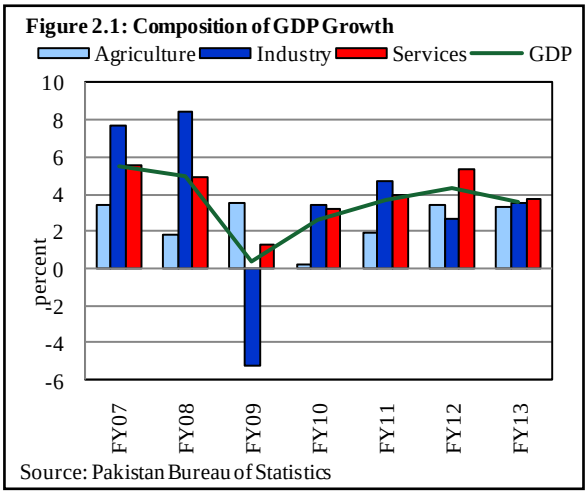
2 Economic Growth, Investment and Savings

2.1 Real GDP Growth

The growth strategy for FY13, based on a long-term Framework of Economic Growth prepared by the Planning Commission, identified an improvement in productivity and competitiveness, as keystones for achieving higher sustainable growth. In particular, policymakers were hoping that greater utilization of idle capacities following energy reforms, would revive industrial activities and support GDP growth.[1]

Figure 2.1: Composition of GDP Growth



Source: Pakistan Bureau of Statistics

The economic outcome, however, was below expectations. Although the industrial sector showed some recovery in FY13, this proved insufficient to compensate for slower growth in services and agriculture. Hence, real GDP growth slowed to 3.6 percent in FY13, from 4.4 percent in FY12 (**Figure 2.1** & **Table 2.2**).[2] Accordingly, growth in per capita GDP, which was already low, fell further in FY13. This, in turn, widened the per capita income gap between Pakistan and other regional economies (**Table 2.1**).

Table 2.1: Growth in Per Capita Real GDP (Local Currency)
percent

	FY81-FY90	FY91-FY2000	FY01-FY10	FY11-FY12
Bangladesh	1.0	2.6	4.4	5.3
India	3.3	3.7	6.0	3.5
Indonesia	4.2	2.8	3.8	5.0
Malaysia	3.2	4.6	2.7	3.6
Philippines	-0.9	0.6	2.9	3.5
Sri Lanka	2.7	4.0	4.4	8.2
Thailand	6.0	3.6	3.7	3.0
Pakistan	**2.9**	**1.3**	**2.6**	**1.8**

Source: Haver Analytics

The improvement in industrial growth came from better margins for domestic producers; capacity enhancement in *paper*, *motor tyres* and *iron & steel*; investment in alternate energy; strong construction growth, and better financial conditions in POL. This recovery is encouraging given the worsening energy constraints and the fall in investment rate. Meanwhile, the services sector, which had posted 5.3 percent growth in the previous year, could not sustain the momentum in FY13. The underlying reasons can be traced back to weak performance of the telecom sector, which is facing growing competitive pressures and certain regulatory measures (e.g., rationalization of SIM sales, frequent suspension of network services, higher taxes, increasing use of grey channels, etc.).

On the demand-side, although household consumption growth slowed in FY13, this was still above GDP growth. Large subsidies and a falling tax-to-GDP ratio may explain continuing household spending, which is reflected in strong and consistent growth by fast moving consumer goods and a vibrant construction sector.

The investment rate, which has been quite low in Pakistan, declined further in FY13. Persistent macro imbalances; structural bottleneck in the energy sector; and an uncertain security environment;

[1] Source: Annual Plan 2012-13, Planning Commission.
[2] This GDP growth is not directly comparable with the target rate of 4.3 percent set in the Annual Plan for FY13 due to change in the base year and the compilation methodology behind the National Income Accounts. The GDP growth rate for FY13 on the previous base, also consistent with the target, came out at 3.2 percent.

continue to impede investment.[3] Overcoming these impediments through concrete reforms, and promoting sustained and high levels of economic growth, remain a serious challenge to policymakers. Interestingly, most of these reforms are already part of the Economic Growth Framework – what has been lacking is their effective implementation.

While there is an urgent need to step-up reforms and pursue medium-to-long-term growth objectives, we should note that the stabilization program with the IMF would likely result in low economic growth in the short-term.[4] On a final note, realizing higher GDP growth is challenging given the frequency of weather related shocks, which appear to coincide with much broader changes in the climate (**Special Section 2.1**).

Table 2.2: Gross Domestic Product (at constant prices of 2005-06)
Share and growth in percent; contribution in percentage points

	Share		Growth		Contribution to growth	
	FY12	FY13	FY12	FY13	FY12	FY13
Agriculture	**21.5**	**21.4**	**3.5**	**3.3**	**0.7**	**0.7**
Crop	8.7	8.7	2.9	3.2	0.3	0.3
Major crops	5.5	5.4	7.4	2.3	0.4	0.1
Minor crops	2.6	2.6	-7.7	6.7	-0.2	0.2
Cotton ginning	0.7	0.6	13.8	-2.9	0.1	0.0
Livestock	11.9	11.9	3.9	3.7	0.5	0.4
Forestry	0.5	0.4	1.7	0.1	0.0	0.0
Fishing	0.5	0.4	3.8	0.7	0.0	0.0
Industry	**20.9**	**20.9**	**2.7**	**3.5**	**0.6**	**0.7**
Mining & quarrying	3.0	3.1	4.6	7.6	0.1	0.2
Manufacturing	13.2	13.2	2.1	3.5	0.3	0.5
Large-scale	10.7	10.6	1.2	2.8	0.1	0.3
Small-scale	1.5	1.6	8.4	8.2	0.1	0.1
Slaughtering	0.9	0.9	3.6	3.5	0.0	0.0
Elec gen & dist and gas distribution	2.4	2.3	2.7	-3.2	0.1	-0.1
Construction	2.3	2.4	3.2	5.2	0.1	0.1
Services	**57.6**	**57.7**	**5.3**	**3.7**	**3.0**	**2.1**
Wholesale and retail trade	18.3	18.2	1.7	2.5	0.3	0.5
Transport, storage and communication	13.7	13.7	8.9	3.4	1.2	0.5
Finance and insurance	2.9	3.0	1.0	6.6	0.0	0.2
Housing services	6.7	6.7	4.0	4.0	0.3	0.3
General government services	6.6	6.8	11.1	5.6	0.7	0.4
Other private services	9.3	9.3	6.3	4.0	0.6	0.4
GDP	**100.0**	**100.0**	**4.4**	**3.6**	**4.4**	**3.6**

Source: Pakistan Bureau of Statistics

[3] Pakistan's global ranking in terms of ease of doing business dropped by 3 notches to 107 (out of 180 countries) in 2013.
[4] While the government has set GDP growth target of 4.4 percent for FY14, SBP projects GDP growth of 3.7 percent (**Chapter 1**).

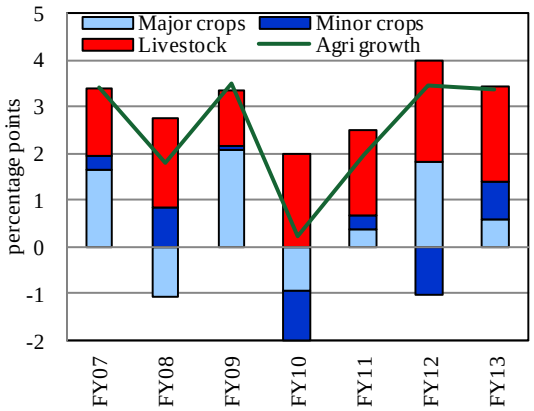
2.2 Aggregate Supply

2.2.1 Agriculture

The agriculture sector achieved marginally lower growth of 3.3 percent in FY13, compared to 3.5 percent in the previous year. *Major crops* caused this slowdown, as *minor crops* posted a strong rebound (**Figure 2.2**).[5]

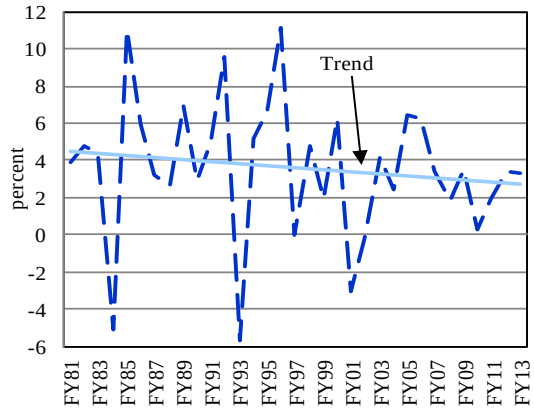
In broader terms, this performance follows the declining trends seen in the past several years (**Figure 2.3**). Encouragingly, given the large gap in yields between the national average and what a progressive farmer can realize (**Figure 2.4**), an appropriate policy mix can reverse this downtrend and also play the role of a bulwark against weather shocks. Planning Commission Report on Food Security (2009) has rightly stressed on the balanced application of fertilizer; use of good quality seeds; better soil and water management; and promotion of farm mechanization; as a requirement for increasing crop yields. In this context, the role of provincial Agriculture Extension Departments is quite critical.

Figure 2.2: Contribution to Agriculture Growth



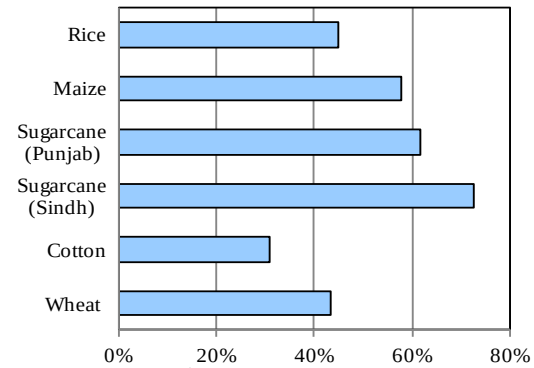
Source: Pakistan Bureau of Statistics

Figure 2.3: Agriculture Growth



Source: Various issues of Pakistan's Economic Survey

Figure 2.4: Yield Gap between National Average and Progressive Farmers



Source: Final Report of the Task Force on National Food Security, Planning Commission

Major crops

The growth in major crops fell to 2.3 percent in FY13 from 7.4 percent in the previous year. A sharp decline in cotton and rice due to heavy rains more than offset the higher growth seen in sugarcane and wheat crop (**Table 2.3**).

FY13 was the third consecutive year when adverse weather damaged the crop sector. Initially, area under cotton and rice declined mainly due to late harvesting of the FY12 wheat crop,[6] and water shortages.[7] Later in September 2012, heavy rains and localized flooding adversely affected the cotton and rice crops in Southern Punjab, and its peripheral areas in Balochistan.

The cotton crop suffered an additional blow, when the Cotton Leaf Curl Virus (CLCV) damaged the crop in the Central Punjab. Wheat, the main crop of *rabi* season, suffered from lower yields. Although water availability

[5] According to new PBS classification, 'major crops' include wheat, rice, sugarcane, cotton and maize only. This is different from the previous category of 'major crops' which also included barley, jowar, bajra, gram, sesamum, tobacco, rapeseed and mustard.

[6] The wheat crop generally matures in March each season, but the extended winter stretched this phase till April 2012.

