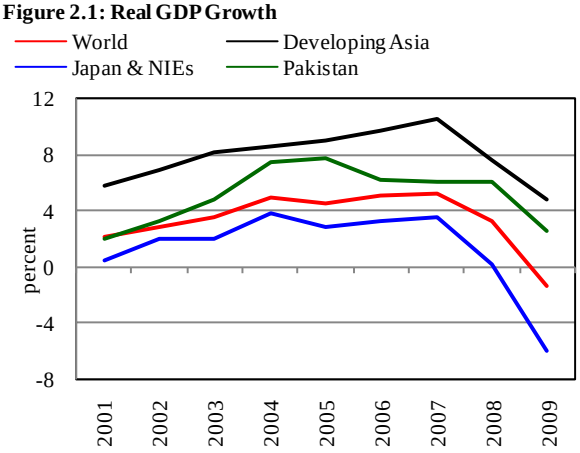
# 2 Economic Growth, Saving and Investment

## 2.1 Real GDP Growth

The global economic outlook was extremely uncertain at the start of FY09.[1] The US based sub-prime mortgage crisis that had significantly manifested itself in FY07, had already morphed into an international financial crisis by FY08, causing a significant weakening of the global economy year (see **Figure 2.1**). Moreover, there were clearly continuing downside risks for the year ahead, as the impacts of the financial crisis unfolded. These risks emanated from expectations of: (a) a substantial tightening of liquidity in the debt and credit markets as financial institutions became increasingly risk averse; (b) a global contraction in demand, as the downstream impact of the slowdown in major economies took hold; and (c) the possibility of increasing protectionism in the global economy. The one important silver lining, for countries that were net importers, was the hope of a significant weakness in international commodity prices.

**Figure 2.1: Real GDP Growth**




Source: World Economic Outlook (IMF)

While the commodity prices initially continued to increase despite the weakening global economy, the outlook changed dramatically as the second-round of US financial crisis hit the global economy September 2008 onwards, causing immense uncertainty in US financial sector. As a response, banks' lending standards were tightened further, risk premiums jumped higher and global equity prices fell sharply. Thus the global economy plunged into a deeper crisis and the world economy (especially advanced economies) entered the deepest and longest recession since the Great Depression of the 1930s .[2]

The scale of the demand contraction quickly dispelled earlier hopes of some observers that the spillover of global economic crisis on Asian economies would be relatively muted on the back of robust macroeconomic conditions, sound banking system and lower exposure of these economies to US securities. On the one hand, a sharp drop in export demand from major economies led to a substantial output shock in exporting economies, and on the other hand these economies suffered from the sharply reduced activity in the international capital markets. In particular, the newly industrialized Asian economies saw economic contraction in FY09, with the ASEAN-5 where exports constitute a large proportion of GDP[3], reporting stagnant production. Even China and India, which benefited from large domestic market, posted a lower growth of 6.5 and 4.5 percent respectively. [4] Countries such as Pakistan, which already suffered from large macroeconomic imbalances, were particularly badly hit, as they did not have the policy space for the counter-cyclical measures needed to support the domestic economy.

Pakistan's economy grew at a CAGR of 6.8 percent during FY02-FY07, which is well above country's long-term average. This was accompanied by a sharp increase in private consumption, with

1 Fiscal Year is from July 1 to June 30.

[2] As the global economy contracted, commodity prices also declined sharply and by end of 2008, global commodity price index reached to the level of 2005 (IMF global commodity price index includes both fuel and non-fuel indices).

[3] NIEs include Singapore, Korea, Taiwan and Hong Kong. ASEAN-5 includes Malaysia, Indonesia, Philippines, Thailand and Vietnam.

[4] World Economic Outlook, April 2009.

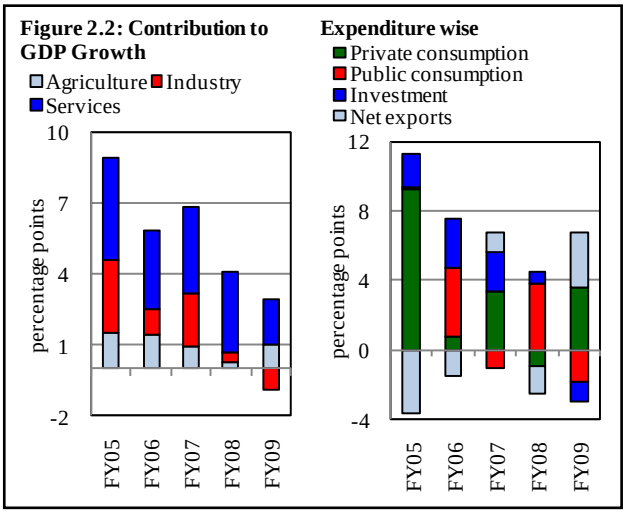
a concomitant widening of the saving-investment gap, and increased dependence on external resources. Moreover, the excess aggregate demand caused significant upward pressures on prices and exchange rate during the period. In this scenario, policy makers' decision to accommodate the demand growth in FY08 by supporting domestic currency as well as subsidizing energy for industry and agriculture sectors helped the economy to sustain a high growth trajectory, but further aggravated macroeconomic imbalances.

The country's ability to live with the unsustainable imbalances had been supported by the strong confidence of both foreign and domestic investors in domestic economy, strong global demand for domestic products and ample liquidity available with .global investors. However, strains were quite visible, with the SBP repeatedly warning of the risks to the domestic economy resulting from the widening macroeconomic imbalances.

These risks began materializing in FY08 when global commodity price shock affected the domestic industrial sector, and power slippages started hindering the manufacturing sector. As a result, the corporate earnings started to decline, resulting in rising defaults in business sector loans. The global commodity price shock was also translated in domestic food and non-food inflation reducing the real incomes and repayment capacity of consumer sector. The consequent defaults on consumer loans made banks cautious in consumer lending business. The growing macroeconomic imbalances in the economy coupled with heightened political uncertainty meant that the economy was unlikely to see any noticeable increases in investment demand for some time.

The situation got even worse in the initial months of FY09 when pressures on the economy intensified further, despite sharp tightening of monetary policy. On one hand, the current account deficit increased drastically as import bill continued to mount and on the other, global recession and aggravating domestic security situation sharply curtailed the availability of external financial inflows. The resultant drain on foreign exchange reserves caused significant depreciation of domestic currency. The impact of these developments on the domestic economy was compounded by the severe energy shortages gripping the country.

Finally, as the sharp depletion in international reserves posed serious risks to the domestic economy, the Government initiated a macroeconomic stabilization program, supported by the IMF Stand-By Arrangement. This program emphasized the effective fiscal tightening mainly through phasing-out subsidies and implementing tax reforms. Therefore, the crux of macroeconomic policy in FY09, which involved tight monetary and fiscal conditions, was to contain the domestic absorption of domestic (to curb inflationary pressures) as well as foreign goods (to cut imports and mitigate exchange rate pressures). Thus, the aggregate demand was expected to slowdown in FY09 mainly on the back of a likely weakening in private as well as public consumption demand (see **Figure 2.2**).




While consumption demand did indeed decelerate, it remained strong. However, within consumption demand, public consumption declined, showing that fiscal consolidation efforts have begun to take hold. Private consumption demand recorded a higher growth during FY09 compared with the preceding year. It appears that non-food private consumption demand has weakened as evident in

sharp decline (of 41.5 percent) in the production of consumer durable goods during FY09.[5] It is important to recall here that the high growth in consumer durable industries in past few years was mainly demand driven, caused by banks' aggressive lending to consumer sector. However, mounting inflation, and further increase in lending rates caused increase in NPLs on consumer loans during FY09.[6] Banks in response became even more cautious in lending to consumer sector.[7] Consumers were also reluctant in buying electronic items and automobiles due to: (a) weakening growth in real incomes (b) rise of lending rates on consumer loans; and (c) increase in prices of electronic items and automobiles during the year as the sharp depreciation of Rupee increased the cost of production. So large was the decline in production of consumer goods that it caused the aggregate manufacturing sector to record its first ever decline in FY09.[8]

The decline in public consumption in FY09 was mainly evident in the removal of subsidies as well as cut in development expenditures. In particular, government has been reducing energy related subsidies since FY08 causing production costs to increase. In FY09, the energy cost increased further and at a much higher pace affecting the real sector activities.[9] Similarly, the cut in development expenditures during FY09 contributed to the slowdown of domestic construction activities. Fiscal constraints were also responsible for generating liquidity problems in energy sector. Specifically, the circular debt issue caused liquidity shortages in refineries as well as power generating companies. This liquidity problem had two implications, (a) oil refineries could not get enough liquidity to finance oil imports and were forced to operate below capacity, and (b) liquidity shortage at the end of power plants did not allow optimal generation of electricity. Lower electricity generation amid an already wide demand-supply gap intensified energy slippages causing productivity decline in a number of industries.

Some deceleration in investment demand was also expected given the increase in investment outlays, high and volatile inflation in the economy and political uncertainty at the start of FY09; the magnitude of decline went much beyond initial expectations. In perspective, the decline in investment demand in FY09 was unprecedented in 40 years. In fact the security concerns in the county worsened in the first quarter of FY09 with the resurgence of extremist groups in northern parts of the country. These concerns not only kept the foreign investor away; but also shattered the confidence of domestic investors. The decline in investment demand, in turn, caused a sharp weakening in the capital goods industries.

Thus, a large part of the slowdown in real sector activities was driven by tight macroeconomic policies as well as energy crisis. However, the performance of real sector would have been slightly better if exogenous shocks had not hit the domestic economy. For instance, in the absence of global recession the performance of domestic export based industries could have been better. That said, the exporting industries performed relatively better than other industries (though have too, growth decelerated) and recorded an increase in production. Growth in these industries will largely depend on efficient availability of energy, supportive environment as well as the pace of recovery in advanced economies. Similarly, the heightened security concerns in northern parts of the country affected businesses in these areas. Mining and quarrying activities particularly were affected badly; and in some areas came to a complete halt.

As evident from the discussion above, a large part of real sector's slowdown was reflected in industrial sector (see T**able 2.1**), which registered a record decline during FY09 mainly emanating

[5] Import of consumer durables also declined during FY09. For details, please see S**ection 2.4**.
[6] NPLs in consumer loans increased by 45.8 percent in FY09 compared with 61.8 percent in FY08.
[7] Total consumer financing declined by 18.9 percent during FY09 compared with an increase of 3.1 percent in FY08.
[8] Excluding this sub-group alone, manufacturing sector production shows a decline of 1.3 percent only.
[9] For instance, electricity tariff for industrial use increased by 23.8 percent (12-m moving average) in FY09 compared with 14.9 percent in FY08.

from a sharp fall in construction and large-scale manufacturing (LSM) sub-sectors. The combined impact of contraction in manufacturing and imports also depressed the performance of *wholesale and retail trade* activities despite substantial increase in major crops during FY09. Further drag on services growth came from (a) decline in profitability of banking sector; and (b) lower investments in telecom sector caused by decline in profitability amid strong competition and tight fiscal measures. Therefore, services sector registered a growth of 3.6 percent during FY09, the lowest since FY02. The rebound in agriculture sector during the year, on the back of favorable weather and anticipation of higher prices, provided some support against the free fall of real sector and allowed GDP to register a growth of 2.0 percent during FY09 compared with 4.1 in the preceding year. Refrigerator

The real sector is likely to show some recovery going forward. However, the decline in investment demand and negative productivity shocks mean that any demand pull stimulus to the economy going forward could create significant inflationary pressures. Most importantly, if the real sector has to be revived, parallel growth in power generation is of utmost importance to minimize productivity losses. A detailed analysis of prospects of real sector performance is given below:

1. Agriculture production is likely to remain strong in FY10, given decline in fertilizer prices, increase in tractor usage and likely increase in sugarcane and cotton output, despite reports of viral attacks in some areas. The downside risk emanates from a possible decline in area under rice cultivation. In fact, performance of major crops will be determined by wheat crop, which largely depends on procurement prices, fertilizer prices and availability, favorable weather and usage of certified seeds.
2. The aggregate consumption demand may remain strong in the subsequent year as:
    a. With the fall in demand and decline in global commodity prices, input prices started to decline sharply since H2-FY09. The effect on retail prices (which typically follows the trend in whole-sale prices) is yet to appear. When this transition will complete, the demand is expected to recover somewhat. However, if the recent resurgence of global commodity prices continues, the consumption demand may take time to recover.
    b. The SBP clearly signaled monetary easing during 2009, following the sharp cut in current account deficit and ease in inflationary pressures. In particular, the SBP cut discount rate by 100 bps in April 2009 and another 100 bps cut in August 2009 to support growth in the economy. The continuation of this trend, if inflation trend allowed, may also contribute real sector recovery.
3. A number of negative demand and supply shocks hitting the domestic economy in FY09 were temporary in nature. For instance, if the circular debt issue gets resolved by mid-FY10, not only this would increase capacity utilization in local refineries but will also reduce power slippages (to an extent) in other manufacturing units.
4. Similarly, the internally displaced persons (IDPs) have also started to move back homes. Reportedly, economic activities in those areas are gradually being resumed.

Given the strong relevance of real sector performance with employment generation in the country, it has now become crucial to revive activities in real sector. This is especially important given the fact that deterioration in socio-economic conditions strengthens the extremist elements in the country. More emphasis is required on stimulating the sectors with more backward and forward linkages. From this perspective, the growth in construction sector is essential given the sector's immense capability of generating employment and its strong connection with growth in a number of

**Table 2.1: Sector wise Share in GDP and Growth Rates**

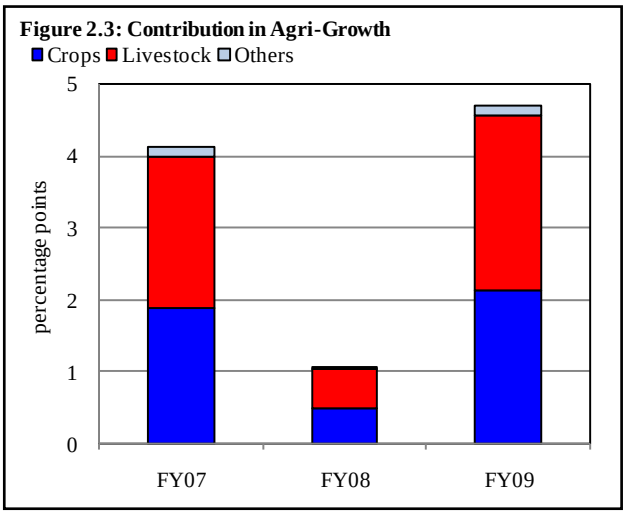
percent, at constant prices of 1999-00

| Commodity producing sector | FY08 | | FY 09 | | |
|---|---|---|---|---|---|
| | Growth rates | Percent share | Growth targets | Growth rates | Percent share |
| | **1.4** | **47.0** | **4.8** | **0.2** | **46.2** |
| **Agriculture** | 1.1 | 21.3 | 3.5 | 4.7 | 21.8 |
| Crops | -2.2 | 9.5 | | 6.6 | 9.9 |
| Major crops | -6.4 | 6.9 | 4.5 | 7.7 | 7.3 |
| Minor crops | 10.9 | 2.6 | 2.0 | 3.6 | 2.6 |
| Livestock | 4.2 | 11.1 | 3.2 | 3.7 | 11.3 |
| Fishing | 9.2 | 0.4 | 3.4 | 2.3 | 0.4 |
| Forestry | -11.5 | 0.3 | 1.5 | -15.7 | 0.2 |
| **Industry** | 1.7 | 25.7 | 6.0 | -3.6 | 24.3 |
| Manufacturing | 4.8 | 19.2 | 5.0 | -3.3 | 18.2 |
| Large-scale | 4.0 | 13.4 | 6.1 | -7.7 | 12.1 |
| Small-scale | 7.5 | 4.4 | 5.5 | 7.5 | 4.7 |
| Slaughtering | 4.2 | 1.3 | 8.0 | 4.2 | 1.4 |
| Mining and quarrying | 4.4 | 2.6 | 5.2 | 1.3 | 2.5 |
| Construction | -3.9 | 2.4 | 8.0 | -10.8 | 2.1 |
| Electricity & gas distribution | -22.0 | 1.6 | 3.0 | -3.7 | 1.5 |
| **Services sector** | **6.6** | **53.0** | **6.1** | **3.6** | **53.8** |
| Wholesale & retail trade | 5.3 | 17.3 | 4.5 | 3.1 | 17.5 |
| Transport storage & communication | 5.7 | 10.2 | 5.4 | 2.9 | 10.3 |
| Finance and insurance | 12.9 | 6.4 | 12.0 | -1.2 | 6.2 |
| Ownership of dwellings | 3.5 | 2.7 | 3.5 | 3.5 | 2.7 |
| Public admin. & defence | 1.2 | 5.9 | 4.0 | 5.0 | 6.1 |
| Community, social & personal services | 10.0 | 10.6 | 7.0 | 7.3 | 11.1 |
| **Gross domestic product** | **4.1** | **100.0** | **5.5** | **2.0** | **100.0** |

Source: Pakistan Economic Survey 2008-09

manufacturing industries. However, the policy focus should not be on reviving selected sectors through distorting relative prices in the country and increasing direct fiscal costs. Instead, improvement in corporate governance, regulatory structure, availability of better infrastructure, reducing cost of doing business in the country, research and development, and above all, productivity increases are crucial for a sustainable real sector growth.

## 2.2 Agriculture Sector Performance




A robust agriculture sector performance provided a major impetus to FY09 GDP growth, with both, the crops and the livestock sub-sectors exhibiting above-target growth. The particularly impressive contribution by crops was (see **Figure 2.3**) a result of clearer incentives to farmers in terms of higher prices, which motivated them to increase area under cultivation. The impact of this was supported by very favorable weather that helped mitigate under-utilization of other key inputs due to uncertainty over fertilizer prices and lower availability of canal water. The weakness in usage of inputs was reflected in lower growth in fertilizer off-take and the fact that growth in credit disbursement for the agri-sector decelerated during FY09. This suggests that even the strong yields seen in FY09 could have been exceeded comfortably, given the use of optimal inputs mix (see **Box 2.1)**.

The most prominent feature of the FY09 agri-growth profile is the record harvest of three major crops (wheat, rice and maize), that together generally account for around 59.0 percent of value-addition by major crops; in FY09 this share reached 62.7 percent. Consequently, despite a massive decline of 21.7 percent in sugarcane output, major crops, in aggregate, recorded an impressive growth of 7.7 percent in FY09 against the target of 4.5 percent. The growth in minor crops was also impressive despite production declines in few crops including canola, onions, mangoes and some pulses; the 3.6 percent growth seen in FY09 was higher than the target of 2.0 percent.

Similarly, the 3.7 percent growth in the livestock sub-sector is also above 3.2 percent annual target. The growth here was supported by positive market sentiments – both prices and demand remained strong for the livestock products – as well as favorable weather conditions. This year, there were no major incidences of virus attack in poultry or livestock animals in the country, and the sub-sector also benefited from better availability of fodder in non-irrigated fields following extended monsoon and winter rains.

The livestock growth prospects look bright as domestic demand for dairy and meat products are projected to remain strong, driven by changing lifestyles on the back of increased nominal incomes. Moreover, rising external demand, particularly from Middle Eastern countries, also offers opportunities for significant growth in this sector. Not surprisingly, disbursement in livestock and poultry continues to increase, with a 23.8 percent rise in FY09.

In contrast, the fishing sub-sector witnessed slower growth during FY09, while value addition by the forestry sub-sector declined. While the aggregate contribution of these two sub-sectors to agri-sector value addition is small,[10] the poor performance of the fishing sub-sector is disappointing given the considerable exports and employment potential.

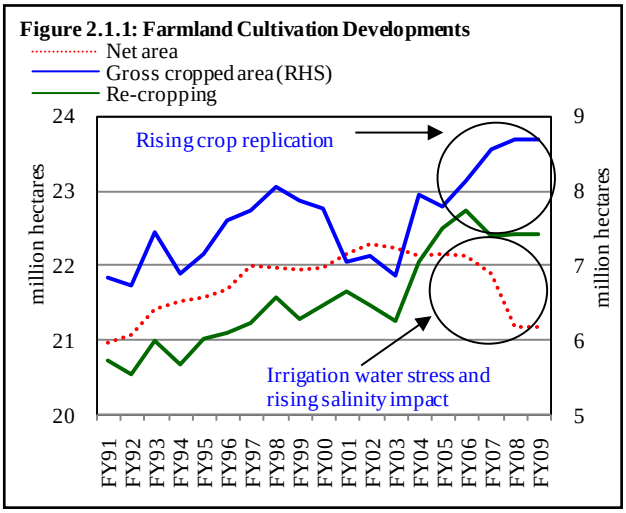
**Box 2.1: Key Issues in Agriculture**

One of the major issues in Pakistan is declining net area under cultivation, which declined from 22.3 million hectares in FY02 to 21.2 million hectares by FY09. Consequently, stress on the available cultivable land has increased in recent years and, the share of area cultivated more than once, in total cultivated area, rose from 29.0 percent in FY02 to 35.1 percent by FY09 (see **Figure 2.1.1**).

[10] The combined share of these two sub-sectors in agriculture is 2.8 percent during FY09.

Generally, repeat cropping reduces soil fertility, causing reduction in yield. Maintaining yield then requires higher inputs, thus increases cost of production and reduces farm incomes. The reduction in net cultivated area is principally due to: (a) lower availability of canal irrigation water, (b) water loses between canal heads and farm gate, and (c) rising underground water levels[11] that raises soil salinity. The intensity of these losses may be reduced through: (a) cut down in water losses with concrete lining of water courses to reduce irrigation seepages, (b) enhancing of irrigation efficiency with use of laser technology for land leveling; and (c) adoption of sprinkling and drip irrigation, particularly for selected minor crops.

**Figure 2.1.1: Farmland Cultivation Developments**




It may be noted that not only net area under cultivation has declined in Pakistan, inappropriate use of inputs with traditional cultivation methods are also hindering the achievement of higher yields. For example, **Table 2.1.1** shows that yield may be increased with efficient use of fertilizers. In case of wheat, yield may be increased by 34.2 percent, rice by 57.1 percent, cotton by 77.5 percent and sugarcane by 45.8 percent relative to FY09 yields with balanced use of fertilizers.

The potential gains in key staples, particularly the wheat yield, are important from the perspective of food security. It is important to note that the wheat yield in Pakistan is close to the World average and US.It is even better than Russia, Canada, Turkey, Australia and Ukraine. However, it is lower than potential as well as those achieved in China and the EU. In case of rice, the yield in Pakistan is lower than that in major rice producing countries (see **Figure 2.1.2**).

**Table 2.1.1:Yield Gap Between Traditional Practice and Balanced Fertilizer Use** (kg/hectare)

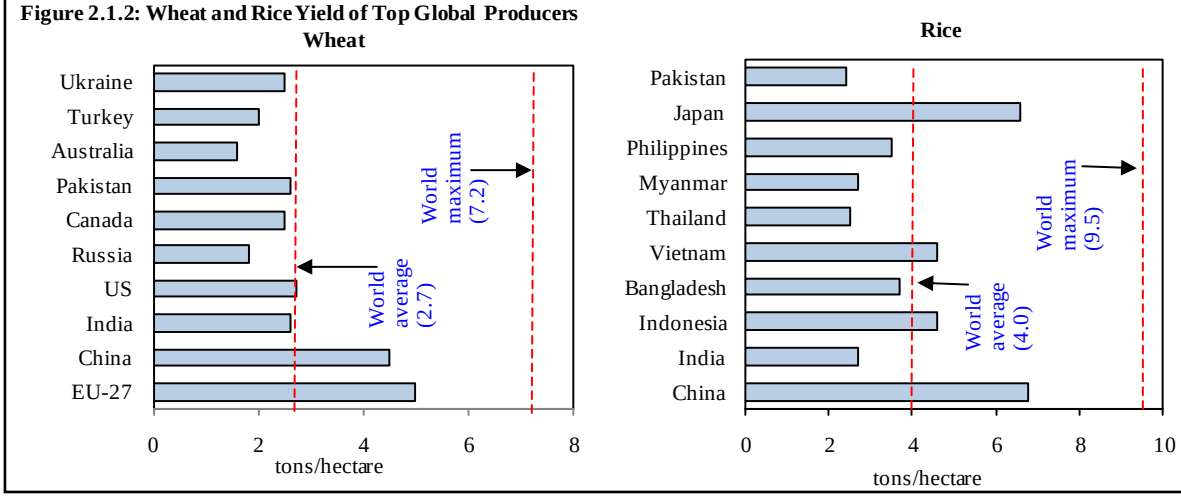
| Crops | Average yield FY09* | Balanced fertilizer yield** | Yield gap (%) |
|---|---|---|---|
| Wheat | 2585 | 3,926 | 34.2 |
| Cotton | 713 | 3,167 | 77.5 |
| Rice | 2,346 | 5,472 | 57.1 |
| Sugarcane (tons) | 48.6 | 89.6 | 45.8 |
| Maize | 3,610 | 4352 | 17.0 |

*: MINFA

**: Ayub Agriculture Research Institute

One of the foremost reasons of lower rice yield in Pakistan is cultivation of basmati rice (long grain) on 50.2 percent of total rice harvested area, which accounts for 37.4 percent of total rice production. Its yield is 1.7 tons per hectare compared with 2.6 tons per hectare of IRRI & other varieties. However, yield gap between different rice varieties could be narrowed by adoption of improved seed technology - hybrid, research, efficient extension services and capacity building of farming sector with easy access to technology advances.

