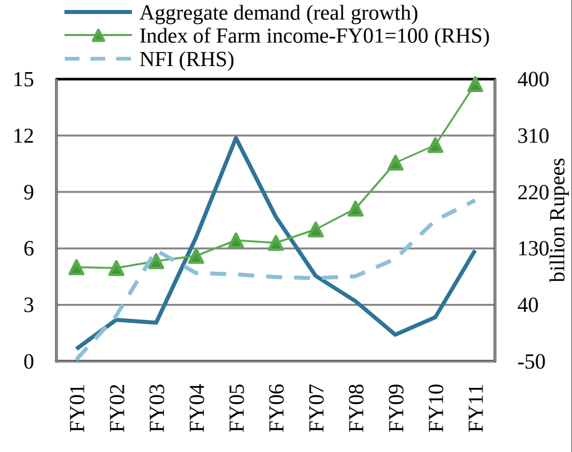
4 Aggregate Demand

4.1 Overview

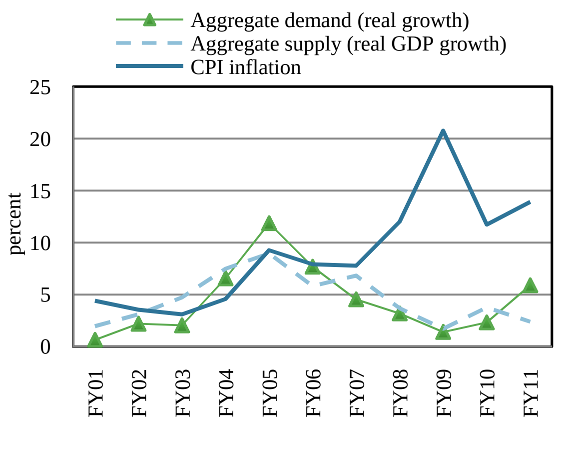
Real growth in aggregate demand picked up during the last two years after witnessing a sharp decline during FY05-09.[1] Three major factors contributed to this reversal of aggregate demand: (a) influx of remittances from abroad; (b) increase in farm income resulting from high agricultural commodity prices; and (c) substantial increase in wages of public sector employees (**Figure 4.1**).[2]

Figure 4.1: Growth in Aggregate Demand



During FY11, aggregate demand outgrew aggregate supply, which has been affected adversely due to acute energy shortages and the devastation caused by the floods. The adverse supply shocks like the floods have opposite implications for supply of and demand for basic commodities like food, clothing and shelter. Supply immediately drops due to damages to inventories and disruption in production process as well as supply chains, but demand for these basic commodities increases sharply. While demand is usually supported by charity funds from domestic and world donors, as well as remittances from abroad, supply takes time to recover.[3] As a result, an excess demand environment tends to prevail, which reinforces inflationary pressures throughout the economy (**Figure 4.2**).

Figure 4.2: Growth in Aggregate Supply & Demand



While excess demand – the difference between aggregate demand and aggregate supply – represents one aspect of the output gap, a second aspect is the gap between potential and actual output. Coincidentally, the economy of Pakistan is experiencing both these gaps with currently low real GDP growth. These gaps have adverse implications for overall macroeconomic stability. Excess demand leads to inflationary pressure in the economy, and the output gap implies accumulation of un-utilized capacities leading to declining investment and reduced employment opportunities. In such a scenario,

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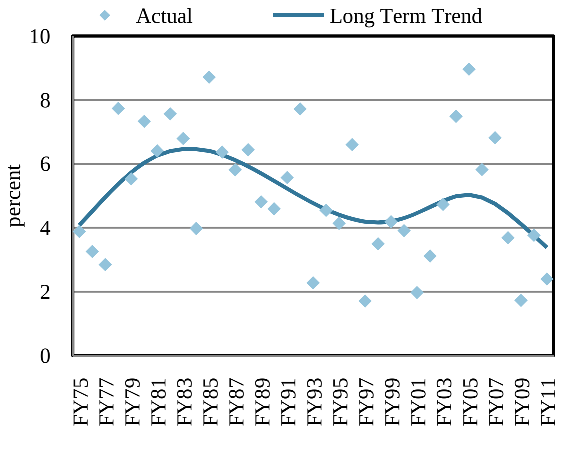
[1] Aggregate domestic demand is the sum of private consumption, government's general expenditure and investment. While imports are included in aggregate demand as per definition, exports are excluded as these represent demand of domestic goods by foreign consumers.
[2] In the budget announced for FY11, salaries of public sector employees were raised by 50 present.
[3] Shortage of certain commodities (food and clothing) is partially offset if foreign aid comes in kind.

formulation of macroeconomic policies becomes challenging: for example, policy prescriptions focused on curbing aggregate demand carry the risk of affecting investment sentiments and employment, thus affecting the supply side of the economy as well. It is, therefore, important to examine these aspects of the output gap in terms of the underlying factors and possible implications.

