Staff Notes 02/15

The PKR and Price-Setting Behavior

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I. Introduction

In most developing countries, the price of goods and services generally increase. With the exception of food items (specifically seasonal fruits and vegetables) and government administered prices like fuel and utility rates, almost all other items of the consumer price index (CPI) continue to increase. In itself, this stylized fact validates the view that prices are *sticky* downwards; in simple terms, irrespective of market conditions, prices may remain stable but generally do not fall.

This paper seeks to understand why prices generally increase in Pakistan

This paper seeks to understand the price-setting behavior of sellers, for the bulk of goods & services that constitute the CPI basket. This price-setting behavior of wholesalers and retailers has an immediate impact on the inflation rate – large and frequent price increases translate into higher inflation.

Our survey has found that amongst the various factors that could justify a seller increasing prices, the Rupee exchange rate appears to have a disproportional impact on price-setting behavior. This note seeks to analyze why the price-setting behavior at the wholesale and retail level, is influenced by the exchange rate. We also believe the magnitude of the price adjustment, and how quickly inflation will respond to a change in the exchange rate, depends critically on the level of development of the economy. In an under-developed economy, the pass-through from the exchange rate to inflation is stronger, and faster.

The exchange rate appears to have a direct impact on price-setting,…

Before delving into the assessment, it is important to realize that most economists anchor their thinking of inflation to the *quantity theory of money* (see **Box 1)**. Orthodox economic theory states that prices are determined when the supply of money is equal to the money value of goods and services available in the economy. In the real world however, pricing decisions are never as simple as the "open auctions" assumed in neo-classical economic theory.[2]

which challenges the idea that inflation increase when "too much money chases too few goods"

Analyzing price-setting behavior seeks to explores all possible factors that could influence how sellers actually set prices. This paper shows that price-setting is not just determined by the hardwired concept that inflation increases when *too much money chases too few goods.*

Box 1: The effectiveness of Orthodox Monetary Policy

Monetary economics states that inflation (the increase in prices) is directly impacted by the supply of money. The intuition is simple, which explains why the *quantity theory of money* (which underpins the concept of *money chasing goods*) is so well understood by economists and non-economists alike. However, attempts to show the causality from the growth of money supply to headline inflation, have generally been quite weak in Pakistan. In our view, the flaw may not lie in the theory *per se*, but the measure of inflation and behavioral factors (also see **Appendix 1**).

[2] General equilibrium theory, which is the foundation of modern microeconomic theory, can be traced to the pioneering work of Joseph Bertrand (1822-1900), Augustin Cournot (1801-1877), and Leon Walras (1834-1910). Implicit in their modeling of the market, was the assumption that there would be a fictitious auctioneer in each market, who would try to determine the equilibrium price for the good (or service) that would equate supply to demand. This fiction was required to allow for a mathematically rigorous representation of the field of economics. Although such rigor gives economics elegant tools of analysis, it clearly does not represent what happens in the real world.

The CPI basket in Pakistan is defined to reflect the average basket of goods/services that an average household purchases on a monthly basis. Hence, for the more affluent and educated, headline inflation may not accurately reflect their *own* cost of living. For example, the weight attached to food (37.5 percent); utilities (6.5 percent); school fees (4 percent); and transportation (7.2 percent), would fall if incomes were higher, or increase if incomes fall below the Pakistani average.

There is, however, a more fundamental disconnect between the availability of liquidity in the economy (money), and how this impacts general price levels (the CPI).

With a vibrant undocumented economy, a significant share of this money goes into real estate, which does not directly impact the CPI

Pakistan has a substantial undocumented economy, and the primary avenue to place the resulting accumulation of wealth, is either real estate; jewelry; and/or foreign currency cash holdings. While cash holdings and jewelry can easily remain undeclared, real estate ownership cannot. Furthermore, anecdotal evidence suggests that the bulk of this "wealth" is kept in real estate, which explains why property values across the country are grossly undervalued, as this reflects undisclosed wealth. Lacking hard data, which is almost impossible to generate, we believe a large component of Pakistan's growing money supply is directed into real estate and jewelry, which are simply missing from the CPI basket.