**Figure 2.1.2: Wheat and Rice Yield of Top Global Producers**

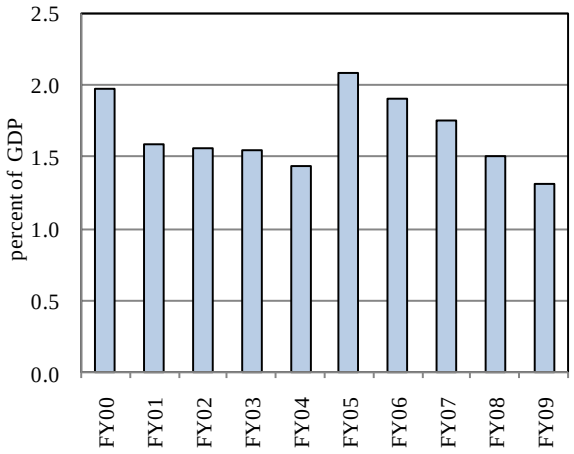



[11] World Bank's Report *Pakistan's Water Economy Running Dry*, suggests that huge water stored in the naturally-deep aquifers of Punjab, and in many areas water table now reached the ground levels of the land, causing land degradation.

It should be remembered that rise in yields cannot be achieved without substantial investment in agriculture. In practice, levels of investment in this sector are negligible in Pakistan, with downward trend seen during most recent years (see **Figure 2.1.3**). Given that the surge in international commodity prices, including food commodities, reinforced the importance of food security, it is high time that Pakistan invests heavily in agriculture to improve supply of quality inputs, research and extension services. It is necessary to raise yields to meet the domestic food and fiber demand to ensure food security of the country as well as produce exportable surplus to earn foreign exchange.

It should also be kept in mind that increased investment in agriculture could also help generate considerable employment, particularly in rural areas. This potential could be further increased if supported by additional downstream investment in storage, transportation, processing and packaging, as well as in agri-infrastructure.

**Figure 2.1.3: Investment in Agriculture**




## 2.2.1 Crops Sector

### Wheat

Wheat crop output set a new record attributed to the combined impact of increase in area and yield during FY09.[12] This success is attributed to (a) substantial increase in support price announced well before sowing; and (b) good luck in terms of timely rains, which helped achieve record yield during the year. It may be noted that whenever the wheat support price was announced prior to sowing season, it resulted in substantial increase in area under wheat cultivation (see **Figure 2.4**). Wheat harvest could have increased further if farmers used the appropriate quantum and balanced nutrients, and if rains had not damaged the crop, in some parts of the country, before the harvest.

The wheat crop partly benefited from the shift of some area from sugarcane to rice. Unlike sugarcane, rice is not a multi-year crop, and the fields were therefore available for wheat once the rice had been harvested (see **Figure 2.5**). A substantial rise in un-irrigated (barani) area under wheat cultivation also helped achieve an aggregate increase of 512 thousand hectares in FY09.

**Figure 2.4: Wheat-Procurement Price and Area**

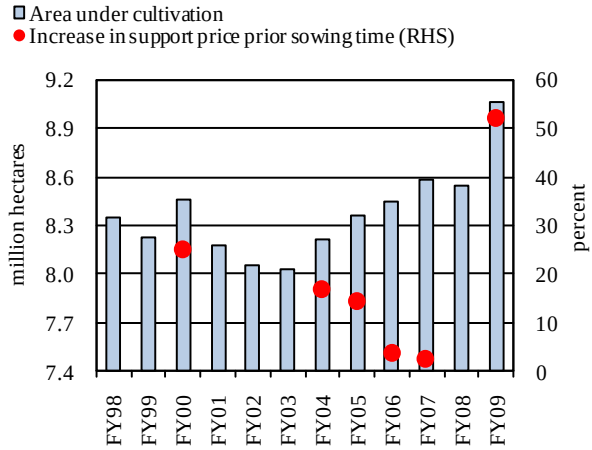
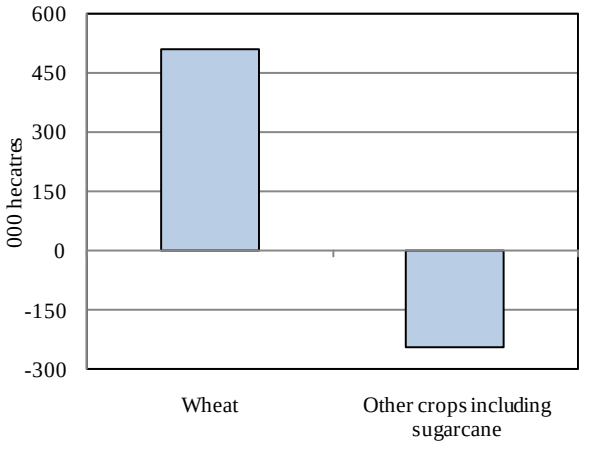



**Figure 2.5: Change in Area During FY09**

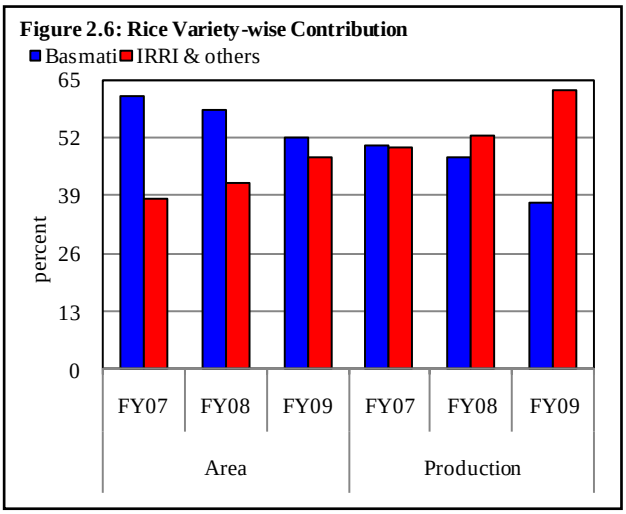



[12] Wheat output estimated over 24.0 million tons in FY09 compared with the earlier record harvest of 23.3 million tons achieved in FY07. Wheat yield also rose by 5.5 percent in FY09 relative to preceding year, but 4.8 percent lower than the record yield seen in FY07.

## Rice

The rice harvest rose by 25.0 percent to a record 7.0 million tons during FY09 (see **Figure 2.6**). It is important to note that the output of basmati rice dropped by 1.6 percent in FY09, but this was more than offset by a substantial increase of 49.0 percent in production of IRRI & other rice varieties. This stellar performance helped achieve a respectable growth by agriculture in FY09. As with wheat, a substantial increase in rice prices during FY08 motivated farmers to bring more area under rice in FY09. As a result, area increased to a record 3.0 million hectares by substitution mainly from sugarcane and cotton.[13] However, despite a record rice harvest during FY09, domestic prices remained strong. Since Pakistan is a major exporter of rice, domestic rice prices follow the trend of international prices. Although international rice prices declined significantly, rupee depreciation significantly offset the gains.[14]

**Figure 2.6: Rice Variety-wise Contribution**




In recent years, production of basmati rice has been declining, with fall in its contribution in total rice cultivation, which is probably reflecting farmers' response to lower yields. The reasons of decline in yield include (a) degradation of rice fields due to extensive cropping; (b) rising pest/insect incidence; (c) poor pesticide response; and (d) warm weather that caused a reduction in rice kernel size and weight. This suggests that Pakistan needs to develop high yield basmati rice varieties which are also resistant to pest attacks to remain competitive in international market.

## Cotton

A gloomy outlook for cotton harvest was anticipated at the sowing time as area under cotton dropped by 7.7 percent in FY09. The decline in area was attributed to farmers' response to lower cotton prices relative to other crops. However, favorable weather in cotton belt coupled with rise in prices during the growing phase of cotton crop motivated farmers to put more efforts to enhance yield. Another factor that helped boost yield during FY09 was increased cultivation of Bt cotton.

## Sugarcane

Sugarcane output fell by 21.7 percent during FY09 due to the combined impact of decline in area and yield. The disappointed growers sowed 17.1 percent lesser area under sugarcane; water

**Table 2.2: Performance of Other Major Crops**

| Crops | FY06 | FY07 | FY08 | FY09p | Growth (%) FY08 | FY09 |
|---|---|---|---|---|---|---|
| | ***Area: thousand hectares*** | | | | | |
| Gram | 1,029 | 1,052 | 1,107 | 1,094 | 5.2 | -1.2 |
| Maize | 1,042 | 1,017 | 1,052 | 1,118 | 3.4 | 6.3 |
| Bajra | 441 | 504 | 531 | 470 | 5.4 | -11.5 |
| Jowar | 254 | 292 | 281 | 263 | -3.8 | -6.4 |
| Barley | 90 | 94 | 91 | 86 | -3.2 | -5.5 |
| Rapeseed & mustard | 217 | 256 | 224 | 209 | -12.5 | -6.7 |
| Sesamum | 82 | 71 | 76 | 91 | 7.0 | 19.7 |
| Tobacco | 56 | 51 | 51 | 52 | - | 2.0 |
| | ***Yield: kg per hectare*** | | | | | |
| Gram | 467 | 797 | 429 | 695 | -46.2 | 62.0 |
| Maize | 2,985 | 3,036 | 3,427 | 3,610 | 12.9 | 5.3 |
| Bajra | 501 | 472 | 574 | 630 | 21.6 | 9.6 |
| Jowar | 602 | 616 | 605 | 627 | -1.9 | 3.7 |
| Barley | 978 | 1,000 | 956 | 965 | -4.4 | 0.9 |
| Rapeseed & mustard | 793 | 828 | 786 | 703 | -5.1 | -10.5 |
| Sesamum | 427 | 423 | 434 | 451 | 2.8 | 3.8 |
| Tobacco | 2,018 | 2,020 | 2,118 | 2,173 | 4.9 | 2.6 |

p: Provisional

[13] An area of 248 thousand hectares increased under rice, while a total area of 246 thousand hectares declined under sugarcane and cotton.
[14] Quantum of rice export reached 2.5million tons during FY09, up by 8.0 percent.

shortages and low fertilizer consumption took the toll in terms of a lower yield, which declined by 5.6 percent during FY09. Prices received by the sugarcane growers in FY08 were far below their expectations with loss of weight due to delayed crushing season. This unclear incentive signals in the case of sugarcane forced farmers to switch over to other crops, such as rice.

**Other crops**

Among other major crops, demand driven maize crop is one of the fastest emerging commodity globally. During FY09 maize harvest at 4.04 million tons is also a record, up by 12.0 percent over the preceding year. The demand for maize remained strong due to increasing use for bio-fuel, livestock and pharmacy industry. To meet future maize crop demand, stakeholders need to increase supply and establish a value chain for maize crop. Most of other major crops could not show a growth as area under these crops was shifted to the wheat and rice crops during FY09 (see **Table 2.2**).

**Minor Crops**

Minor crops witnessed an above target growth of 3.6 percent, despite declines in the production of onions, mangoes, mung and mash pulses during FY09. The rise in minor crops is principally attributed to a strong growth in the production of masoor pulse (lintel), fruits, potato, tomato and chillies (see **Table 2.3**). All these crops benefitted from a sharp surge in prices in the preceding season. While, initially onion crop was expected to be good, heavy rains damaged the crop. Minor crops are popular in small land owners and it is an important source of income. Small investments in storage, food processing and packaging units may help to improve supply of these items and reduce volatility in their prices.

**Table 2.3: Production of Minor Crops (Groups)**

Thousand tons

| | | | | Growth (%) | |
|---|---|---|---|---|---|
| Crops | **FY07** | **FY08** | **FY09** | **FY08** | **FY09** |
| Pulses | 251 | 281 | 256 | 11.7 | -8.9 |
| Vegetables | 5,725 | 5,676 | 5,742 | -0.9 | 1.2 |
| Fruits | 6011 | 7177 | 7399 | 19.4 | 3.1 |
| Condiments | 1,995 | 2,241 | 2,224 | 12.3 | -0.8 |
| Non-Traditional Oilseeds | 922 | 980 | 742 | 6.2 | -24.3 |

Among fruit crops, production of majority of the crops declined largely due to warming weather, slowdown in snowfall and rain, decreased level of underground water in specific orchard areas, rising incidence of insects and poor law & order situation. In particular, despite rise in area under mango in recent years, its production has declined. Mango output is estimated to decline by 1.3 percent and apples remained unchanged at its last year's level of 442.0 thousand tons. One of the major issues facing horticulture sector is slow progress in research and extension services, absence of modern technology and soil management techniques and high post-harvest losses.

### 2.2.2 Performance of Livestock and Poultry Sector

The livestock sub-sector, though decelerated, surpassed its growth target by 0.5 percentage points to 3.7 percent in FY09. Higher than anticipated growth of livestock sector was mainly attributed to higher supply of fodder, lower disease incidents and favorable prices amid strong demand. Despite decline in fodder production, better monsoon rains last year and extended winter rains this year; offset the impact of lower availability of irrigation water in FY09. Sustained growth in livestock is a welcome sign for agriculture sector and the economy as it would not only help improve food security, it would also help to reduce poverty amongst the landless farmers.

Surprisingly, despite slowdown in fodder production, livestock population increased by an average of 6.4 percent per year between FY92-FY09, whereas fodder production declined by 0.2 percent in the same period (see **Figure 2.7**). This suggests diversification of livestock feedings by the farmers from traditional to nutritional rich valued items like imported feeds, use of grains and dependency on open field grazing rather than household feeding.

Livestock population rose by 7.2 percent in FY09, same growth rate seen in FY08. Livestock population (without poultry) posted a growth of 2.8 percent to 154.7 million in FY09 compared with 2.7 percent increase seen last year.

The major contribution in value addition by livestock is from milk production, followed by meat (beef & mutton), poultry meat, eggs and other items (included in slaughtering sub-sector of industrial sector). Milk production increased by 3.2 percent in FY09; the same growth rates seen in previous three years. However, the contribution from buffalo and goats in milk production decreased, while share of cow milk increased slightly in the total production during FY09 (see **Table 2.4).**

**Figure 2.7: Livestock Population and Fodder Growth**

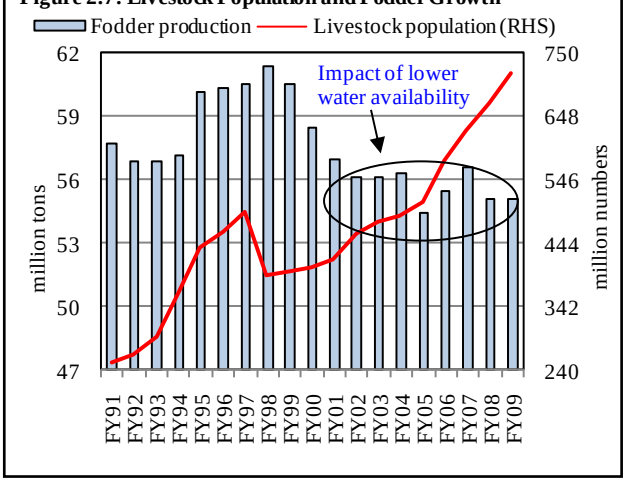



**Table 2.4: Milk Production By Source**

Thousand tons

| | FY07 | FY08 | FY09 |
|---|---|---|---|
| Cow | 11,130 | 11,550 | 11,985 |
| Buffalo | 20,372 | 20,991 | 21,622 |
| Sheep | 35 | 35 | 36 |
| Goat | 682 | 700 | 719 |
| Camel | 777 | 787 | 798 |
| Total | 32,996 | 34,064 | 35,160 |
| **Growth (%)** | | | |
| Cow | | 3.8 | 3.8 |
| Buffalo | | 3.0 | 3.0 |
| Sheep | | 0.0 | 2.9 |
| Goat | | 2.6 | 2.7 |
| Camel | | 1.3 | 1.4 |
| Total | | 3.2 | 3.2 |
| **Share (%)** | | | |
| Cow | 33.7 | 33.9 | 34.1 |
| Buffalo | 61.7 | 61.6 | 61.5 |
| Sheep | 0.1 | 0.1 | 0.1 |
| Goat | 2.1 | 2.1 | 2.0 |
| Camel | 2.4 | 2.3 | 2.3 |

Source: Ministry of Livestock and Dairy Development

One of the major issues in milk economy is its below potential performance, owing to weaker infrastructure, weaknesses of prudent marketing system and effective value chain. There is a need to expand milk chillers in the rural areas to collect and process maximum milk and convert it into value added products. This may not only raise farmer's income and help to reduce rural poverty but may stabilize rising prices of dairy products. There is a need to develop infrastructure to enable farmers to reduce wastages and market their products. Here too, small investment can make big difference on domestic food security. In addition, Pakistan can tap a strong demand for dairy products in Middle East.

**Poultry**

Poultry is the fastest emerging sector in livestock. It is largely concentrated in NWFP[15] with the highest share of 37.6 percent, following Punjab (35.2 percent), Sindh (19.2 percent), and Balochistan (8.0 percent) during FY09. Investment[16] in poultry sector increased in recent years driven by good earning opportunities amid strong demand.

Value addition by poultry sector increased by 11.2 percent in FY09 compared with 6.6 percent increase last year. This growth is attributed to the growth of poultry farms, with complete

[15] Livestock Census 2006.

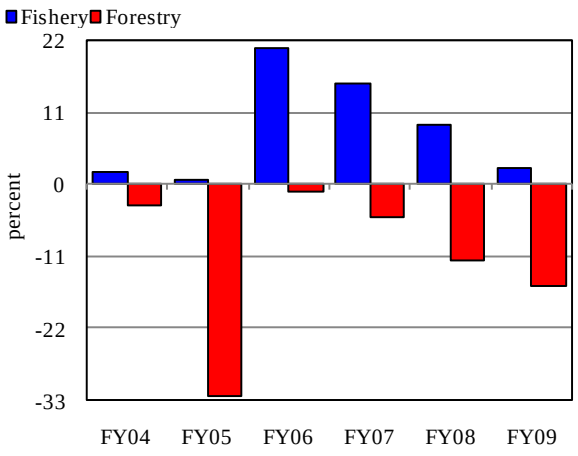
[16] Number of borrowers increased by 31.7 percent and credit disbursement increased by 21.7 percent in FY09.

environmental control system hatcheries, better prices than last year and relatively less disease attacks in FY09.

### 2.2.3 Fishing and Forestry Sectors

Growth rate of fishing sector decelerated to 2.3 percent in FY09, the lowest growth during the last three years (see **Figure 2.8**). Stellar growth of 59.9 percent in inland fishing during FY09 was partly offset by a strong decline of 34.0 percent in marine fishing.

**Figure 2.8: Fishery and Forestry Growth**



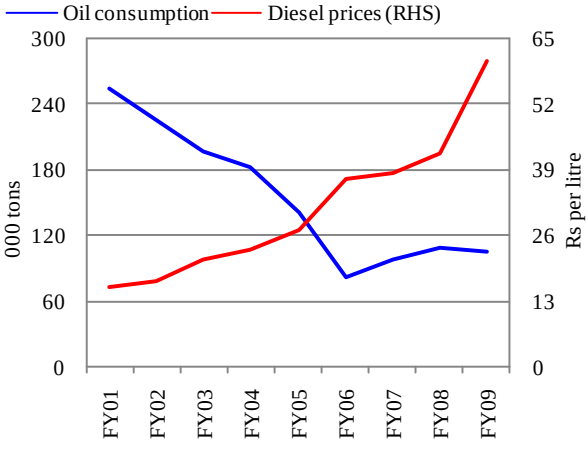

It is interesting to note that while quantum of export of fish & fish products rose by 3.1 percent during FY09, its value of exports increased by 11.7 percent to US$ 236.5 million, showing significant increase in unit values.[17] Fishing sector offers huge potential for exports by exploiting the potential of marine fishing along with the coastal line. It would not only help earn foreign exchange, it would also generate employment and businesses in coastal areas. With infrastructure development, better packing, and meeting required international phytosanitary measures, Pakistan can increase its fish based exports by expansion in existing markets as well as exploring new markets.

Despite huge expenditures and several tree plantation campaigns every year, forestry sub-sector showed continued negative growth, six years in a row. During FY09 it compounded a fall of 15.7 percent compared with 11.5 percent last year. The slowdown is attributed to comparatively lower rains and snowfall and unrest around forests of NWFP and FATA. Forest coverage is extremely low in Pakistan and is needs to be increased with public and private partnership and forest conservation. The present situation is responsible for creating environmental problems and destroying ecosystem. There is a need to streamline efforts to formulate policies to reduce deforestation and enhance forest area to protect environment as well as increase forest production.

### 2.2.4 Input Performance

Use of key agri-inputs – certified seeds, fertilizers, pesticides as well as availability of irrigation water and credit disbursement weakened during FY09 due to both demand and supply factors. Slowdown in fertilizer off-take is due to uncertainty over prices; it also weakened the demand for agri-credit during the year. Fertilizer shortages and banks' risk averse behavior also contributed in lower growth of these inputs. A decline in the use of certified seeds (except wheat) is attributed to lower area under cultivation of some of the crops.

**Figure 2.9: Oil Consumption in Agriculture**




[17] Major fish/seafood buyers from Pakistan are China, UAE, Thailand, Korea, Malaysia, Indonesia, Hong Kong, Middle East, Sri Lanka, etc.

## Energy Consumption

While consumption of electricity and gas has increased by 3.3 percent and 4.5 percent during FY09, use of oil has declined by 4.4 percent in agriculture sector.

A decline in the use of oil, particularly diesel, has consequences for farm efficiency as tractors, tube-well, thrasher etc. are important farm equipments. One of the important reasons for lower use of oil is the rising prices; e.g., average diesel prices increased by 43.4 percent in FY09 on top of 10.1 percent rise last year (see **Figure 2.9**). It is also important to note that the number of tube-wells declined in FY07 and FY08 since a sharp surge in electricity tariff (see **Figure 2.10**). A relative improvement during FY09 in number of tube-wells is probably a function of increased farm income amid prevailing better prices of agri-produce; nonetheless a further rise in diesel prices and electricity tariff would have adverse consequences for agriculture productivity.

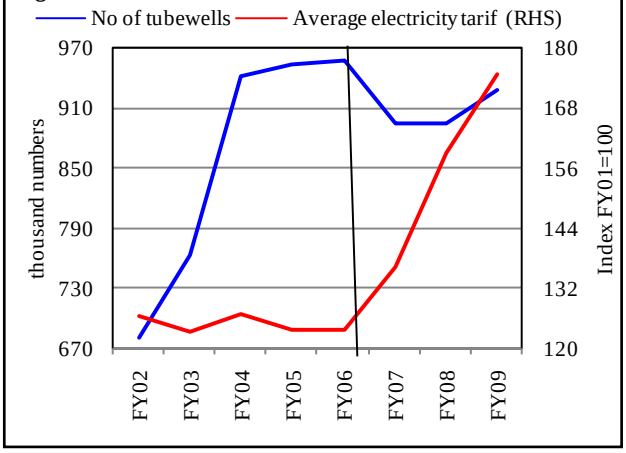
**Table 2.5: Certified Seed Distribution** (000 tons)

| | FY07 | FY08 | FY09[P] | Growth % FY09 |
|---|---|---|---|---|
| Wheat | 245.4 | 236.4 | 250.5 | 6.0 |
| Cotton | 27.9 | 30.4 | 18.6 | -38.8 |
| Paddy | 14.2 | 23.3 | 31.7 | 36.1 |
| Maize | 7.8 | 6.7 | 3.7 | -44.8 |
| Pulses | 1.1 | 1.5 | 1.0 | -33.3 |
| Oilseeds | 1.4 | 1.9 | 1.1 | -42.1 |
| Fodders | 11.9 | 9.5 | 2.0 | -78.9 |
| Vegetables | 6.1 | 6.1 | 1.5 | -75.4 |
| Potato | 8.2 | 5.3 | 5.0 | -5.7 |
| Total | 324.1 | 321.3 | 315.1 | -1.9 |

P: Provisional

Source: Federal Seed Certification and Distribution Department

**Figure 2.10: Number of Tubewells and Electricity Tariff for Agriculture**




## Seeds

Availability of quality crop seeds play a major role in yield enhancement, improve quality of products and increase disease resistance abilities. For the second consecutive year, distribution of aggregate certified seeds decreased by 1.9 percent in FY09 on top of a fall of 0.9 percent last year. However, welcome sign is that seed sales registered increase in wheat and paddy, which account for approximately 90.0 percent of the total seed distribution. Distribution of certified seeds of other crops including cotton drastically fell in FY09 over last year (see **Table 2.5**). It is important to note that the use of certified seeds registered increase only in the case of wheat and paddy, both of these witnessed significant gains in yields during FY09.