4.2 Output Gap

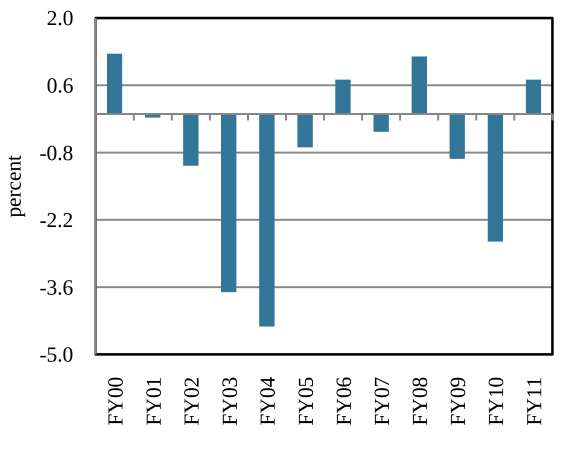
Prolonged energy shortages, heightened security concerns and a poor state of governance have weighed down economic activity in the country for the last several years. Devastating floods during the early months of FY11 contributed additional strain on the economy. Real GDP growth, which peaked at 9 percent in FY05, declined to below 3 percent during FY09-11. More alarmingly, the investment to GDP ratio declined by 9 percentage points in four years, and stood at only 13.4 percent in FY11 (the lowest since FY74). The capacity built up in the past is no longer being utilized due to constraints faced by entrepreneurs in managing day-to-day business activity. **Figure 4.3** shows that real GDP growth in recent years is consistently falling below the non-linear long term trend since FY08, which is an indication of prevailing output gap.[4]

Figure 4.3: GDP Growth-Actual Vs Long Term Trend



The timing of supply shocks is unfavorable, since the country has been experiencing inflationary pressures persistently over the last few years. Due to these pressures, inflation initially crossed the 25 percent level in 2008. Although it subsequently declined to 8.8 percent by December 2009 in response to a tight monetary policy stance, strong growth in private sector consumption (12.2 percent in FY09) and a continued slump in production activities brought about a revival of inflationary pressures in the economy. Inflation has yet to decline to the single digit level after December 2009. It seems that the economy has settled down in a low–growth, high-inflation environment known as stagflation. This situation entails difficult policy choices for the central bank. Specifically, policy makers must now choose from a set of difficult options requiring a trade-off between growth and inflation.

Figure 4.4: Demand-Supply Gap (% of GDP)



[4] Recessionary gap is defined as the amount by which actual GDP is less then potential GDP. It may be noted that there is no easy way to estimate potential GDP in the economy. We proxy potential GDP growth by non-liner trend extracted from actual GDP growth from FY75 to FY11 by using HP filter.

Mindful of the prevailing policy dilemma, the SBP cautiously adopted tight monetary policy stance during FY11. The policy rate was raised thrice during the first half of the fiscal year and then maintained at 14 percent during the second half. Monetary tightening was aimed at reducing aggregate demand in the economy, while the supply side was already affected by floods in early FY11. This policy stance therefore helped to contain the demand-supply gap to within 1 percent of GDP **(Figure 4.4)**. However, the cost of containing domestic demand is clearly visible in terms of negative growth in investment expenditures for the third successive year in a row. If a tight monetary stance had not been implemented, inflationary pressures stemming from a widening demand-supply gap would surely have been more pronounced.