[7] Water shortages developed, first, due to slowdown in glacier melting; and then, on account of delays in monsoon rains.

was better compared to the *kharif*, the delay in sowing due to the late harvest of previous crops (cotton and sugarcane) impacted yields. Hence, the wheat crop remained below target, despite an increase in area under cultivation.

Cotton: At 13.1 million bales, the cotton harvest was lower than 13.6 million bales realized in FY12, and well below the target of 14.6 million (**Table 2.4**). As explained in SBP's *First Quarterly Report* for FY13, the area under cotton cultivation fell due to: (i) shortage of water at sowing time; (ii) delays in wheat harvesting; (iii) lower cotton prices in the previous season; and (iv) a shift in preference of farmers towards sugarcane.[8]

Table 2.3: Major Crops

				Growth	
	FY11	**FY12**	**FY13**	**FY12**	**FY13**
Area in 000 hectare					
Cotton	2,689	2,835	2,879	5.4	1.6
Rice	2,365	2,571	2,309	8.7	-10.2
Sugarcane	988	1,058	1,121	7.1	6.0
Wheat	8,901	8,650	8,660	-2.8	0.1
Production in 000 tons; for cotton 000 bales					
Cotton	11,460	13,595	13,106	18.6	-3.6
Rice	4,823	6,160	5,536	27.7	-10.1
Sugarcane	55,309	58,397	62,724	5.6	7.4
Wheat	25,214	23,473	24,211	-6.9	3.1

Source: Ministry of National Food Security & Research; and Pakistan Central Cotton Committee

As mentioned earlier, the crop also suffered due to CLCV, mainly in the districts of Khanewal, Pak Pattan, Bahawalpur, Rahim Yar Khan, Layyah and Muzaffar Garh. In September 2012, heavy rains and localized floods in DG Khan, Rajanpur, and Bahawalnagar, badly damaged the standing crop. Cotton production also fell in Sindh, where severe shortage of irrigation water, not only reduced area under cultivation, but also triggered pest attacks (e.g., jassid) in some regions.[9]

Table 2.4: Cotton Crop in FY13

	Area (mln ha)		**Production (mln bales)**	
	Target	**Actual**	**Target**	**Actual**
Punjab	2.5	2.3	10.5	9.5
Sindh	0.7	0.5	4.0	3.4
Pakistan	**3.2**	**2.9**	**14.6**	**13.1**

Source: Pakistan Central Cotton Committee

More worryingly, the cotton crop is likely to be under stress even in FY14. The Cotton Crop Assessment Committee (CCAC) expects 12.3 million bales, against the target of 14.10 million.[10] They claim that sowing targets could not be achieved, both in Sindh and Punjab, mainly due to inadequate water supply; if the lower estimate is realized, this will hurt both agriculture and manufacturing, which means the growth target for FY14 is not likely to be achieved. Later on, heavy rains, especially in Punjab, are also reported to have damaged the crop.

While the crop may be lower, cotton growers may be compensated by rising domestic prices. However, current dynamics in the international market are not supporting local growers. More specifically, the minimum support price (MSP) introduced by the Chinese government to support its cotton growers, has led to a rapid buildup of cotton stocks – China currently holds nearly 60 percent of the world stock. However, this policy has rendered its textile industry increasingly uncompetitive in the global market (**Box 2.1**). Hence, if China curtails cotton procurement from local growers or reduces its existing cotton inventories, this would ease cotton prices in the international market.

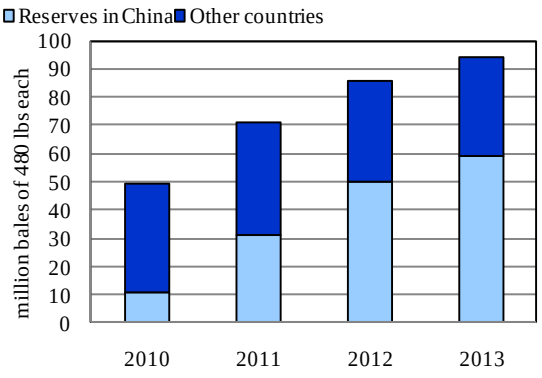
Box 2.1: International Cotton Prices: Can They Collapse Again?

China has been a key player in international cotton market both, as a largest producer and consumer: in 2013, it produced 29 percent of the global output, and contributed one-third of the world consumption. This significance has grown since March 2011, when China introduced Minimum Support Price (MSP) – the price at which the government would buy cotton from domestic growers. Incidentally, the announcement of MSP was followed by the collapse of cotton prices in the global market. In 2012, China raised the MSP, even as world cotton prices were declining, thus causing a significant rise in the price premium for domestic cotton.

[8] Farmers who were expecting heavy rains this year, preferred sugarcane crop, as this is more resilient to floods.
[9] Source: Monthly Reports of Pakistan Central Cotton Committee.
[10] Source: CCAC's 4th meeting held on 11th December 2013.

The MSP had some major implications: (1) cotton production in China increased from 30.5 million bales (480 lbs each) in 2010 to 35 million bales in 2013; (2) at the same time, higher prices pulled down the domestic consumption from 46 million bales to 36 million bales during the same period; (3) cotton reserves grew significantly (**Figure 2.1.1**), as government bought a significant portion of cotton produced during this period; (4) as domestic prices were higher than the global benchmark, this made the textile industry uncompetitive in the international market, thereby, forcing firms to cut production or even discontinue their operations; and (5) this has also inflated import demand for cotton and yarn, which in turn, is supporting their global prices.

Figure 2.1.1: Cotton Reserves



Source: Haver Analytics

The odds of continuing with this support policy appear quite low given the scale of imbalances in the cotton market, and the losses suffered by the textile industry in China in recent years. In this situation, the key challenge is to devise an exit policy without creating any global panic. We expect the international cotton prices to come under pressure, if the government scales down cotton procurement (as this would reduce the import demand from China for cotton and yarn), or decides to reduce cotton inventories. Unfortunately, the current global economic slowdown, lower growth in China, and high cotton prices, is likely to reduce the chances of any rebound in global demand that would absorb China's cotton inventories.

Rice: This crop also suffered during FY13. Lower availability of irrigation water and a shortfall in precipitation at the time of plantation, reduced the area under cultivation. Subsequently, heavy rains and a large volume of run-off water from upper catchment areas, damaged the rice crop in Jacobabad, Kashmore, Shikarpur, Jafferabad, and Naseerabad districts. Hence, rice production of 5.5 million tons in FY13 was 10.1 percent lower than the previous year (**Table 2.5**). This was also significantly below the target of 6.9 million tons.

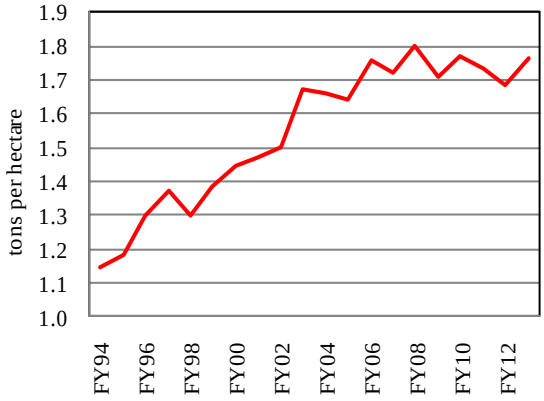
Table 2.5: Rice Crop
Area in 000 hectare; production in 000 tons

	2011-12		2012-13	
	Area	**Output**	**Area**	**Output**
Punjab	1,714	3,277	1,711	3,478
Sindh	636	2,260	511	1,844
Balochistan	171	529	38	120
Pakistan	**2,571**	**6,160**	**2,309**	**5,536**

Source: Ministry of National Food Security & Research

As mentioned in SBP's *First Quarterly Report* for FY13, the production decline in basmati rice raises a major concern. Average yields have been stagnant for the past 8 years (**Figure 2.5**). Furthermore, some basmati growers are opting for low-grade varieties which have shorter harvesting period, and offer better yields. Though these varieties fetch lower prices compared to traditional basmati varieties, their shorter crop cycle (and reduced cost) partially compensates farmers for lower revenues.[11] Having said this, the price gains from basmati are considerably higher than the Irri variety.[12]

Figure 2.5: Yield of Basmati Rice



Source: Agriculture Statistics of Pakistan and MNFS&R

[11] This allows farmers to grow other crops (e.g., fodder) before the cultivation of the next major crop.
[12] Specifically, price of basmati (super) has witnessed a cumulative increase of 41.6 percent during FY12 and FY13, compared to 17.8 percent increase for Irri during the same period.

Growers of non-basmati varieties are also vulnerable to a possible fall in global prices. Uncertainty about the 'rice pledging scheme' in Thailand is unnerving the global markets.[13] This scheme has led to a sharp buildup in Thailand's rice reserves to nearly 16 million tons – this stock accounts for over 40 percent of global rice imports. More importantly, substantial financial losses on these stocks are now forcing the Thai government to reconsider the scheme. Thus, international rice prices are already under pressure.[14]

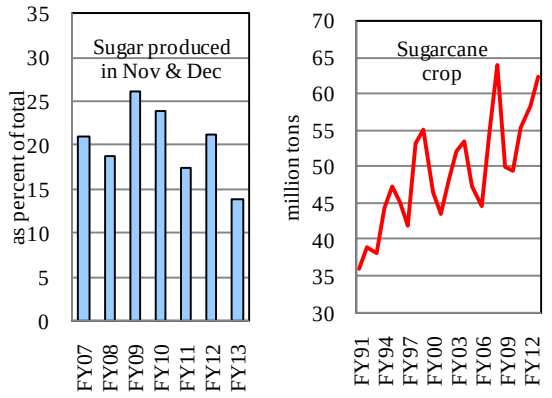
Table 2.6: Sugarcane Crop
Area in 000 hectare; production in 000 tons

	2011-12		2012-13	
	Area	**Production**	**Area**	**Production**
Punjab	761	42,893	760	43,014
Sindh	190	10,788	254	14,909
KPK	106	4,684	107	4,770
Pakistan	**1,058**	**58,397**	**1,121**	**62,724**

Source: Ministry of National Food Security & Research

Sugarcane: This crop benefited from a larger area under cultivation, and a slight improvement in yields. Fearing floods this year, farmers preferred sugarcane over cotton and rice. Significant production gains were recorded in Sindh, where area under cultivation recovered from FY12, and yields also improved sharply (**Table 2.6**). Against the target of 59 million tons, the overall production reached 62.7 million tons – the second highest after 63.9 million tons recorded in FY08 (**Figure 2.6**).

Figure 2.6: Sugar Production and Sugarcane Crop



Source: Pakistan Bureau of Statistics

During FY13, although farmers benefited from higher indicative purchase prices announced by the provincial governments,[15] delay in crushing was cited as a major concern. The start of the crushing season has always been a contentious issue between the growers and the sugar mills.[16] To support farmers, the National Sugar Policy of 2009-10 asked provincial governments to ensure that the crushing season commence latest by 1st November in Sindh, and by 15th November in Punjab and KP.[17] Nonetheless, sugarcane crushing was delayed, as reflected in the sugar production during the first two months of the crushing season (i.e., November and December), which contributed less than 15 percent of the total sugar produced in FY13 (**Figure 2.6**). Normally, these two months account for over 20 percent of total annual sugar production.