**Table 2.6: Fertilizer off-take** (million tons)

| | FY07 | FY08 | FY09 | Growth % FY09 |
|---|---|---|---|---|
| **Urea** | | | | |
| Jul-Sep | 1.14 | 1.37 | 1.33 | -3.1 |
| Oct-Dec | 1.5 | 1.51 | 1.46 | -3.8 |
| Jan-Mar | 0.87 | 1.4 | 1.54 | 9.7 |
| Apr-Jun | 1.17 | 1.29 | 1.43 | 10.9 |
| **Total** | **4.68** | **5.58** | **5.76** | **3.2** |
| **DAP** | | | | |
| Jul-Sep | 0.17 | 0.3 | 0.13 | -56.9 |
| Oct-Dec | 0.98 | 0.62 | 0.48 | -22.5 |
| Jan-Mar | 0.18 | 0.09 | 0.19 | 103.8 |
| Apr-Jun | 0.28 | 0.07 | 0.29 | 323.4 |
| **Total** | **1.61** | **1.087** | **1.09** | **0.3** |

## Fertilizer Off-take

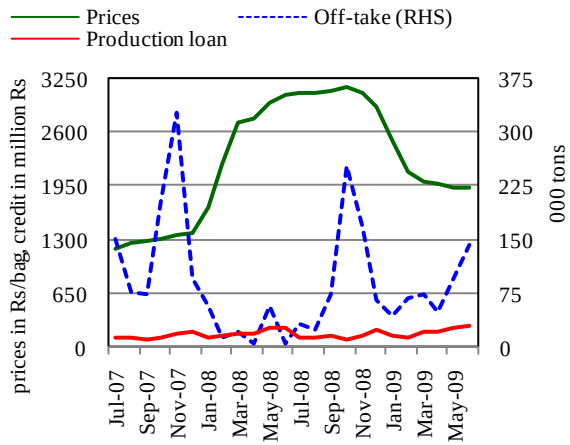
Growth rate of aggregate fertilizer off-take slowed to 2.7 percent in FY09 compared with 5.9 percent increase last year. This slowdown was mainly due to uncertainty over prices and supply shortages resulting from delayed transportation from ports, and hoarding by dealers. These supply factors restricted the growth in urea off-take to only 3.2 percent during FY09; despite a recovery in the second half of the fiscal year (see **Table 2.6**). Similarly, subdued demand for DAP resulted in a negligible growth of 0.3 percent, despite a strong recovery in

off-take in the later half of the fiscal year. The growth in H2-FY09 was due to: (a) a relative stability in DAP prices; (b) supply glut of urea as inventory build-up due to lower off-take; as well as; (c) improved demand during crucial growing season of wheat in January-March.

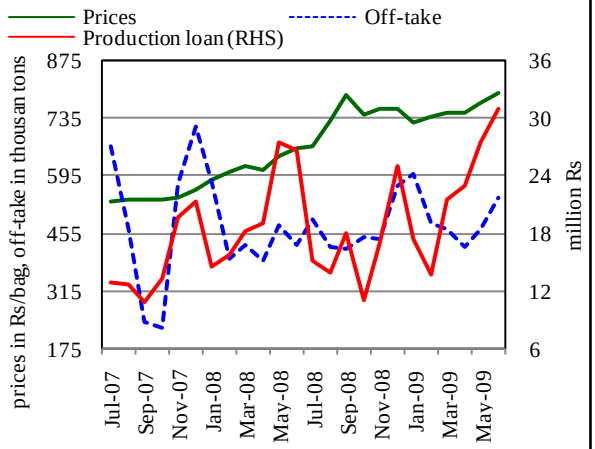
As a result of stronger growth in urea off-take in the past two years, its share in total fertilizer off-take further increased from 75.4 percent in FY07 percent to 84.1 percent in FY09, which is technically not appropriate to raise yield since, agri-scientists are emphasizing on balanced use of fertilizers.

During FY09, fertilizer off-take was influenced by the movements in the prices and agri-credit disbursement related to production loans. This is more visible in the case of DAP, when prices were high and declining, farmers delayed their purchases that also resulted in lower demand for agri-credit. However, after DAP prices stabilized, both fertilizer and credit off-take picked up. In contrast, urea prices moved in a relatively narrow range, but availability of urea became major hindrance as reportedly urea was sold at substantially higher prices to take advantage of increased area under wheat amid a 52.0 percent rise in support prices. However, as smooth supply restored, both urea and credit off-take increased (see **Figure 2.11**).

**Figure 2.11: DAP Off-take and Credit Disbursment Trends**



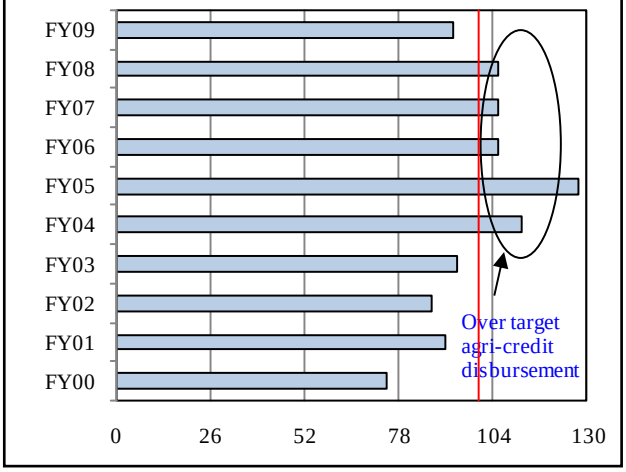

**Urea Off-take and Credit Disbursement Trends**




### 2.2.5 Credit Performance

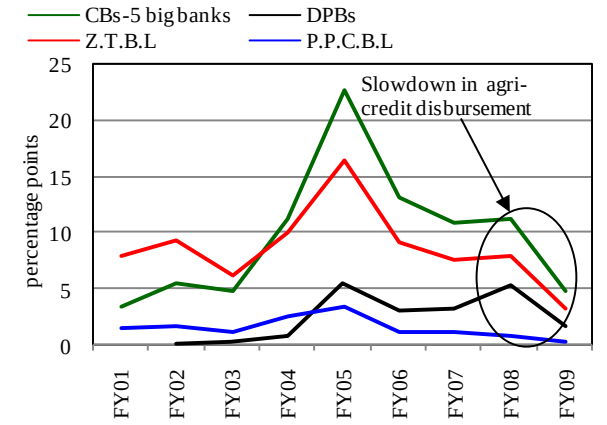
Agri-credit disbursement witnessed a respectable growth of 10.1 percent despite a sharp contraction in credit to other sectors of the economy. Nonetheless, FY09 agri-credit disbursements were short of target for the first time after surpassing targets for the previous five consecutive years (see **Figure 2.12**). The growth in agri-credit disbursements is also lower than 25.3 percent rise seen in FY08. This slowdown owed to both demand and supply factors. On supply side, banks adopted cautious lending policies due to liquidity crunch particularly during H1-FY09 and rising NPLs. On demand side, lower purchase of fertilizers led to muted demand for production related loans, high cost of borrowings, as well as, increased farm income amid better harvest and high prices of most of

**Figure 2.12: Agri-credit Disbursement as Percent of Target**



the agri-produce enabled farmers to generate own resources (amid improved cash flow) instead of bank borrowing. It is also important to note that a decline in agri-credit in NWFP and Balochistan, in contrast with Punjab and Sindh, also indicates that poor law & order and security concerns also had an adverse impact on agriculture sector.

**Figure 2.13: Bank's Contribution in Agri-credit Disbursement Growth**




An institution-wise break up suggests that almost all institutions witnessed slowdown in agri-credit growth during FY09 (see **Figure 2.13**), except MCB and NBP. The acceleration in credit by MCB is principally attributed to its increasing exposure to lending for developmental loans in recent years, particularly to food processing units. In case of NBP, the acceleration is mere a base effect disbursements by NBP suspended lending operations for few months during FY08. The principal drag to agri-credit growth emanated from declines registered by Bank Al-Habib, Bank of Punjab and Bank Al-Falah. It is interesting to note that these private banks received major hit by the liquidity crunch in October-November 2008, which reinforces the view that a major driver of slowdown in agri-credit growth was liquidity shortages and subsequent risk averse behavior of these banks.

The performance of specialized institutions for agriculture credit (ZTBL and PPCBL) remained lackluster during FY09, primarily due to a continued decline in the disbursement by PPCBL. Though, growth in disbursement by ZTBL also decelerated, it remained strong at 12.2 percent during FY09 compared with 18.5 percent in FY08. A relatively better performance of ZTBL compared with other institutions is primarily attributed to its emphasis on a revolving credit scheme.

**Table 2.7: Province-wise Agri-Credit Disbursement**

| | billion rupees | | | Growth % | |
|---|---|---|---|---|---|
| **Province** | **FY07** | **FY08** | **FY09** | **FY08** | **FY09** |
| Punjab | 141.3 | 176.4 | 196.1 | 24.8 | 11.2 |
| Sindh | 18.6 | 24.7 | 27.6 | 32.4 | 12.0 |
| NWFP | 7.9 | 9.1 | 7.9 | 15.1 | -13.3 |
| Balochistan | 0.4 | 0.7 | 0.6 | 68.6 | -16.8 |
| AJK | 0.3 | 0.5 | 0.6 | 40.9 | 12.1 |
| Northern Areas | 0.2 | 0.3 | 0.3 | 19.2 | 11.0 |
| **Total** | **168.8** | **211.6** | **233.0** | **25.3** | **10.1** |

Weakness in disbursement growth also came from security issues and mass evacuation of IDPs from NWFP and tribal areas that reduced number of borrowers as well as agri-credit disbursement declined by 13.3 percent in FY09 compared with 15.1 percent rise seen in FY08 (see **Table 2.7**). This decline shared by both production and development loans. Although agri-credit disbursement also witnessed negative growth in Balochistan, this was due to fall in production loans. Encouragingly, developmental loans increased by 4.6 percent in Balochistan.

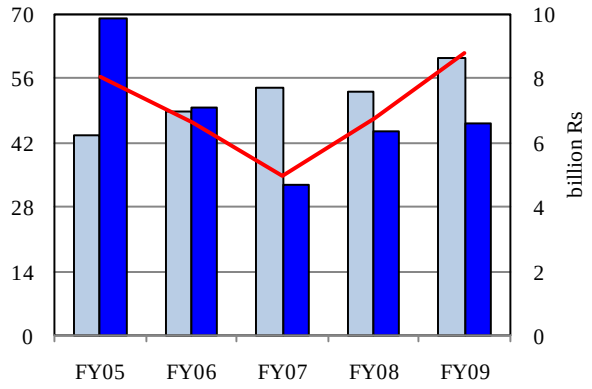
**Table 2.8: Purpose-wise Institutional Breakup of Agriculture Credit**

| | Production loan | | Percent growth | Development loan | | Percent growth |
|---|---|---|---|---|---|---|
| | **FY08** | **FY09** | | **FY08** | **FY09** | |
| 5 large CBs | 89.7 | 102.8 | 14.6 | 5.0 | 7.9 | 56.5 |
| DPBs | 39.6 | 39 | -1.6 | 4.3 | 2.6 | -39 |
| ZTBL | 56.8 | 62.3 | 9.6 | 10.1 | 12.9 | 27.3 |
| PPCBL | 5.1 | 5.2 | 1.9 | 0.8 | 0.3 | -57.1 |
| Total | 191.3 | 209.3 | 9.4 | 20.2 | 23.7 | 17.2 |

Similarly, growth of aggregate development loans accelerated to 17.2 percent in FY09 compared with 10.2 percent in FY08, mainly due to extended financing in green tractor scheme (10,000 tractors disbursed in Punjab), and loans for livestock, dairy and poultry sectors. This growth is attributed to

higher disbursement growth of 56.5 percent by CBs in FY09 as against decline of 43.1 percent in FY08. The major contribution came from MCB (financed food processing units in Sindh) and ABL (financed dairy sector in Punjab and in tractors). In case of DPBs, Faysal Bank (financed storage, silos and dairy) and Bank of Khyber (financed livestock & poultry) contributed in disbursement growth for development purpose during FY09 (see **Table 2.8**).

**Figure 2.14: Tractor's Sale and Financing**



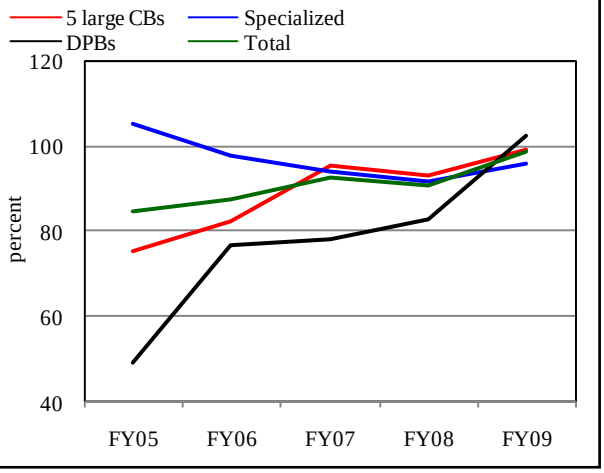

Within development loans, a significant increase in the number of borrowers and disbursement for tractors was registered during FY09 mainly due to green tractor scheme launched in Punjab (see **Figure 2.14**). Although investment in tractor and storage is a welcome development, there is also need for investment in infrastructure, tube-wells as well as in production and distribution of high quality seeds to achieve potential growth in agriculture sector.

It is heartening to note that the major impetus to FY09 disbursement growth in farm sector came from small farmers (subsistence and economic farm holdings), while disbursement to above economic holdings dropped. Although, disbursements to corporate farming increased during the year, its share remains negligible. There is a need to promote corporate farming due to positive externalities associated with it. In addition, market for agriculture credit is quite large and basic issues of access to institutional credit and absence of collateral (pass book) are major hindrance in expansion of agri-credit market, particularly towards small farmers. Similarly, lack of trained staff in agri-credit field, attractive and innovative financial products for farmers, complex and lengthy documentation are some factors which force farmers to keep away from institutional borrowings.

**Table 2.9: Non-Farm Sector Credit Disbursement**

| Sectors | No. of borrowers (000s) | | | Amount disbursed (billion Rupees) | | |
|---|---|---|---|---|---|---|
| | **FY08** | **FY09** | **Change (%)** | **FY08** | **FY09** | **Change (%)** |
| Livestock | 81597 | 84709 | 3.8 | 17.4 | 22.2 | 28.1 |
| Poultry | 1510 | 1988 | 31.7 | 31.4 | 38.2 | 21.7 |
| Fisheries | 1145 | 333 | -70.9 | 0.8 | 0.7 | -18.8 |
| Others | 6164 | 10283 | 66.8 | 2.4 | 2.1 | -10.1 |
| Total | 90420 | 97329 | 7.6 | 51.9 | 63.2 | 21.8 |

**Figure 2.15: Agri-credit Recovery as Percent of Disbursement**




**Non-Farm Sector Credit Disbursement**

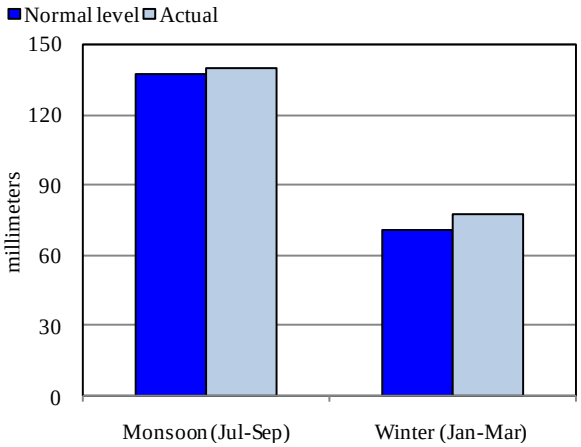
Agriculture credit disbursement to both farm and non-farm sectors slowed to 6.3 and 21.8 percent during FY09 compared with 14.5 and 76.5 percent in FY08 respectively. In case of non-farm sector, livestock and poultry sectors show strong growth during FY09 (see **Table 2.9**). Major impetus to poultry sector credit disbursement was from breeding farms, feeding mills and high-tech hatcheries with environment control system. Share of disbursement in livestock increased by1.6 percentage points to 35.1 percent in the total

non- form credit disbursement; however poultry remained the largest borrower in non-farm sub-group.

**Agri-credit Recovery**

Agri-credit recovery as percent of disbursement improved by a substantial 8.1 percentage points during FY09 to 98.7 percent this improvement appears to be impressive, particularly given a decline of 1.8 percentage points a year earlier as well as rising NPLs of the banking system. Improved agri-credit recovery attributed to higher income from wheat and rice crops, enabling the farming sector to repay credit, as well as efforts by the banks under revolving credit schemes. The improvement in recovery ratio was achieved by all banking groups, however the rise is more pronounced in the case of DPBs (see **Figure 2.15**), reflecting the impact of a relative slowdown in disbursements and aggressive recovery drive amid liquidity crunch. This observation is also supported by the fact that significant increase in recovery ratio witnessed by Bank Al-Falah, Bank of Punjab, Bank Al-Habib and Soneri Bank; banks that were severely hit by liquidity crisis during H1-FY09. However, an above 100 percent recovery ratio by MCB, NBP and UBL is commendable given their large shares in agri credit market.[18] Given rising NPLs of the banking system, strong recovery ratios of agriculture sector suggest that this sector has one of the least risky borrowers. This bodes well for the growth of agriculture credit in the years ahead.

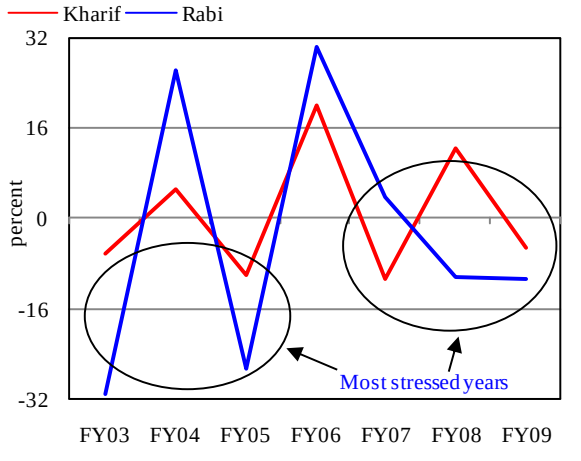
**Figure 2.16: Rainfall in Two Cropping Seasons During FY09**




**2.2.6 Water Availability**

Despite 2.2 percent higher monsoon and 10.4 percent higher winter rains than normal levels in FY09 (see **Figure 2.16**), irrigation water availability decreased in both the *kharif* and *rabi* seasons compared with the last year. This was the result of fall in water storage capacity and poor management. Irrigation water availability declined by 11.3 percent in FY09 on top of 4.7 percent fall seen in last year. During *kharif* FY09, the water availability declined by 5.5 percent over last year and 0.3 percent lower than the normal levels.[19] Water availability declined by 10.6 percent in *rabi* FY09 and shortfall relative to normal *rabi* levels increased to 31.5 percent from 23.4 percent in the corresponding season of FY08 (see **Figure 2.17**).

**Figure 2.17: Irrigation Water Availability Trend**




Water storage declined from 5.94 MAF as on 30th June, 2008 to only 3.3 MAF on June 30, 2009, in the key reservoirs i.e., Tarbela and Mangla. In particular, Tarbela dam almost touched the dead storage level by end of FY09 in contrast to 100 feet level from the dead level point in FY08. The

[18] Combined share of MCB, UBL and NBP is 30.6 percent in agri-credit disbursement.
[19] Normal level for *rabi* is 36.4 MAF and for *kharif* is 67.1 MAF.

situation in Mangla dam was comparatively better where water storage benchmarks were encouraging in FY09 when compared with FY08 (see **Figure 2.18**).

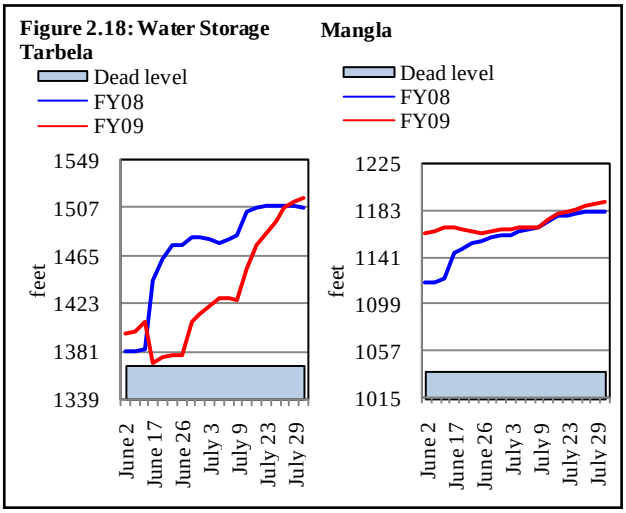



**Figure 2.18: Water Storage**

Slowdown in water storage in the month of June 2009, crucial for *kharif* cultivation, could be indicative to the vulnerability of water retention in the current reservoirs in the face of dwindling glacial resources[20] and inconsistent monsoons. It may be pointed out here that global warming may result in higher consumption of water and weaker monsoons that could trigger severe water shortages in future.

Despite the fact that glacial melt in the upstream accounts for about 70 percent[21] of the river Indus water inflows recorded at Tarbela, monsoons are crucial to the gradual filing up of the dams, going forward. In this backdrop, there is a strong need to replenish the current reservoir capacity with improvement and replacement of dams.[22] In addition, continued slowdown in irrigation water availability in both major cropping seasons, country has to improve water storage capacity, besides improving water efficiency[23] with enhancing per unit water productivity; in order to meet the rising food and fiber needs.

Recent rains in catchment areas of Indus in July 2009 enhanced water level at Tarbela by 0.6 percent (YoY) to1516 feet by the end of July 2009. Similarly, Mangla dam increased its water storage by 0.9 percent (YoY) to 1192 feet by the end of July 2009. The impact of monsoons in the Chenab (river) catchment areas was also visible in the form of inflows closed to last year suggesting that the negative impact of Baglihar dam water retention was partially offset due to rains (see **Figure 2.19**) .

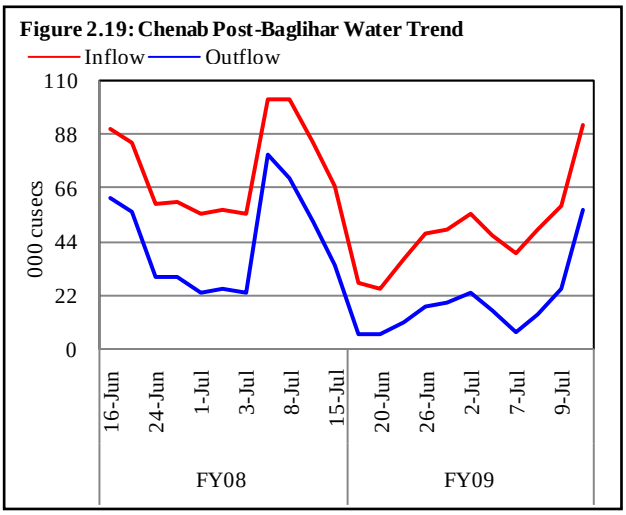



**Figure 2.19: Chenab Post-Baglihar Water Trend**

**Outlook**

Agri-sector growth prospect for FY10 seems positive, as prevailing higher prices of major

[20] Global Warming and melting of glaciers along southern slopes of HKH ranges; Pakistan Journal of Meteorology; Volume 5, Issue 9.

[21] Amir, Pervaiz (2005), *"The Role of Large Dams in The Indus Basin"*, Background Paper No. 10 in Briscoe, John and Usman Qamar (2006), Pakistan's Water Economy, The World Bank-Oxford, Islamabad. However, a recent study estimated this level at 90 percent; for details see: Majeed, Abdul, Tajdar Hussain and Malik Rizwan Asghar, (2009), *"Long and medium range forecast for inflow at Tarbela"*; Pakistan Journal of Meteorology; Volume 5, Issue 10, January.2009.

[22] Silting in dams overtime eats up the reservoir capacity justifying new dams along the river course

[23] A study (by Water Watch, February 2003) concluded that in spite of favorable conditions of soil, irrigation water and climate, agriculture in Pakistan suffers from under-utilizing its potential resources, resulting in unnecessarily low yield per hectare and per unit of water consumed. Water demand exceeds water availability; therefore, the only remedy is to achieve higher food and feed production per unit of water consumed. This study is available at http://www.waterwatch.nl/fileadmin/bestanden/Project/Asia/0053_PK_2002_CropWaterProductivity.pdf

agriculture produce may encourage farmers to increase cropping area. In addition, relatively lower prices of DAP and stable prices of urea are likely to help boost yields.

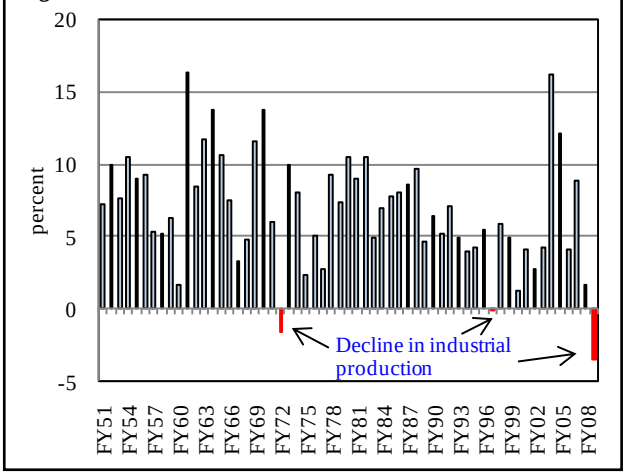
Specifically, drag in rice may be lower than anticipated as farmers brought more area under rice after delayed but substantial monsoon rains. Similarly, sugarcane crop is likely to benefit from the recent rains and farmers optimism due to significant rise in sugar prices in recent months. Similarly, cotton output is likely to see a respectable growth during FY10 on the back of conducive weather conditions and increased use of Bt cotton. Wheat outcome will largely be dependent on weather, but low fertilizer prices and high domestic prices of wheat will help achieve another bumper crop.

It is important to note that SBP has set an indicative target of agri-credit disbursement at Rs 260 billion for FY10, 11.6 percent higher than the actual disbursement during FY09. Availability of finance will help farmers to use quality inputs including fertilizer in appropriate quantum to raise yield. SBP with the coordination of other financial institutions is also working on national crop insurance scheme, simplification of agri-credit procedure, encouraging group based lending for small farmers, as well as, introducing Islamic agri-credit products to expand the size of the agri-credit market.