The policy prescription for a low-growth and high-inflation scenario is to alleviate supply side constraints. Let's take the case of energy shortages. Would expansionary policies, monetary or fiscal, help in improving energy supply conditions in the economy? The most likely answer is no. Specifically, reduction in gas supplies which has undermined generation of electricity, production of fertilizer and activity in the textile sector is hard to improve by easing the monetary policy stance. On the other hand, expansionary fiscal policy – under the prevailing economic environment – would fuel domestic demand in the economy, which is an undesirable outcome. Therefore, a long-term strategy to address energy shortages within the economy is required, along with better coordinated monetary and fiscal policies so as to reduce the output gap and bring the economy back to its long-term growth path.

Table 4.1: Contributions to Growth in Aggregate Demand (percent)

	Private consumption	Government	Investment
1960s	75.4	14.5	10.1
1970s	75.0	11.9	13.1
1980s	61.9	17.4	20.7
1990s	73.7	9.9	16.4
2001-08	69.0	11.2	19.8
FY09	108.2	-10.8	2.6
FY10	94.5	7.4	-1.9
FY11	88.3	8.0	3.7

4.3 Composition of Aggregate Demand

Private consumption is typically the largest component of aggregate demand. However, in the case of Pakistan, its contribution has increased alarmingly to 90 percent in recent years (**Table 4.1**). A significant behavioral shift at the consumer level seems to be developing, as marginal propensity to consume has also increased sharply (**Table 4.2**). During FY11, the average consumer allocated Rs 97 out of every Rs 100 to consumption expenditure. This implies a marginal saving rate of just 3 percent in FY11 compared with over 30 percent in FY01-08.

Table 4.2. Marginal Propensities to Consume and Invest (percent)

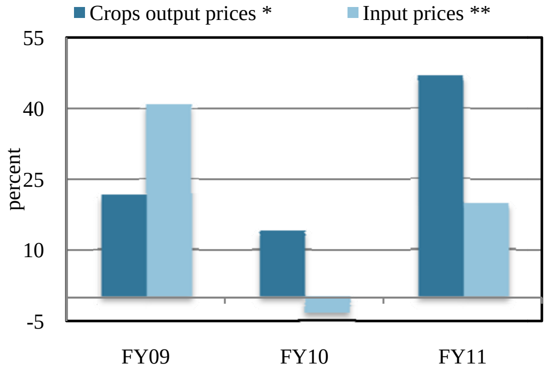
	Consumption		Investment
	Private	Public	
1960s	72.5	11.8	16.5
1970s	75.8	11.2	13.8
1980s	63.0	16.4	19.3
1990s	77.7	10.7	17.2
2001-08	70.8	11.3	21.3
FY09	95.6	-9.5	2.3
FY10	81.8	6.4	-1.6
FY11	97.0	8.8	4.1

The low saving rate (i.e., inadequate in-house supply of investible funds) coupled with wary foreign investors lead historically low investment rate in the country. As a result the contribution of investment to aggregate demand declined sharply from an average of about 20 percent during 2001-08 to 3.7 percent in FY11. Meanwhile, the government – struggling with fiscal consolidation – has contributed less than 10 percent to the domestic aggregate demand.

4.3.1 Consumption

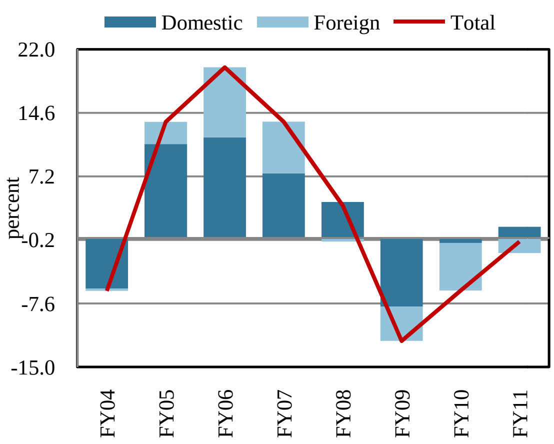
Private consumption has maintained average real growth of 7.7 percent during FY09-11 primarily on the back of sustained growth in home remittances which have become a regular part of recipients' income in Pakistan. Uncertainty arising from high inflation levels has also strengthened consumption demand. Moreover, since food has a higher share of total consumption expenditure, high food inflation (i.e. 20 percent on average) witnessed during the last three years also led consumers to allocate higher proportion of income to consumption (see also **Box 4.1** at the end of this chapter). As a result, growth in real per capita consumption increased tremendously from an average of 1.2 percent during 2001-08 to 5.5 percent in FY11.