While many monetary economists will attempt to reconcile the difference between the growth in money supply and the increase in prices as a "monetary overhang", which will eventually increase inflation, we believe this overhang does not exist – it has already been deployed into assets that are not covered by the CPI basket. In our view, this could explain the rapid and persistent increase in urban real estate prices.

A monetary overhang may not even exist in Pakistan

While the above discussion retains the view that inflation is largely a monetary phenomenon, it also gives a more convincing explanation for the weak causality between the growth of money supply and headline inflation in Pakistan. The *monetary push* that stokes inflation, takes time to be realized; it also assumes that other factors have not impacted the economy (in other words, *all else being equal*). As discussed in **Appendix 1**, exogenous factors like global price shocks, domestic policy interventions, or a fundamental change in the behavior of economic agents, often hijacks the trajectory of domestic inflation.

II. Price-Setting in Pakistan

Increasing prices is easier if the seller can convince a skeptical buyer to pay more for the same item. This is done using well known reasons

A little bit of thought will flag several factors that should surely influence sellers. Cost of production is the most obvious (i.e. labor, raw materials, energy, financing and transportation costs); then there are demand factors, the pricing behavior of competitors and whether this competition is increasing or decreasing, overall cost increases (the inflation trend), and the productivity of labor and machinery used in the production process.

Since the PKR/$ parity is the most closely watched price in Pakistan, it has a disproportionate impact on price-setting

However, if one considers the actual act of buying things (be it food, consumer durables, haircuts, or visits to beauty salons), it is the interface between a buyer and the seller that is key. When prices are increasing (a norm), price setting is really about justifying the price increase to a skeptical buyer. Since buyers are generally unaware of the production process, and will dismiss demand pressures as a justification for the increase, a supply side story that is known to all (e.g., rising raw material prices, a weakening Rupee, increasing energy and transportation costs), is often an easier sell compared to other competing explanations. In other words, well known supply constraints that the buyer cannot argue against, tends to dominate the price-setting behavior of sellers.

Since the Rupee-Dollar parity is the most important (and closely watched) price in Pakistan, the exchange rate is often used by sellers to set prices, even if the good of service being sold, has few if any imported inputs. Furthermore, it is the future path of the PKR, which is used to warn buyers that prices may increase in the future. Subtle threats that prices could increase further, often works to get buyers to agree.

In the recent past, low oil prices & PKR strength have defused inflationary expectations & reduced inflation

This is not to say that sellers use the PKR just as an excuse. The immediate impact of a depreciated Rupee is quickly reflected in retail fuel prices and utility rates. In fact, in household surveys conducted by SBP, retail POL prices are the benchmark households use to gauge the trajectory of future inflation. More simply, rising global oil prices coupled with a depreciating PKR, will trigger alarm bells for household budgets.

In our view, the sharp reduction in inflation in the recent past is primarily driven by the fall in international oil prices and the relative stability of the PKR parity. These two factors have dampened *inflationary expectations*, which is a critical "intangible" that determines how sellers price their products.

Survey results show that retail fuel prices anchor household's inflation expectations

The IBA-SBP Consumer Confidence Survey tracks inflationary expectations of Pakistani households every two months. Broadly speaking, the results show that household perceptions of future prices are closely linked to energy costs, especially retail POL prices.[3] Retail fuel prices are set by the government, by taking into account global oil prices and movements in the exchange rate. In other words, the PKR also influences household expectations of future inflation via administered prices.

The correlation (and possible causation) between the Rupee and overall inflation, is important to policymakers for three reasons: (a) imported inputs account for at least a quarter of total manufacturing costs in Pakistan[4]; (b) more than 80 percent of domestic oil consumption is met through imports[5]; and (c) motor fuels and kerosene alone, constitute 11 percent of the wholesale price index (WPI), which is a leading indicator of CPI inflation.