## 2.3 Industry

Pakistan's industrial sector witnessed its worst-ever performance during FY09, with production dropping by 3.6 percent in contrast to the 5.5 percent CAGR recorded in the previous ten years. Indeed, overall industrial growth has been in the red only twice in Pakistan's history and this is by far the largest (see **Figure 2.20**).

**Figure 2.20: Historical Industrial Growth**




The exceptionally poor FY09 industrial growth performance was caused principally by domestic developments. Structural problems took their toll in the form of severe energy shortages, the circular debt issue, etc., even as the economy was hit by a deterioration in security and law and order situation, and lower demand for major consumer durable goods as real incomes weakened and credit contracted. To make things worse, net global economic contraction (first time since 1930s) did not allow export-based industries to compensate for depressed domestic demand. Also, prevalent macroeconomic imbalances did not allow room for monetary or fiscal stimulus to support domestic industries.

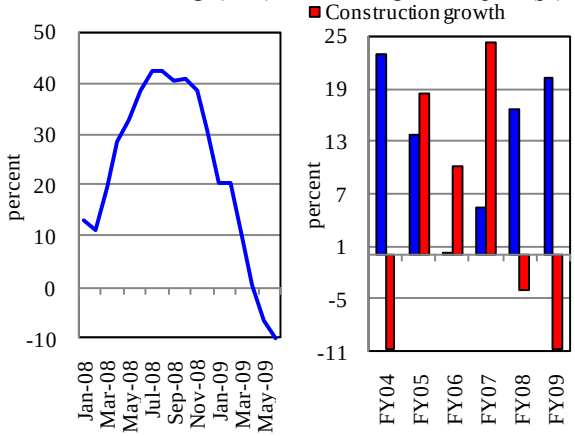
Aside from mining & quarrying, value-addition by all the sub-sectors including manufacturing, construction, and electricity & gas distribution registered decline during the year. A large part of the drop in industrial production was explained by a record downslide in production of large scale manufacturing (LSM) sub-sector which typically constitutes about 50 percent of industrial value-addition to GDP. However, the decline in construction industry was also significant and continued slump in value-addition of electricity & gas distribution sub-sector also contributed to the downfall in industrial production.

### 2.3.1 Construction

The construction industry, which constitutes around 2.4 percent of GDP, registered a decline of 10.8 percent in FY09 – the largest fall in 37 years. The drag by construction sector to the growth of GDP

and industry in FY09 was significant at (-) 0.3 and (-) 1.0 percentage points respectively. Construction industry in FY09 had to put up with sharp increase in building material prices index during the first eight months of the year (see **Figure 2.21**), significant cut in disbursement of PSDP funds and dearth of financing facilities which caused the construction activities to shrink significantly. Not surprisingly, almost all other indicators of construction growth also paint a gloomy picture (see **Table 2.10**).

**Figure 2.21: Wholesale Building Material Prices Change (YoY)**



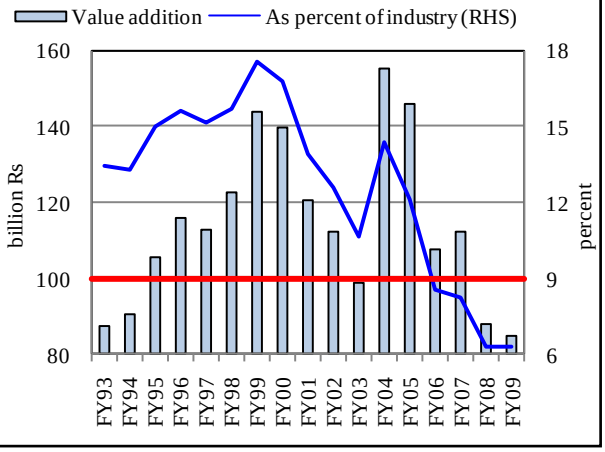

The weakening construction activity is a source of disquiet especially from the perspective of employment generation among unskilled labor force and therefore for poverty alleviation. According to data provided by Economic Survey of Pakistan FY09, almost 3.3 million people were employed in construction sector in FY08 and the number for rural areas (2.2 million) is twice that of urban (1.1 million). Moreover, construction sector is also strongly associated with the growth in a number of manufacturing industries including cement, metals, glass, paints, etc.

**Table 2.10: Construction -Performance Indicators**

| | Unit | FY06 | FY07 | FY08 | FY09 |
|---|---|---|---|---|---|
| Value added by construction industry | billion Rupees | 108.2 | 134.5 | 129.2 | 115.3 |
| PSDP | -do- | 365.0 | 433.7 | 451.9 | 363** |
| Gross fixed investment | -do- | 19.4 | 26.8 | 21.3 | 19.8 |
| Private credit for construction (flow) | -do- | 10.6 | 13.0 | 24.7 | -8.7 |
| Wholesale building material price change | period average | 0.3 | 5.4 | 16.6 | 20.2 |
| Foreign direct investment * | million US Dollar | 132.0 | 194.4 | 193.2 | 130.4 |
| Workers' remittances | -do- | 4588 | 5491 | 6448 | 7811 |
| Iron and steel production | 000 tons | 8524.3 | 9435.2 | 8238.7 | 5975.2 |
| Import of iron & steel scrap | 000 tons | 1363.3 | 1492.7 | 2229.7 | 2234.7 |
| Import of iron & steel | 000 tons | 2598.9 | 2086.7 | 2220.2 | 2040.6 |
| Import of construction & mining machinery | million Rupees | 189.8 | 222.0 | 260.7 | 276.9 |
| Domestic cement dispatches | million tons | 16.9 | 21.0 | 22.4 | 19.4 |

* It includes the FDI in construction, cement, metal, basic metal and ceramics groups. ** Quick Estimate Finance Division

**Figure 2.22: Electricity & Gas Distribution's Value Addition to GDP**




However, there are some hopes of a recovery in construction activities in FY10 keeping in view the weakness in building material prices.[24] The expectation of this recovery is further supported by higher PSDP allocations in the FY10 budget, expected initiation of

[24] There exists a strong association of construction growth with building material prices (correlation coefficient of 0.67 between FY05-09).

power projects and reconstruction activity in Swat Valley, as well as the impact of the recent easing of monetary policy.

### 2.3.2 Electricity & Gas Distribution

The electricity & gas distribution sector failed to recover from last year's decline in value-addition to record a further fall of 3.7 percent during FY09 (see **Figure 2.22**).
The decline in value-addition was partly due to significant reduction of investment in expansion of transmission and distribution system during the year (see **Figure 2.23**).
The shortage of both electricity and gas may have barred the government from investing in laying new lines. However the major drag on value addition came from lack of investment in up-gradation of existing system that has contributed to decrease in earnings of distribution companies.

Specifically, line losses and theft of both sources of energy mainly contributed to low earnings of distribution companies. At the same time economically unfeasible low regulated tariffs for the products of distribution companies, low production of electricity due to circular debt problem (thermal power) and water shortages (hydel power) have also contributed to the weakening financial position of the distribution companies.

**Figure 2.23: Investment Trends in Electricity and Gas Distribution Sector**

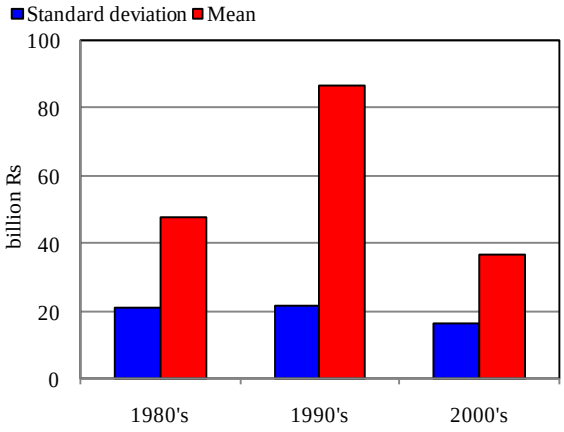
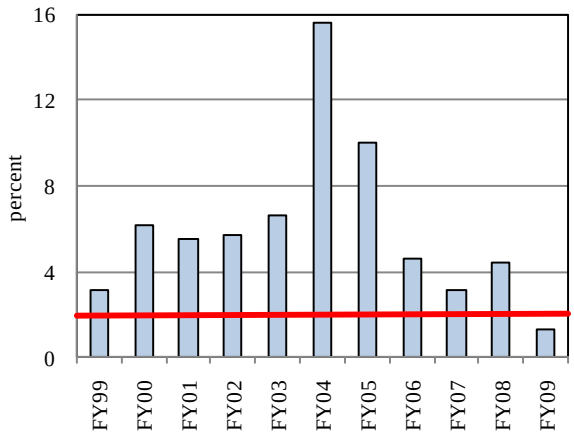



**Figure 2.24: Production Growth in Mining and Quarrying**




### 2.3.3 Mining & Quarrying

The recovery seen in mining & quarrying sector during FY08 proved short-lived as the sector continued its downtrend in FY09 with growth declining by 3.1 percentage points. While some deceleration was expected given the unfavorable security situation in resource-rich areas and moderating demand from user industries; mechanical problems in the major oil exploratory company and natural decline in oil and gas wells also put a dent on the sector's growth. As a result, the growth in mining & quarrying activities during FY09 turned out to be the lowest in 11 years (see **Figure 2.24**).

**Table 2.11: Minerals Production**

| | | Production | | Growth % | |
|---|---|---|---|---|---|
| *Items* | *Unit* | **FY08** | **FY09** | **FY08** | **FY09** |
| Natural gas | mmcft | 1453781 | 1460678 | 2.9 | 0.5 |
| Crude oil | 000 brls | 25339 | 24032 | 3.0 | -5.2 |
| Coal | 000 tons | 4118 | 3515 | 11.2 | -14.6 |
| Marble | 000 tons | 1583 | 1127 | -20.1 | -28.8 |
| Rock salt | 000 tons | 1849 | 1919 | -1.2 | 3.8 |
| Limestone | 000 tons | 32619 | 33505 | 27.9 | 2.7 |
| Gypsum | 000 tons | 832 | 800 | 33.5 | -3.8 |
| Silica sand | 000 tons | 403 | 369 | 0.2 | -8.4 |
| Dolomite | 000 tons | 360 | 252 | 7.5 | -30.0 |
| Sulphur | 000 tons | 31 | 28 | 19.2 | -9.7 |
| Chromites | 000 tons | 110 | 66 | 4.8 | -40.0 |
| Barytes | 000 tons | 53 | 61 | 12.8 | 15.1 |

The slowdown in the sector during FY09 was broad-based as growth in most of the sub-sectors slowed down or remained negative. The sharpest deceleration was seen in extraction of coal, limestone, and gypsum, whereas extraction of natural gas and crude oil increased only marginally (see **Table 2.11**). Moreover, the YoY decline in marble extraction for the second consecutive year calls

for an immediate policy response given the significant contribution of this sector in foreign exchange earnings.[25]

Pakistan has vast untapped resources of minerals especially in the province of Baluchistan. According to an estimate, 600,000 sq kilometers of non-crop area shows geological potential for a number of metallic as well as non-metallic minerals. Exploration activities as well as various geological surveys have confirmed the presence of metallic minerals like copper, iron, lead, gold, silver, platinum, chromites, and zinc. Despite this huge potential, Pakistan imports billions of dollars worth of various minerals. In addition, there is a vast export potential for various industrial minerals including multi-colored granite, marble and other gems and stones of high quality.

So far, most of the investment is seen in petroleum sector from both domestic and foreign sources. The competitive procedural and price incentives offered in the petroleum production and exploration Policy during FY09 is expected to attract more investment towards the country's untapped petroleum resources. Other mining activities also attracted sizable investments recently as evident from the double digit growth in real investment in the sector in preceding five years. More importantly, continued foreign investment in oil extraction and other mining activities in the country exhibits positive outlook of the sector especially at the time when other sectors are unable to attract foreign investment amid political uncertainty and unfavorable security situation in the country.[26]

**Figure 2.25: Slaughtering and Meat Production Growth (Relation)**

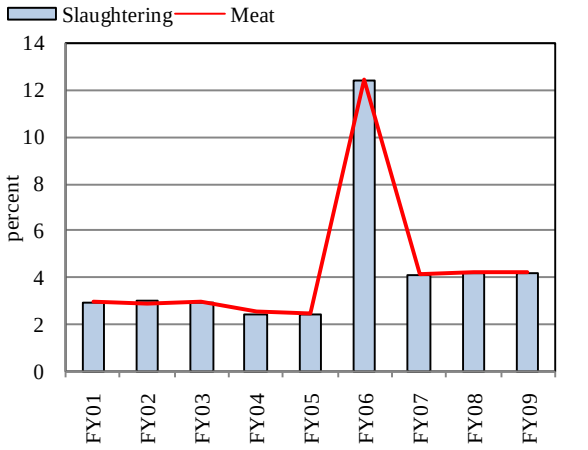
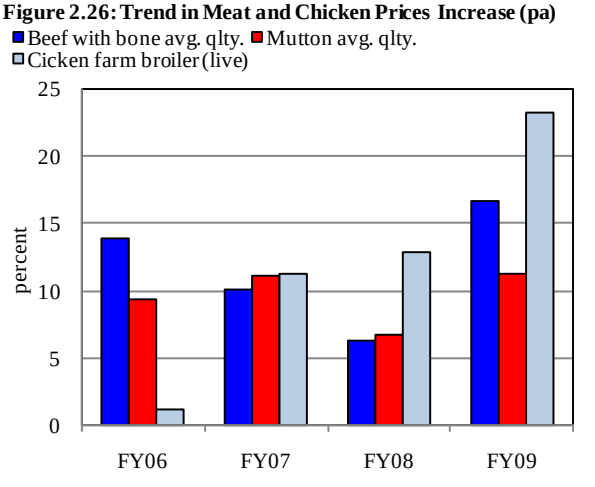



**Figure 2.26: Trend in Meat and Chicken Prices Increase (pa)**




### 2.3.4 Manufacturing

The production in manufacturing sector posted first-ever decline in FY09. The entire decline stemmed from the large-scale manufacturing (LSM) as the small scale manufacturing (SSM) and slaughtering activities showed respectable growth.

**Small Scale Manufacturing (SSM)**

It is important to note that despite a sharp contraction in LSM production, SSM recorded a healthy growth of 7.5 percent during FY09. Since FBS applies a constant growth method this application of growth rate calculation is not meaningful.

**Slaughtering**

This sector continued to grow at the FY08 growth of 4.2 percent, probably reflecting the

[25] The sector contributed around US$ 14 million from exports during 2008 (UN ComTrade data). Due to security situation in some of the Northern Areas, over 300 mining units have reportedly remained closed this year.

[26] The prospects for coal mining are also bright: a two-billion-dollar Thar coalfield project outspreading over 175 billion tons of good quality lignite deposits is underway (Planning Commission, Annual Plan 2009-10). The government of Pakistan envisions the initiation of the one-billion-Dollar Reko Dik copper-gold project in Balochistan by 2010 having annual output of 0.3 million tons. Also in the tribal areas, the PMDC and FATA Development Authority have jointly undertaken the ambitious plan of mapping copper reserves.

strong domestic demand (see **Figure 2.25**) resulting in rising prices (see **Figure 2.26**).
Given the importance of backward and forward linkages of the industry and huge unutilized potential of horizontal and vertical expansion in the industry, slaughtering sector has good growth prospects. The sector may get impetus from the public sector initiatives to prevent different diseases of animal breeds raised for meat purposes. At the same time, to protect the poultry sector, Ministry of Livestock and Dairy Development has launched a program for control and prevention of avian influenza. Government has also allowed the import of good quality breed animals.

In addition, trade policy 2009-12 has announced incentives for slaughtering industry to enhance the export of meat and leather products. The policy also outlines the need for a *Halal* Certification Board with the collaboration of the Ministry of Science & Technology. In the meantime, the government will finance half the amount of fee paid to obtain such certification from international agencies. Although, the current production of meat largely caters to domestic demand, the government's recent emphasis on development of the livestock sector and farmers' interest in the same due to its income incentives, could lead to exportable surpluses in years ahead. Moreover, the slaughtering sector's forward linkages with leather industry (the third important agri-based contributor to exports after textiles and rice) are also significant.

**Table 2.12: LSM Performance During FY09 by End Use and Selected Industries**

| | | Growth | |
|---|---|---|---|
| | **Weight** | **Of group** | **LSM excl. this group** |
| Basic goods | 2.8 | 21.0 | 8.5 |
| Consumer | 45.5 | -14.9 | 0.4 |
| Non-durables | 39.6 | -3.4 | -11.0 |
| Durables | 5.9 | -39.8 | -1.3 |
| Intermediate goods | 48.8 | 1.3 | -14.2 |
| Capital goods | 3.0 | -14.7 | -7.9 |
| *Durables & sugar* | *11.4* | -34.9 | 1.5 |
| *Durables, sugar & ghee* | *16.4* | -30.7 | 2.0 |
| **All exporting industries*** | 42.3 | 1.9 | -14.7 |
| **Overall LSM** | 100.0 | -8.18 | |

*Includes textiles, leather, non-metallic minerals, plywood, HCL and razor blades

**Large-Scale Manufacturing (LSM)**
Within LSM, the production in export-based industries was relatively stable indicating that the major causative factors for the broad-based decline in LSM were largely domestic (see **Table 2.12**). Weakened domestic demand caused by high inflation and depressed consumer credit market, reduction in most energy-related subsidies, slowdown in public sector development programs, and energy shortages were important factors disrupting LSM growth during FY09. As a result, capacity utilization in major industries remained low (see **Table 2.13**), corporate earnings declined and investment prospects became bleak. Some resource-based industries, including sugar and edible oil sectors, suffered heavily on account of lower availability and/or higher prices of key inputs.

**Table 2.13: Capacity Utilization in Major Industries**

| | **FY08** | **FY09** |
|---|---|---|
| Spindles[1] (Jul-Mar) | 89.0 | 89.0 |
| Rotors[2](Jul-Mar) | 60.0 | 60.0 |
| Coke (Pak steel) (Jul-May) | 30.0 | 43.0 |
| Pig iron (Pak steel) (Jul-May) | 81.0 | 66.0 |
| Cars and jeeps[3] | 60.5 | 31 |
| Trucks | 17.5 | 11.0 |
| Buses | 22.9 | 13.1 |
| Tractors | 82.5 | 92.5 |
| Motorcycles | 62.2 | 54.0 |
| Cement | 81.5 | 73.7 |
| Refineries[4] | 89.5 | 81.9 |

[1],[2]: Source: Economic Survey 2008-09, [3]based on annual capacity with single shift, [4]: based on refining capacities reported in Pakistan Energy Yearbook 2008

The decline in manufacturing production was heavily concentrated in consumer durable and sugar industries. Although production in almost all other industries decelerated, overall growth however remained by and large positive during FY09. Therefore, excluding sugar and consumer durables from the index, the LSM index shows a slight increase of 0.7 percent in FY09.

**Demand for consumer durables declined**
The sharp growth in consumer durable industries over the past few years was principally driven by

rising income and access to cheap consumer finance. However, deceleration in economic growth and rise in global commodity prices over the past two years possibly eroded the real incomes of consumers. The rise in lending rates and decline in real incomes together suppressed the repayment capacity of the borrowers resulting in rise in NPLs on consumer loans in recent years (see **Figure 2.27**). In response, banks tightened appraisal processes which resulted in limited supply of consumer loans. Together the limited availability of bank loans and increase in borrowing cost during the year caused significant weakening in the demand that resulted in a sharp decline in production and import of electronics and automobiles (see **Table 2.14**).

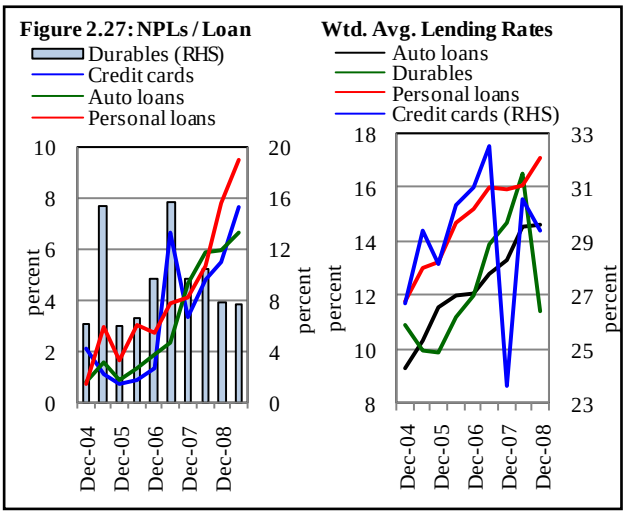



**Table 2.14: Production and Trade of Major Manufacturing Goods**[1]

| Growth (%) in industries producing exportable surplus | | | | | | Growth (%) in industries competing with imports | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Production | | Exports | | | | Production | | Imports | |
| | Adj. wt | FY08 | FY09 | FY08 | FY09 | | Adj. | FY08 | FY09 | FY08 | FY09 |
| **Textile** | 32.623 | 2.08 | -0.01 | | | **Automobile**[2] | 5.27 | -3.12 | -39.58 | | |
| Cotton yarn | 17.404 | 2.44 | -0.04 | -17.4 | -5.3 | Cars (CBUs) | 3.375 | -7.26 | -48.74 | -23.9 | -64.7 |
| Cotton cloth | 10.056 | 3.95 | 0.05 | -7.76 | -7.69 | **Electronics** | 3.31 | -4.0 | -34.46 | | |
| Cotton ginned | 4.486 | -9.35 | 1.44 | 21.1 | 43.1 | Refrigerators | 0.78 | 7.8 | -7.05 | 43.9 | -71.9 |
| **Leather** | 3.03 | 4.75 | 4.69 | | | Deep freezers | 0.53 | -9.78 | -9.32 | 46.0 | 22.1 |
| Upper leather | 1.49 | 11.52 | -9.21 | -82.1 | 27.2 | TV | 0.3 | 17.65 | -44.90 | 23.5 | -36.7 |
| Sole leather | | -21.43 | 58.59 | 32.2 | 6.4 | AC | 0.1 | -1.05 | -52.99 | 16.4 | -49.8 |
| Leather footwear | 0.69 | 9.06 | 15.46 | | | **Fertilizers** | 4.506 | -2.43 | 18.89 | 35.1 | -45 |
| **Pharmaceuticals** | 6.7 | 24.74 | 1.85 | -2.69 | 0 | **Paper** | 0.799 | **-3.55** | **-0.94** | 2.4 | -11.4 |
| **Ply-wood** | 0.04 | 17.6 | 33.72 | -14.9 | 229.5 | **Rubber** | 0.404 | -7.15 | 5.6 | -12.2 | -40.9 |
| **Non-metallic** | 5.58 | 17.39 | 6.2 | | | **Food** | 19.12 | 8.47 | -9.39 | 55.3 | -1.8 |
| Cement | 5.52 | 17.64 | 6.15 | 175.7 | 27.8 | Sugar | 5.52 | 34.2 | -32.61 | -93.7 | 245.0 |
| Glass sheet | 0.07 | -1.35 | 10.37 | -90.4 | 105.4 | **POL** | 6.97 | 5.99 | -9.2 | 18.2 | 4.6 |
| **Chemicals** | 1.532 | 8.4 | 6.5 | | | **Metal** | 4.66 | **-9.53** | **-9.57** | | |
| Matches | 0.551 | 9.55 | 3.09 | -4.4 | -10.7 | Coke | 2.14 | -10.83 | 45.62 | 34.3 | -29.3 |
| HCL | 0.659 | 5.8 | 11.1 | 9.4 | 57.9 | Pig iron | 1.91 | -1.53 | -20.37 | -15.6 | 4.2 |
| Paints & varnishes | 0.322 | 8.4 | 11.5 | -34.6 | -17.0 | **Chemicals** | 4.86 | 0.1 | -2.6 | | |
| **Engineering** | 0.594 | 11.64 | -5.06 | | | Synthetic resin | 2.55 | -2.7 | -6.5 | | |
| Safety razor blades | 0.346 | -3.98 | 9.36 | 12.1 | 1.5 | Caustic soda | 0.97 | 2.5 | -1.6 | 17.0 | -32.5 |

[1] Trade data reported in this table is the most recent available for different commodities. For major categories, the data pertains to Jul-June whereas for sub-categories the data pertains to Jul-Mar as 8-digist HS code data is available up to Jul-Mar FY09.
[2] Import value data has been used for automobiles, since quantum data was not available. For other industries, quantum data has been used.

Perhaps the decline in demand for consumer durables would have been less had the prices of these items not increased both in domestic and international markets. Specifically, the domestic prices of cars increased during FY09 despite, (a) the lesser competition from imported cars following the increase in import duty on CBUs; (b) the decline in duty on CKDs in Budget 2008-09; and (c) decline in international copper prices. However, the impact of these developments did not pass through to the retail prices of cars; instead, prices of cars and motorcycles increased during FY09 due to (a) the

imposition of five percent FED on car sales; and (b) sharp depreciation of rupee against the yen that did not allow production cost to decline.

Automobile companies did take a hit on their profit margins, yet the increase in car prices could not be avoided. Similarly, prices of electronic items (including refrigerators, air-conditioners, etc) also continued to increase despite depressed demand (see **Figure 2.28**). Higher prices were due to rise in production cost arising from depreciating rupee during FY09. The increase in prices and frequent power disruptions were additional factors weakening the demand for electronic items during the year.

