	**14**	0	14
	No	**14**	0	14
Total		28	6	34

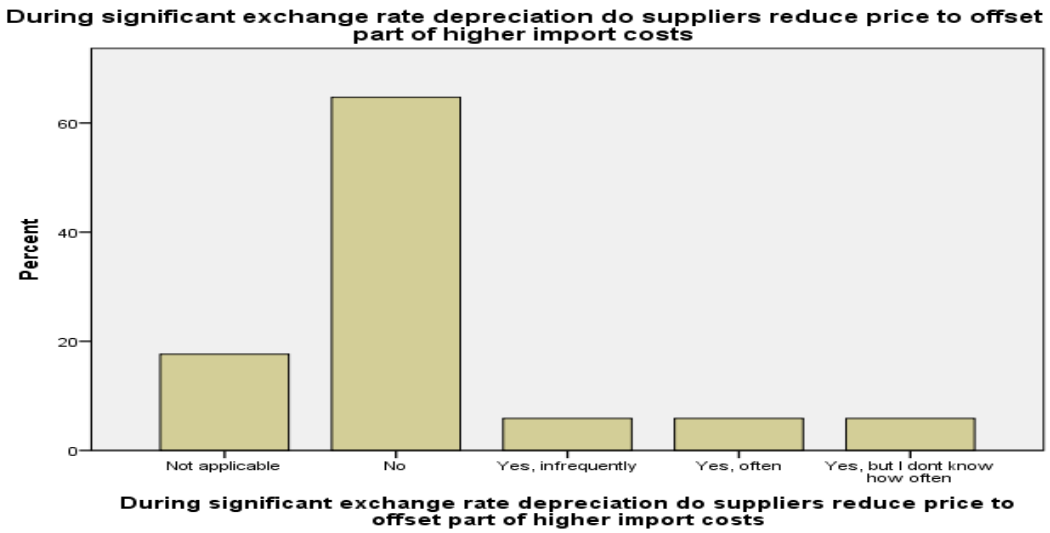
B59. Cross tabulation results for: Are costs associated with exchange rate changes more difficult to pass on to consumers now than a decade ago and reasons why exchange rate costs difficult to pass to consumers

Reasons why exchange rate costs difficult to pass to consumers * Are costs associated with exchange rates more difficult to pass through than a decade ago Cross-tabulation

Count

Reasons why exchange rate costs difficult to pass to consumers		Are costs associated with exchange rates more difficult to pass through than a decade ago			Total
		Not Applicable	Yes	No	
	not applicable	6	0	14	20
	competition from domestic sources	0	**9**	0	9
	competition from foreign sources	0	2	0	2
	the low inflation environment makes price increases more visible and difficult to justify	0	3	0	3
Total		6	14	14	34

B60. Do suppliers reduce their price to offset part of the higher import costs during significant exchange rate depreciation?



Factors leading to delays in price adjustments

B61. Summary: Applicability of factors/theories leading to delays in price adjustment

Weighting Used (1 = No, 2 = Yes, slightly applicable and 3= Yes, very applicable)

Applicability of factors/theories leading to delays in price adjustment

Theories of Price stickiness	N	Minimum	Maximum	Mean	Std. Deviation
Information Set used to review and change prices - available infrequently	34	1	3	1.32	.535
Delay Prices reductions-Don't want to be first in the industry to reduce prices	34	1	2	1.32	.475
Delay Price increases – Don't want to be first in industry to increase prices	34	1	3	1.35	.597
Prices don't change until costs change	**34**	**1**	**3**	**2.26**	**.864**
Explicit Contracts -Fixed price contracts make it difficulty to pass on increases when contract is active	34	1	3	1.59	.783
Implicit Contracts - Implied understanding with customers will not increase prices in depressed markets	34	1	2	1.35	.485
Valid N (listwise)	34				

Factor / Theory 1

B62. The information used to review (and ultimately change) prices are available infrequently. There, prices may be slow to adjust to new conditions. Does this statement apply to your company?