Table 2.7: Wheat Crop
Area in 000 hectare; production in 000 tons

	2011-12		2012-13	
	Area	**Production**	**Area**	**Production**
Punjab	6,483	17,739	6,511	18,587
Sindh	1,050	3,762	1,058	3,599
KPK	729	1,130	727	1,258
Balochistan	388	843	363	768
Pakistan	**8,650**	**23,473**	**8,660**	**24,211**

Source: Ministry of National Food Security & Research

[13] This scheme was introduced to support farmers' community in Thailand. Accordingly, government would buy rice from farmers, at price which was 50 percent above the market rate. This scheme initially drove-up international rice prices. The market dynamics however changed drastically in late 2011 following the entry of India in the export market of non-basmati rice, and the competitive pressures from Vietnam.

[14] The average export price of high quality (5% broken) Thai rice is already down to US$ 439 per metric ton in October 2013 from US$ 564.2 in January 2013 (Source: Havers Analytics).

[15] Sindh government moved up the indicative price (at mill gate) of sugarcane from Rs 154 per 40 kg in the previous season to Rs 172 per 40 kg in FY13 (whereas Punjab government raised this price to Rs 170 per 40 kg).

[16] Understandably, sugar mills would like to ensure an uninterrupted supply of sugarcane, so that the entire crop is processed without any break. At the same time, a delayed crushing improves the sucrose contents of sugarcane at the expense of weight loss. Consequently, cash flows to growers are reduced, and sowing of the next crops is sometimes delayed.

[17] In FY13, late announcement of indicative prices by Sindh government added to uncertainty surrounding the start of the crushing season.

Wheat: Wheat production reached 24.2 million tons during FY13, higher than the previous year's 23.4 million tons (**Table 2.7**). Larger area under cultivation; higher support price; better availability of water; and favorable climate conditions (moderate temperatures and frequent rains); all helped in achieving this production level.

Despite these positives, the crop missed the target of 25.5 million for the year, mainly due to below-target sowing. Although Sindh exceeded the sowing target,[18] Punjab – the largest wheat producer – fell short of target by 291 thousand hectare (**Table 2.8**).

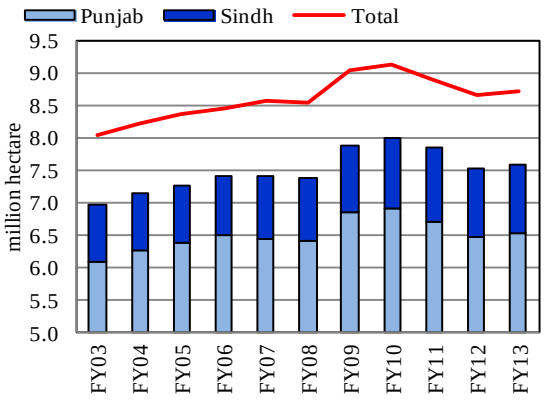
The area under wheat cultivation has been showing a declining trend in recent years: after peaking at 9.1 million hectare in FY10, area under cultivation has fallen to 8.7 million hectare in FY13. The fall was mainly concentrated in Punjab, as Sindh recorded a marginal rise (**Figure 2.7**). A number of wheat growers in Southern Punjab, who had been suffering from heavy rains and floods, preferred to grow sugarcane. Similarly, farmers in central Punjab, particularly in Sahiwal and Pakpattan, have shifted to potato and maize, which offer higher returns.[19,20] Reportedly, some farmers in Punjab opted for third and fourth pickings (of their cotton crop) in anticipation of better prices towards the end of the season.[21]

Table 2.8: Wheat Sowing Targets and Actual

	Target	Actual	Difference
Area (000 hec)			
Punjab	6,802	6,511	-291
Sindh	1,031	1,058	+27
Production (000' ton)			
Punjab	19,200	18,587	-613
Sindh	3,682	3,599	-83

Source: Provincial Agriculture Departments

Figure 2.7: Area Under Wheat



Source: Provincial Crop Reporting Centers

FY13 also witnessed a low crop yield, mainly due to delays in wheat sowing.[22] In addition, a relatively mild winter at the germination stage, held back vegetative growth of the wheat plant. Later, rains and hailstorm in March 2013 partially damaged the ready crops, particularly in central regions of Sindh and Punjab.[23] As a result, the wheat crop could not meet the target of 25.5 million tons. With falling area, as well as low and stagnant yields in recent years, it will be challenging to meet the rising domestic demand due to the country's population growth (**Box 2.2**).

[18] This is notable as area under wheat fell in Kashmore and Jacobabad following heavy rains in September 2012.
[19] Potato and maize are short duration crops, which allow farmers to cut down their costs, and, at the same time, harvest more than two crops during a year.
[20] Growing maize has become attractive, as one of the large firms, involved in making corn oil and other corn-based food products, has started a maize collection center in Sahiwal, Punjab. This has allowed farmers to sell their produce on cash basis. In addition, maize is also used in preparing feed for poultry industry.
[21] The picking of May-sown cotton begins in September, and reaches its peak in October. Sometimes, growers may even decide to extend the crop to realize multiple picking.
[22] According to Pakistan Agriculture Research Council, optimal sowing time for wheat is from 15th Oct to 15th Nov. Late sowing would result in yield losses, which will increase exponentially with more delays in sowing.
[23] Rain at the growing stage is harmful as it directly damages the crop and delays ripening of grain due to low temperature.

Box 2.2: Low and Stagnant Wheat Yield in Pakistan

Although Pakistan is amongst the top 10 wheat producers in the world, its average productivity hovers around 2.7 tons per hectare, below the world average, and even lower than yields recorded in many countries (**Figure 2.2.1**). More worryingly, yields have been stagnant during the past several years (**Figure 2.2.2**).

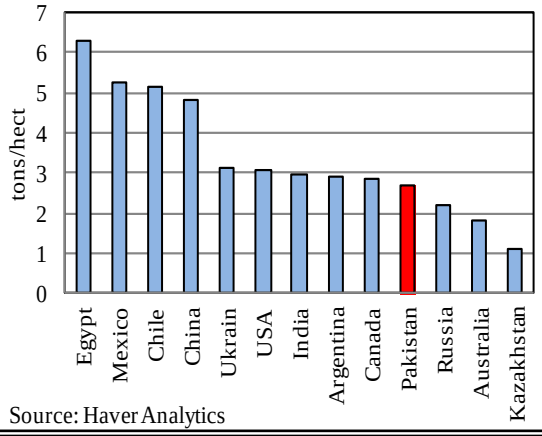
With hard limits on total arable land, such low and stagnant yield raises major risks for food security, particularly when yield growth stands lower than the pace of population growth.[24,25] Furthermore, sustaining current level of production in medium-term would become increasingly difficult due to climate changes.

Punjab, which accounts for over 75 percent of total wheat production in the country, shows even lower yields compared to Sindh (**Figure 2.2.3**). In addition, yields are stagnant in both provinces for the past many years, despite frequent upward adjustments in wheat support prices. This means, the increase in the overall production was realized mainly by bringing more land from competing crops, rather than improving wheat productivity.

On an encouraging note, we have examples of progressive farmers, who have been able to harvest 4-5 tons of wheat from one hectare in irrigated areas. This suggests we can realize substantial production gains through replicating experience of progressive farmers on a much wider scale. Unfortunately, most of farmers who have small land holdings, cannot afford investment in new technologies & costly inputs.[26]

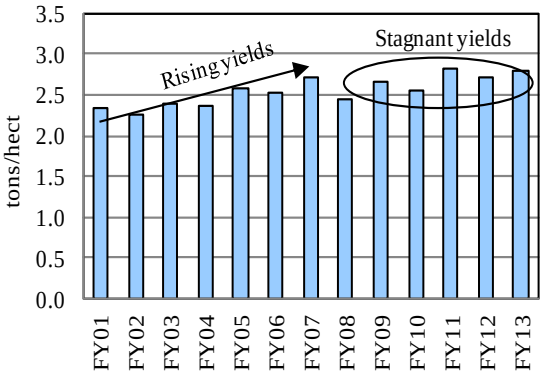
The concerns on food security become more demanding due to growing population. To put this in perspective, a population growth of 2 percent per annum and consumption of 8 kg/month per head, boost wheat demand by more than one million ton in three years.[27]

Figure 2.2.1: Wheat Yield (Average 2008-2013)



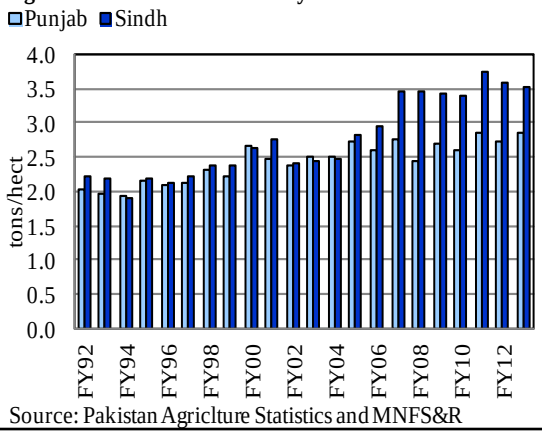
Source: Haver Analytics

Figure 2.2.2: Trends in Wheat Yield



Source: Pakistan Agriclture Statistics and MNFS&R

Figure 2.2.3: Wheat Yield in Key Provinces



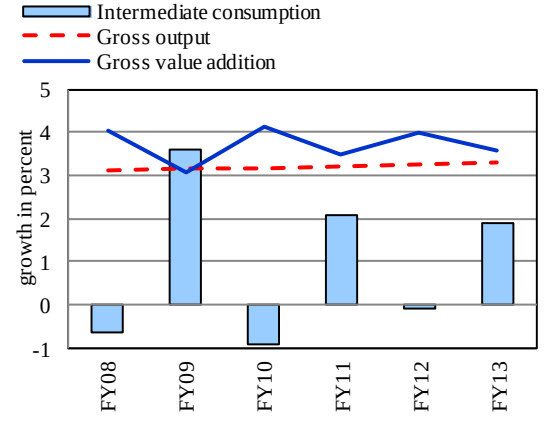
Source: Pakistan Agriclture Statistics and MNFS&R

[24] During the last five years, wheat production in the country has increased by 0.3 percent per annum, whereas annual population growth rate has been 2 percent.
[25] Wheat contributes more than 50 percent of the daily caloric consumption of the population in Pakistan.
[26] According to recent Census on Agriculture, more than 85 percent of farmers (which make up more than 40 percent of farm area) have land holding of less than 5 hectare.
[27] This assumes the average monthly per capita wheat consumption in Pakistan is 7.98 kg (source: Agriculture Statistics of Pakistan).

Livestock

Livestock (which includes both the animal population and their products) contributes 54.2 percent of the value addition by agriculture, and 11.9 percent in GDP. Despite its significance, available information on this sector is insufficient to make any rigorous analysis. Most of the numbers are computed indirectly. For example, over one-third of value addition comes from livestock population which is assumed to grow at a constant rate.[28] Similarly, the estimate of livestock products (e.g., milk and poultry) are derived by applying fixed parameters on the computed livestock population. As a result, *gross* output of this sub-sector follows a constant trend (**Figure 2.8**), which does not necessarily capture what is really happening in this critical sector.

Figure 2.8: Livestock Sub-sector



Source: Pakistan Bureau of Statistics

The *net* value addition by livestock records some minor changes, that primarily relies on trends in intermediate consumption (mainly fodder output), and varies in line with the growth of the crop sector.