Figure 4.5: Crops Output Prices vs. Input Prices (% change)



* Wholesale price index of cotton, wheat, rice and sugarcane
** Wholesale price index of fertilizers, pesticides and insecticides

Figure 4.6: Growth in Real Investment



Strong rural incomes have lent further support to consumption demand, especially in the wake of higher wheat output and prices during FY09 to FY10 and a sharp increase in cotton prices (over 40 percent) during FY11. Although farm input prices also increased, it can be safely concluded that net farm income witnessed a strong growth in recent years due to significant increases in prices of key major crops (wheat, cotton, sugarcane, and rice)[5]. Specifically, the differential between crops output prices and input prices during the last two years has been about 20 percentage points (**Figure 4.5**).

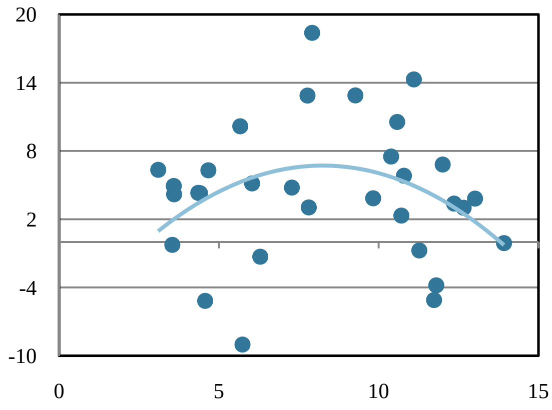
4.3.2 Investment

Contrary to consumption demand, real investment in the country has declined for the third successive year. The decline in investment has been contributed by both domestic and foreign investment, though the former showed some revival in FY11 (**Figure 4.6**). Businesses have remained wary of augmenting capital stock, and this is a major source of concern for sustainable growth in the economy.

[5] However, in case of cotton the rural economy suffered from losses due to devastating floods in August 2010. While the quantity of cotton produced washed out by the floods was about 20 percent, the price of the cotton increased by more than 100 percent. Thus the net effect on aggregate farm income is still positive though the floods caused serious distributional consequences. That is, farmers who lost their cotton crop bore tremendous loss while who were lucky to pick the cotton bagged a lot of gain.

A number of factors can be identified for this reluctance, including (a) slow down in the global economy, which is not only affecting foreign direct investment in the economy but also limiting domestic businesses from expanding in the face of low external demand; (b) deteriorating security situation in the country; (c) lack of support from public sector investment, since PSDP as a percent of GDP has declined sharply in recent years (see Chapter 6 for detail); (d) serious energy shortages wherein businesses are finding it difficult to fully utilize existing production capacities; (e) serious institutional weaknesses and poor governance structure; and (f) high cost of capital in recent years. It is interesting to note that investment and inflation have non-linear relationship wherein a moderate inflation may encourage investment but high inflation that introduces uncertainties in the economy affects it negatively (**Figure 4.7**).

Figure 4.7: Real Investment Growth (x-axis) **and Inflation** (y-axis)



Looking at savings and investment rates in Pakistan, it is evident that Pakistan has extremely low savings and investment rates compared with world averages (**Table 4.3**).[6] Particularly, the investment rate has come down from an average of 19.1 percent during FY01-06 to 13.3 percent in FY11. Notwithstanding the structural issues discussed above, a tight monetary policy stance and crowding out by extensive government borrowing could also be important factors contributing towards low investment rates (Chapter 5 for more discussion on monetary policy and government borrowing).

Table 4.3: Comparison of Savings and Investment
percent of GDP

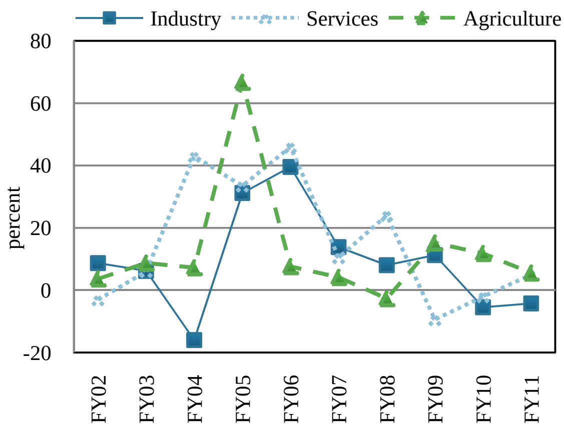
		2009	2010	2011
World	Saving	21.8	23.3	24.2
	Investment	21.7	22.9	23.6
Emerging and developing	Saving	31.9	33.0	34.2
	Investment	30.3	31.3	31.7
Newly Industrialized	Saving	31.6	33.4	32.4
	Investment	23.6	26.4	26.1
Pakistan	Saving	12.5	13.2	13.8
	Investment	18.2	15.3	13.3