Information Set used to review and change prices are available infrequently (Applicability)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	24	70.6	70.6	70.6
	Yes, slightly applicable	**9**	**26.5**	**26.5**	97.1
	Yes, very applicable	**1**	**2.9**	**2.9**	100.0
	Total	34	100.0	100.0	

B63. Cross tabulation results for: Information set used to review and change prices are available infrequently and has information technology made this factor less relevant over the past 10 years?

Has IT made this factor less relevant over past 10 years * Information Set used to review and change prices are available infrequently Cross-tabulation

Count

Has IT made this factor less relevant over past 10 years		Information Set used to review and change prices are available infrequently (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	24	0	0	24
	No	0	**5**	1	6
	Yes	0	**4**	0	4
Total		24	9	1	34

B64. Cross tabulation results for: Information set used to review and change prices are available infrequently and would your company change prices more quickly or more often if information was available more frequently?

Would your company change prices more frequently if information was available more frequently * Information Set used to review and change prices are available infrequently Cross-tabulation

Count

Would your company change prices more frequently if information was available more frequently?		Information Set used to review and change prices are available infrequently (applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	24	0	0	24
	No	0	4	0	4
	Yes	**0**	**5**	**1**	**6**
Total		24	9	1	34

Factor / Theory 2

B65. Companies delay price reductions because they don't want to be the first in the industry to reduce prices. Does this statement apply to your company?

Companies delay prices reductions because they don't want to be first in the industry to reduce prices (Applicability)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	23	67.6	67.6	67.6
	Yes, slightly applicable	**11**	**32.4**	**32.4**	**100.0**
	Total	34	100.0	100.0	

B66. Cross tabulation results for: Companies delay price reductions because they don't want to be the first in the industry to reduce prices and why statement is applicable to firm?

Reasons for not reducing prices first * Companies delay prices reductions because they don't want to be first in the industry to reduce prices Cross-tabulation

Count

Reasons for not reducing prices first		Companies delay prices reductions because they don't want to be first in the industry to reduce prices (Applicability)		Total
		No	Yes, slightly applicable	
	Not applicable	23	0	23
	Trigger price war	0	**6**	6
	Lower prices reduce our margins	0	**4**	4
	We are concerned that the need for a price reduction may be temporary	0	1	1
Total		23	11	34

Factor / Theory 3

B67. Companies delay increasing prices because they don't want to be the first in the industry to increase prices. Does this statement apply to your company?

Companies delay price increases because they don't want to be first in industry to increase prices (Applicability)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	24	70.6	70.6	70.6
	Yes, slightly applicable	**8**	**23.5**	**23.5**	94.1
	Yes, very applicable	**2**	**5.9**	**5.9**	100.0
	Total	34	100.0	100.0	

B68. Cross tabulation results for: Companies delay price reductions because they don't want to be the first in the industry to increase prices and why statement is applicable to firm?

Reasons for Not Increasing prices first * Companies delay price increases because they don't want to be first in industry to increase prices

Cross-tabulation

Count

Reasons for not Increasing prices first		Companies delay price increases because they don't want to be first in industry to increase prices (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	24	0	0	24
	Cannot sell anything above competitors prices	0	**2**	1	3
	We would lose to many customers/market share	0	**4**	0	4
	If a competitor increases prices first, customers are less upset with our company	0	**2**	1	3
Total		24	8	2	34

Factor / Theory 4

B69. Prices depend mainly on the costs of labour and raw materials used in producing goods and services. Therefore, prices don't change until costs change. Does this statement apply to your company?

Prices don't change until costs change (Applicability)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	9	26.5	26.5	26.5
	Yes, slightly applicable	**7**	**20.6**	**20.6**	47.1
	Yes, very applicable	**18**	**52.9**	**52.9**	100.0
	Total	34	100.0	100.0	

B70. Cross tabulation results for: Prices don't change until costs change and temporary cost increases more difficult to pass into prices than increased viewed as permanent

Temporary costs more difficult to pass through than permanent costs * Prices don't change until costs change (Applicability)

Cross-tabulation

Count

Temporary costs more difficult to pass through than permanent costs		Prices don't change until costs change (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	9	0	0	9
	No	0	1	5	6
	Yes	0	**6**	**13**	19
Total		9	7	18	34

B71. Cross tabulation results for: Prices don't change until costs change and expected cost increase-action taken