Table 2.9: Growth in Selected Industries
percent

		YoY Growth		Contribution to LSM				YoY Growth		Contribution to LSM	
	Weight	FY12	FY13	FY12	FY13		Weight	FY12	FY13	FY12	FY13
Consumer durable	4.9	5.8	-8.8	0.40	-0.63	**Agriculture-led**					
Cars & jeeps	2.8	14.7	-21.3	0.44	-0.72	Fertilizer	4.4	0.1	-4.0	0.0	-0.22
Consumer electronics	2.0	-6.9	-4.4	-0.13	-0.07	Tractors	0.5	-32.0	5.6	-0.28	0.03
Construction-led						**Food**	12.4	5.9	9.5	1.15	1.92
Cement	5.3	2.9	5.2	0.31	0.56	Sugar	3.5	11.2	9.5	0.71	0.67
Steel coils & sheets	2.3	-22.9	28.1	-0.38	0.36	Edible oil	2.2	3.2	10.7	0.11	0.38
Paints	0.3	-21.6	5.6	-0.08	0.02	**POL**	5.5	-6.7	16.2	-0.40	0.89
Export-led						Petro products	5.4	-5.6	16.5	-0.32	0.89
Cotton yarn	13.0	0.5	2.1	0.10	0.41	**Paper & board**	2.3	19.2	18.9	0.54	0.63
Cotton cloth	7.2	0.3	0.6	0.03	0.06						
Pharmaceutical	3.6	7.0	10.0	0.53	0.80						
Leather	0.9	-1.0	1.5	-0.02	0.03						

Note: For detailed data please visit: www.pbs.gov.pk

2.2.2 Large-Scale Manufacturing

The growth in large-scale manufacturing recovered from just 1.1 percent in FY12, to 4.4 percent in FY13 (**Table 2.9**) – the highest rate in the past five years.[29] This is encouraging given the worsening energy shortages, and deteriorating law and order in the country. A part of this increase was due to capacity enhancement in *motor tyres*, *paper*, *iron & steel*.[30] More importantly, this upturn appears more broad-based: for instance, the number of industries showing YoY increase in growth has a combined weight of 52.1 percent in overall manufacturing (in FY12, this ratio was only 21.7 percent).

[28] Data on livestock covers buffalos, cattle, sheep, goats, camels, horses, mules and asses. The mean growth rate between Livestock Census of 1996 and 2006 is used to extrapolate population in the current period.
[29] The LSM growth of 4.4 percent for FY13 does not match with **Table 2.2** as the latter is based on Jul-Mar data.
[30] These industries having a combine weight of 4.9, contributed 1.1 percent growth in LSM during FY13.

All major industries,[31] except *auto* and *fertilizer*, recorded higher production in FY13. Excluding these two, the LSM index shows even higher growth of 6.1 percent in FY13, compared to only 1.0 percent in FY12.

Broadly speaking, several factors are responsible for this improved performance: a bumper sugarcane crop (which led to strong growth in sugar production); the fall in global raw material prices (e.g., palm oil, coal); and construction-related items (e.g., cement, paints, iron & steel).

Bumper crop yielded record sugar production

Sugar production reached a record level of over 5 million tons in FY13, up from 4.6 million tons in FY12. Interestingly, mills were able to enhance production despite the rising cost of large inventories from the previous season; upward revision in sugarcane prices (from Rs 154 per 40Kg to Rs 172 per 40 Kg); and a fall in the price of refined sugar, both in international and domestic markets. Nevertheless, a healthier sugarcane crop and support from the government provided some relief to this industry (**Table 2.10**).[32]

Table 2.10: Financial Performance of Sugar Sector

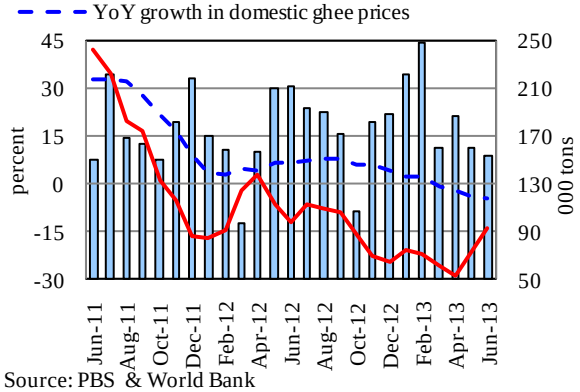
	September-March	
	2011-12	**2012-13**
Sugar production (million tons)	4.63	5.07
Gross profit/loss (%)	-61.8	-14.8
No. of loss making units	9	10
Units showed ↓ in profit	12	6
Units earned ↑ profit	3	8
Supportive factors		
Freight subsidy		Rs 1.75/Kg
Tax incentive		↓ sales tax[1]
Financing cost (% growth)	5	-1.2
Operating cost (%growth)	-45.7	-16.4
Negative factors (%)		
Sugarcane price	23.2	11.7
Distribution cost	-2.1	159.1
Administrative cost	21.4	5
Domestic sugar price	-14.79	-12.57
Global sugar price	-2.9	-21.64

[1.] From 8% to 0.5 % on stocks equivalent to exports.
Data is for 24 sugar mills listed at Karachi Stock Exchange.
Source: Websites of respective sugar mills.

Falling international palm oil prices helped the edible oil sector

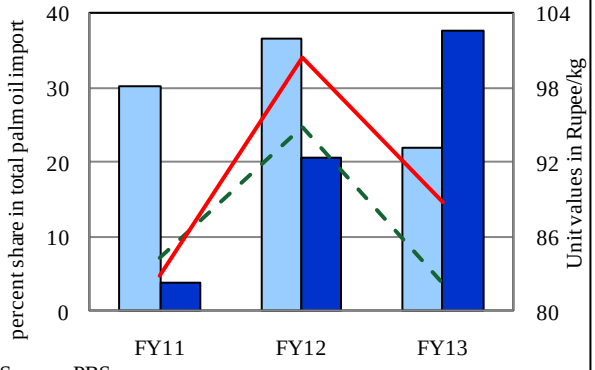
The edible oil & ghee sector saw exceptional growth in FY13, mainly due to a sharp decline in international palm oil prices (**Figure 2.9**).[33] Moreover, anecdotal evidence suggests that rather than refining crude palm oil, manufacturers preferred to package imported refined, bleached and deodorized (RBD) palm oil.[34] The import of RBD palm was appealing, as the two major palm oil

Figure 2.9 (a): Dynamics of Palm Oil Import



Source: PBS & World Bank

Figure 2.9 (b): Crude vis-a-vis RBD Palm Import



Source: PBS

[31] This includes textile, cement, household durables (e.g., deep freezer, refrigerator, air conditioner), POL, sugar, edible oil & ghee, pharmaceutical, and iron & steel.
[32] Government took several measures to support the sugar industry. For example, it asked the Trading Corporation of Pakistan to purchase 100 thousand tons sugar from mills; reduced the sales tax from Rs8 per Kg to 0.5 Rs per Kg on the local sales of sugar stocks (equivalent to their export sales); and allowed sugar mills to export their surplus stock in the international market.
[33] On average palm oil price fell by 18.5 percent in FY13 as compared to a fall of 1.9 percent in FY12.
[34] Even a simple packaging and selling of imported oil shows up in LSM growth.

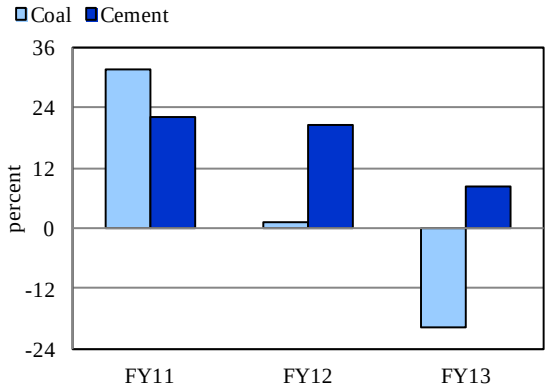
producing countries (Indonesia and Malaysia) had offered tax incentives to their exporters.[35] The broad substitution of crude palm import with RBD is shown in **Figure 2.9b**.[36]

Recovery in construction pushes cement and other allied industries

The stability in building material prices and higher allocation of PSDP, remained as the main factors explaining the growth in cement and other construction allied industries.

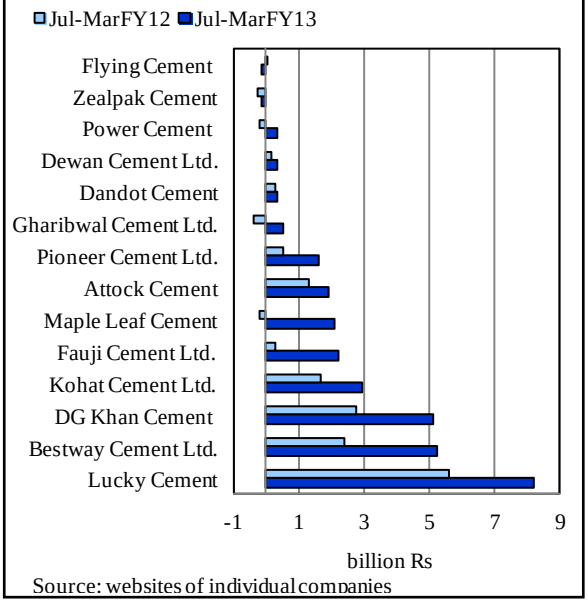
The cement sector performed well during FY13; most of the production catered to local demand as evident in the 4.7 percent rise in local dispatches. Exports, on the other hand, experienced a fall mainly due to lower demand from Afghanistan.[37,38] Besides the higher production, lower financial cost and falling coal prices eased cost pressures and increased margins in the entire cement sector (**Figure 2.10**),[39] even for loss makers in FY12 (**Figure 2.11**).