Source: World Economic Outlook, September 2011. Annual Plan (various issues), Planning Commission

Sector wise investment

The decline in investment growth has been largely broad-based, with all sectors of the economy depicting negative growth in FY11 (**Figure 4.8**). In the industrial sector, investment in all kinds of manufacturing and construction activity had declined as compared to the previous year. In textile manufacturing, spinning and finishing industries have witnessed steep declines mainly due to power and gas shortages. The oil refining sector also faces weak motivation to increase domestic capacity in the presence of competition from imports of refined

Figure 4.8: Investment Growth - Sector wise



[6] See **Table 2.4** in Statistical Annexure published separately for detailed data on savings and investment in Pakistan.

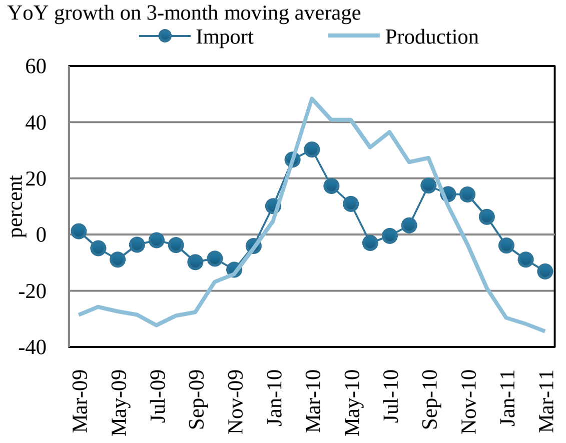
products. Although investment in oil refineries has been weak, the energy sector witnessed increase in capacity during FY11 mainly due to investments by independent power producers (IPPs) and imports of other power generating equipment for industrial use.[7] Furthermore, the government of Pakistan signed MoUs with four multinational companies to produce 3,000 MVW electricity with the total investment of $12 billion in Thar coal power project.

Fixed investment in the construction sector declined by Rs 2 billion in FY11. This was the fourth consecutive decline in construction sector investment. A continued decline in the real estate market along with rising bank defaults amongst construction sector borrowers has overshadowed the positive impact of post flood construction activities.

If we examine demand for capital goods, the declining trend shows that investors are losing confidence in the economy (**Figure 4.9**). Construction and mining were the two larger segments among others where demand for capital goods fell sharply.

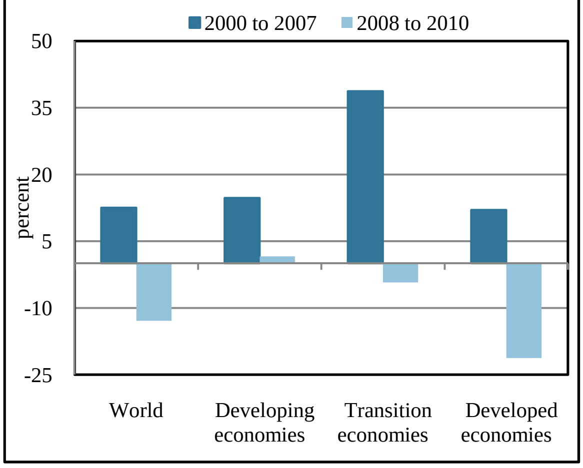
Figure 4.9: Demand for Capital Goods

YoY growth on 3-month moving average



Investment activity in the agriculture sector also remained subdued, and the investment to GDP ratio in this sector declined from 11.8 percent last year to just 5.5 percent in FY11. A lot of potential exists in areas such as grain storage, grain processing and dairy farming; however, a favorable public policy along with support from public investment is required to set up the necessary infrastructure first.