Expected Cost Increase-Action Taken * Prices don't change until costs change (Applicability)

Cross-tabulation

Count

Expected Cost Increase-Action Taken		Prices don't change until costs change (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	9	0	0	9
	Buy in advance and store in inventory	0	**5**	**4**	9
	Hedge against cost increases	0	1	**6**	7
	Increase own prices in anticipation	0	0	**5**	5
	Take no action	0	1	3	4
Total		9	7	18	34

B72. Cross tabulation results for: Expected cost increase-action taken and reason why no action taken

Expected Cost Increase-Action Taken * Reason Why No Action Taken Cross-tabulation

Count

Expected Cost Increase-Action Taken		Reason Why No Action Taken				Total
		Not applicable	It would antagonise our customers	We are not confident in our forecasts or estimates	We can easily increase prices when actually required	
	Not applicable	9	0	0	0	9
	Buy in advance and store in inventory	9	0	0	0	9
	Hedge against cost increases	7	0	0	0	7
	Increase own prices in anticipation	5	0	0	0	5
	Take no action	**0**	**1**	**2**	**1**	**4**
Total		30	1	2	1	34

Factor / Theory 5

B73. Companies would like to adjust prices more often to reflect market conditions but fixed-price contracts make it difficult to pass on price increases when a contract is active. Does this statement apply to your company?

Explicit Contracts /Fixed price contracts make it difficult to pass on increases when contract is active

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	20	58.8	58.8	58.8
	Yes, slightly applicable	**8**	**23.5**	**23.5**	82.4
	Yes, very applicable	**6**	**17.6**	**17.6**	100.0
	Total	34	100.0	100.0	

B74. Cross tabulation results for: Explicit Contracts -Fixed price contracts make it difficult to pass on increases when contract is active and do contracts prevent prices from decreasing when demand or costs fall?

Do contracts prevent price decreasing when demand or costs fall * Explicit Contracts /Fixed price contracts make it difficult to pass on increases when contract is active Cross-tabulation

Count

Do contracts prevent price decreasing when demand or costs fall		Explicit Contracts -Fixed price contracts make it difficult to pass on increases when contract is active (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	20	0	0	20
	No	0	**4**	**5**	**9**
	Yes	0	4	1	5
Total		20	8	6	34

B75. Cross tabulation results for: Explicit Contracts -Fixed price contracts make it difficult to pass on increases when contract is active and do you offer discounts on posted contract prices?

Offer discounts on posted contract prices * Explicit Contracts /Fixed price contracts make it difficult to pass on increases when contract is active Cross-tabulation

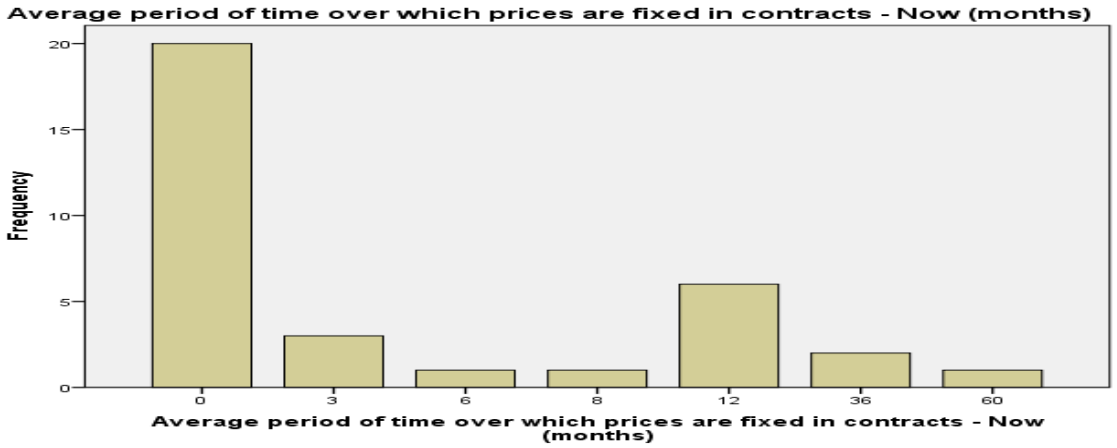
Count

Do you offer discounts on posted contract prices?		Explicit Contracts -Fixed price contracts make it difficult to pass on increases when contract is active (Applicability)			Total
		No	Yes, slightly applicable	Yes, very applicable	
	Not applicable	20	0	0	20
	No	0	5	2	7
	Yes	0	**3**	**4**	7
Total		20	8	6	34