Figure 2.10: Change in Input and Output Prices for Cement



Source: State Bank of Pakistan

Figure 2.11: Profit Before Tax of Listed Firms



Source: websites of individual companies

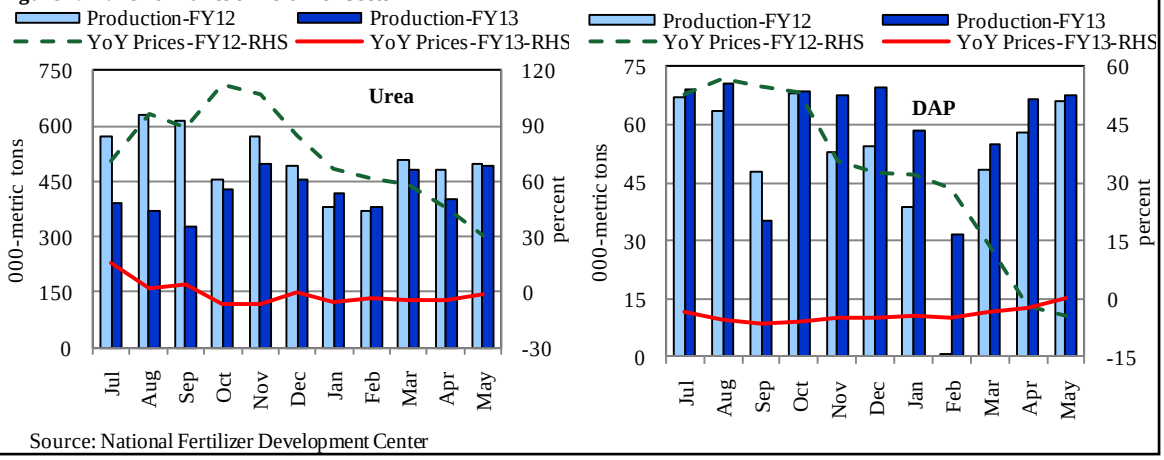
Besides cement, iron and steel also gained from the recovery in construction in FY13. Furthermore, the commencement of three new plants enhanced local production of different products of iron and steel.[40]

Gas shortages hit the fertilizer sector

Fertilizer was one of two sectors that negatively contributed in overall LSM growth in FY13. Gas shortages and lower off-take suppressed production in most of the urea plants in the country. In addition, margins were squeezed when fertilizer prices fell sharply in both the international and domestic markets. Thus, domestic production dropped to its lowest level in the last six years. By contrast, DAP production achieved record level during the year. Although domestic DAP prices were under pressure throughout the year, a sharp fall in global price of main inputs (e.g., rock phosphate) and increased off-take, supported higher domestic production during FY13 (**Figure 2.12**).[41]

[35] Specifically, the Indonesian government reduced the RBD palm prices (instead of crude palm prices) to support edible oil refining sector.
[36] Most of the palm RBD was imported from Indonesia during FY13.
[37] According to All Pakistan Cement Manufacturer Association (APCMA), the export dispatches fell by 2.3 percent on YoY basis in FY13.
[38] Financial reports of listed cement companies suggests that most of the deceleration in export to Afghanistan came on account of imposition of duty on import from Pakistan and competition from cheaper Iranian cement in the Afghan market (For details, see **Trade** section in **Chapter 7**).
[39] International coal prices have been facing a steep fall since last two years, mainly on account of discoveries of large reservoirs of alternative fuels such as shale gas.
[40] See SBP's 2nd and 3rd Quarterly reports of FY13 on State of the Economy, for details.
[41] The DAP production reached 727 thousand tons in FY13, compared to 619 thousand tons in FY12.

Figure 2.12: Performance of Fertilizer Sector

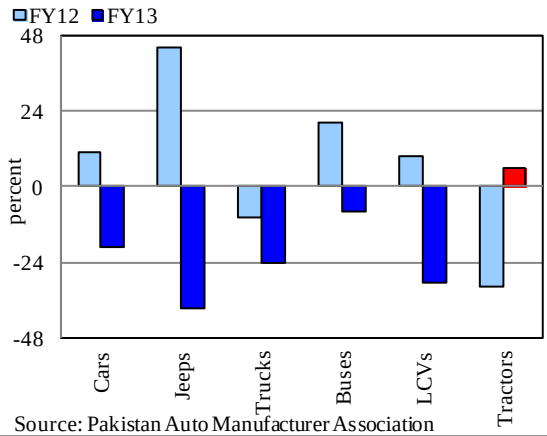


Source: National Fertilizer Development Center

Weak performance in the auto sector

The challenges facing auto sector deepened further in FY13. Unlike FY12, when production decline was limited to a few segments (e.g., tractors and trucks), the drop in FY13 was broad-based (**Figure 2.13**).

Figure 2.13: YoY Growth in Auto Sector



Source: Pakistan Auto Manufacturer Association

Within the car segment, local assembling fell by 19.1 percent in FY13, in sharp contrast to a rise of 10.9 percent in the previous year. Except for one firm (which introduced two new models in 2013), most car manufacturers could not reach the production levels of FY12.[42] Several factors reduced the demand for locally manufactured cars in FY13: (1) strong competition from imported reconditioned cars, following the relaxation of binding regulation in December 2010;[43] (2) phasing out of two popular car models (i.e., Suzuki Alto & Daihatsu Coure) in compliance with Euro II standards;[44] and (3) the end of the yellow cab scheme that had boosted sales by 20,000 cars in FY12 (**Table 2.11**).

Table 2.11: Sales of Cars

	FY12	FY13
Total sales	189,689	150,041
Local manufactured	134,785	105,889
Imported used cars	54,904	44,152
Excl. Alto and Coure	169,544	149,970
Excl. Alto, Coure & Yellow cabs	149,544	149,970

Source: Pakistan Auto Manufacturer Association and All Pakistan Motor Dealers Association

Within commercial vehicles, the tractor industry showed positive growth of 5.7 percent, compared to a fall of 32 percent last year.[45] The subsidized tractor schemes for small farmers, initiated by provincial governments of Sindh and Punjab, created demand for new tractors in FY13.[46] The tractor

[42] Due to lower demand for locally manufactured cars, one of the largest manufacturing unit remained out of operation for about two months during FY13.
[43] In December 2010, the government eased age restrictions on used car imports and allowed the imports of cars up to 5 years old. In December 2012, the government once again reduced the age limit from 5 years to 3 years; resultantly, the import of Completely Built Unit dropped considerably in the second half of the FY13.
[44] Adjusting for these two brands, total car production shows a lower decline of 5.7 percent during FY13.
[45] In FY12, imposition of higher sales tax led to a substantial decline in tractor production.
[46] Provincial governments provided a subsidy of Rs 0.2 million on each tractor distributed through the balloting process.

industry however views these subsidies as a threat to future growth, as this scheme is putting downward pressure on market prices.[47]

2.2.3 Services

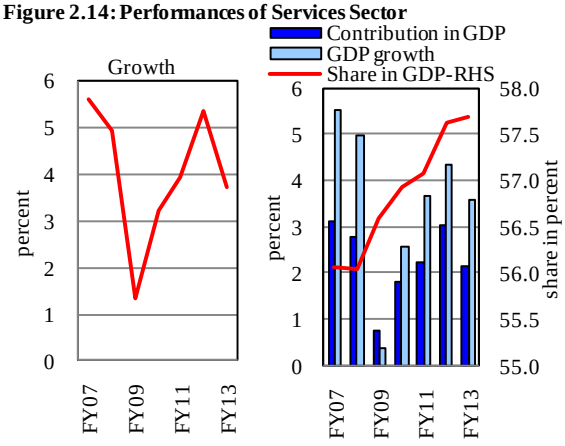
The growth momentum seen in the services sector for the last three years, could not continue in FY13 (**Figure 2.14**). The lower growth of telecom and general government services pulled the overall growth in services down to 3.7 percent in FY13, from 5.3 percent in the previous year (**Table 2.12**).[48,49] Despite this setback, services still contributed nearly 60 percent of the growth in overall GDP – this reflects the significance of this sector in the economy.

In overall terms, the share of services in GDP has risen to 57.7 percent in FY13 (from 54.4 percent under the previous base of 1999-2000) after the recent rebasing of the National Income Accounts by the Pakistan Bureau of Statistics – PBS (**Box 2.3**). Despite its growing share, timely availability of detailed and reliable information on this sector, poses a major constraint for meaningful analysis. Currently, PBS releases information only on an annual basis.[50] We expect the proposed release of quarterly GDP data would allow more timely and rigorous analysis in the future.

Wholesale and retail trade: This category, the largest within services, captures the value of margins on commercial trading activities. Since the trading business spans the entire country and mainly consists of small stores and outlets (which are poorly documented), PBS adopts a top-down approach. Instead of tracking individual wholesalers and retailers, PBS computes the likely supply of goods in the market (i.e., crops and livestock products, output of manufacturing sector, and imports), and then applies *fixed* average trade margins, which are derived from surveys on various commodities. Thus, the value addition in wholesale and retail trade, essentially varies in response to changes in the market supply of goods.

For FY13, wholesale and retail trade witnessed higher growth compared to the previous year

Figure 2.14: Performances of Services Sector



Source: PBS

Table 2.12: Growth in Services Sector
Growth and share in percent; contribution in percentage points

	Share	Growth		Contribution to growth	
	FY13	FY12	FY13	FY12	FY13
Wholesale & retail trade	31.5	1.7	2.5	0.5	0.8
Transport, storage & communication	23.7	8.9	3.4	2.1	0.8
Finance & insurance	5.2	1.0	6.6	0.1	0.3
Housing services	11.7	4.0	4.0	0.5	0.5
General government services	11.7	11.1	5.6	1.2	0.6
Other private services	16.2	6.3	4.0	1.0	0.6
Services		**5.3**	**3.7**	**5.3**	**3.7**

Source: Pakistan Bureau of Statistics

Table 2.13: Wholesale & Retail Trade Sector (Constant prices of 2005-06)
percent

	Share	Growth	
	FY13	FY12	FY13
Total		**1.6**	**2.6**
Manufacturing	51.3	2.6	3.8
Imports	17.6	-5.8	-3.8
Crops	10.0	2.2	2.0
Other agriculture	10.3	3.6	3.1
Hotel & restaurants	8.5	4.9	4.9
Other	2.2	3.0	3.3

Source: Pakistan Bureau of Statistics

[47] Reportedly, despite a ban, some beneficiaries of this scheme are re-selling their tractors in the market.
[48] General government includes federal, provincial and district governments; local bodies; cantonment boards; and social security funds.
[49] These two sub-sectors together represent 35.4 percent of the value addition by services during FY13.
[50] In comparison, provincial crop reporting centers compile data on production of each crop. Similarly, Pakistan Bureau of Statistics releases industry-wise production numbers on monthly basis.

(**Table 2.13**). As discussed earlier, this reveals increased trading activity for manufactured goods (which mainly reflects a recovery in large-scale manufacturing), whereas trading in agriculture products remained lackluster (following the losses in cotton and rice crops).

Transport, storage and communication: Within this category, 'road transport' enjoys the largest share, followed by 'communication'. The growth in 'road transport' remained largely unchanged during the year (**Table 2.14**). 'Communication' posted strong growth of 8.1 percent, but this was lower than the exceptional showing last year. Currently, several issues are hampering growth of the telecom sector: the forced shutdown of cellular service; higher tax incidence; and the intense price competition that has pulled down the average revenue per user – see **Box 2.4** for more details.

The continuing deterioration in the performance of Pakistan Railways (PR) led to a decline in its value addition for the sixth consecutive year. PR is facing an acute operational crisis, as passenger traffic has fallen from its peak of 230 trains per day to 92 trains a day, and number of freight trains has declined from 96 to just one per day.[51] The resulting financial problems have led to a situation, where PR is unable to pay salaries and pensions without seeking direct support from the federal government.

Box 2.3: Impact of Base-Year Change on Services[52]

To isolate the impact of base year change, we have focused on the value addition in FY06 at current prices and analyzed it under both, the old and the new base.