III. PKR Impacts Price-Setting Behavior

SBP conducted a survey of 1,189 firms and asked each to rank 11 factors that determine their price-setting

To better understand the real determinants of inflation in Pakistan, the most notable contribution comes from the Price-Setting Behavior Survey conducted by the Research Department of SBP, during 2009-2011. The structured face-to-face interviews of 1,189 firms from the manufacturing sector and services, were conducted over a period of 9 months.[6] Firms were specifically asked to rank eleven predetermined factors (from very important to unimportant), which could increase the price of their main products (see **Table 1**).

[3] Abbas, Beg and Choudhary [2014], Inflation Expectations in a Developing Country Setting [Draft Version], http://dsqx.sbp.org.pk/ccs/survey%20information/paper.pdf

[4] Choudhary et.al [2012], Pro-cyclical Monetary Policy and Governance, SBP Research Bulletin, Vol. 8(1).

[5] Investment Opportunities in Pakistan's Upstream Oil and Gas Sector, Ministry of Petroleum and Natural Resources [2012], Government of Pakistan.

6 Respondents were from Punjab and Sindh, and the primary focus was on manufacturers who focused on the domestic market (i.e. were not exporters).

Conventional economic theory would list labor productivity; labor cost; and the cost of capital (i.e. financing costs), as dominant factors that set prices. However this is not the case in Pakistan. Survey results show a distinct emphasis on the *overall* cost of production, which should be interpreted as the overall cost of doing business in the country (also known as soft costs). This could include issues like security concerns; city-wide strikes; law & order incidents; availability of energy (not the cost of energy, but actual availability); and supporting infrastructure.[7]

Table 1: Which factors would *increase the price* of your "main product"?

		Very Important	Important	Of minor importance	Unimportant
E1.1	An increase in the cost of labor				
E1.2	An increase in the cost of raw materials (excl. energy)				
E1.3	An increase in energy prices				
E1.4	An increase in financial/capital costs				
E1.5	A rise in demand				
E1.6	An increase in competitors' prices				
E1.7	An increase in overall cost of production				
E1.8	An increase in general price level				
E1.9	A decrease in competition				
E1.10	A decrease in labor productivity				
E1.11	A depreciation of PKR				

Survey results show that supply factors dominate demand conditions

Survey results show that the price of raw materials, competitor pricing, and the PKR, factor prominently; while demand conditions fare relatively poorly in price-setting behavior. This suggests that supply factors are more important than demand pressures. Looking more closely at the survey results, the price-setting factors that rank highest in the category of *very important* are: (1) raw material; (2) the PKR; (3) overall costs (≈ cost of doing business); and (4) energy costs.[8] The least important are labor productivity (ranked 10th) and a decrease in competition (ranked 11th – see **Table 1**).[9]

The PKR was deemed more important than wages & productivity; demand conditions; financing costs & even the existing inflation trend

A broader assessment of importance (*very important* and *important*) shows the following ranking: (1) overall costs (≈ cost of doing business); (2) raw materials; (3) competitor prices; (4) energy costs; and (5) the PKR. At the bottom of the list are a decrease in competition (ranked 10th) and a decrease in labor productivity (ranked 11th). One must understand that the survey question was: what would trigger an increase in price. As most people would agree, a reduction in competition and/or a fall in labor productivity should increase retail prices.

The survey shows that the PKR (as a cost factor) is considered more important than an increase in labor costs; a fall in labor productivity; stronger domestic demand; higher

[7] These results are weighted averages. For a thorough discussion on other overall results see Choudhary et al. [2011], Formal Sector Price Discoveries: Results from a Developing Country. SBP Working Paper Series, No. 42.
[8] Most results discussed here came directly from the survey database and are un-weighted.
[9] One must realize that even firms that use few (if any) imported inputs, still ranked the PKR as a key determinant in their pricing decisions.

financing costs; rising price levels; and an increase in the firm's market power.[10] Just the fact that domestic demand ranks 7th should make economists reassess what really drives inflation in Pakistan.

Looking at the breakdown between services and manufacturing, the PKR factors more prominently in services, which is surprising as manufacturing is more dependent on raw material and energy, compared to service providers. As most people know, services tend to be more labor/management intensive, and have a different cost structure compared to manufacturing units. Survey results show that 63% of service providers rate the PKR as *very important* and/or *important*, while only 29% said the PKR was unimportant.