B76. Average period of time over which prices are fixed in contracts - Now

Average period of time over which prices are fixed in contracts - Now (months)

Months		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 (not applicable)	20	58.8	58.8	58.8
	3	3	8.8	8.8	67.6
	6	1	2.9	2.9	70.6
	8	1	2.9	2.9	73.5
	12	**6**	**17.6**	**17.6**	91.2
	36	2	5.9	5.9	97.1
	60	1	2.9	2.9	100.0
	Total	34	100.0	100.0	



B77. Cross tabulation results for: Period for fixed price contract now and period of fixed price contract ten years ago

Period for Fixed Price Contract - Now (months) * Period for Fixed Price Contract - Ten Years Ago Cross-tabulation

Count

Period for Fixed Price Contract - Now (months)	Period for Fixed Price Contract - Ten Years Ago				Total
	not applicable	the same	shorter	longer	
0	20	0	0	0	20
3	0	3	0	0	3
6	0	0	1	0	1
8	0	0	0	1	1
12	0	4	1	1	6
36	0	2	0	0	2
60	0	1	0	0	1
Total	20	**10**	2	2	34

Factor / Theory 6

B78. Companies delay price increases because they have an implied understanding with customers that they will not increase prices in depressed markets. Does this statement apply to your company?

Implied understanding with customers will not increase prices in depressed markets (Applicability)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	22	64.7	64.7	64.7
	Yes, slightly applicable	**12**	**35.3**	**35.3**	100.0
	Total	34	100.0	100.0	

B79. Cross tabulation results for: companies have an implied understanding with customers that they will not increase prices in depressed markets and does the opposite hold true in strong markets (companies delay price decreases)?

Delay Price decreases in strong markets * Implied understanding with customers will not increase prices in depressed markets (applicability) Cross-tabulation

Count

Delay Price decreases in strong markets		Implied understanding with customers will not increase prices in depressed markets (Applicability)		Total
		No	Yes, slightly applicable	
	Not applicable	22	0	22
	No	0	3	3
	Yes	0	**9**	9
Total		22	12	34

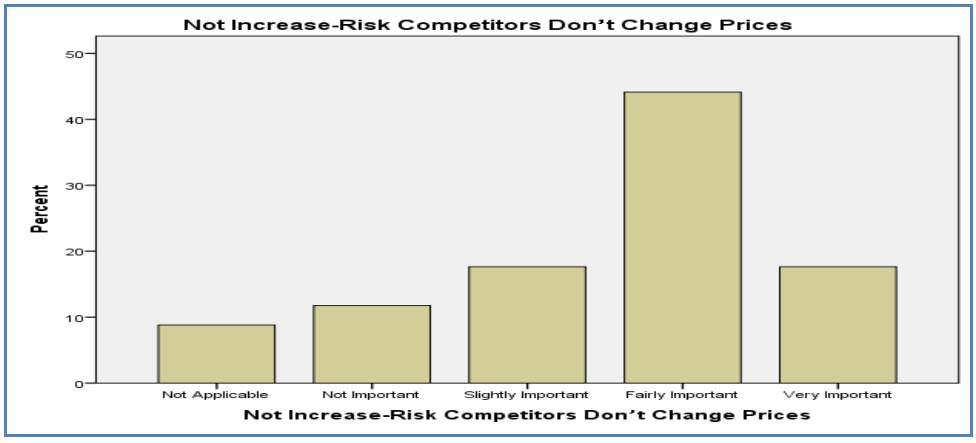
Importance of factors that lead to delays in price adjustments