As shown in **Table 2.3.1**, a revision in the base year has increased value addition of the services sector by Rs 547 billion, with a major change taking place under housing services. This mainly reflects revisions in the estimates for *rent* and *number of dwellings* for the previous base,[53] and some improvement in coverage.[54]

Table 2.14: Gross Value Addition by Transport, Storage & Communication (Constant price of 2005-06)

	Share	Rs billion		Growth (percent)	
	FY13	FY12	FY13	FY12	FY13
Road transport	69.4	925	945	2.3	2.2
Communication	22.1	279	301	52.4	8.1
Water transport	3.5	50	48	7.5	-4.0
Air transport	3.1	31	42	-28.1	38.2
Pipeline transport	0.2	3	3	-16.6	2.5
Railways	-0.8	-3	-11	-50.2	-271.0
Storage	2.4	32	33	1.3	2.3
Total	**100**	**1,316**	**1,362**	**8.9**	**3.4**

Source: Pakistan Bureau of Statistics

Table 2.3.1: Value addition of Services in 2005-06 (Current price of 2005-06)

	Old base (1999-2000)	New base (2005-06)	△
Value addition (Rs billion)			
Services	**3,778**	**4,324**	**547**
Transport, storage & communication	908	959	51
Housing service (Ownership & dwelling)	185	505	320
Wholesale & retail trade	1,262	1,523	261
Finance & insurance	364	283	-81
General government services (Public admin & defence)	405	425	21
Other private services (Social community & personal services)	653	629	-25
Share in percent			
Transport, storage & communication	24.0	22.2	
Housing service (Ownership & dwelling)	4.9	11.7	
Wholesale & retail trade	33.4	35.2	
Finance & insurance	9.6	6.5	
General government services (Public admin & defence)	10.7	9.8	
Other private services (Social community)	17.3	14.5	
Services' share in GDP	**49.5**	**52.6**	

Source: Pakistan Bureau of Statistics

[51] Source: page 171, Pakistan Economic Survey 2012-13.
[52] This section in based on publication titled 'National Accounts of Pakistan: Change of base from 1999-2000 to 2005-06' by Pakistan Bureau of Statistics available at http://www.pbs.gov.pk.
[53] PBS used the *provisional* numbers for occupied dwelling while implementing the previous base year of 1999-2000. This was because the results of 1998 Housing Census were not completely available at that time. The new base corrects this issues, as it extrapolates the *final* data of 1998 survey to work out numbers for dwelling in 2005-06.
[54] The new base also includes value addition from 'real estate' and 'cooperative housing societies'. It may be noted that 'real estate' was previously categorized under 'social community and personal services'.

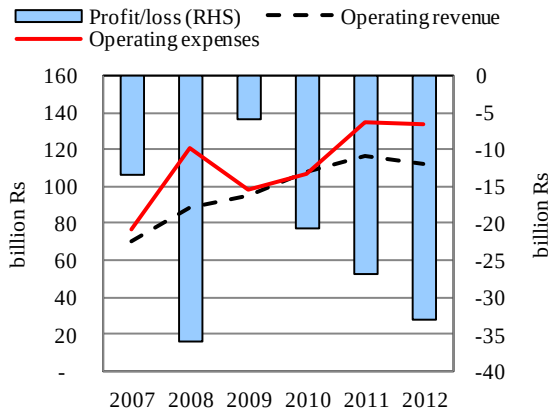
The next major change was witnessed under the *wholesale and retail trade*. This is due to (1) expanded coverage;[55] (2) change in computation methods;[56] and (3) use of results from new surveys.[57]

The higher value addition under the category of *transport, storage and communication* mainly reflects the impact of improved coverage. Specifically, the new base includes railway franchised booking agents; Pakistan Railway Advisory and Consultancy Services; services of oil and water tanker; activities of good forwarding agents and international freight forwarders; franchised post offices; cable operators; internet service providers; and pay phone companies.

Despite no change in the coverage of *finance and insurance*, its value addition declined under the new base. This mainly reflects a change in the approach for measuring output of financial services. Specifically, (1) capital gains have now been excluded from the output;[58] (2) property income has been replaced by a more representative measure of financial services (i.e., financial intermediation services indirectly measured);[59,60] and (3) State Bank of Pakistan is being treated as non-market producers.[61]

Air transport includes the operations of both domestic and foreign airlines, as well operations of Civil Aviation Authority (CAA). This sector recovered strongly in FY13, after showing a decline of 28.1 percent last year. It appears that the rebound was brought about by private airlines and the CAA, as Pakistan International Airline (PIA) continues to show financial losses. During CY2012, PIA recorded a loss of Rs 33.2 billion (**Figure 2.15**). Even the results for the first three quarters of 2013 are not encouraging, as the airline incurred a loss of Rs 31.9 billion, which is Rs 9.5 billion higher than the corresponding period of 2012. While PIA is facing the same challenges as other global airlines and stiff competition from regional airlines (particularly from the GCC),[62] internal focus on cost efficiency remains quite low. For example, the cost of aircraft fuel is 47 percent of its operating cost, compared to a global industry average of 33 percent.

Figure 2.15: Performance of PIA



Source: PIA Annual Report 2012

[55] The new base includes trade of live-animals, repair of vehicles and motorcycles, and secondary activities relating to trade (i.e., remuneration of services linked to trade activity, e.g., transporting, fixing or installing the goods purchased).
[56] Under the previous base, margins were computed over the *sale* value. Now these are being estimated over the *purchase* value of the merchandise.
[57] The new base uses updated values of trade margin and input-output ratio derived from recent surveys.
[58] Conceptually, capital gains do not arise from any production or transaction. Nonetheless, the previous national accounting framework used to consider them as a valid output of the *finance and insurance* sector. The new base addresses this anomaly by excluding capital gains from the estimated output.
[59] The previous base considered interest, dividends or rent (which generally form a part of the property income) as value addition of banks. Technically, these transactions are already included when computing value addition of producers who are making interest or dividend payments to banks. To avoid the double counting, the new base excludes these components from property income of banks.
[60] While financial institutions explicitly charge their clients for some of their activities, this is not the case for their most crucial function of financial intermediation, i.e., channelizing deposits (or borrowed funds) to suitable borrowers. Generally, these institutions fund such services by charging their clients a higher interest rate on loans they provide than on the deposits they take. In this situation, output of financial services is much more difficult to estimate, as users of services do not pay for directly. This problem is resolved through estimating FISIM, which stands for Financial Intermediation Services Indirectly Measured. This method uses an estimate of the interest rate paid on loans and deposits above some reference rate. For detail, see 'National Accounts of Pakistan – Change of base from 1999-2000 to 2005-06' by Pakistan Bureau of Statistics.
[61] Unlike previous base, where profits of SBP were taken as part of its valued addition, the new approach considers SBP as non-market producer. In this case, the value of output of central bank is estimated as the sum of its costs of production. This means SBP's profits play no role in value addition.
[62] During 2012, PIA stopped its flights for Colombo and Chicago.

Within *finance & insurance*, as expected, scheduled banks were the largest contributors to value addition (**Table 2.15**). During FY13, scheduled banks recorded a recovery in their profitability on account of higher investment in government papers, and an expansion in their deposit base.[63] It may be noted that the computation of value addition by this sector saw a major change in FY13 (**Box 2.3**).

Table 2.15: Gross Value Addition by Finance and Insurance Sector (at constant price of 2005-06)

	Share %	billion Rs		Growth (percent)	
	FY13	FY12	FY13	FY12	FY13
Central banking	2.0	9	6	14.0	-31.1
Banks	86.4	237	255	-0.2	7.7
Scheduled	84.9	233	251	0.4	7.7
Non-scheduled	0.7	2	2	-41.8	5.5
Financial leasing	0.7	2	2	0.3	8.5
Other credit granting	1.4	3	4	-8.3	52.5
Insurance, reinsurance and pension funding [1]	4.6	11	14	11.9	27.7
Auxiliary activities	5.6	18	16	7.9	-8.5
Total (GVA)	**100.0**	**277**	**296**	**1.0**	**6.6**

[1.] This excludes compulsory social security.
Source: Pakistan Bureau of Statistics

Box 2.4: Key Challenges Faced by the Cellular Sector in Pakistan

Since its deregulation in 2004, the cellular industry has shown exceptional progress. For instance, the number of subscribers jumped from just 5.0 million in 2004 to 123.5 million in 2013. With strong subscriber growth, the mobile penetration also increased; only 5 out of 100 persons used to have mobile connection in 2003; this ratio has now reached 68 percent.

Over time, as this sector matured, competitive pressure in the industry reduced the average revenue per user from US$ 9 per month in 2003-04 to just US$ 2.4 per month in 2011-12. Furthermore, this sector also faced many challenges, including some assertive regulatory measures, which adversely impacted the performance of mobile network operators (MNOs). This note sheds some light on such issues faced by this industry.

Rising tax burden: The already high tax burden on this sector increased further in the recent budget. Specifically, the government enhanced the withholding tax on credit recharge to 15 percent, from 10 percent in the past (**Table 2.4.1**). This would impact the firms' revenues generated from the voice calls, as more than 85 percent of their consumers, use prepaid connections (and most of them belong to middle or lower income group).

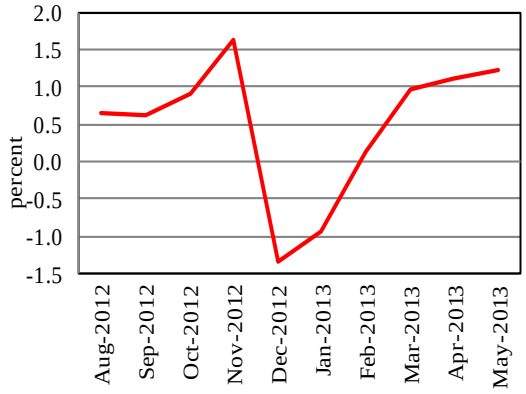
Regularization of SIM sale: In December 2012, Pakistan Telecom Authority (PTA) closed one of major sales channels for MNOs, when it restricted the sale of prepaid connection only through registered franchise. PTA also put a cap of maximum five mobile phone connections for an individual. Although a measure to contain security risks in the country, this restriction temporarily led to a sharp fall in subscriber growth for the industry (**Figure 2.4.1**).

Table 2.4.1: Taxes on Cellular Phone

Tax burden on Consumers at the time of recharge	
Withholding tax on recharge	15.0%
FED on service fee deducted at Recharge	19.5%
Tax on usage	
FED on SMS or Voice bundle subscription fee	19.5%
Deductions on call charges	
GST/FED	19.5%
Withholding tax	15.0%

Source: Cellular companies; Brokerage Houses

Figure 2.4.1: Monthly Growth in Number of Subscribers



Source: Pakistan Telecom Authority

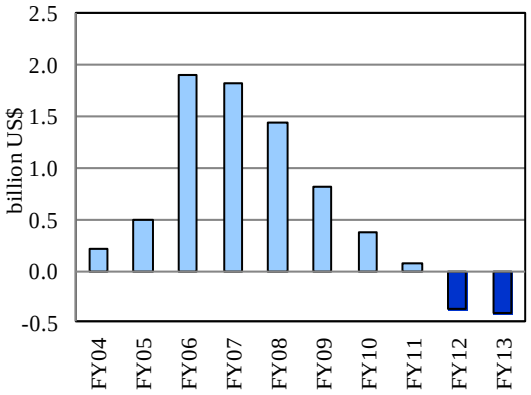
Frequent suspension of cellular service: The cellular sector also suffered loss in air-time when government intermittently suspended their service to avoid the terrorist threats. Though this helped in containing terror threats, this also led to revenue loss for mobile companies. Reportedly, cellular companies have submitted claims of about Rs 1.5 billion to PTA against the loss in revenues due to service suspensions.

[63] See **Chapter 5** on Inflation and Monetary Policy, for more details.

Delays in the auction of 3-G Spectrum: The repeated delays in the auction of 3-G spectrum have not only added to market uncertainty, it is increasing financial cost on investments of operating companies.