Table 2: Un-weighted Ranking in terms of very important

	Rank	Percent responded for very important and important
An increase in the cost of raw materials	1	67.3
A depreciation of PKR	2	54.8
An increase in overall cost of production	3	70.3
An increase in energy prices	4	63.8
An increase in competitors' prices	5	65.8
An increase in the cost of labor	6	46.7
A rise in demand	7	41.9
An increase in general price level	8	35.6
An increase in financial/capital costs	9	32.3
A decrease in labor productivity	10	19.4
A decrease in competition	11	27.9

Even in terms of the urgency to respond, PKR dominated traditional factors that justify price increases

Firms were also asked how quickly they increase prices in response to a change in the predetermined factors (this signals the degree of urgency with which firms respond to the cost factor – see **Table 2**). Taking a strict definition of urgency (i.e. firms increase prices within a month), the most relevant factors are: (1) raw materials; (2) competitor prices; (3) overall costs (≈ cost of doing business); and (4) the PKR. The least urgent factors were an increase in financing costs (ranked 10th) and a decrease in labor productivity (ranked 11th). Taking a broader definition of urgency (i.e. changing prices within 3 months), firms ranked the factors as follows: (1) raw materials; (2) competitor prices; (3) overall costs (≈ cost of doing business); (4) energy costs; and (5) the PKR. Again, the least important factors were labor productivity and financing costs (**Table 3**).

In Pakistan, price-setting depends heavily on non-price constraints to production (law & order, energy availability), and supply factors (energy /raw material costs & the PKR)

Table 3: How quickly do you *increase the price* of your "main product" in response to the factors mentioned below?

		Within 1	Within 3	Within 6	Within 9	Within 1	No change
E2.1	An increase in the cost of labor						
E2.2	An increase in the cost of raw materials (excl. energy)						
E2.3	An increase in energy prices						
E2.4	An increase in financial/capital costs						
E2.5	A rise in demand						
E2.6	An increase in competitors' prices						
E2.7	An increase in overall cost of production						
E2.8	An increase in general prices level						
E2.9	A decrease in competition						
E2.10	A decrease in labor productivity						
E2.11	A depreciation of PKR						

These results suggest that two pricing factors are unique to Pakistan, compared to other developed countries.[11] One, the importance of the cost of doing business (non-price

[10] Placing the PKR as the last factor in the questionnaire, suggests that its ranking has not been exaggerated by being the first factor the firm representative reads. If anything, this hints at a negative bias in flagging the PKR.

impediments to doing business), is strongly reflected in the pricing decisions of firms. This is somewhat intuitive when one considers how the poor law and order situation in Pakistan impacts individual firms at several levels. The second issue is the dominance of specific supply-side factors like the PKR and energy costs, which are not only important in terms of the quantum of the price increase, but also how quickly these factors will be reflected in the selling price.

IV. Changes in the PKR & Inflation

Fig 1 shows the correlation between the PKR and non-food inflation,…

The impact of exchange rate movements on domestic inflation can be seen in **Figure 1**. As shown, the appreciating PKR after 9/11 helped subdue inflation, which remained firmly in single-digits as the PKR was managed quite proactively till late 2007. With the sharp increase in global oil prices rapidly depleting Pakistan's FX reserves, the Rupee started depreciating quite sharply with a corresponding spike in both headline and non-food inflation. Things settled somewhat when oil prices collapsed in the second half of 2008 (see **Figure 1**).

which becomes even stronger when the PKR is weaker than normal (Fig 2)

More recently, the correlation between the PKR and inflation has been quite strong, and the sudden strength of the Rupee in March 2014 and its subsequent stability, have brought down inflation by defusing inflationary expectations. Looking at the entire period from July 2002 to September 2014, the correlation coefficient between the PKR and headline inflation is positive 0.83 (in a range of – 1 to + 1), which basically means that a 10% depreciation of the Rupee will be associated with an 8.3% increase in non-food inflation in the next month (see **Figure 1**).