**Figure 2.28: Changes in Prices and Production of Electronics**

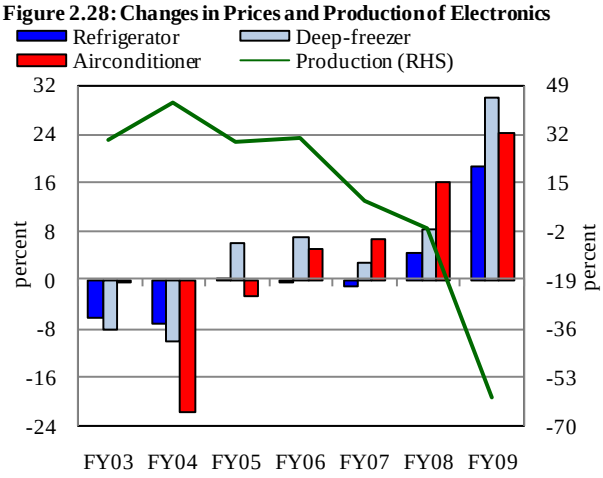
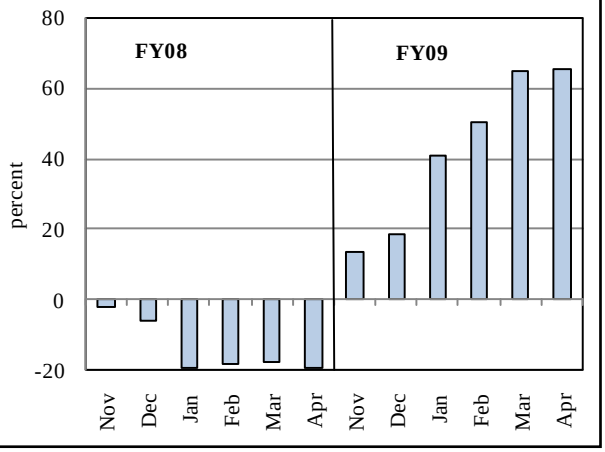



**Figure 2.29: Sugarcane Price Change (YoY) During Harvesting Season**




**Low sugarcane price in FY08 hurt FY09 sugar production**

Sugar industry depends heavily on the sugarcane crop (basic raw material for sugar industry in Pakistan), which in turn depends on timely beginning of crushing season, prices, payments received by the farmers in the preceding season from sugar mills, and expected prices for the next season. Generally sugarcane prices go down in case of a good crop (see **Figure 2.29**) which although helps to increase sugar production in that year nevertheless it sets the stage for lower sugarcane crop in the following year. Moreover, if sugar mills do not make timely payments, farmers get discouraged to grow the crop. Thus when sugarcane prices during harvesting season of FY08 declined due to a record crop, the area under cultivation for FY09 harvesting season declined sharply (by 18 percent). Resultantly, sugar production declined by 32.5 percent during FY09. Due to lower production, the domestic sugar requirements were fulfilled through imports.[27]

**Table 2.15: Demand Analysis of Major POL Products** (percent)

| | Production | | Sale | | Imports* | |
|---|---|---|---|---|---|---|
| | FY08 | FY09 | FY08 | FY09 | FY08 | FY09 |
| HSD | 10.1 | -8.5 | 13.2 | -7.2 | 32.5 | -14.2 |
| Furnace oil | 3.0 | -7.1 | 1.6 | 6.5 | -3.7 | 10.6 |
| Motor spirit** | 10.1 | -3.9 | 26.5 | 4.4 | 117193 | -8.7 |
| Other | -4.1 | -13.5 | -7.9 | 2.7 | 56.6 | 146.1 |

*Based on Jul-Mar data. **The import of motor spirit in FY08 was 0.12 million metric tons against nil imports in FY07.

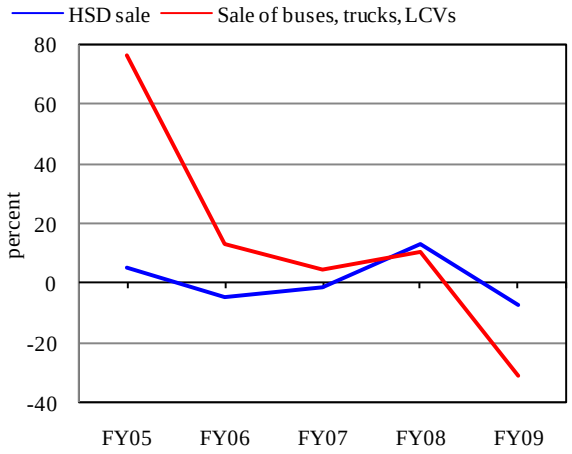
**Mixed trend in demand for POL products**

The production of POL products declined sharply during FY09 compared with an increase observed in the preceding year. The liquidity shortage stemming from circular debt issue did not allow domestic refineries to import sufficient crude oil during the year. As a result, capacity utilization in all refineries remained low throughout the year.

[27] Pakistan imported 1,266,000 MT of sugar during FY09 compared with 367,000 MT during FY08.

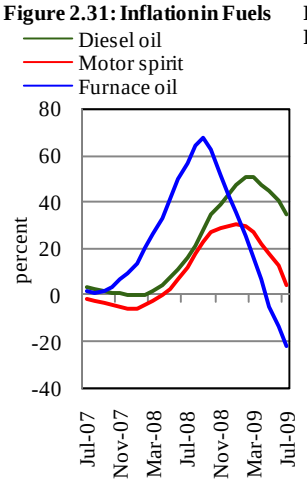
Although the decline in POL production was common across all POL products; the sales of a few POL products increased substantially during FY09 (see **Table 2.15**). Consumption of high speed diesel (HSD) declined during FY09, mainly due to lower production and sales of LCVs and trucks, suppressed transport activities related with the production and trading in commodity producing sector, as well as, rising domestic prices of diesel (see **Figure 2.30**).

**Figure 2.30: HSD Demand Growth Relation**

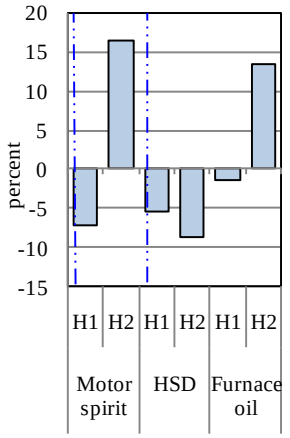



In contrast, the consumption of furnace oil increased during the year mainly on the back of a sharp decline in prices during FY09. Due to low domestic production, the demand for furnace oil was met largely through increase in imports. Sale of motor spirit also increased slightly during FY09; although recorded sharp deceleration from FY08. While the deceleration was mainly due to lower sales of cars and motorcycles during the year, a rise in sales during H2-FY09 is a function of a significant decline in the prices of motor spirit in this period. The import-based inventories of motor spirit supplied mainly for higher sales in FY09 as production and imports both declined during the year. It is interesting to see that sales of both furnace oil and motor spirit picked up only in second half of FY09 when price pressures eased on these items (see **Figure 2.31**).

**Figure 2.31: Inflation in Fuels**




**Half-Yearly Sale of Major POL Products**




**Textile slowed further despite a better cotton crop**

Textile sector production declined for the first time in last 12 years. Ginning activities remained strong due to better cotton crop during the year (see **Table 2.16**). Production of cotton yarn declined due to low export demand amid recession in advanced economies as well as operational bottlenecks to local industries. Production of jute goods remained strong, evident in demand for sacking – driven by packaging of wheat. On the other hand, manufacture of Hessian fabric (largely used as carpet-backing) plummeted as carpet production came to a standstill owing to a drop in exports.

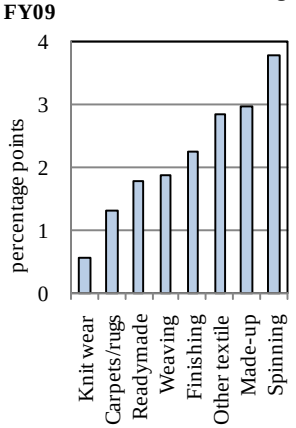
**Table 2.16: Growth in Textile Industry** (percent)

| | Weights. | FY07 | FY08 | FY09 |
|---|---|---|---|---|
| **Textile** | **100.0** | **9.1** | **2.1** | **0.0** |
| Cotton yarn | 53.4 | 11.7 | 2.4 | 0.0 |
| Cotton cloth | 30.8 | 8.2 | 4.0 | 0.1 |
| Cotton ginning | 13.8 | -1.2 | -9.4 | 1.4 |
| Woolen & carpet yarn | 1.3 | 7.3 | 9.6 | -18.9 |
| Jute goods | 0.7 | 13.0 | 9.3 | 6.5 |
| Knitting wool | 0.1 | 4.1 | 1.3 | -16.0 |

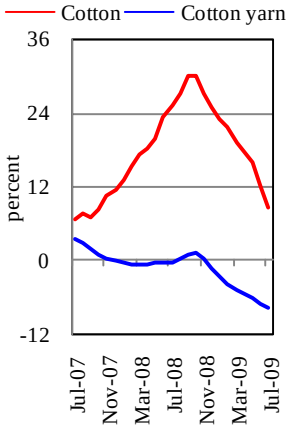
The operational environment for domestic textile industry was far from favorable. On the one hand, increasing cotton prices and electricity and gas tariffs during the year increased the input cost of textile industry; and on the other, a sharp rise in lending rates did not allow textile companies to borrow from the banks. As a result, despite higher working capital requirements, textile sector actually retired (on net basis) bank loans during FY09. The spinning sector suffered most as this sector depends heavily on bank finance for the procurement

of raw-material. This sector, being largely ineligible for subsidized EFS loans, saw the sharpest increase in lending rates during FY09 (see **Figure 2.32**). Making things worse, the domestic yarn prices remained depressed throughout the year. As a result, spinning companies reported net losses in sharp contrast to other textile sub-sectors that reported higher profits based on exchange gains on export business.

**Figure 2.32: Increase in Lending Rates for Textile Sector During FY09**

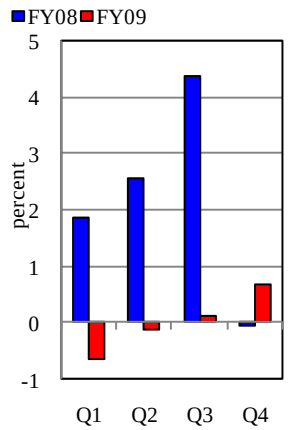



**Input Output Prices of Spinning Sector**

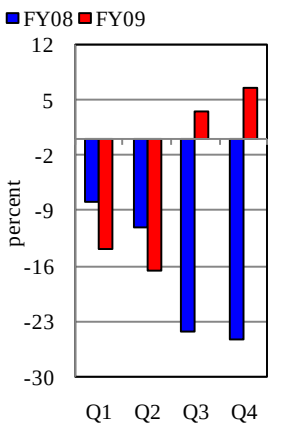



Nonetheless, the decline in yarn prices during H2-FY09 proved somewhat beneficial for textile sector. Specifically, decline in textile production was concentrated only in the first half of FY09 as the second half saw a slight increase in production (see **Figure 2.33**). The increase in production during H2-FY09 coincided with increase in exports of cotton yarn following a decline in unit prices.

**Figure 2.33: Quarterly Growth in Textiles**




**Quarterly Growth of Quantum Yarn Exports**




Production of cotton cloth during FY09 was more or less the same as in FY08. It is disquieting that despite huge depreciation of rupee against the US dollar as well as export subsidies available to the industry, the competitiveness of Pakistani cloth and other textiles remained low. For instance, due to the ongoing recession, US imports from Pakistan dropped sharply by 9.8 percent. US imports from India and China also declined but the magnitude of decline was quite lower (3.5 percent and 6.5 percent, respectively). This was perhaps due to frequent energy slippages and domestic security issues that hindered exporters from meeting buyers' timeline and not allowing major improvement in export orders. Moreover, it appears that domestic textile exporters are losing ground against regional competitors because of negative country image, lack of research and product development and extensive subsidies provided to the regional counterparts. In this regard, the recently announced textile policy provides numerous opportunities to the domestic textile sector to modernize and upgrade itself to increase competitiveness in high-value added products. The policy includes various measures including the priority in gas allocation as in case of fertilizer, lowering of export finance rates, relief on existing long-term loans and skill-development in the sector.

**Weakening construction affecting cement and metal industries**

A sharp increase in building material prices caused weakening in domestic construction activities, which in turn affected the associated industries including cement and metal. As shown in **Figure 2.34**, the decline in cement dispatches during FY09 was entirely driven by lower sales in the local market. Exports growth decelerated but remained strong during the year.

It is important to note that decline in dispatches was witnessed in north zone alone (which constitutes almost 80 percent of production capacity) as the local dispatches in south zone increased modestly. Security concerns in the northern part of the country, a lower growth in development expenditures and a sharp increase in building material prices caused weakening in domestic construction activities. As a result of low demand, capacity utilization in the cement industry remained low.

Price of cement has started to decline especially H2-FY09 onwards due to lower demand as well as declining coal prices that eased off some cost pressures (see **Figure 2.35**). Financial position of major cement companies has also consolidated driven by exchange gains on export business. Construction related activities are also likely to rebound with the start of construction work mainly at energy related projects and rehabilitation of displaced people along with rebuilding infrastructure of insurgency hit areas.

Metal prices remained high through most of FY09 due to boom in global commodity prices (see **Figure 2.36**). Moreover, a cut in

**Figure 2.34: Contribution to Growth in Cement Dispatches**

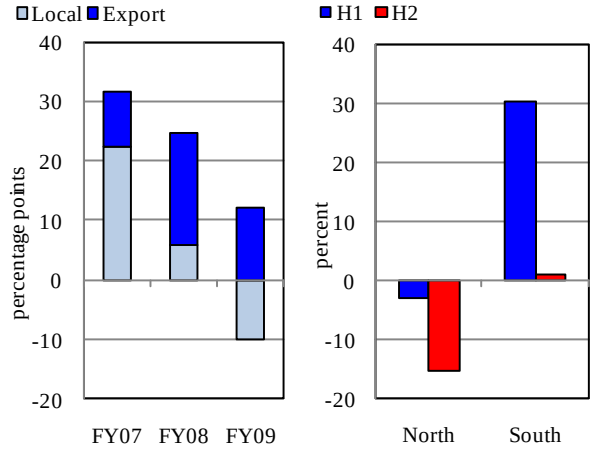



**Figure 2.35: Improving Financial Position of Cement Manufacturers: Prices of Input and Output**

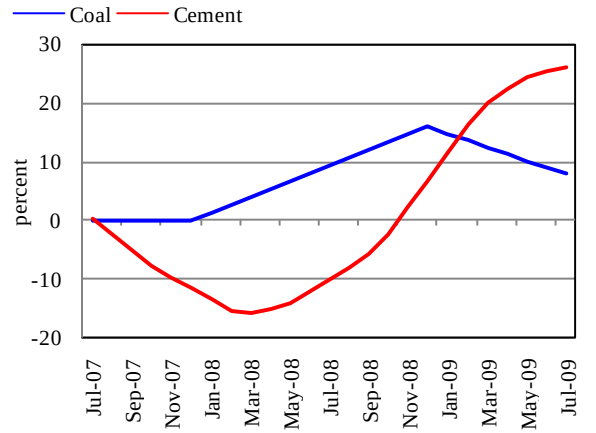
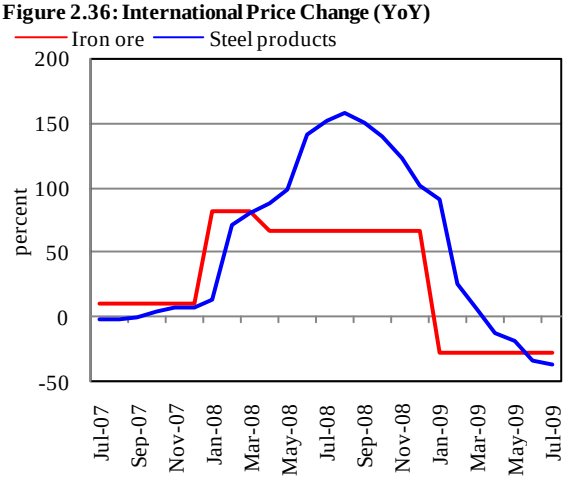
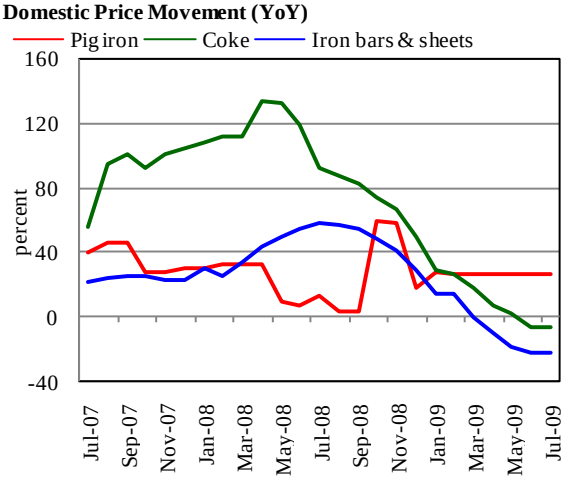



**Figure 2.36: International Price Change (YoY)**



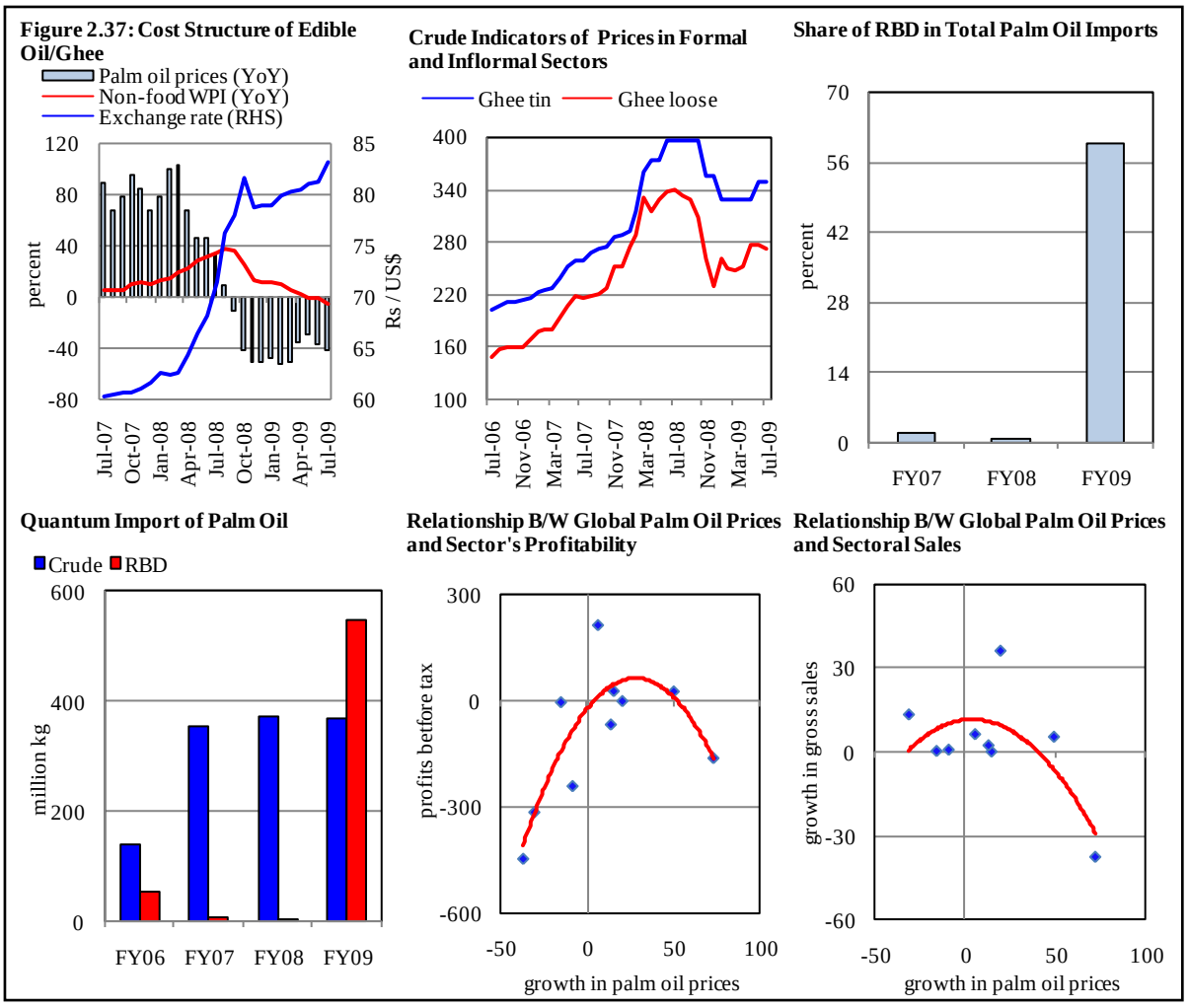

**Domestic Price Movement (YoY)**




PSDP during FY09 meant that public sector construction activities remained low during the year. As a result, production as well as imports of metals declined FY09. Energy shortages also caused sharp productivity losses in metal re-rolling units.

**Decline in edible oil/ghee production despite strong demand**

Production of edible oil and ghee declined for the second consecutive year. However, the decline in domestic production during FY08 and FY09 was based on different grounds. Specifically, the decline in production of edible oil/ghee in FY08 was due to a sharp increase in international palm oil prices which caused a decline in consumption of edible oil/ghee in the domestic economy. Anecdotal evidence suggested some substitution of edible oil/ghee consumption from the formal sector towards the informal sector. This substitution was driven by price differential as manufacturers in the formal sector were quick in passing on higher input cost on to retail prices. However, by end of FY08, prices in the formal and informal sector had converged; leaving no room for further substitution. With the start of FY09, palm oil prices eased off in the international market. However, the simultaneous




depreciation of rupee had off set much of the decline in import price (see **Figure 2.37**).

Higher domestic manufacturing cost including energy outlays and wage expenses also did not allow edible oil/ghee manufacturers to reduce domestic prices significantly. Even the price of loose ghee could not fall below the prices observed at end FY08 (when international palm oil price was at record high level). As a result, demand for locally produced edible oil/ghee declined and consumption of imported edible oil/ghee increased during FY09. Specifically, the import of crude palm oil declined substantially during the year and import of refined-bleached- and deodorized (RBD) increased sharply.

The share of RBD palm oil reached to 60 percent of total palm oil imports in FY09 compared with only two percent in the preceding two years. The balance sheet data of edible oil/ghee industries for previous eight years also shows that whenever input cost increases substantially, the domestic sales as well as profitability of the sector decline.

**Declining Investment demand affected capital goods industries**

Heightened security risk in the country, increase in interest rates, high and volatile inflation, sharp depreciation of rupee and declining corporate earnings led to a decline in investment demand for capital goods in FY09. As a result, production (as well as import) capital goods declined sharply during the year. The decline in capital goods industries was broad-based. In particular, low capacity utilization in textile industry and weak demand reduced the production of textile machinery including power looms, shuttles and bobbins. Sugar industry is also facing excess capacity issues causing a decline in production of sugarcane machines. On the contrary, despite a huge demand for up-gradation in power distribution sector, investments in power sector remained negligible over the past few years. This caused a decline in production of power-related capital goods (electric meters, for instance) in the country. Production of agriculture-based capital goods increased slightly, especially wheat thrashers, mainly due to better crop.

**Construction boom in Afghanistan provided some support to other exporting industries**

Other export-based industries mainly include construction-related industries like paints, glass sheets and wood industries. The construction boom in Afghanistan caused exports sharply of construction-related goods from Pakistan to rise. This is the main reason why despite the decline in domestic construction activities, construction-allied industries (plywood and glass sheets) showed respectable growth[28].

**Outlook**

From the discussion above, it is clear that the performance of industrial sector during FY09 was affected largely by power shortages, poor law & order situation, as well as depressed domestic demand. The external demand also remained low mainly due to global recession. Therefore, it appears that any recovery going forward would largely depend on resolution of power crisis, improvement in security situation and pick-up in demand. In this regard, it is encouraging to see that inflationary pressures began easing H2-FY09 onwards on the back of the central bank's tight monetary stance upto the third quarter of FY09, efforts of fiscal consolidation particularly government's firm commitment to adhere to recourse financing from the central bank, as well as decline in international commodity prices. A sharp slide in inflation also allowed SBP to ease monetary policy in April and August 2009. If this trend in inflation continues and the real incomes of domestic consumers improve, it is likely that the demand would revive in months ahead. Prospects of strengthening demand are further supported by the fiscal stimulus announced in Budget 2009-10. From the supply-side, energy slippages would largely be contained going forward as (a) government is committed to resolve the circular-debt issue by end of CY2009; and (b) the electricity generating capacity of new power plants will be brought on line in next six to seven months. Finally, it is important to note that although global recession had an adverse impact on export demand; a possible recovery in the world economy does not guarantee a revival in export based industries. This is because even before the recession hit the global economy, domestic exports were facing competitiveness issues based on structural weaknesses. Therefore, the local industries must focus on removing setbacks like low market and product diversification, lack of research and development, absence of vertical integration, etc. to make domestic products more competitive in the international markets.

[28] Aggregate exports of paints and varnishes showed a net decline of 15.9 percent. However, the entire decline came from paints based on polyamides which constituted around 9 percent of total paints exports on average during FY07-FY09. Excluding this category, exports of paints show a respectable growth of 21.1 percent during Jul-Mar FY09.

## 2.4 Services

Services sector grew by 3.6 percent during FY09; lowest growth in the preceding eight years (see **Table 2.17**). Moreover, services sector missed its growth target for the second consecutive year in FY09; however the magnitude of slippage in FY09 was significantly higher than that observed in FY08 (see **Figure 2.38**). More importantly, the slowdown was not only sharp compared to high growth in recent years; it was evident in most of the major sub-sectors.