Falling investment: With the saturation in the industry, the foreign direct investment has been on declining trend, showing a net outflow of US$ 408 million (**Figure 2.4.2**).

Figure 2.4.2: FDI in Telecom Sector



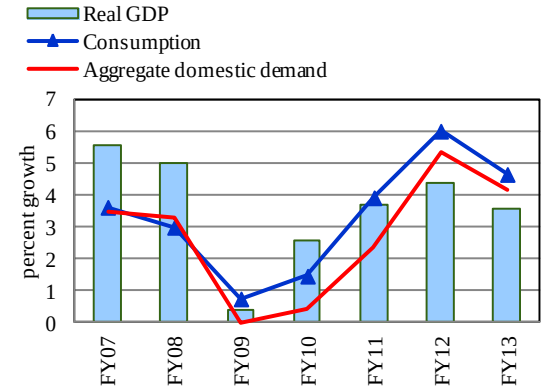
Source: State Bank of Pakistan

2.3 Aggregate Demand

Growth in domestic demand slowed in FY13 after rising consistently over the last three years (**Figure 2.16 & Table 2.16**). Lower growth in household consumption (comprising over 75 percent of domestic demand) and persistently sluggish investment, dampened the domestic demand in the country. Government spending, in comparison, continued to record strong growth.

However, we need to be careful when interpreting the slowdown in household consumption during FY13;[64] in particular, when household consumption continues to outpace GDP growth. There are visible signs of persistent consumption demand, like the strong growth in fast moving consumer goods (FMCGs) and construction activities, compared to other sectors of the economy (Box 7.3 in Chapter 7). The decline in tax-to-GDP ratio and largely intact consumer subsidies, may explain robust consumer spending.[65] Furthermore, even a lower growth in the production of consumer durable goods cannot be construed as softening of consumption demand, as this was largely due to increased competition from imported cars.

Figure 2.16: Consumption and Aggregate Domestic Demand



Source: Pakistan Economic Survey

Table 2.16: Aggregate Domestic Demand

(at constant prices of 2005-06)

	Rs billion		% Share	Growth %	
	FY12	FY13	FY13	FY12	FY13
Consumption	8,695	9,098	85.5	6.0	4.6
HH Consumption	7,684	7,990	75.1	5.8	4.0
Government expenses	1,010	1,108	10.4	7.3	9.7
Investment	1,519	1,539	14.5	1.7	1.3
GFCF	1,362	1,373	12.9	1.5	0.8
Private	1,028	1,010	9.5	-1.7	-1.8
Public & general govt	334	363	3.4	12.6	8.6
Changes in inventory	157	166	1.6	4.0	6.1
Total	**10,213**	**10,637**		**5.3**	**4.2**

Source: Pakistan Bureau of Statistics

By contrast, Pakistan's investment trends remain sluggish as persistent macro imbalances; energy shortages; high cost of doing business; and the challenging law and order situation, continues to force businesses to operate well below-capacity. Therefore, the investment-to-GDP ratio has declined to 14.2 percent in FY13, from 14.9 percent in the previous year. Interestingly, historical series of investment rate saw a major revision in

[64] Despite being the largest contributor to aggregate demand, household consumption is estimated as a residual item in the National Income Accounts. Specifically, household consumption is computed by adjusting GDP (as measured from production side) for final government consumption, investment and net exports.

[65] Tax–to-GDP ratio fell from 10.2 percent in FY12 to 9.6 percent in FY13. The resulting increase in consumable funds may have been partially offset by a lower growth in remittances during FY13.

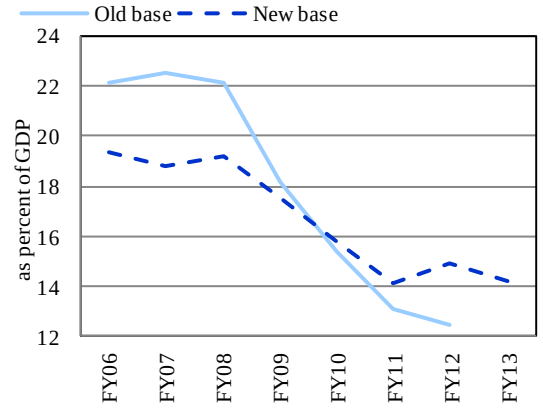
May 2013, when Pakistan Bureau of Statistics (PBS) updated its methodology for computing investment in the country. Although the revised investment rate is still showing a declining trend over the past five years, it is not as steep as it was in the previous series (see **Box 2.5**).

Box 2.5: Changes in investment rates due to rebasing of national accounts data

While the old data of national accounts (at 1999-00 base year) showed a sharp decline in investment rates after FY08, the new data (at 2005-06 base) shows that the decline was not as severe (**Figure 2.5.1**). Pakistan Bureau of Statistics has made several improvements in estimation techniques of investment with the release of national accounts data at new base of 2005-06.

The major change came in the treatment of FDI. In the old base, FDI was being double-counted: apart from adding total FDI in investment estimates, PBS was also considering the value of imported machinery and equipment (even if it is funded by FDI). This double-counting inflates investment when FDI is positive. On the contrary, FDI outflows leads to underestimation of investment trends.

Figure 2.5.1: Investment Rate in Pakistan



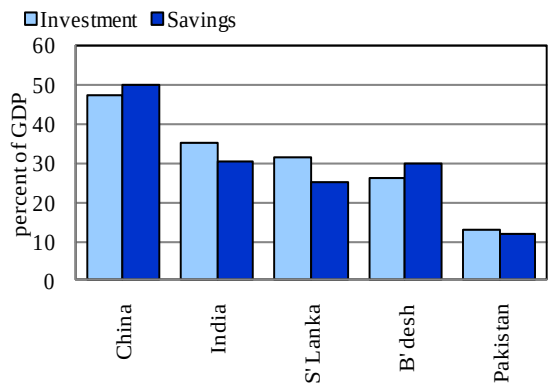
Source: Pakistan Bureau of Statistics

2.3.1 Consumption

Real consumption grew by 4.6 percent during FY13, compared with 6.0 percent a year earlier. As pointed out earlier, this may not appear to be consistent with other economic indicators on consumption. However, one trend is quite obvious – the growth in consumption is still higher than real GDP growth (**Figure 2.16**).[66]

PBS also conducts regular household surveys to gauge trends in the spending behavior of households. These surveys can be used as a handle to analyze changing consumption pattern across various income groups. A detailed analysis of consumption patterns shows that all consumers groups (poor, middle and rich) witnessed high growth in their expenditures on all types of commodities during the past five years (**Box 2.6**). This support our overall assessment that while the formal economy has been struggling, households consumption has been robust, as it is shoved up by undocumented income sources and the significant wealth effect from real-estate holding that are grossly understated.

Figure 2.17: Savings and Investment Rates in the Region*



Source: World Economic Outlook April 2013;
*Average of FY11 to FY13

National savings have declined to 13.8 percent of GDP in FY13, compared with an average of 16.3 percent during the last decade.[67] Cross country comparison suggests that Pakistan's national savings are the lowest in the region (**Figure 2.17**). Even Bangladesh, having a lower per capita GDP than Pakistan, has a higher saving rate. Further details available from PBS's household surveys show a decline in urban savings over the last ten years by all income groups. Rural savings, in contrast, have

[66] Historically consumption growth has been lower than real GDP growth in Pakistan.
[67] With foreign investment already low, declining investible resources ultimately lead to lower real GDP growth. In fact, following savings and investment rates, Pakistan's real GDP growth has also been the lowest in the region since 2008 onward.

slightly increased; but with limited penetration of financial institutions in the rural economy, transformation of these savings into investments is uncertain.

Box 2.6: Consumption and Saving Pattern[*]

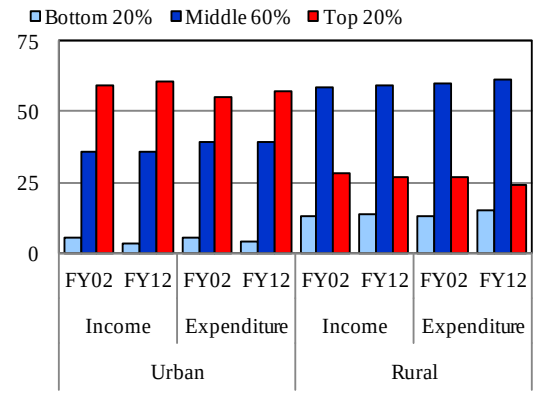
Household integrated economic surveys (HIES), by Pakistan Bureau of Statistics, provide some interesting insights on consumption pattern in Pakistan.

First, distribution of both income and consumption is highly skewed in urban areas, and this inequality is rising over time. For example, top 20 percent of urban households receive 60 percent of total income, and contribute about 57 percent of total spending (**Figure 2.6.1**). In contrast, bottom 20 percent of households share only 5 percent of the total income and expenditures.

Second, consumption growth increased for all households (both in urban and rural areas) during FY08-12 compared to FY02-08 period (**Figure 2.6.2**). Major increases were recorded in education, food and fuel & lighting. In case of food and fuel & lighting, a sharp rise in prices during this period has pushed such expenditures up.[68] The surge in education spending is due to higher demand for education, as apparent from a rise in primary enrolment rate,[69] and increased focus on relatively expensive, private learning institutions, compared to their counterpart in the public sector. Nonetheless, share of education spending in the total continues to remain dismally low at less than 5 percent for a typical household.

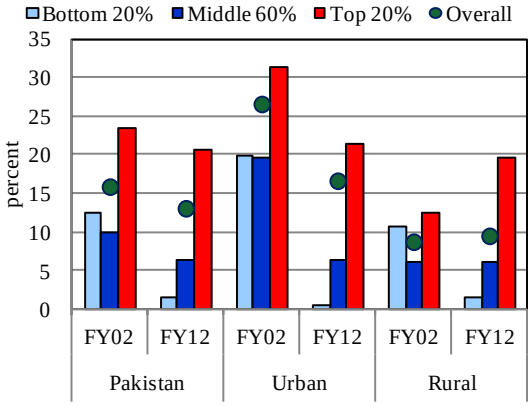
HIES data also provides information on saving trends

Figure 2.6.1: Households Income and Expenditure Distribution



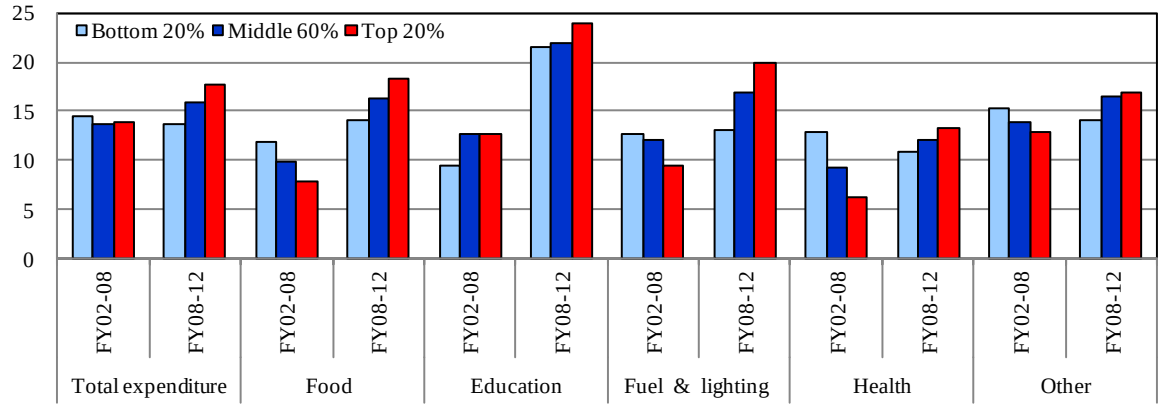
Source: HIES

Figure 2.6.3: Urban and Rural Savings Rates (HIES Data)



Source: HIES

Figure 2.6.2: Growth (CAGR) in Households Expenditure



Source: HIES

[*] Analysis in this box is based on household income (in table 11) and per capita expenditure (in table 22) as given in each of HIES 2001-02, 2007-08, and 2011-12.