Figure 1: YoY PKR Depreciation and Inflation

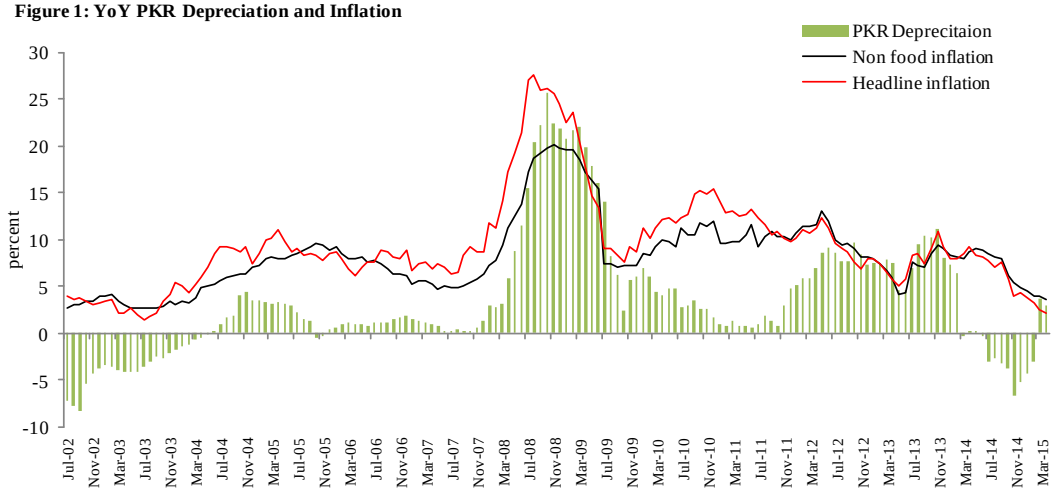
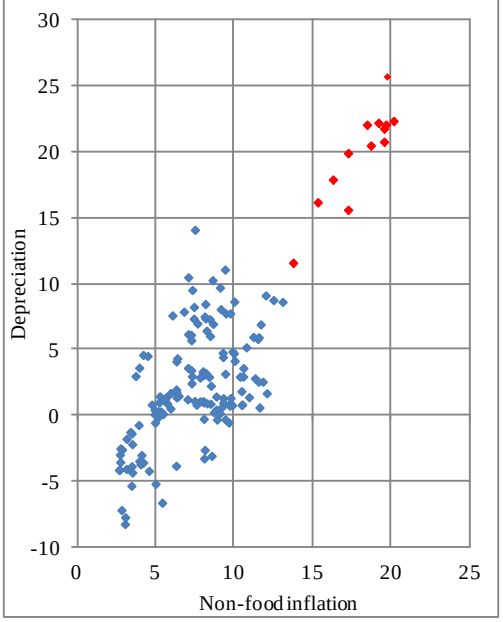


Figure 2 shows something more interesting: the scatter diagram highlights 12 monthly observations for the period July 2008 to June 2009 (shaded in red), which was a period of economic turmoil in the country. As shown, both YoY inflation and the concurrent annual depreciation of the Rupee, are at elevated levels, and even more strongly correlated. This is not surprising as exceptionally large depreciations could impact inflation more strongly,

11 To the best of my knowledge, few (in any) detailed surveys on price-setting behavior have been conducted in developing countries.

given the widespread public/media concern generated by a weakened Rupee. Having said this, even if the red dots are excluded (i.e. data for FY09), the positive correlation between PKR weakness and non-food inflation remains in place (for the entire period the correlation coefficient is X; excluding FY09, the coefficient falls to 0.55).