**Table 2.17: Services Sector Performance**

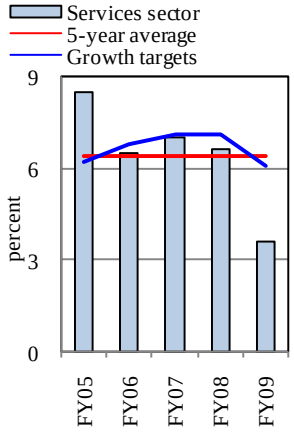
percent

| | Growth | | Share in GDP | |
|---|---|---|---|---|
| | FY08 | FY09 | FY08 | FY09 |
| **Services sector** | **6.6** | **3.6** | **53.0** | **53.8** |
| Wholesale & retail trade | 5.3 | 3.1 | 17.3 | 17.5 |
| Transport storage & comm. | 5.7 | 2.9 | 10.2 | 10.3 |
| Finance and insurance | 12.9 | -1.2 | 6.4 | 6.2 |
| Ownership of dwellings | 3.5 | 3.5 | 2.7 | 2.7 |
| Public admin & defense | 1.2 | 5.0 | 5.9 | 6.1 |
| Social & personal services | 10.0 | 7.3 | 10.6 | 11.1 |

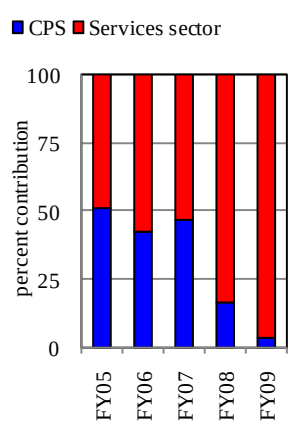
Source: FBS

Though weakening activities in industrial sector slowed down the pace of *wholesale & retail* trade; major setback to services sector growth came from sharp weakening in *transport, storage & communication* as well as decline in *finance & insurance*. Lower corporate earnings due to stiff competition and increased taxation on cellular communication caused slowdown in communications sub-sector; whereas, rise in NPLs (that caused a sharp rise in provisioning expenses) and capital market instability in H1-FY09 were major reasons for an abrupt decline in Value Addition (VA) of *finance & insurance*.

**Figure 2.38: Services Sector Growth**




**Contribution of CPS and Services in GDP Growth**




### 2.4.1 Distribution services-Wholesale & Retail Trade

The growth in wholesale & retail trade slowed down to 3.1 percent in FY09 as against 5.3 percent growth in FY08 (see **Table 2.18**). This slowdown is primarily attributed to decline in manufacturing and imports during the year, these two heads account for more than 60 percent of the value addition in wholesale & retail trade. As mentioned earlier, weak domestic demand caused sharp decline in manufacturing production as well as imports during the year.

The major impetus to trading activities came from above target production of both major and minor crops in FY09 (see **Figure 2.39**). Resultantly, the share of agriculture in value addition in distribution services increased to 23.1 percent in FY09 from 22.8 percent last year.

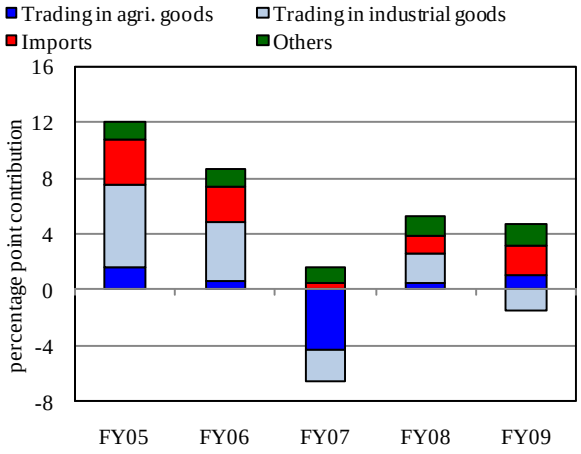
**Table 2.18: Indicators of Wholesale & Retail Trade (WRT)**

percent or mentioned otherwise

| | FY08 | FY09 |
|---|---|---|
| Share of WRT in GDP | 17.3 | 17.5 |
| Growth in value addition | 5.3 | 3.1 |
| Growth in agriculture | 1.1 | 4.7 |
| Growth in manufacturing | 1.7 | -3.6 |
| FDI in trade (million US$) | 175.5 | 165.7 |
| FDI in trade as percentage of total | 3.4 | 4.5 |
| Total re-exports of Pakistan (million US$) | 726.9 | 181.3 |
| Labor force in WRT (million people) | 14.4 | 14.6 |
| ***External trade*** | | |
| Trade volume (growth in value) | 24.2 | -10.9 |
| Export growth (value) | 12.2 | -6.7 |
| Import growth (value) | 30.9 | -12.9 |

Wholesale and retail trade promises immense untapped potential for growth. Important areas such as offshore trading, development of re-export oriented industries, development of retail chain stores, and avenues for foreign wholesale trade need urgent policy attention. Pakistan has a large domestic consumer market size;[29] utilizing the vast untapped potential for trading can impact employment generation, reduce market distortions as well as increase the contribution of distribution services in GDP.

**Figure 2.39: Composition of Growth in Distribution Services**




Distribution services contribute a major portion of national income in regional Asian economies like Singapore, Hong Kong, Taiwan and Vietnam. These economies have recorded sharp decline in external trade in 2008 and 2009 due to contraction in domestic demand, slowdown in exports and re-exports, decline in offshore trading and decrease in ship handling and bunkering. As a result, sharp slowdown was seen in distribution sector in these economies.

Unlike East Asian economies, VA in distribution services in Pakistan originates principally from the domestic wholesale & retail market. This is due to relatively low external trade penetration compared with a large domestic market in the country. As a result, the global recession on domestic distribution activities was relatively muted in Pakistan's case in FY09.

**Table 2.19: Transport Storage and Communication Sector**

| | Percent share in VA | | Growth in percent | |
|---|---|---|---|---|
| | FY08 | FY09 | FY08 | FY09 |
| Pakistan railways | -1.8 | -0.6 | -28.6 | -6.4 |
| Water transport | 7.3 | 7.9 | 12.6 | 6.4 |
| Air transport | -24.6 | -2.3 | -29.7 | -2.1 |
| Pipeline transport | -1.9 | -1.9 | -13.1 | -8.0 |
| Communication | 65.8 | 20.2 | 29.0 | 3.6 |
| Road transport | 52.9 | 74.7 | 4.1 | 2.9 |
| Storage | 2.3 | 2.0 | 4.5 | 1.9 |
| **Transport, storage & communication** | | | **5.7** | **2.9** |

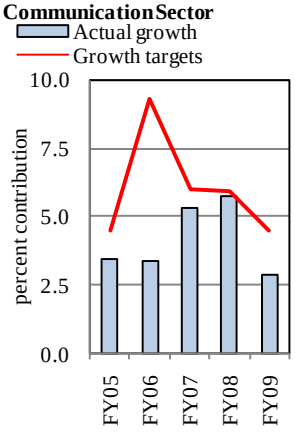
Source: FBS

### 2.4.2 Transport storage & communication

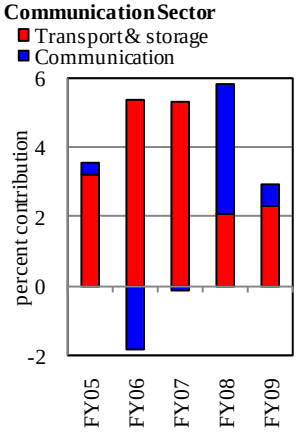
Value addition in *transport storage & communication* sector grew by 2.9 percent during FY09, significantly lower than 4.5 percent target for the year. The higher growth target for FY09 was set amid prospects of continuation in buoyant growth in communication and some improvement observed in air transport by the end of FY08.

However, communication sector (both mobile and fixed line) exhibited a lower than expected growth in FY09 and prospects of positive contribution in value addition from air transportation were also not realized. Water and road transport also could not keep up the pace of FY08. As a result, overall *transport, storage & communication* sector posted a weaker growth during FY09 relative

**Figure 2.40: Performance of Transport Storage & Communication Sector**




**Contribution to Growth in Transport Storage & Communication Sector**



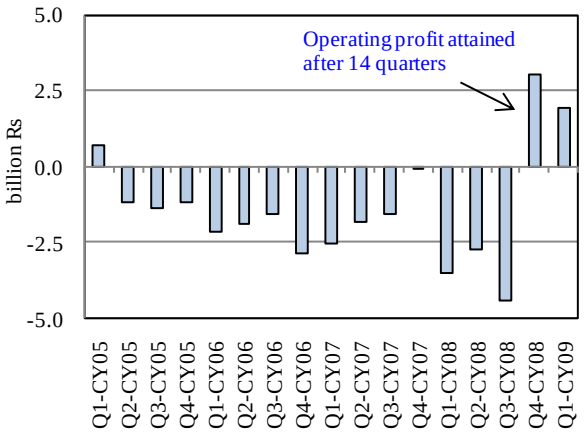

[29] Pakistan ranks 29 among 134 countries in d*omestic market size* (source: Global Competitiveness Report 2008-2009)

to target and actual growth seen last year (see **Table 2.19**).

*Transport and storage*

VA in transport consists of aggregate of VA from air transportation, ports and shipping, pipelines and mechanized and non-mechanized road transportation. In FY09, overall transportation posted a growth of 2.7 percent, compared with 2.2 percent growth in FY08. VA in transport in FY08 was held back due to sharp deceleration in water and road transport and a continued decline in railways, airlines and pipeline transport (see **Figure 2.40**).

**Figure 2.41: Operating Profit / (Loss) of Pakistan International Airlines (PIA)**




The magnitude of decline in value addition of airline transport was quite lower in FY09 compared with FY08. This relative improvement was principally due to decline in fuel prices, which helped domestic airlines to cut down their total expenses. In recent years, earnings of PIA have remained low due to rising debt servicing costs, rupee depreciation and high jet fuel costs. Financial statements of PIA for CY08 and Q1-CY09 exhibit marked improvement in contrast to the previous years; decline in jet fuel prices from Q2-FY09 onwards and rising revenues helped PIA post a better financial picture this year. Had it not for the high debt servicing cost in FY09, PIA would have posted a considerable positive VA in air transportation. This assessment is supported by the recent financial results of PIA (see **Figure 2.41**). Specifically, PIA posted an operational profit of Rs 0.62 billion in the first nine months of the fiscal year 2009, as against operational loss of Rs.3.11 billion in comparable period last year. The increase in total revenue and decline in expenses allowed PIA to report operational profit in Q4-CY08 (and also in Q1-CY09) after exhibiting 14 consecutive quarters of reported losses.

**Table 2.20: Selected Water, Road and Railways Indicators**

million rupees or otherwise stated

| | FY08* | FY09* |
|---|---|---|
| ***Pakistan National Shipping Corporation*** | | |
| Revenue | 2,025.6 | 2,841.8 |
| Expenditure | 867.6 | 1,231.8 |
| Fixed capital expenditure | 30.5 | 92.0 |
| Profit after tax | 706.4 | 944.5 |
| Earnings per share (Rs.) | 5.4 | 7.2 |
| ***Road transportation*** | | |
| High type roads (Km) | 174,320 | 176,589 |
| Low type roads (Km) | 84,030 | 81,761 |
| Total roads (Km) | 258,350 | 258,350 |
| ***Pakistan Railways*** | | |
| Gross earnings | 13,954.0 | 17,442.0 |
| Passengers carried (million) | 59.7 | 63.0 |
| Freight carried (million tons) | 5.2 | 5.4 |

*: Jul-Mar

Water transportation, though decelerated, posted a strong growth of 6.4 percent during FY09. Within shipping and port activities, bulk of value addition was contributed by PNSC, KPT, PQA and margins of shipping and forwarding agents. Pakistan National Shipping Corporation (PNSC) exhibited strong increase in chartering and service fees, which grew by 47.3 percent and 22.3 percent respectively in Jul-Mar FY09. Resultantly, total revenue of PNSC in Jul-Mar FY09 increased by 40.3 percent (see **Table 2.20**). Moving forward, given the substantial developmental expenditure on equipment in FY09 and induction of first Panamax oil tanker by PNSC, prospects of further growth from PNSC are optimistic.

Aggregate cargo handling activities witnessed a marginal decline in FY09 as a sharp fall in imports was largely offset by a strong surge in cargo handling of exports (see **Table 2.21**). While cargo

**Table 2.21: Cargo Handling at KPT and PQA**
percent or stated otherwise

| | | | | Growth |
|---|---|---|---|---|
| | | FY08 | FY09 | FY09 |
| KPT | Imports cargo (million tons) | 25.52 | 25.368 | -0.6 |
| | Exports cargo (million tons) | 11.68 | 13.364 | 14.5 |
| | Total cargo handling (million tons) | 37.19 | 38.732 | 4.1 |
| | TEUs (units) | 1,213,744 | 1,249,568 | 3.0 |
| PQA | Imports cargo (million tons) | 21.61 | 19.45 | -10.0 |
| | Exports cargo (million tons) | 4.82 | 5.58 | 15.9 |
| | Total cargo handling (million tons) | 26.42 | 25.03 | -5.3 |
| | TEUs (units) | 753,212 | 680,291 | -9.7 |
| KPT+PQA | Imports cargo (million tons) | 47.12 | 44.81 | -4.9 |
| | Exports cargo (million tons) | 16.49 | 18.95 | 14.9 |
| | Total cargo handling (million tons) | 63.62 | 63.76 | 0.2 |
| | TEUs (units) | 1,966,956 | 1,929,859 | -1.9 |

Source: KPT and PQA

handling at KPT witnessed a slight increase, it fell at PQA during FY09. Specifically, KPT handled cargo volume of 38.7 million tons in FY09, up by 4.4 percent. Cargo handling at PQA dropped by 5.3 percent in this period. It is important to note here that the expansion in the existing port facilities as well as rising activities at Gwadar suggest that the growth in water transport and storage would see strong growth going forward. In addition, storage activities in FY09 were positively impacted by increase in warehousing services for agricultural produce (mainly wheat, sugar and rice) and build up of fertilizer inventories in FY09.

In contrast to increased activities in shipping, port and air transport, value addition from Pakistan Railways (PR) declined further in FY09. Aggregate revenue of Pakistan Railways increased by 25 percent in FY09, however increase in total expenditure was greater than increase in revenues. Considerable decline in development spending in PR in FY09 was major reason holding back administrative reorganization in FY09. Pakistan Railways did not manage to curtail total expenditures even in the backdrop of declining fuel prices in FY09. Resultantly even after exhibiting increase in both freight and passenger traffic in FY09, VA from Pakistan Railways ended up in negative.

*Communications*

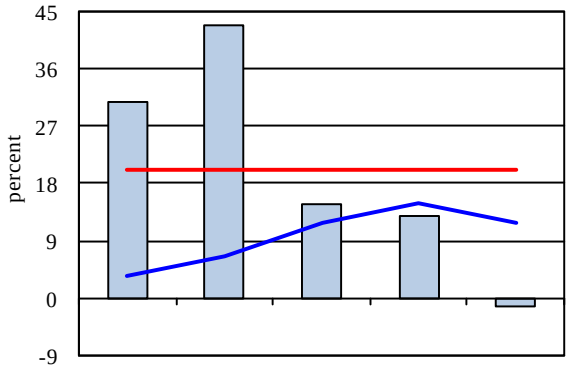
Value addition in communications emanates mainly from cellular, fixed (land) lines, postal and courier services. Mobile communication has exhibited significant growth in recent years and their contribution is about two-third of the total growth in transport, storage and communications in FY08. This strong growth was aided by inflow of foreign investment, growth in franchising services and the obvious fact that aggressive initiatives of mobile services providers were aimed at capturing the untapped market potential up to FY08. Cellular density as a percent of total population grew from 6.25 percent in July-2004 to 60.3 percent of the population by June 2009. Growth in cellular communications, however could not maintain its upward trend in FY09 mainly due to decline in the pace of foreign investment, saturation in cellular consumer market, and the impact of increased taxation. Average revenue per user (ARPU) per month which was US$ 9.1 in FY05, declined to US$ 3.1 at the start of FY09. Factoring in these adversities, value addition in mobile communications declined significantly in FY09; consequently the share of communications in overall sub-sector growth declined from 66 percent in FY08 to about 20 percent in FY09. Value addition by PTCL also exhibited decline in FY09, as total revenues of PTCL exhibited a larger slowdown in comparison to total expenditures. The slowdown in revenues is attributable to stiff competition in wireless, fixed and broadband consumer market. Consumer market share of PTCL therefore declined slightly.

Consequently, other communication service namely; LDI, broadband internet (wired and wireless), wireless local loop exhibited significant growth. Although contribution of these services in overall value addition in communications is still quite low, improvement in these services bodes well for the future expansion as well as stable and broad based growth in communications.

### 2.4.3 Finance & Insurance

Pakistan parried safely from the direct impacts of the global financial meltdown particularly on the domestic financial markets. This owes primarily to negligible exposure of Pakistan's financial markets with those in the advanced countries. However, in FY09 finance and insurance exhibited decline due to domestic economic and financial adversities such as imposition of floor in capital market and liquidity crisis during Q2-FY09.

**Figure 2.42: Performance of Finance and Insurance Sub-sector**



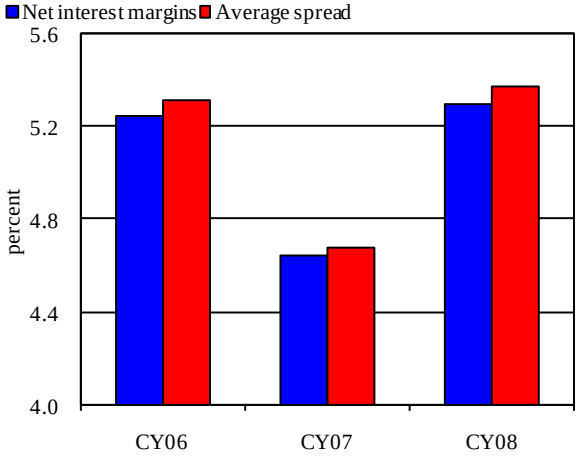

Value addition in *finance& insurance* sub-sector comprises of net earnings and increase in fixed investments of commercial banks, central bank, NBFIs (DFIs, leasing companies, investment banks, mutual funds etc), insurance companies and exchange companies. After an extended spell of strong growth, finance & insurance exhibited decline of 1.2 percent in FY09 (see **Figure 2.42**). Bulk of value addition in this sub-sector is composed of net earnings of commercial banks and SBP. Commercial banks' profitability in FY09 was adversely impacted by higher NPLs (mainly due to slowdown in economic activities), increase in banks' administrative expenses and lower earnings from financial investments. A strong increase in income from core activities exhibits the resilience of commercial banking, evidence of which can also be found in upbeat earning indicators; as net interest margins and average spread of the commercial banking industry in CY08 exhibited significant growth (see **Figure 2.43** and **Table 2.22**).

**Table 2.22: Performance of Commercial Bank**

percent growth or mentioned otherwise

| | billion Rupees | | Growth | |
|---|---|---|---|---|
| | **CY07** | **CY08** | **CY07** | **CY08** |
| Interest income | 382.1 | 481.6 | 21.6 | 26.1 |
| Non-interest income | 93.1 | 99.2 | 30.7 | 6.6 |
| **Total income** | 475.2 | 580.9 | 23.3 | 22.2 |
| Interest expense | 182.3 | 245.3 | 34.1 | 34.6 |
| Provisions for bad debts | 59.9 | 105.9 | 172.5 | 76.7 |
| Non-interest expense | 126.5 | 168.7 | 22.0 | 33.4 |
| **Total expenses** | 368.4 | 517.7 | 40.8 | 40.5 |
| **Profit (after tax)** | 73.1 | 43.3 | -12.9 | -40.8 |

**Figure 2.43: Commercial Banking Earning Indicators**



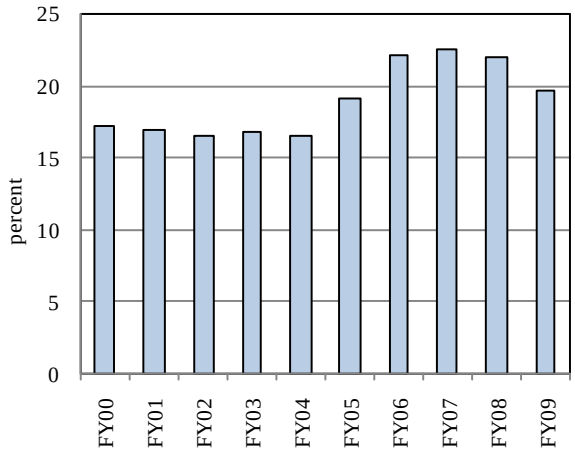

The earning of NBFIs in FY09 also remained low mainly due to heavy exposure of these institutions in capital market. Insurance and reinsurance however, showed respectable growth as these institutions have smaller exposure to capital market. Major insurance companies typically prefer investment in government securities.

## 2.5 Investment

Investment to GDP ratio declined for the

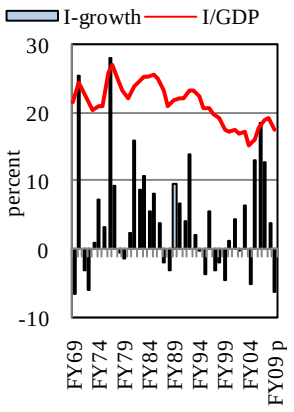
second consecutive year to 19.7 percent in FY09 due to heightened security risk and on-going power crisis (see **Figure 2.44**). Higher interest rates, increase in country risk premium, lower corporate earnings and further deterioration in macroeconomic stability in the initial months of FY09 were additional factors delaying investment decisions. The relative attractiveness of Pakistan as an investment destination was especially quite low from the perspective of foreign investors with already limited liquid resources to invest amid financial turmoil and a global recession. As a result, despite the huge untapped potential, private investments in the economy declined during FY09.

**Figure 2.44: Investment to GDP Ratio**

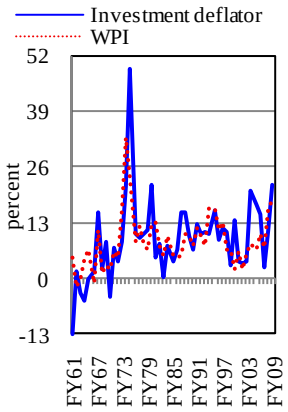



Moreover, fiscal constraints during the year also led public sector investment to decline. Fiscal measures were also responsible in slowing down private investments in one of the fastest growing sectors of the economy.[30] Resultantly, aggregate investments during FY09 declined by 6.5 percent; largest fall in 40 years (see **Figure 2.45**).

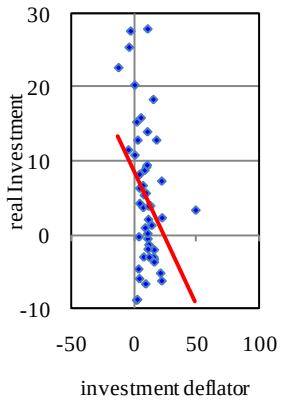
**Figure 2.45: Total Investment in Pakistan**



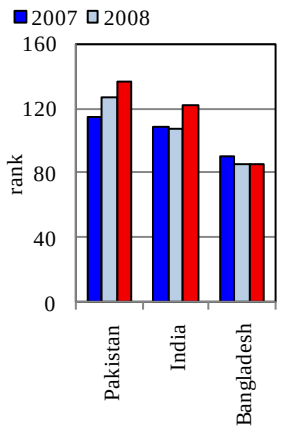

**Investment Deflator & WPI**




**Growth in Investment Deflator and Real Investment**



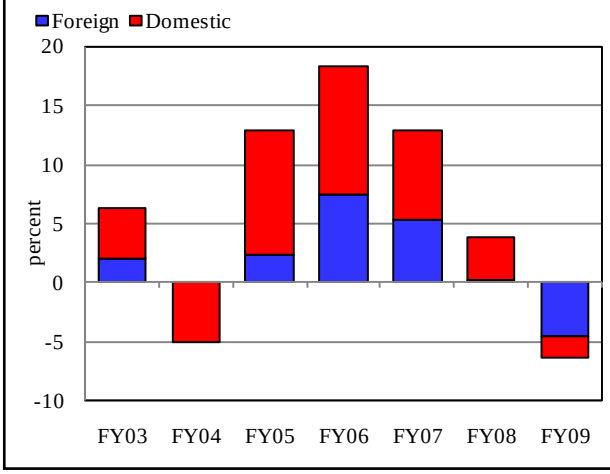

**Pakistan's Ranking in Peace Index**




(p) provisional

This situation is not only worrying for current year performance of the economy, more importantly it signals that recovery in economic activity will take longer time than envisaged earlier due to negative business sentiments prevailing in the private sector. Especially when government's tight fiscal space will make it very difficult to pursue an incentive structure for pushing the industrial revival. Therefore employment generation especially in urban areas and for educated youth will remain an uphill task at least in the coming two to three years. That has negative

**Figure 2.46: Source -wise Contribution to GFCF Growth**

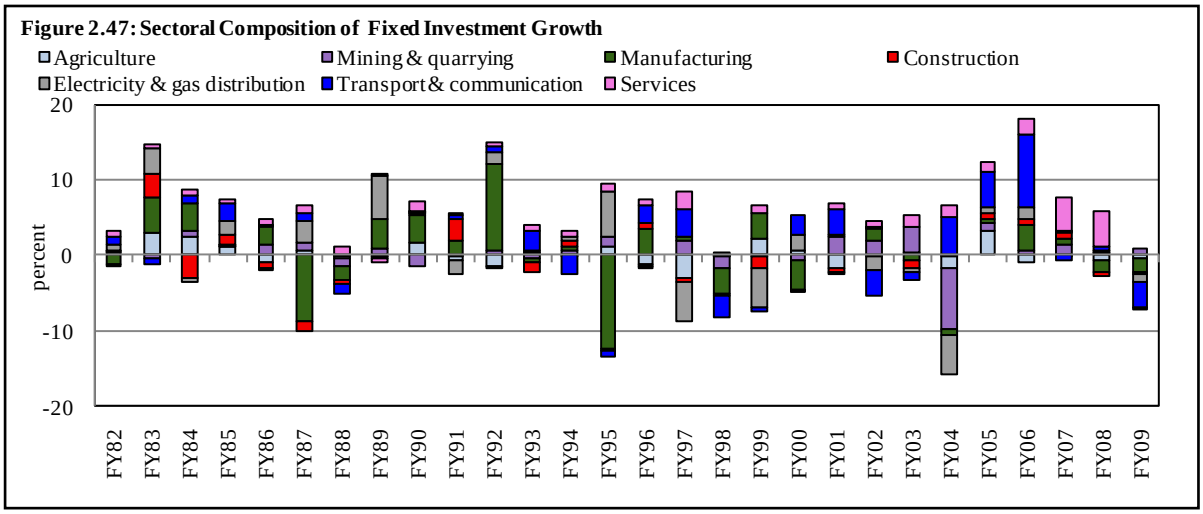



30 For example, increased taxes (FED and sales tax) on telecommunication services.

consequences for poverty reduction measures and achieving MDGs as well. Moreover, given the decline in investment demand as well as productivity in the industrial sector during FY08 and FY09, it appears that any demand pull stimulus to the economy going forward could create significant inflationary pressures. Decomposition of investments shows that most of the decline came from foreign investments as the domestic investments declined only marginally (see **Figure 2.46**). The decline in foreign investment in turn was due to both, unfavorable domestic conditions as well as global liquidity crunch. Pakistan's deteriorating (relative) performance in ease of doing business, especially in the category of starting up a new business[31] also contributed a part in the slowdown in foreign investment.