B80. Importance of factors as reasons to decide not to increase the price

Weighting Used (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

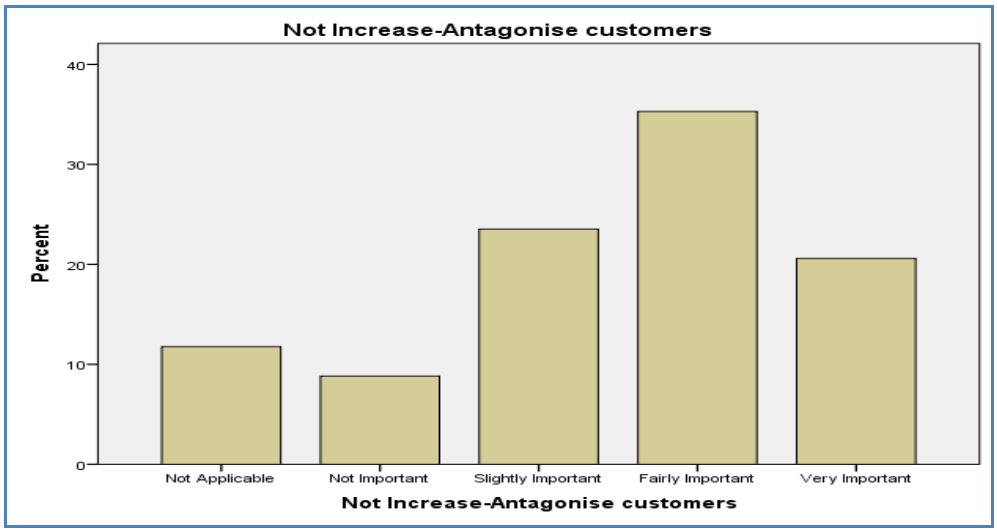
Importance of factors as reasons to decide not to increase the price

	N	Minimum	Maximum	Mean
Risk is too high that Competitors don't change prices	34	0	4	2.50
Risk too high that you have to readjust own prices in opposite direction	34	0	4	2.29
Existence of explicit Contracts	34	0	4	1.94
Existence of implicit Contracts	34	0	4	1.65
Preferences for maintaining prices at a certain threshold	34	0	4	1.00
Costs implied by price changes (Menu Costs)	34	0	3	1.03
Variable costs don't change by much with market conditions	34	0	4	1.71
Would antagonise customers	**34**	**0**	**4**	**2.44**
Valid N (listwise)	34			



Not Increase Prices - Risk too high that competitors don't change prices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Applicable	3	8.8	8.8	8.8
	Not Important	4	11.8	11.8	20.6
	Slightly Important	6	17.6	17.6	38.2
	Fairly Important	15	44.1	44.1	82.4
	Very Important	6	17.6	17.6	100.0
	Total	34	100.0	100.0	



Not increase prices – Would antagonise customers

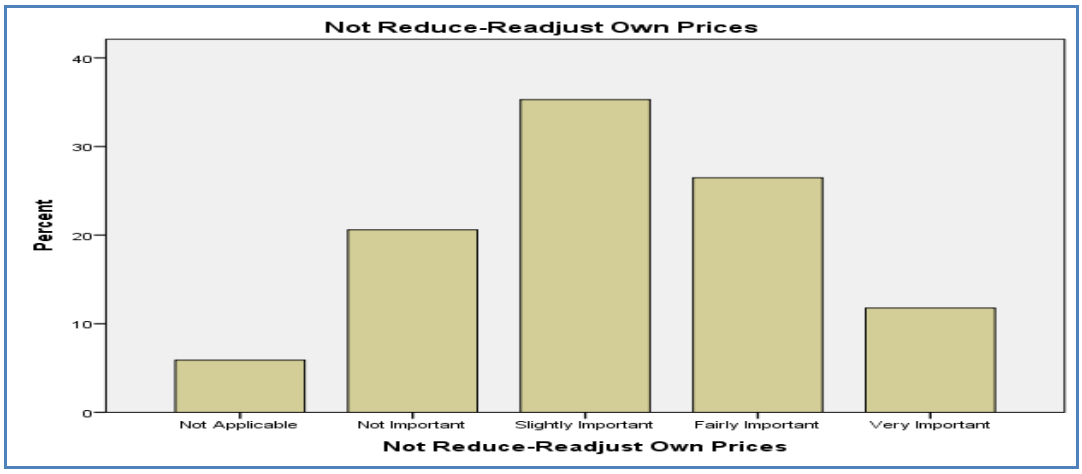
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Applicable	4	11.8	11.8	11.8
	Not Important	3	8.8	8.8	20.6
	Slightly Important	8	23.5	23.5	44.1
	Fairly Important	12	35.3	35.3	79.4
	Very Important	7	20.6	20.6	100.0
	Total	34	100.0	100.0	