Figure 2: YoY Depreciation and Non-food inflation
(percent)

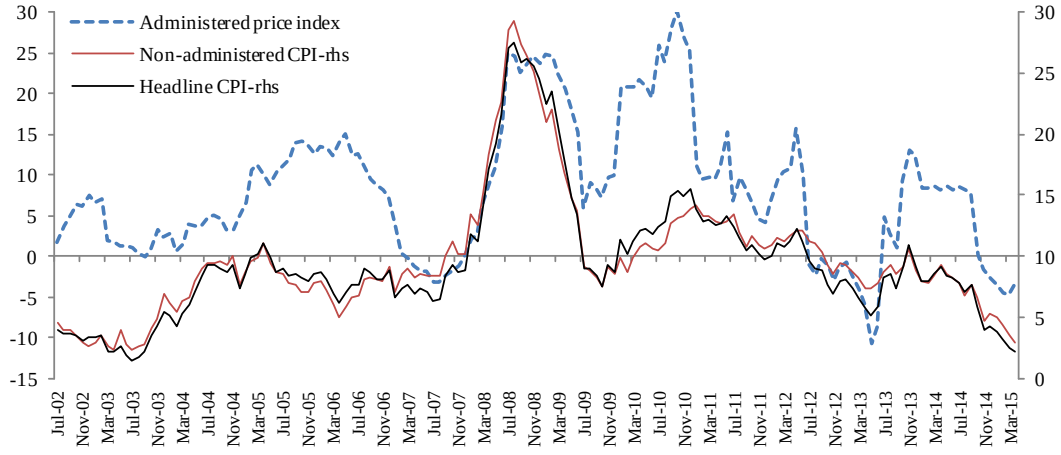


Govt administered prices are a leading indicator of headline inflation

Changes in administered prices are strongly correlated with headline and non-administered inflation (see **Figure 3**).[12] A couple of things are interesting to note: one, YoY administered price inflation can actually become negative, as it did during 2007 and the period from Q2-2012 to mid-2013; and two, the sharp increase in retail POL prices in the first half of 2008, triggered an immediate increase in both non-administered and headline inflation.

The recent spike in administered prices in mid-2013 (see **Figure 3**), can be traced to the austerity measures implemented by the government to sharply contain its subsidy bill on utilities. Also notice that non-administered YoY inflation, which is basically driven by seller's price-setting behavior, has never been negative.

Figure 3: YoY Changes in Administered and Non-Administered CPI



Source: SBP calculations

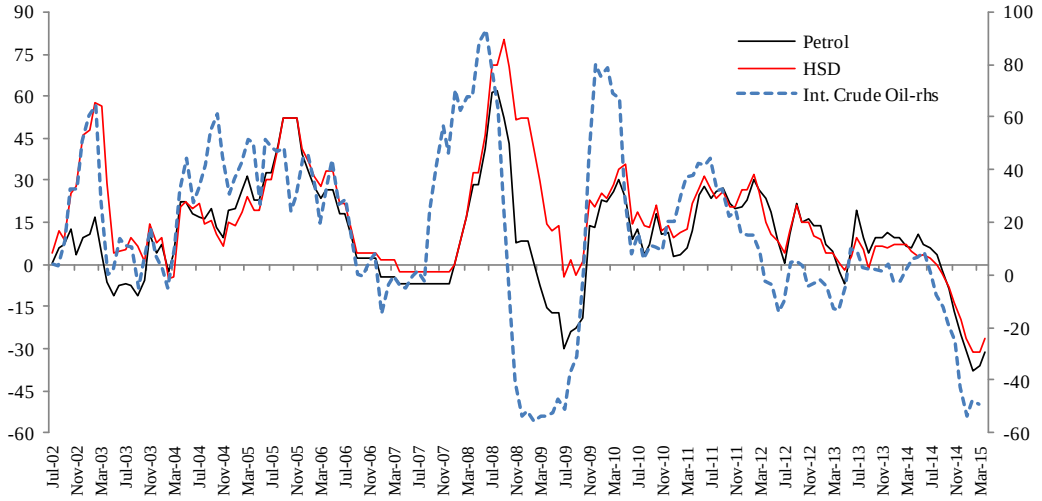
[12] The administered CPI is an internal SBP index developed by the Research Department, which tracks administered prices set by the government or its regulatory agencies. It is weighted according to the weights assigned in the overall CPI basket, adjusted by the removal of all non-administered prices. Broadly speaking, the main items in the administered CPI, include retail POL prices; kerosene oil; CNG; household tariffs on power and gas; wheat support prices; sugar prices; train fares, and government college fees. As expected, the heavy items are fuels and utilities.