A detailed analysis of growth in gross fixed capital formation provides useful insights:

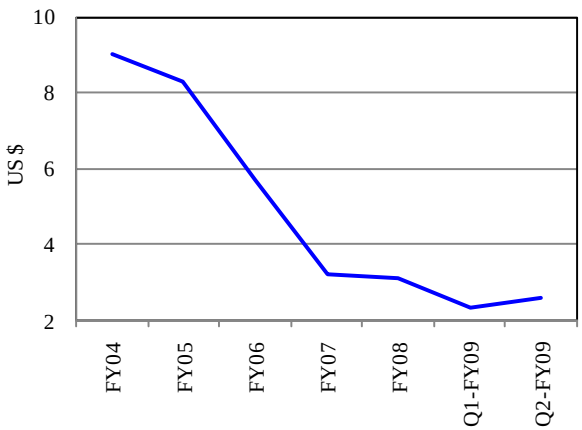
**Figure 2.47: Sectoral Composition of Fixed Investment Growth**




**(1) Telecom sector explains large part of the investment decline**

Financial sector and telecommunications were the two sectors that contributed most of the investment growth seen in the preceding five years (see **Figure 2.47**). In FY09, however, the decline in investment in transport and communication contributed most in decline in total investment. In fact, telecommunication sector (especially the cellular phone category) alone had a share of 35 percent (on average) in total FDI in the last five years. However, the stiff competition in this sector led to a decline in profits of cellular companies. Average revenue per user declined sharply in the last five years and revenue growth decelerated sharply (see **Figure 2.48**). According to PTA, most of the cellular operators dependent on foreign loans are operating in loss despite significant growth in revenues mainly due to depreciation of rupee.[32] Moreover, increase in FED/GST on cellular services from 15 percent to 21 percent in the Budget 2008-09 is considered as one of the major factors slowing the

**Figure 2.48: Average Revenue per User of Cellular Companies**



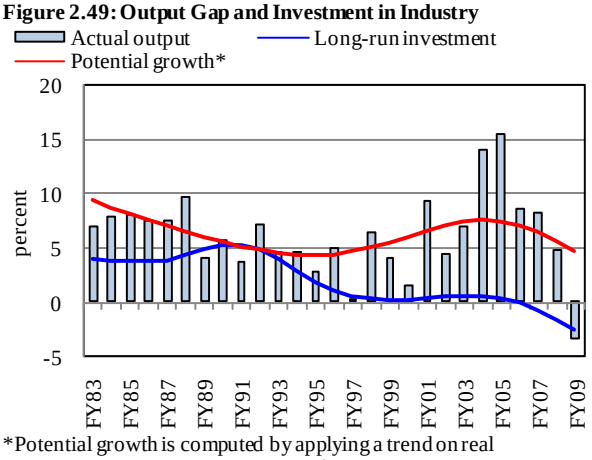

[31] Pakistan slipped down 18 ranks in ease of starting up a new business during 2009.
[32] U-fone is the only cellular company reported profits and not dependent on offshore loans. Source: Pakistan Telecommunication Authority Annual Report 2008.

growth rate in cellular subscribers, cellular density as well as the investment in the sector during FY09.[33]

**(2) Manufacturing investments declined for two years in a row**

Investment in manufacturing sector continued to decline for the second consecutive year. In fact, manufacturing sector had a negligible contribution in investment growth throughout the period FY01-FY09. Only in FY06, there were substantial capacity augmentations as the economy was heating up and capacity utilization increased sharply in a number of sectors. In contrast, the sector had a sizable contribution in overall economic growth during the same period. As such, the long-run view of the investment and output in manufacturing sector suggests that the sector has been producing more or less close to its potential throughout previous two decades; however, the investments remained largely unresponsive (see **Figure 2.49**).

**Figure 2.49: Output Gap and Investment in Industry**



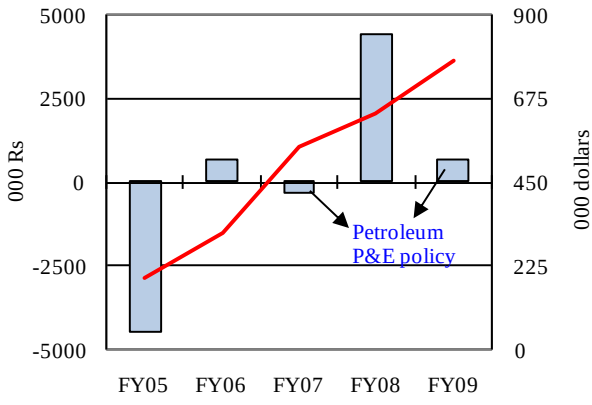

*Potential growth is computed by applying a trend on real GDP growth using Hodrick-Prescott filter.

In fact, manufacturing sector investments have observed a volatile path during FY81-09 due to frequent changes in investment policies for different sectors and lack of clarity in determining and developing priority sectors. However, the FY09 investments were especially low due to poor law & order condition, security concerns and liquidity shortages in the corporate sector during the year.

**(3) Higher investments in mining and quarrying**

The only sector that witnessed a positive growth in investment during FY09 was mining & quarrying. A sizeable amount of public mining investment went into oil and gas development this year, while several coal development projects are also underway. Moreover, the petroleum and gas sector has been attracting investment after the announcement of business-friendly P&E policies in 2007 and 2009 (see **Figure 2.50**). Foreign inflows in oil and gas exploration grew by 22.1 percent in FY09 compared with growth of 16.7 percent in the preceding year. Oil and Gas Development Company Limited (OGDCL), which owns a third of the country's total exploration acreage, further expanded its operations this year to 22 wells by April 2009. The company also expanded existing capacity with the acquisition of property, plant, and equipment worth Rs 4.8 billion during the first nine months of the current fiscal year.[34] Coal mining, however, did not keep pace with oil and gas. Anecdotal evidence suggests that public funds for coal development projects were underutilized due to unresolved royalty issues.

**Figure 2.50: Petroleum Exploration & Production**




[33] Pakistan Telecommunication Authority Quarterly Report December 2008.
[34] OGDCL, Interim Report and Financial Information, nine months ended 31st March 2009.

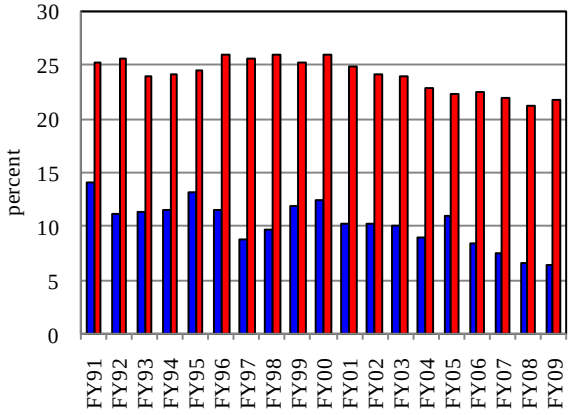
**(4) Private investments in construction sector remained strong**

Investment in construction sector declined for the second consecutive year after registering remarkable growth during FY04-07 (42.9 percent average). The decline in public sector investments was the sole contributor to the FY09 decline following the cut in PSDP (as the public development expenditure has strong correlation of 0.77 with investment growth during 2000s). Encouragingly, private sector investment recovered during FY09 to register growth of 5.5 percent against decline of 28.5 percent last year. A part of this performance is probably attributed to the record high levels of remittances inflows (an important determinant of construction related investments) during the year. Anecdotal evidence suggests that the recovery could have been much more significant if building material prices would have not surged in this period.[35] Resultantly, progress of ongoing projects in construction slowed and initiation of new ones became almost unfeasible on cost considerations, while response of consumers was muted for many newly launched housing projects due to collapse of asset prices (both real estate and equity) during FY09.

**(5) Investment in agriculture required to sustain productivity gains**

Investment in agriculture sector also declined by 7.8 percent during FY09 on top of 9.1 percent fall in FY08. This drag was due to decline in public investment in agriculture by a massive 23.1 percent amid efforts for fiscal consolidation that stopped work on many developmental projects in this sector. The public sector investment in agriculture sector registered a decline for the third consecutive year in row, which is unprecedented. Surprisingly, despite a substantial rise of 17.2 percent in developmental loans to agriculture sector, private sector investment in agriculture witnessed a decline of 7.7 percent. As a consequence, share of agriculture in total investment dropped to only 6.4 percent by end FY09 relative to 14.1 percent in FY91(see **Figure 2.51**). It is also evident that:

**Figure 2.51: Share of Agriculture Sector**




a) a smaller share of agriculture in total investment is in sharp contrast to its contribution in GDP; and
b) the declining pace of agriculture share in investment is faster than the share in GDP value added, showing resilience and productivity gains by agriculture sector.

However, this situation is not sustainable for an indefinite period, and share of agriculture would also drop, if investment is not increased in this sector. More importantly, after commodity price shock in FY08, food security became a major policy objective of most of the developing and middle-income countries. This shock also taught that broader macroeconomic and political stability is also required food security. In addition, agriculture sector proved to be the major driver of growth during FY09 as the performance of both industry and services sectors were lackluster. In this background, it is imperative for both public and private sectors to invest heavily in agriculture sector. Given potential gains in yields and strong domestic as well as external demand for agri produce, private sector can invest in farm mechanization, land development, corporate farming, agriculture financing, food processing & packaging units, storage and transportation. Public sector should not undermine the importance of agriculture sector. There is a need to invest in infrastructure (farm to market roads,

[35] Building material sub-index of WPI rose by an annualized average of 11.8 percent during FY09 compared with 8.8 percent in FY08.

research to develop high yield and disease resistant varieties for local environment) and water course improvement and rehabilitation of irrigation system. Similarly, investment in livestock also offers good returns.

**(6) Operational issues hindered investments in electricity & gas distribution**

Inefficiencies in electricity & gas distribution system, evident in huge line losses, sizable investments are required to upgrade the system. The need to do so has increased given the severe shortages of both gas and electricity in the country that has crippled the industrial growth. Despite this, however, investment in the sector has declined by almost 30 percent during FY09 against 7.2 percent increase during FY08. In fact, the contribution of investment in electricity & gas distribution has remained negligible throughout the period 2000-09 in overall investments in the country. This points out to the fact that the economic boom for the period 2003-07 was without noticeable investments in infrastructure in the country and thus could not be sustained for long. Nonetheless, the decline in electricity distribution investment in FY09 is apparently due to liquidity constraints of distribution companies arising from circular debt problem. Similarly gas distribution companies suffered from attacks on existing pipelines that may have disturbed their investment plans as funds were shifted to the repair of damaged pipelines. But more importantly, the recent shortage of both sources of energy has shifted the emphasis towards investing in power generation and extraction of fuels instead of efficiency gains by improving the distribution lapses and effective energy conservation.

**(7) Foreign investments in wholesale distribution dominated the trading sector investments**

The impact of overall economic environment also impacted investment activity in the wholesale & retail trade; the largest sub-sector of services. Real investment dropped by 3.2 percent in FY09 as against 5.5 percent rise in FY08. However, due to a moderate fall in investment in this sector, its share in total investment rose to 2.5 percent in FY09 from 2.4 percent a year earlier (see **Figure 2.52**). Wholesale & retail sector's contribution in GDP and employment absorption cannot be understated; however documented investment in this sector has traditionally been low in Pakistan. Nature of trade activities and sales and distribution in Pakistan is such that probably a larger part of retail trading activities remain unaccounted for in the national income accounts. Therefore it is difficult to estimate the magnitude of VA and investment in this sub-sector.

**Figure 2.52: Investment in Wholesale & Retail Trade**

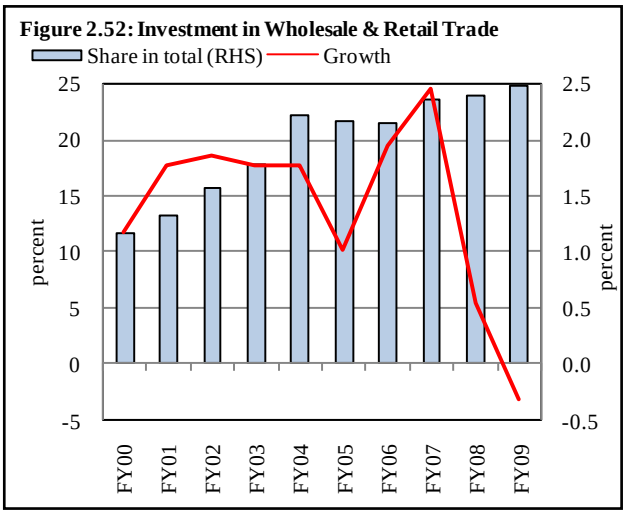



**Table 2.23: Composition of FDI Inflow in Trading Activities**

million US Dollar

| | FY08 | FY09 |
|---|---|---|
| Wholesale and distribution | 104.6 | 85.1 |
| Textile trade | 2.7 | 3.5 |
| Petroleum and gas trading | 97.5 | 50.0 |
| Allied trading services | 10.5 | 1.4 |
| Information technology | 3.6 | 1.0 |
| Transportation agents | 6.5 | 2.1 |
| Others | 35.7 | 23.3 |
| **Total FDI in trading** | **261.2** | **166.3** |

Source: SBP

Recently, however, the investment in retail chain stores as well as restaurant franchises has increased substantially during the past few years to explore the profitable avenues in distribution services. In FY09 also, the FDI towards wholesale and distribution remained upbeat at US$ 85.1 million, though declined compared with the preceding year (see **Table 2.23**). Most of the investments came in wholesale superstores which started to operate in big cities of Pakistan in recent years. Distribution services

contribute a large component of national income and employs considerable labor force. Furthermore, a vast potential of investment in retail and wholesale sector exists given a large consumer base; distribution services therefore are expected to attract significant foreign and domestic investment going forward.

## 2.6 Savings

After a sharp slide in FY08, savings rate (national savings to GDP ratio) improved only slightly in FY09, remaining well below the average of 17.7 percent during the FY00-FY07 period (see **Figure 2.53**). Specifically, the savings rate rose to 14.3 percent in FY09 from 13.4 in the preceding year. This improvement entirely attributed to a relative fiscal consolidation as public savings increased to 1.2 percent of GDP in FY09 as against dis-savings of 1.8 percent during FY08. It is important to mention here that public savings under the sub-head *'others'*, which includes savings by the public sector enterprises, remained unchanged at 0.4 percent of GDP during FY09. In contrast to savings by the public sector, private savings deteriorated for the second consecutive year, declined to 13.2 percent of GDP (see **Table 2.24**), the lowest level since FY99.

**Figure 2.53: National Savings**

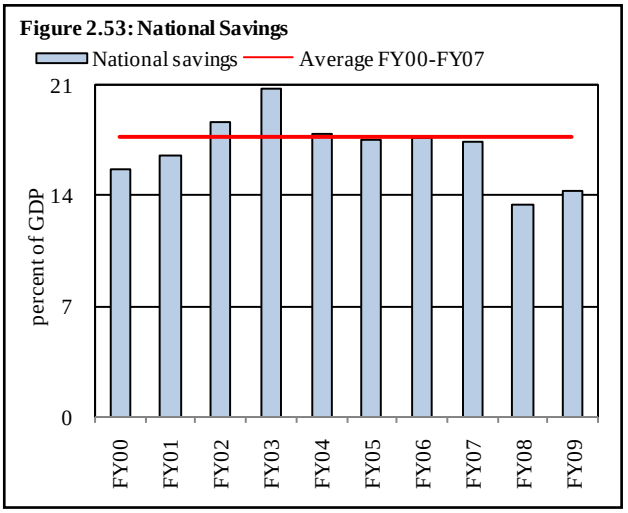



**Table 2.24: Savings and Investment**

| | billion Rupees. | | percent of GDP | |
|---|---|---|---|---|
| | **FY08** | **FY09** | **FY08** | **FY09** |
| I: National savings | 1,373.8 | 1,875.9 | 13.4 | 14.3 |
| a) Public savings | -183.3 | 153.8 | -1.8 | 1.2 |
| *i. General* | *-224.4* | *100.2* | *-2.2* | *0.8* |
| *ii. Others* | *41.1* | *53.6* | *0.4* | *0.4* |
| b) Private savings | 1,557.1 | 1,722.1 | 15.1 | 13.2 |
| *i. Household* | *1,351.4* | *1,460.2* | *13.1* | *11.2* |
| *ii. Corporate* | *205.7* | *261.9* | *2.0* | *2.0* |
| II: Net factor income from abroad | 209.8 | 407.9 | 2.0 | 3.1 |
| III: Domestic savings (I-II) | 1,164.0 | 1,468.0 | 11.3 | 11.2 |
| IV: Total investment | 2,259.7 | 2,578.5 | 22.0 | 19.7 |
| V: Resource gap (I-S) | -885.9 | -702.6 | -8.6 | -5.4 |

Source: Planning Commission, Government of Pakistan

The decline in private savings probably stemmed from a number of factors including: (a) sharp drop in asset prices (both real estate and equity); (b) generally negative real interest rates on saving instruments;[36] and, (c) a sharp increase of 5.2 percent in real private consumption expenditure during FY09. The decline in private savings to GDP ratio was primarily due to fall in household savings rate, as corporate savings remained unchanged.

It is also disappointing that domestic savings as percent of GDP in FY09 declined for the third consecutive year, indicating that the source of improvement in national savings is net factors income from abroad (largely workers' remittances). It should be kept in mind that low saving not only inhibits availability of loan-able funds but also restricts growth on a sustainable basis.

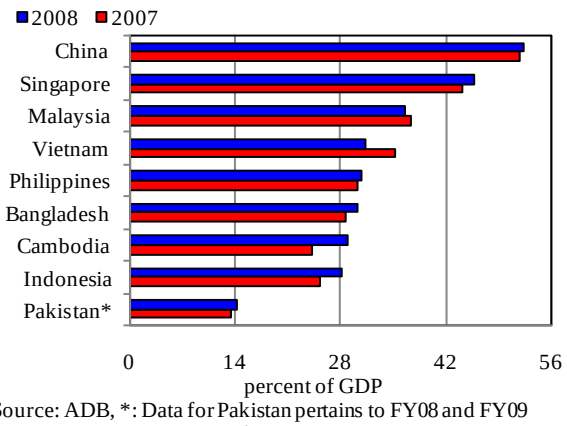
The average national saving at 15.1 percent of GDP for the period FY60-FY09 has remained significantly lower relative to developing Asian economies[37] (see **Figure 2.54**). Low income, low level of financial inclusion, saving in kind, high propensity to consume, avoidance of interest-based

[36] Despite decline in CPI inflation YoY in H2-FY09, average CPI inflation for FY09 reached 20.8 percent, which is significantly higher than rate of returns on saving instruments.

[37] Developing Asian countries include; Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Fiji, India, Indonesia, Kiribati, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Vanuatu and Vietnam.

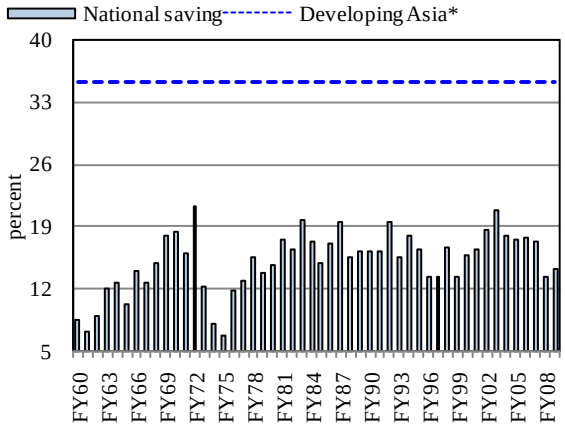
financial system due to religious beliefs, and a culture of conspicuous consumption are some factors that have been pointed out as responsible for low savings in Pakistan. Due to low national savings rate, country has to borrow to finance even relatively low investment needs of the country. Importantly, borrowing funds to finance domestic investment resulted in debt accumulation, which has consequences for fiscal and external balances in medium to long-run. In this background, there is an urgent need of steps to prop up household savings and channel the unutilized funds with the households to more worthwhile and productive use; as in channeling it to the financial institutions. The urgency to develop a savings culture and institutions has become even greater in light of the recent international financial crisis.

**Figure 2.54: National Savings in Selected Developing Asian Economies**




Source: ADB, *: Data for Pakistan pertains to FY08 and FY09 (Source: Economic Survey of Pakistan)

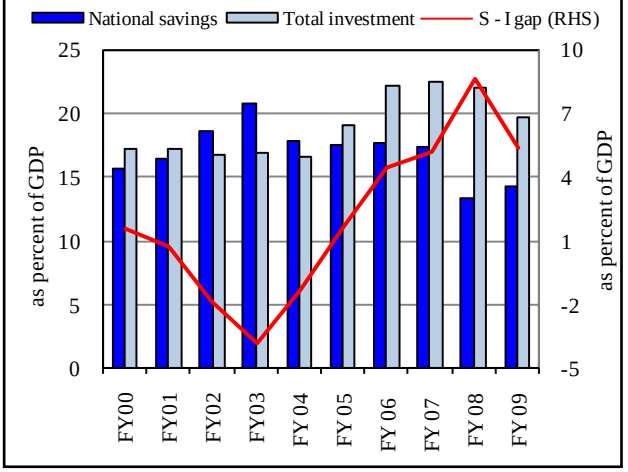
**National Savings of Pakistan as Percent of GDP**




*: 22-year average (1987-2009)

Capital flows to developing countries had already begun dropping by FY07, and likely to remain constraint for some years. Countries such as Pakistan, which still has significant macroeconomic imbalances, will face problems in accessing international capital market at reasonable cost. Thus, it is imperative to mobilize domestic savings in order to finance a greater part of domestic investment. To mobilize savings, it is necessary to build savings institutions that can tap pension and provident funds. In addition, establishment of efficient secondary debt market is also needed to offer competitive returns on savings and increase in the number of participants in government debt. These developments will also help improve monetary policy transmission mechanism in the economy.

**Figure 2.55: Saving-Investment Gap Narrows**




## Saving-Investment Gap

After reaching to a record 8.6 percent of GDP in FY08, saving-investment gap narrowed by 3.2 percent during FY09 due to the combined impact of a rise in savings to GDP ratio and a decline in investment to GDP ratio (see **Figure 2.55**). Unfortunately, instead of a healthy rise in savings rate, a sharp fall in investment rate was more pronounced in this gain. The decline in investment rate is principally attributed to adverse security situation, political noise, power shortages and uncertainty over relative prices due to volatility in commodity prices.

**Special Section 2.1: Electriciy Shortage in Pakistan and Need for Conservation**

The ongoing energy crisis in Pakistan is a source of disquiet from the perspective of sustainable economic growth. A wide gap between demand and supply for different sources of energy is particularly hurting manufacturing activity in the country. The situation is the worst for the electricity supplies given the fact that it is non-tradable and highly capital intensive to generate.

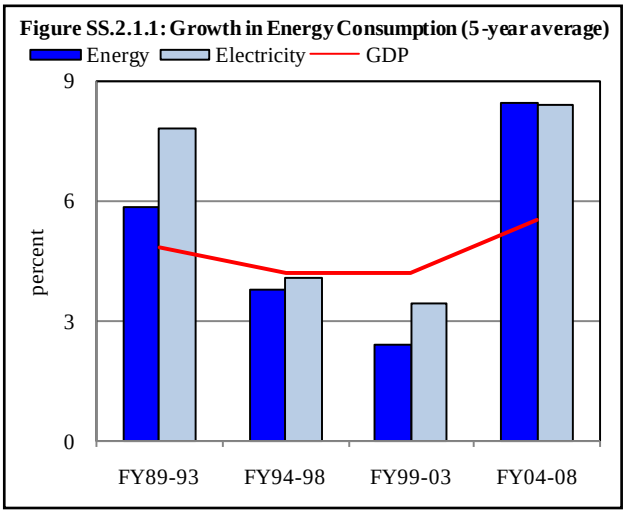



**Figure SS.2.1.1: Growth in Energy Consumption (5-year average)**

At present, the country is facing electricity shortage of over 2500 MW. As a result, electricity outages have become quite frequent in the last couple of years. During FY09 also, frequent electricity shortages took heavy toll from an already weakened domestic industrial production.