B81. Importance of factors as reasons to decide not to reduce the price

Weighting Used: (0 = Not applicable, 1 = Not important, 2 = slightly important, 3 = fairly important and 4 = very important)

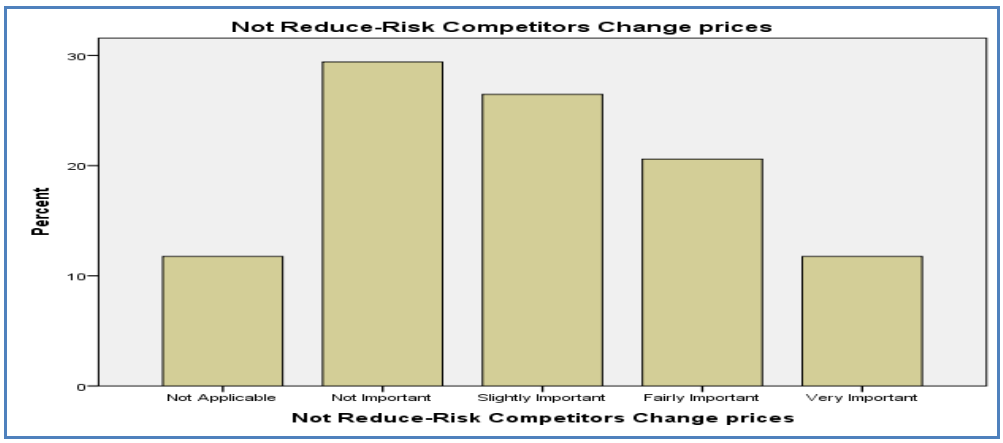
Importance of factors as reasons to decide not to reduce the price

	N	Minimum	Maximum	Mean
Risk is too high that competitors don't change prices	34	0	4	1.91
Risk too high that you have to readjust own prices in opposite direction	34	0	4	2.18
Existence of explicit contracts	34	0	4	1.85
Existence of implicit	34	0	4	1.59
Preference for maintaining prices at certain threshold	34	0	4	1.00
Costs implied by price changes (Menu Costs)	34	0	4	1.03
Variable costs don't change by much with market conditions	34	0	4	1.85
Would antagonise customers	34	0	4	1.53
Valid N (listwise)	34			



Not to reduce prices –Risk too high that you have to readjust own prices in opposite direction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Applicable	2	5.9	5.9	5.9
	Not Important	7	20.6	20.6	26.5
	Slightly Important	**12**	**35.3**	**35.3**	61.8
	Fairly Important	**9**	**26.5**	**26.5**	88.2
	Very Important	**4**	**11.8**	**11.8**	100.0
	Total	34	100.0	100.0	



Not reduce prices -Risk too high that competitors don't change prices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Applicable	4	11.8	11.8	11.8
	Not Important	10	29.4	29.4	41.2
	Slightly Important	**9**	**26.5**	**26.5**	67.6
	Fairly Important	**7**	**20.6**	**20.6**	88.2
	Very Important	**4**	**11.8**	**11.8**	100.0
	Total	34	100.0	100.0	

Other factors that lead to delays in price adjustments

B82. Are there any other compelling arguments as to why prices adjust slowly?

Weighting used: (1= Applicable and 0 = Not applicable)