The correlation coefficient between administered and non-administered inflation is 0.57, which means that most firms will seek to match government-driven price increases within the same month.[13] This shows that the government can influence both inflation and inflationary expectations, by managing the retail prices of key products and services (if it has the fiscal space to do so).

While GoP can directly impact inflation by managing key prices (Fig 3), it cannot go against global trends

Within administered CPI, retail POL prices are strongly correlated with global oil prices (**Figure 4**). This is to be expected, as the government does not have the fiscal space to shelter consumers from rising global oil prices. Having said this, notice the delayed increase in retail POL prices in late 2007. Despite the sharp increase in global oil prices in mid-2007, the government decided to shelter domestic consumers, which created a massive burden on the government's fiscal position. This effectively pushed the country into another IMF program in November 2008. As Pakistan was gearing up for an IMF stabilization program, one of the required policy actions was to eliminate this subsidy.

Figure 4: YoY Changes in Fuel Prices



Policy tools are only as effective as the policymaker's ability to accurately predict the behavior of households & businesses

Figure 4 also shows that the government has since been far more proactive in tracking global oil prices in terms of pricing retail POL. In our view, the collapse in oil prices since mid-2014, is largely responsible for the decade low inflation rates in Pakistan. In terms of numbers, the pass-through of international oil prices to domestic prices is quite swift – the correlation coefficient is 0.69 for petrol (and 0.52 for HSD) with a lag of only two-months.

V. Conclusion

This survey-based assessment shows that supply side factors (especially the Rupee), strongly influence price-setting by firms. This in turn, impacts headline inflation. More importantly, it is these simple correlations that firms, markets and households, use to

[13] This does not work when administered prices are cut, which shows that there is an asymmetric pass-through to retail prices. Since administered prices have been cut during the period under study, it weakens the overall correlation coefficient.

formulate their inflationary expectations. These expectations are realized in the inflation rate via the price-setting behavior of sellers. In effect, what we see in a country like Pakistan, is that factors other than the growth of money supply (the conventional wisdom) will have a more direct impact on inflation.

Understanding the behavioral parameters of economic agents, allows for more effective policies

In our view, central banks in developing countries cannot be dogmatic in their assessment of the underlying determinants of domestic inflation. The orthodox policy response to control inflation is to reduce domestic credit expansion and/or manage net external inflows that increase money supply. As the survey shows, demand is only one component of price-setting behavior, and not very important. Hence, to make policy levers more effective, SBP has studied how markets, firms and households respond to various factors, and also identify what these agents focus on to formulate their inflationary expectations. Only with this more textured feel for market dynamics, will a central bank develop a better handle on its inflation outlook; the key factors that could change this outlook, and the impact of exchange rate management on its ability to reduce domestic inflation.

Appendix 1: Orthodox Economics Revisited (post-2008)

Orthodox theory takes a very narrow view of how prices are set

Of the eleven pre-determined factors put forward in the survey questionnaire, orthodox theory focuses on one – demand pressures. This is proxied by the supply of money, which should be seen as the available purchasing power that households and businesses can use to buy goods and services. From the survey results (and general intuition), it is clear that factors other than the growth of money supply, appear to have a more immediate impact on domestic inflation.

Notwithstanding how representative the CPI basket is (see **Box 1**), we do not believe inflation is insensitive to existing monetary conditions.[14] One must however realize that monetary growth that is often linked to rising inflation, takes time to be realized. This causality also assumes that exogenous factors have not impacted the economy during the interim period – in other words, theory assumes that all else remains the same.

Hence, the resulting policy prescriptions to reduce inflation are often ineffective

The reality however, is very different. It is precisely during the period when excess money growth should be stoking demand pressures and inflation, that a number of external and domestic factors could already be impacting the economy (e.g. global price shocks, domestic policy interventions, or a fundamental change in the behavior of economic agents). In our view, these factors more often dominate the trajectory of domestic inflation, which means it is difficult to establish the causality from money growth to higher inflation. This means it is hard to validate the policy effectiveness of orthodox policies to reduce inflation.