The present electricity shortage stemmed mainly from a phenomenal increase in domestic demand for electricity in the past 5 years, mainly on the back of high overall economic growth during the period (see **Figure SS 2.1.1**). The high growth in electricity consumption was seen in all the major sectors of the economy including household, industrial and commercial sectors. The growth in energy consumption by the household sector was rather phenomenal driven by higher disposable incomes, higher average household size and increase in the use of electrical appliances on the back of cheap and easy availability of consumer financing for durables (see **Figure SS 2.1.2**). The demand for energy from industrial sector increased as a number of industrial units have made significant capacity augmentations to meet the growing domestic and external demand. Moreover, the structural shift in the domestic industrial sector evident in growing share of medium to high technology intensive industries that also increased the demand for energy in the sector. Finally, the demand from commercial sector is mainly a function of a sharp growth in commercial sector activities, opening up of new bank branches and telecom centers and extensive computerization of major commercial centers.

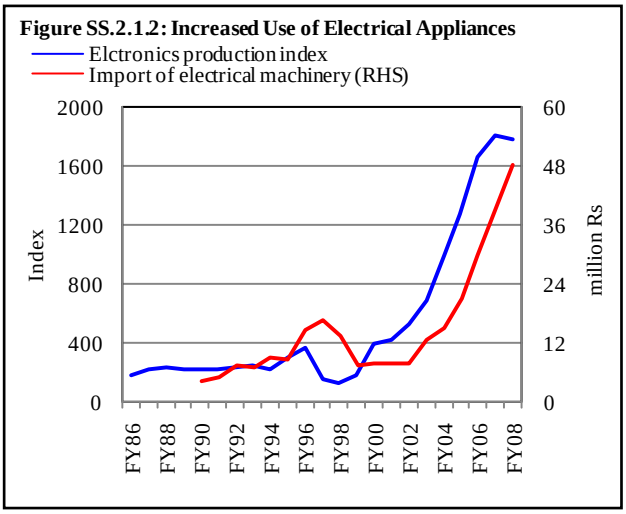



**Figure SS.2.1.2: Increased Use of Electrical Appliances**

With an unprecedented surge in international furnace oil prices, cost of electricity generation increased tremendously putting

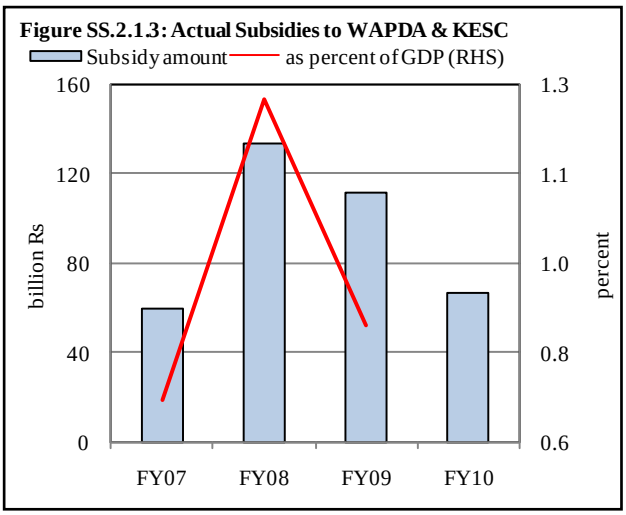



**Figure SS.2.1.3: Actual Subsidies to WAPDA & KESC**

upward pressures on electricity price in recent years. However, the government committed itself to accommodate the ongoing growth momentum and provided extensive subsidies in the energy sector. Specifically, electricity was provided at subsidized rates to a number of industrial and agriculture purposes in recent years. Such accommodating policies not only build up significant fiscal costs but also distort price signals and typically encourage the consumers to use electricity inefficiently. As seen in **Figure SS 2.1.3**, subsidies provided in energy sector even reached to 1.3 percent of the GDP in FY08. During FY08 and FY09, the fiscal pressures grew to an extent that it became difficult for the government to actually pay the subsidy to WAPDA and KESC as scheduled. In turn, WAPDA and KESC could not pay their dues to IPPs who failed to clear their liabilities to the oil refineries and OMCs. Oil refineries and OMCs did not have liquidity to import sufficient crude oil in the country causing shortage of furnace oil for electricity generation. Thus, if on the one hand, government is trying to manage electricity demand by phasing out most energy related subsidies to narrow demand-supply gap; the problem of circular debt originated from the government end caused significant supply constraints in electricity generation during FY09. In addition, electricity supply also reduced due to lower water availability at major dams during the last two years.

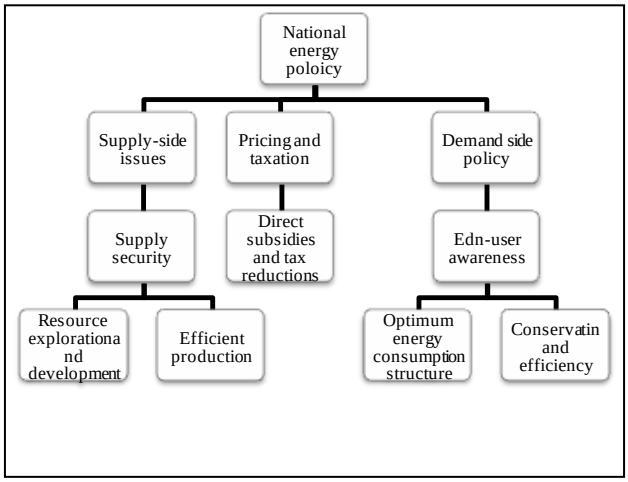



**Table SS.2.1.1: Power Projects Expected to be Completed in 2009**

| Project | Type | Capacity | Status |
|---|---|---|---|
| GENCO additional | PEPCO | 300 | Completed |
| Attock power | IPP | 165 | Completed |
| Malakand-III | IPP | 81 | Completed |
| Atlas Sherazi | IPP | 225 | July |
| Orient power | IPP | 225 | July |
| Sumandri road | Rental | 150 | August |
| Nishat power | IPP | 200 | September |
| Fauji Mari | IPP | 202 | October |
| Muridke power | IPP | 225 | October |
| Sahiwal power | IPP | 225 | October |
| Guddu | Rental | 110 | October |
| Soho wala Sialkot | Rental | 150 | November |
| Satiana road | Rental | 200 | November |
| Naudoro | Rental | 51 | November |
| Karkay | Rental | 249 | November |
| Gulf | Rental | 81 | December |
| Engro | Rental | 227 | December |
| Genco addional | PEPCO | 300 | December |

Source: PEPCO http://www.pepco.gov.pk/newpp.php

### SS1.1 Electricity generation and conservation

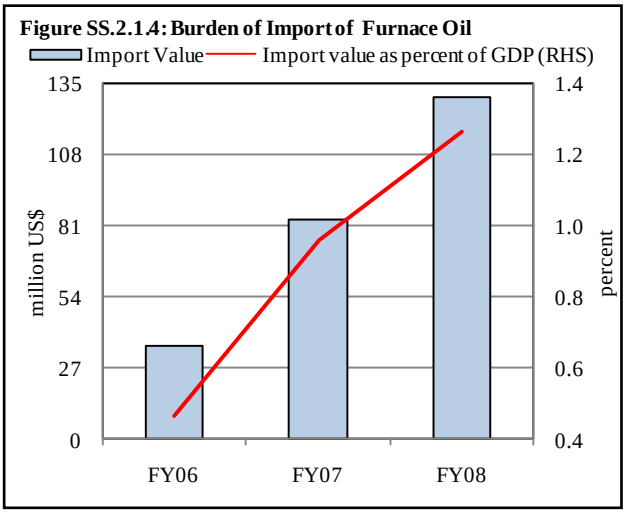
National energy policy typically comprises of measures to manage both the supply as well as demand for energy. The supply side management mainly incorporates measures to ensure supply security that may comprise of providing incentives for investment in the sector as well as efficient production. The demand side policies, on the other hand, include policies that comprise of developing end-user awareness through projecting energy conservation and efficiency.

In Pakistan also, the government has initiated a number of power projects to bridge the demand-supply gap. A number of power producing plants will be completed by end CY09 (see **Table SS 2.1.1**). In addition, government is setting up 14 rental power plants (RPPs) to meet short-term and emergency power requirements of the country within 4 to 6 months based on available technology.[38] The concept of RPPs was introduced in Pakistan in 2007 while RPPs have already been commissioned in US, UK, India, Sri Lanka, Bangladesh, Kuwait, Turkey, UAE and Saudi Arabia. Compared with IPPs, the rental power generation costs range between 12-13 cents per kwh compared

[38] Source: PEPCO

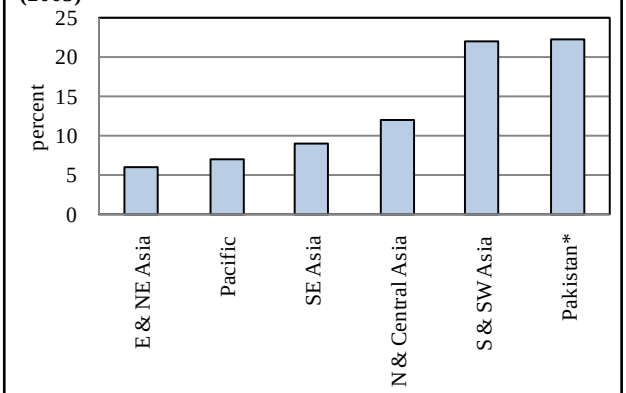
with IPP's cost 12 cents per kwh on average.[39] However, it should be noted that the electricity generation in Pakistan depends heavily on the availability of furnace oil. Since Pakistan is spending already heavily on the import of furnace oil, the increased electricity generation would further increase import bill. In FY08, for instance, Pakistan imported furnace oil worth US $ 2 billion, which was around 1.3 percent of GDP (see **Figure SS1.4**).

**Figure SS.2.1.4: Burden of Import of Furnace Oil**




Thus, to fuel the economic growth, there is a need to provide adequate, sustainable, and environmentally sound supplies of energy. In this scenario, the national strategy to encourage energy efficiency has become all the more important wherein, the energy conservation is considered as most economical way of meeting the objective of providing energy for sustainable development. In fact, the necessity of supplying energy for sustainable economic development is not only felt in Pakistan alone, but is now being felt worldwide including both the developed and developing countries. According to an estimate, the demand for global energy services to support economic growth has grown by 50 percent since 1980 and is expected to grow another 50 percent by 2030. The IEA's *World Energy Outlook 2006* (IEA, 2006c) estimates that investments of US$ 20 trillion for energy supply will be needed to meet global demand through 2030. As such, estimates suggest that to double the rate of energy efficiency improvement, the investment of US$ 3.2 trillion will be required worldwide (the G8 countries alone will invest around US$ 2.3 trillion). Indeed, any improvement made in energy efficiency is based mainly on the available potential for energy conservation. According to an estimate, though significant improvements have been made in developed countries in terms of energy efficiencies; still there exists vast energy saving potentials.

**Figure SS.2.1.5: Power Lost during Transmission & Distribution (2005)**




Source: Energy Security and Sustainable Development in Asia and the Pacific, United Nations , *: WAPDA from Economic Survey

In Pakistan also, there exists a vast energy saving potential mainly due to available weaknesses in the distribution system as well as lack of awareness of energy conservation measures. Specifically, like other south Asian countries, transmission and distribution losses are quite large in Pakistan especially compared with other countries in Asia (see **Figure SS1.5**)[40]. As far as the potential for energy conservation is concerned, according to a report by ENERCON the energy consumption in Pakistan can be reduced by 25 percent on average in various sectors of the economy through efficient utilization (see **Table SS.2.1.2**)[41]. Thus, Pakistan has huge potential of saving electricity through both reducing T&D losses as well as by promoting

[39] Source: PEPCO at http://www.pepco.gov.pk/index.php Rental Power Plants: The factual position
[40] Energy Security and Sustainable Development in Asia and the Pacific, United Nations April 2008.
[41] National Energy Conservation Center (ENERCON), Pakistan.

efficient use of electricity and its conservation. Reducing T&D losses requires investments in the electricity distribution sector to upgrade the distribution lines as well as enforcing laws related with power theft. Electricity conservation on the other hand needs to be ensured at both micro and macro level and involves energy conservation practices by different agents of the economy including households, firms, manufacturers, government, etc.

**Table SS.21.2: Energy Conservation Potential in Various Sectors of Pakistan**

| | |
|---|---|
| Industry | 25% |
| Transport | 20% |
| Agriculture | 20% |
| Building | 30% |
| **Average** | **25%** |

Source: ENERCON

**SS1.2 Impediments in practicing energy conservation**

Despite the importance of energy conservation especially from the perspective of reducing electricity costs, it is observed that consumers do not follow energy conservation practices. Following points explain the possible reasons for this:

*Initial cost bias:*

It has been observed that a number of decision makers (consumers, builders, etc.) wants to keep the first-costs low. First cost may include the cost of purchasing (relatively expensive) energy saving equipments for final consumption or, for instance using energy saving equipments for building purposes. Only few want to minimize the life-cycle costs (e.g., the initial purchase cost of an appliance plus the cost of annual electric bills, maintenance and repairs). The first-cost bias is particularly strong (a) when energy-efficient equipment costs more (for builders, for instance) and others (home purchasers or tenants) will enjoy the benefits of lower electric bills, and (b) for low-income consumers with limited resources (both cash and access to credit) to pay for expensive energy efficient equipment.

*Lack of information*

Even if consumers considers lowering their life-cycle cost and give a larger weight to energy efficiency in their decisions, lack of reliable and understandable information on energy use and costs become a major obstacle. Energy consumers are typically not aware of the measures that may allow them to use energy efficiently and with lower cost. In many countries, government and private programs for energy-efficiency ratings of homes and apartments have recently begun.

*Other misperceptions*

Often consumers believe that energy efficiency requires discomfort or sacrifice, rather than as providing equivalent services with less energy. This popular misperception of energy efficiency does not allow a general acceptance by consumers and thus reduces incentive for housing developers and equipment manufacturers to make efficiency an attractive feature of their products. Certainly, in the absence of demand, equipment manufacturers and building suppliers do not need to emphasize on efficiency in product design and research.

*Fragmented nature of home building sector*

The home building sector is quite fragmented in most of the countries. This makes concerted industry-led initiatives for promoting energy efficiency (which may include innovating energy-saving designs, products, and construction techniques) highly unlikely.

*Lack of energy building codes*

In many countries where energy related building codes are formulated, the implementation and enforcement of such codes are inadequate. This is mainly due to lack of financial and human

resources to review actual building plans and construction sites. Education of builders regarding use of energy efficiency equipment is also inadequate.

*Lack of Effective energy conservation incentive policy*
In many countries, there is no effective energy conservation incentive policy. For instance, financial and taxation policies are not designed in a way to promote energy conservation renovation, research and development of energy saving equipment, or to appreciate and set rewards for energy conservation. In many aspects, the energy conservation has been a market failure in many countries. To promote energy conservation practices, macro-regulation and guidance from the government end are needed.

*Incomplete laws and regulations*
In many countries, the laws and regulations pertaining to energy conservation are incomplete. However, the lack of compliance and slack enforcement of the law is rampant; the supporting regulations are incomplete, and the exercisability of the law also remains to be improved.

## SS1.3 Energy conservation legislations globally

Countries all around the world have broad energy laws which include energy efficiency objectives. Often governments provide incentives to accelerate the demand for a particular technology and/or product. Countries in OECD have employed targeted actions and achieved many successes to improve energy efficiency. The efficiency of electrical appliances in Japan, for instance, has improved using increasingly ambitious standards established under its "Top runner" program under the energy conservation law. The government in US has also recorded a success with its appliance efficiency standards. According to US Department of energy, even despite the increase in number of households, total residential energy use in 1990 was over 1 quad less than it was in 1978 reflecting a steady improvement in energy efficiency. This gain was attributable mainly to several factors including, energy efficiency requirements in building codes, appliance labeling and efficiency standards, government and utility energy education efforts, utility conservation programs and more awareness of energy efficiency by consumers, equipment vendors, and building professionals and trades people.

The European experience with voluntary industrial energy efficiency goals also delivered positive results. In fact, European manufacturers reached the objective of reducing energy use by 20 percent between 1994 and 2000 ahead of schedule. In Russia, the energy required per unit volume in new buildings has been cut by 60 percent compared to just one decade ago and plans are underway to further tighten these standards. A number of Asian countries also have adopted legislation focusing specifically on energy efficiency and conservation. These countries include China (energy conservation law), India (Energy conservation act), Japan (law concerning the rational use of energy) and Thailand (energy conservation promotion act). These laws are generally comprehensive and involve many sectors from industry to household.

### SS1.4 Suggested Policies for improving energy efficiency

***Establishing national standards***
First and foremost way to promote energy efficiency is to establish national goals. In China, for instance, the government has set compulsory targets to achieve energy-efficiency. Specifically, the national 11$^{th}$ five year plan for the period 2006-2010 requires the entire country to reduce energy intensity by 20 percent and includes provincial quotas for energy conservation. The plan includes measures on statistics, surveillance, energy conservation and pollution reduction. The Russian Federation has also established energy intensity goals. In September 2006, the government published a new energy strategy aiming to reduce energy intensity by 63 percent by 2015.

***Minimum efficiency standards and labeling***

A useful way to promote energy efficiency is to set minimum efficiency standards for manufactured products, especially electrical appliances. Standards can be both mandatory as well as voluntary; however, in recent years, a number of countries started setting mandatory standards. In Philippines, for instance, a mandatory standard was set for air conditioners; within a year, average efficiency increased by 25 percent. In 1999, Australia adopted standards for refrigerators and freezers; over the period 1980 to 2005, the energy consumption of new refrigerators/freezers fell by about 70 percent. Labeling standards have also been established in India. In 2006, the Bureau of Energy Efficiency launched the National Energy Labeling Program for home appliances; initially on a voluntary basis but subsequently made it mandatory.

***Government Procurement***

Procurement by governments and other institutional buyers can also stimulate the diffusion of energy-efficient products-setting an example for corporate buyers and individual consumers. Governments can also exert influence by sending clear signals to their suppliers that they should offer energy-efficient equipment. In Korea, for example, there is a government policy in place favoring purchases of appliances and equipment that are above the minimum energy performance standards. China also has government procurement policies linked to energy-efficiency endorsement labels. In March 2007, the government also introduced the corporation income tax law which includes preferential tax rates for manufacturers of energy-efficient products.

***Increasing Public Awareness***

If the energy efficiency goals are to be achieved, both producers and consumer have to be well informed. Governments can therefore provide and disseminate information on energy conservation. This will enable the governments to successfully encourage the use of energy-efficiency products as consumers will demand more efficient devices and practices.

***Improving Efficiency of Buildings and Equipment:***

The sector which exhibited one of the fastest growing uses of energy in recent years is the residential electricity consumption, especially in developing countries. In this sector, electricity consumption is growing faster than the overall economy, especially in countries with air conditioning requirements. Many potential improvements can be made in residential consumption. The countries can adopt stronger building codes and encourage the installation of advanced (energy efficient) lighting. Governments can also design and implement incentives and other measures to ensure that the new buildings are designed and constructed to become as energy efficient as possible.

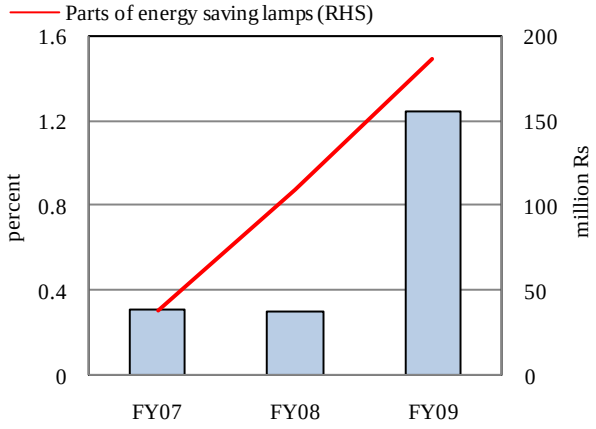
**SS1.5 Efforts already taken place in Pakistan**

In Pakistan also in 2005, government announced its first-ever energy conservation policy. The policy spelled out broad guidelines to enhance end-use efficiency in various sectors of economy. The policy is likely to create an enabling environment to support energy security plans of the government and for effecting a change in course to sustainable energy and environment patterns in the future. Initiatives include formulating legislation, developing codes and standards; create public awareness, and capacity building. A major initiative in the Policy was to introduce and facilitate energy audits at industrial level. Energy audits of a number of textile, leather, sugar and steel re-rolling units are being conducted in the country. Specifically, National Productivity Organization (NPO) with the coordination of APTMA conducted energy audits in a number of textile firms that highlighted the energy saving potential in the industry as well as measures that should be taken to reduce energy consumption in these firms[42]. The same organization also conducted energy audits in steel re-rolling firms.

[42] Details can be viewed from Generic Report on Energy Efficiency under TES Program (spinning and processing) by Asian Productivity Organization, Japan and National Productivity Organization,

Government has already been pursuing day light savings time (DST) to utilize maximum day light as possible for economic activities. Since DST is meant for a delayed sunset, it implies for an additional hour to keep without lighting. Apparently, it seems having a negligible impact on energy consumption, yet in a longer time span and at a macro level it ensues to significant national savings. This aspect has already been proven in various studies that have been undertaken internationally so far, fortifying the rationale of original idea that DST lessens the demand for energy. A proper assessment should be done and made public as to how much energy is being saved through DST in Pakistan.

**Figure SS.2.1.6: Import of Energy Saving Lamps (Jul-Mar)**




Moreover, to lessen the cost of electricity usage, the use of energy saving bulbs and lamps is now gaining popularity. Domestic production as well as import of energy savers has grown tremendously in recent years. In FY09 also, the import of energy savers grew at a remarkable rate of 120 percent over 20 percent average growth in the preceding two years (see **Figure SS1.6**). In addition to increased public awareness, this sharp increase was mainly due to government's decision to replace many lighting areas with the energy savers. Such measure was also taken in Sri Lanka and has proved successful. Specifically, analysis shows that the replacement of inefficient lighting technologies is both environment friendly as well as welfare improving. As a result, the government in Sri Lanka has already banned import and local manufacture of incandescent lamps over 75W effective July 2008 and tends to impose a ban on incandescent lamps of all capacities from 2010. This ban appears to be a justifiable policy option given the limited success of voluntary adoption, proven energy savings and significant economic gains from replacing inefficient bulbs. In addition to adopting similar policy measures, government must ensure economical use of lighting at major commercial centers in Pakistan. In this regard, it may be notified to shopping areas to open early hours and close early as well so as to maximize the use of day light and conserve electricity at the peak hours in the evening. This may cause inconvenience to shoppers initially; however, once accustomed to the timings, shoppers will be able to manage their shopping time. Moreover, restaurants and hotels may also be notified for using energy efficient equipments for lighting and air-conditioning. For industrial, agriculture and building use, ENERCON has made several recommendations for energy conservation the details of which can be viewed from the authority's website. Some of the sectoral guidelines are presented in **Box SS.2.1**.

**Box SS.2.1: Sectoral Guidelines as Presented in National Energy Conservation Policy (excerpts)**

Industrial Sector

a) Encourage and facilitate the introduction of a national program on Energy Audits particularly in small and medium scale industrial units.

b) Encourage Energy Efficient Combustion processes, controls and instrumentation by facilitating tune-up of combustion furnaces, burners and boilers, etc.

ministry of Industries and Production, Government of Pakistan
http://www.npo.gov.pk/rc/beedownloads.html

c) Encourage and promote implementation of low-cost, fast-payback energy conservation measures in industrial sector.

d) Promote regional/sectoral national programs on boiler energy efficiency improvement.

e) Promote energy efficiency conservation modernization and revamps in industrial sector.

f) Promote nationwide small scale technology programs in industrial sub-sectors, particularly in the small and medium scale industrial units to demonstrate the efficiency of energy conservation like waste heat recovery, combustion control system energy efficient motors, power factor improvement, etc.

g) Support the deployment of cost-effective and environment friendly Technologies for electricity production from Coal.

h) Promote Co-Generation as a means to plug power deficits.

i) Collaborate with WAPDA and utilities to devise and enforce efficient administrative and technical measures for promoting DSM programs in various sectors of economy.

j) Collaborate with utility companies/IPP's in energy loss reduction programs and to improve energy efficiency in power generation, distribution and transmission.

Buildings and Households Sectors

a) Encourage and facilitate introduction of energy audits in commercial and community buildings.

b) Encourage adoption of energy efficient considerations in the household.

c) (Evaluate Building and Insulation materials for the energy efficient characteristics with report to different climatic zones and promote their adoption nationwide.

d) Encourage use of energy efficient equipment, fixtures and appliances in buildings.

e) Develop/update a Building Energy Code for the country and institute measures for its compliance.

f) (Promote use of energy efficient HVAC and lighting practices in buildings.

g) Promote through relevant authorities, energy efficient building design.

Agriculture Sector

a) Promote Energy efficient agriculture tractor engines.

b) Promote Energy efficient tube wells and Water Pumping Stations.

c) Promote energy efficient training practices through education, information and demonstration.

Source: National Energy Conservation Policy 2005, The National Energy Conservation Centre (ENERCON), Ministry of Environment

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