[68] During FY08 to FY12, average inflation rates of *food* and *fuel & lighting* were 16.2 and 20.2 percent respectively, compared with CPI inflation of 12.9 percent, while education price index increased by 9.5 percent.

[69] Net primary enrolment rate increased from 42 in FY02 to 57 in FY12 (Source Pakistan's Economic Survey FY13).

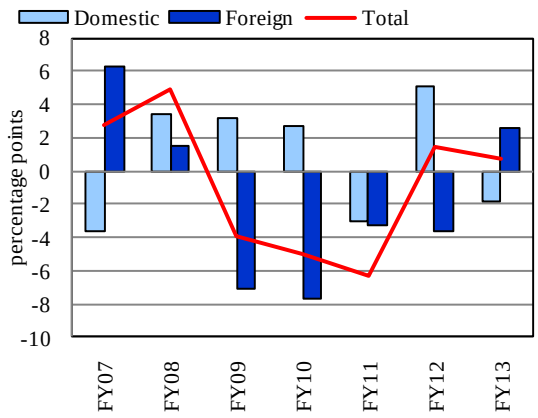
of different income groups. In overall terms, savings show a declining trend over time. This observation appears consistent with data on national income accounts.

Further analysis shows that the decline in saving rates is concentrated in urban households, as rural savings have increased during the last ten years (**Figure 2.6.3**). Moreover, we found wide differences in savings rates of different income groups. The rich income groups (top 20 percent) in both urban and rural areas, are the most frugal with a savings rate of around 20 percent. More alarmingly, the lowest income group (which used to save more than the middle income group in FY02), is now under severe financial stress, as the savings of this group have almost vanished in FY12. It appears that sharp increase in food inflation during the last several years has eaten up savings of the poor class.

2.3.2 Investment

Growth in real investment (gross fixed capital formation) declined from 1.5 percent in FY12, to only 0.8 percent in FY13, entirely due to a fall in domestic investment, as foreign direct investment (FDI) actually showed some recovery (**Figure 2.18**). Crowding out of private investment by excessive public sector borrowings, and low capacity utilization due to worsening energy shortages, depressed investment activities in the country.[70]

Figure 2.18: Contribution to Growth in GFCF



Source: Pakistan Economic Survey

Although public sector investment saw a rise of 8.6 percent in FY13 (as several development projects were initiated during the year), the decline in private investment dragged down the overall investment growth.

Sector wise investment

During FY13, reasonable investment growth of 5.9 percent in agriculture (in a sharp contrast to negative growth in FY12), was overshadowed by investment declines in both industry and services (**Table 2.17**).

Table 2.17: Sectoral Gross Fixed Capital Formation

	% of GDP		% Growth	
	FY12	FY13	FY12	FY13
Agriculture	3.2	3.1	-0.5	5.9
Industry	2.4	2.3	-3.7	-0.3
Mining & quarrying	0.2	0.6	-0.1	141.5
Manufacturing	1.4	1.0	-2.5	-25.7
i) Large-scale	1.3	0.9	-3.1	-28.3
ii) Small-scale	0.1	0.1	7.4	7.4
Electricity & gas	0.7	0.6	-12.1	-12.4
Construction	0.1	0.2	27.9	35.7
Services	4.8	4.6	4.1	-1.4
Wholesale & retail trade	0.3	0.3	1.6	2.6
Transport & communication	1.2	1.0	-24.4	-8.2
Finance & insurance	0.2	0.2	20.7	2.9
Housing services	2.0	2.1	4.0	4.0
Other private services	1.1	1.1	6.3	4.4

Source: Pakistan Bureau of Statistics

The 25.7 percent decline of investment in the manufacturing during FY13 can be traced back to negative investment growth in LSM for the past several years.[71] Capital formation in the energy sector (electricity generation & distribution, and gas distribution) also witnessed a sharp decline of over 12 percent for the second consecutive year. Financial problems (e.g., circular debt) facing power companies, which in turn resulted in unutilized capacity, have been the major reasons for the fall in investment.

[70] Not to surprise, the industries in the country are operating at below 50 percent capacity (Planning Commission Pakistan, Annual Plan FY13, p 3).

[71] In case of small-scale manufacturing, assessing the actual position is difficult, as PBS assumes investment in this sector to grow at a fixed rate of 7.4 percent.

The service sector also recorded a decline in investment during FY13, solely under *transport and communication sector*. Communication, in particular, witnessed a major fall in investment mainly in the cellular sector (**Box 2.4**).

Finally, investments in *construction* and *mining & quarrying* showed significant growth in FY13, but this was insufficient to compensate for the decline in other sectors.

Special Section 2.1: Climate Change in Pakistan and its Impact on Agriculture[72]

The following stylized facts clearly show how the rapidly changing global climate is becoming a major concern for Pakistan.

1. *The heat stress is rising faster than our expectations.* Although the mean annual temperature rose only 0.06^0C during 1901-2000,[73] this warming has gained pace in recent decades, as obvious from a larger increase of 0.93^0C in mean annual temperature during 2001-2010. More worryingly, this rise in temperature even exceeded the projected increase of 0.60^0C.[74]

2. *Northern areas are more vulnerable to temperature increase.* The mean temperature in Northern areas increased by 1.3^0C during 2001-2010 – twice the increase in rest of the country.[75]

3. *More and unpredictable rains are becoming the norm.* The average annual precipitation increased by 25 percent during 1901-2000. Furthermore, the rainfall pattern has become heavier and more volatile over the last couple of years. [76]

4. *Glaciers at low elevation are melting earlier, and at faster pace, than expected due to rising temperature.* Evidence available so far suggests that high elevation glaciers in Karakoram region are relatively stable, or melting at a slower pace.[77] In comparison, glaciers at low elevation are melting at a faster rate, owing to the presence of carbon deposits on these glaciers. Moreover, seasonal pattern for glacier melting is also changing:[78] reports indicate slightly earlier and increased melt in glacier at the origin of eastern tributaries, such as Shyok and Shighar rivers. Encouragingly, water flows in the western tributaries (such as Hunza River) of main Indus River remain unaffected.

5. *Frequency and intensity of extreme climate events has risen.* For example; (1) at end-May 2010, Mohenjo-Daro experienced the extreme heat wave when temperature peaked 53.7 ^{0}C, which was the fourth highest ever temperature on the planet earth; (2) on 23rd July 2001, Islamabad received 622 mm rains in 12 hours – the heaviest downpour in 100 years; and (3) increased frequency of concentrated monsoon causing devastating floods.

While the above developments represent past changes in the climate, the outlook is equally alarming, as we expect temperature to rise by another 0.6 to 1.0°C till 2030. This trend in climate change raises many concerns for the country, particularly for its agriculture.[79]

[72] This special section was written by Fatima Khaliq.
[73] Source: Global Change Impact Study Center (GCISC) and Pakistan Metrological Department (PMD).
[74] Rasul, G., Q.Z.Chaudhry, A.Mahmood, K.W.Hyder, Qin Dahe., "Glaciers and Glacial Lakes under Changing Climate in Pakistan", *Pakistan Journal of Meteorology*, Vol 8 (15). pp 3-4.
[75] ibid
[76] Historical average annual rainfall (average 1951-2000) is 278 mm; while average for monsoon season (Jun-Sep) is 151.4 mm (54 percent of the total rainfall), the average for winter season (Dec-Mar) is 82.9 mm (30 percent of the total rainfall).
[77] Evidence on glaciers in the Hindukush-Karakoram-Himalaya (HKH) region presents a mix picture: some findings indicate receding glaciers, others suggest that these high elevation glaciers are relatively stable or melting at lower pace. In comparison, most of the studies on low elevated glaciers confirm their faster melting which can be traced to the presence of black carbon deposits on these glaciers that are heat absorbent.
[78] Depending upon temperature, snowmelts generally contribute to river flows in late March, or early April. This water flow swells gradually with the rise in temperature, and reaches its peak in mid June before receding in late September.
[79] Agriculture sector contributes around 20 percent to GDP, employs over 40 percent of labor, and accounts for around 60 percent of the country's exports.

One obvious threat is the sustainability of water resources of the country. We expect the demand for water to increase with rising temperature, but river flows may also surge in parallel, due to more frequent heavy rains and runoff from glacier melt. Hence, the overall water flows may not worsen in the short-run, but may decline in the longer-term due to reduced glacier mass.

In addition to posing risks to water resources, a higher temperature would shorten the growth period for crops, thereby resulting in lower yields. This means, increase in crop yields, which is critical for food security, may be difficult to achieve owing to climate constraints.

Studies have found that a rise in temperature in the range of $1\text{-}5^{0}$C, would reduce the wheat yield in sub-mountains, arid and semi-arid regions. Although, higher temperature may improve the wheat yield in the mountainous region, the national wheat production by the end of 2020 would still be 1.5-2.5 percent lower than the potential.[80]

Rice, the other major food crop, is more sensitive to climate change. Studies on rice report a possible decline in yields in the semi-arid plains of Punjab. In overall terms, its production would decline by 2-4 percent due to climate factors by 2020[81].

Climate change would also impact other sectors as well:

- Vegetables, particularly potatoes, may get affected by high temperatures, as they are more vulnerable to heat; whereas maize, sunflower, and sugarcane may grow well in high temperatures.
- Some areas may become un-cultivatable. We have already seen that cotton was once an important crop for Faisalabad, but now it is not grown there anymore. Beside other factors, change in temperature also explains this development.[82]
- The cropping pattern will also adjust in response to climate change as farmers may need to shift the sowing time due to heat stress. This will also alter the timings for associated application of inputs (fertilizer and insecticides). The change in the cropping pattern for rabi will spill over to kharif.[83] All these changes will need adjustments at the grower's level.
- Increased humidity will heighten the threat of pest attack.
- Livestock sector is also vulnerable to the impact of climate change; high temperature would exert physiological stresses on animals and may reduce their reproduction.

In sum, climate change is not just a global debate; it is a major threat for Pakistan, particularly when it is raising risks to food security in the country. In order to address such risks, we need a multi-pronged response that would require expansion in water storage capacity; improvement in the efficiency of water usage; and introduction of high yielding crop varieties that are suitable for changing climate conditions.

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[80] Contribution of the northern mountainous region to the national wheat production is only 2 percent.

[81] M.Mohsin Iqbal, Arshad M.Khan (2009), "Climate Change and Rice Production in Pakistan: Calibration, Validation and Application of CERES-Rice Model", *GCSIC*-RR-15.

[82] The rise in water table also contributed to lower area under cotton in Faisalabad.

[83] Pervaiz, Amir. "Policy Gap Analysis", IUCN Pakistan.

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