Central banks in the OECD have radically changed their policy stance after 2008

These exogenous factors could explain why central banks in OECD countries have changed their monetary stance so radically since the global financial crisis of 2008. On the face of it, it is highly unorthodox for a central bank to aggressively inject liquidity into the economy. The unprecedented scale at which the US Fed purchased impaired financial assets (mortgages) and government bonds, has increased the Fed's balance sheet (proxied by base money) by a multiple of 4.8 for the 6-year period since June 2008.[15] For the 6 years before June 2008, the Fed's base money only grew by 27 percent (or a multiple increase of 1.3).

We believe the events in 2007/08 created a degree of policy confusion that required fresh thinking about how central banks should adapt to the crisis. As the Fed revealed its strategy, it faced public criticism that questioned its bailout of the large banks, and the aggressive monetary easing they imposed. Many observers were taken aback that this policy reversal did not even address the possibility that US inflation could spike.

Aggressive monetary easing amidst fears of deflation, is an eye-opener

As things currently stand, the Bank of Japan and the European Central Bank, have launch their own quantitative easing programs while simultaneously worrying about the possibility of deflation (negative inflation rates). This begs the obvious question: why are policymakers worrying that prices could actually *fall*, when they are aggressively

14 Having said this, the high currency-in-circulation to bank deposit ratio, signals a level of currency hoarding in Pakistan. This "money" does not reflect demand for good or services, but the avenue that keeps the informal sector operating. It is not purchasing power *per se*.

15 The potential increase in money supply (which is determined by base money, or the size of a central bank's balance sheet) has sharply increased in the past 6 years in the US, but this has not translated into consumer spending, nor has it stoked inflation. Data on the Fed was provided by Haver Analytics.

monetizing government debt and buying impaired assets from distressed banks? It would appear the entire edifice of orthodox central banking has collapsed.

This policy reversal was required as the behavior of households & businesses changed significantly – they began to deleverage

This policy reversal is easy to explain. Orthodox monetary policy that links the growth of money supply to upward pressure on prices, is focused on the real sectors (agriculture, manufacturing, services) but does not properly account for the decisive role of the financial sector in determining the behavior of economic agents. In other words, the financial crisis of 2007/08 forced US households and businesses to urgently pay off their bank loans (deleverage), when their underlying collateral (real estate) experienced a sharp reduction in value. This compulsion to reduce indebtedness was a behavioral change that orthodox theory did not anticipate, or account for.

With their confidence shaken by the financial crisis, households and businesses simply did not behave as they were expected to. Since deleveraging entails a conscious effort to curb consumer spending (which is the dominant component of GDP in the OECD), there was a real risk that this change in behavior could further exacerbate the slowdown in the US economy. To pre-empt this, the US Fed injected substantial liquidity into the banking system, to sustain those sectors that were *relatively* immune to the housing collapse.

In effect, the Fed aggressively bought troubled assets from the banks, in the hope that an improvement in their balance sheets would not hamper their lending to the private sector. With the chocking of credit flows in the banking system, the Fed was hardly concerned that its policy intervention would increase inflation, simply because the underlying behavior of economic agents had changed so significantly.

With monumental changes ahead, OECD central banks will struggle.

In our view, the challenges facing OECD central banks will increase with time. There is Japan and the EU, which are stepping up quantitative easing while worrying about deflation; the US, on the other hand, is contemplating rolling-back its monetary easing, which is unnerving the BRIC countries; then there is the real possibility that Greece could default on its sovereign bonds; in terms of politics, the latest election results in the UK, Spain and Portugal could further weaken the EU; and finally, there is China pushing for reforms in the global currency markets. In this period of monumental structural and behavioral changes in the global economy, leading central banks will struggle with uncertain currency markets and how to manage inflation (or deflation). In this process, the importance given to orthodox policy thinking will almost surely suffer.

Orthodox thinking will not help