Figure 4.10: FDI Growth in the World (%)



In the services sector, a large part of the decline in investments stemmed from telecommunications. Most of it was accounted for by decline in foreign investment as opportunities are limited in the telecommunication sector due to stiff competition and lack of technological moderation. However, with the introduction of 3G telecom technology, the country could have attracted significant amount of foreign investment.

Foreign direct investment

Foreign investment, which can play an important role in supporting domestic investment and growth within a resource-constrained economy, continued to decline in Pakistan for the third successive year in FY11. Investors' concerns over governance issues, energy and the prevailing security situation prevented growth in foreign direct investment in Pakistan in conjunction with the impact of the global recession, which depressed FDI across the world (**Figure 4.10**).

[7] For details, please see Chapter 3 on **Energy**.

FDI inflows in Pakistan from advanced economies[8] have dropped to $604.0 million in FY11 from $1,026.0 million last year whereas; from emerging economies[9] FDI inflows have increased to $338.0 million from $105.0 million in FY10. FDI excluding privatization proceeds have declined by $577.2 million to $1.6 billion this year compared to $2.2 billion in FY10 and $5.3 billion in FY08. Unfortunately, privatization of public sector entities also could not be initiated (**Table 4.4a**).

With the exception of the financial services and power sectors, most sectors of the economy have witnessed a drop in foreign investment. The largest decline was observed in Telecom where profit repatriations have surpassed new investment by Rs 34.1 million down from a positive investment of Rs 291.0 million in FY10. As a developing market with a teledensity of only 60 percent, Pakistan offers great opportunities to investors in this sector, particularly in the auction of 3G licenses to telecom companies. However, this potential source of revenue is yet to be exploited as no well defined policy has been announced so far

Table 4.4a : FDI Inflows in Pakistan-Source wise (million US dollar)

	2006-07	2007-08	2008-09	2009-10	2010-11
USA	913.1	1,309.3	869.9	468.3	238.9
UK	860.1	460.2	263.4	294.6	208.1
U.A.E	661.5	589.2	178.1	242.7	284.2
Japan	64.4	131.2	74.3	26.8	3.2
Hong Kong	32.6	339.8	156.1	9.9	125.6
Switzerland	174.7	169.3	227.3	170.6	47.2
Saudi Arabia	103.5	46.2	-92.3	-133.8	6.5
Germany	78.9	69.6	76.9	53.0	21.2
Korea (South)	1.5	1.2	2.3	2.3	7.7
Norway	25.1	274.9	101.1	0.4	-48.0
China	712.0	13.7	-101.4	-3.6	47.4
Others	1,512.2	2,005.2	1,964.2	1,019.6	631.6
Total including Pvt. Proceeds	5,139.6	5,409.8	3,719.9	2,150.8	1,573.6
Privatization Proceeds	266.4	133.2	0.0	0.0	0.0
FDI Excluding Pvt. Proceeds	4,873.2	5,276.6	3,719.9	2,150.8	1,573.6

Source: SBP

Table 4.4b : FDI Inflows in Pakistan-Sector wise (million Rupees)

	2006-07	2007-08	2008-09	2009-10	2010-11
Oil & Gas	545.1	634.8	775.0	740.6	512.2
Financial Business	930.3	1,864.9	707.4	163.0	246.9
Textiles	59.4	30.1	36.9	27.8	25.0
Trade	172.1	175.9	166.6	117.0	53.0
Construction	157.1	89.0	93.4	101.6	60.8
Power	193.4	70.3	130.6	-120.6	155.8
Chemical	46.1	79.3	74.3	112.1	30.5
Transport	30.2	74.2	93.2	132.0	104.6
Communication (IT&Telecom)	1898.7	1,626.8	879.1	291.0	-34.1
Others	1,107.2	764.5	763.4	586.3	418.9
Total including Pvt. Proceeds	5,139.6	5,409.8	3,719.9	2,150.8	1,573.6
Privatization Proceeds	266.4	133.2	0.0	0.0	0.0
FDI Excluding Pvt. Proceeds	4,873.2	5,276.6	3,719.9	2,150.8	1,573.6

Source: SBP

[8] Include US, UK, Japan, Germany, Switzerland, Norway, S. Korea and Hong Kong.
[9] Include China, UAE and Saudi Arabia etc.