Other compelling arguments why prices adjust slowly

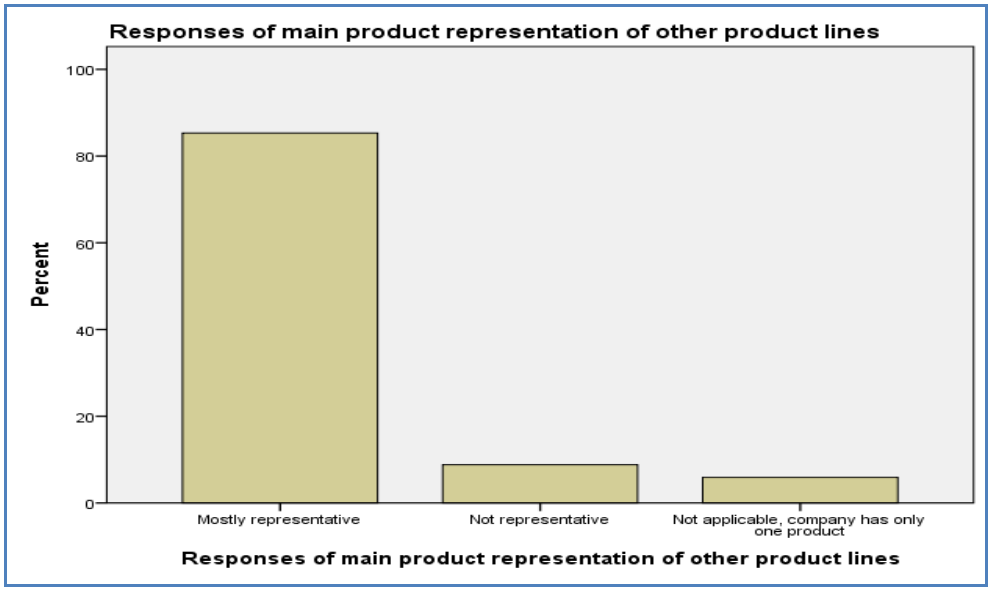
	N	Minimum	Maximum	Mean
Too costly to change prices more often	34	0	1	.24
Factors influencing prices don't change often enough to warrant changes	34	0	1	.29
Prices could not change more often without disturb customer relations	34	0	1	.56
We are more likely to amend product characteristics	34	0	0	.00
Low inflation makes large price changes more noticeable	34	0	1	.35

Prices could not change more often without disturbing customer relationships

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not applicable	15	44.1	44.1	44.1
	Applicable	19	55.9	55.9	100.0
	Total	34	100.0	100.0	

Firms responses regarding main product also representing its other product lines

B83. Firms responses regarding main product also representing its other product lines



Responses of main product representation of other product lines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mostly representative	29	85.3	85.3	85.3
	Not representative	3	8.8	8.8	94.1
	Not applicable, company has only one product	2	5.9	5.9	100.0
	Total	34	100.0	100.0	

Number Products * Responses of main product representation of other product lines Cross-tabulation

Count

Number Products	Responses of main product representation of other product lines			Total
	Mostly representative	Not representative	Not applicable, company has only one product	
1 to 5	9	0	2	11
6 to 10	2	1	0	3
11 to 15	2	0	0	2
16 to 20	3	0	0	3
more than 20	13	2	0	15
Total	29	3	2	34

Inferential Statistics

B84. Frequency of price reviews versus Frequency of price changes

Frequency of reviews per category * Frequency of Changes per category Cross tabulation

			Frequency of Changes per category		Total
			Greater than once a year	Less than or equal to once a year	
Frequency of reviews per category	Greater than once a year	Count	12	8	20
		Expected Count	8.2	11.8	20.0
		% within Frequency of reviews per category	60.0%	40.0%	100.0%
		% within Frequency of Changes per category	85.7%	40.0%	58.8%
		% of Total	35.3%	23.5%	58.8%
	Less than or equal to once a year	Count	2	12	14
		Expected Count	5.8	8.2	14.0
		% within Frequency of reviews per category	14.3%	85.7%	100.0%
		% within Frequency of Changes per category	14.3%	60.0%	41.2%
		% of Total	5.9%	35.3%	41.2%
Total		Count	14	20	34
		Expected Count	14.0	20.0	34.0
		% within Frequency of reviews per category	41.2%	58.8%	100.0%
		% within Frequency of Changes per category	100.0%	100.0%	100.0%
		% of Total	41.2%	58.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.105[a]	1	.008		
Continuity Correction[b]	**5.343**	**1**	**.021**		
Likelihood Ratio	7.666	1	.006		
Fisher's Exact Test				.013	.009
Linear-by-Linear Association	6.896	1	.009		
N of Valid Cases	34				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.76.

b. Computed only for a 2x2 table