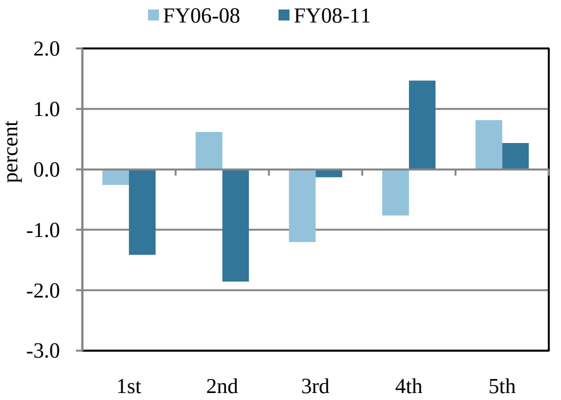
Box 4.1: Distribution of Incomes and Consumption Pattern

Household Integrated Economic Survey shows that since FY08 incomes of rich segments of the population have increased by a greater proportion than those of poor. **Figure 4.11** shows that income growth of poor families (i.e., 1st and 2nd quintiles covering 40 percent of population) during the last three years was significantly lower than average growth.[10] However, the rich families (i.e., 4th and 5th quintiles) witnessed higher than average growth. This pattern in growth is different than that during FY06-08. It indicates that the income inequality has increased in recent years.

The changes in income distribution have bearing on consumption pattern and composition of aggregate demand:
Because of the varying income elasticities of different goods and services, the changing inequality patterns affect the aggregate spending on various heads. For instance, food spending accounts for about 60 percent budget outlay of the lowest income groups while the highest income group allocates 40 percent of the outlay on food. The higher income class, in contrast, spends more money on house rent, transport, and education (**Figure 4.12**).

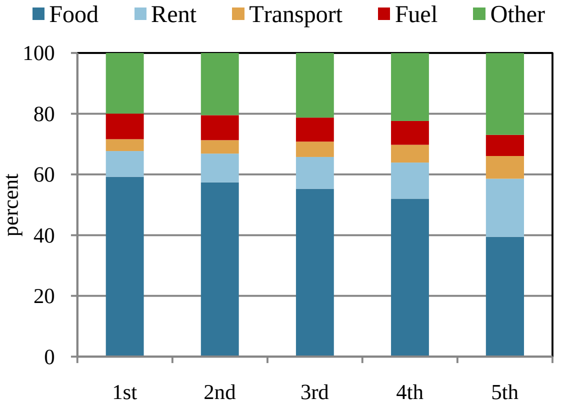
Inflation has changed consumption pattern: In line with the high food inflation during the past few years, spending on food has increased. Even the highest income group allocated higher proportion of its income on food (food expenditure for this group was 39.5 percent of income in FY11 compared with 33.1 percent in FY06).

Figure 4.11: Quintile-wise Annual Average Growth in Income - Deviation from mean



Source: HIES

Figure 4.12: Quintile-wise Expenditure on Major Consumption Heads in FY11



Source: HIES

Table 4.5: Distribution of Expenditure – for Lowest and Highest Income Groups and Average (percent)

	FY06			FY08			FY11		
	Lowest	Highest	Average	Lowest	Highest	Average	Lowest	Highest	Average
Food	55.6	33.1	43.1	55.3	35.5	44.2	59.2	39.5	48.9
Clothing and footwear	7.0	4.8	5.7	6.8	4.7	5.5	5.7	4.5	5.1
Trans & comm..	4.2	7.9	6.2	3.9	7.8	6.2	3.9	7.5	6.0
Cleaning, laundry, etc.	4.0	3.1	3.6	4.1	3.4	3.6	4.0	3.6	3.7
Recreation	0.1	1.0	0.7	0.2	1.0	0.7	0.2	0.6	0.4
Education	1.3	5.5	3.7	1.4	5.8	3.9	1.5	5.3	3.5
Rent	8.2	21.3	15.2	9.2	19.7	15.1	8.5	19.1	13.9
Fuel & Lighting	9.0	7.1	8.0	8.6	6.6	7.6	8.4	7.0	7.6
Miscellaneous	10.6	16.2	14.0	10.6	15.4	13.2	8.6	12.8	10.8

Source: HIES

[10] Annual average compound growth rate in nominal income as per HIES was 8 percent during FY06 to FY08 and 14.8 percent during FY08 to FY11.