

Economic impacts of the floods in Pakistan

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As a result of the Pakistani government's failure to address the situation, severe floods have become a regular occurrence in Pakistan. Consequently, the country finds itself in a vicious cycle of falling international assistance and declining economic growth. However, the country's New Growth Strategy holds out the hope of breaking this cycle, through generating higher rates of economic growth and increased governmental accountability.

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Introduction

During the 2010 monsoon season (July and August), Pakistan experienced the worst floods recorded in its history. Heavy rainfall caused flash floods in the north and north-western regions of the country. The subsequent run-off created a southward moving mass of water approximately the size of the United Kingdom. The torrential rainfall in Khyber Pakhtunhwa produced historic flood peaks in the Swat River, severely damaging the Amandara Headworks and destroying the Munda Headworks, both major irrigation structures. The flood waters travelled downstream through Punjab and Sindh until they reached the Arabian Sea downstream of Kotri Barrage.

Many of the main irrigation canals that draw from the Indus River were also flooded, further inundating agricultural lands. The situation was compounded by additional heavy rains, and the diversion of water to agricultural lands in an attempt to prevent flooding of the urban areas (World Bank/Asian Development Bank 2010: 19). In all, some 20 million people were displaced and 50,000 square kilometers were submerged, while standing crops, infrastructure and land were damaged extensively.

One might think that estimating the various economic impacts of Pakistan's 2010 floods would be a fairly straightforward exercise – essentially bean-counting by putting a value on destroyed property, and loss of life. This exercise might be dubbed the insurance approach. However, the economic reality is much more complex. Opportunity costs (lost work time due to flood related poor health for example) need to be taken into account. In terms of reconstruction, simply restoring the situation to what it was before the flood would generate one set of costs and impacts. Improvements over the initial situation and/or flood resistant replacements generate

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another stream of costs and follow on impacts. The manner and speed with which the authorities respond will also dictate the extent of damage and its lingering effects.

Conceptually, the economic costs to the country can be broken down into several categories, largely depending on their nature, (direct and indirect) and on the time period examined (immediate, short-run, medium-term and long run). Those costs that are short run and direct are clearly the easiest to identify and measure. Estimates covering longer periods of time and those focused mainly on indirect costs require numerous assumptions concerning counterfactuals and hence are on less firm ground.

Written from the perspective of roughly one year after the floods, a complete assessment of their economic consequences is not realistic. Instead, the sections below attempt to trace out their economic effects. Starting with the standard estimates of the flood damage, the analysis traces their ripple effect through various facets of the economy. These are sketched out in Figure 1. Particular attention is given to identifying other factors occurring in the same time frame and thus often blurring the precise identification of flood related effects.

For the next several years, the economic impacts of the floods will be largely defined by the recovery strategies adopted by the government. A final section assesses two contrasting approaches – the traditional aid based strategy, and one consistent with the country's New Growth Framework (Government of Pakistan 2011a; Burki and Dawood 2010).

Direct impact

The extent of the destruction caused by the 2010 floods is hard to comprehend. The floods impacted seventy-eight districts, resulting in the deaths of over 1980 with at least another 2946 injured. In the areas receiving flood-waters 70% of the roads and bridges were swept away. More than 10,000 schools and 500 hospitals have been destroyed or damaged, as were about 1.6 million homes (World Bank/Asian Development Bank 2010: 3).

In a relatively short period of time, millions of Pakistanis who were already having a difficult time eking out a living before the floods found themselves homeless and unsure of how to survive (Rodriguez 2010).

Assessments (Oxford Analytica 2010) made in late August 2010 suggested that losses were largest for crops with direct damage to: 2.1 million ha of standing Kharif crops (crops that are sown in the rainy season) – mainly cotton, rice, sugarcane and vegetables; One million tons of food and seed stocks were lost along with a large number of on-farm water channels and wells.

Livestock were severely decimated during the flash floods in the hilly areas of Khyber Pakhtunkhwa and Balochistan, while grazing animals and poultry were lost also in the plains area. In all, approximately 200,000 livestock (e.g. cows, sheep, buffalo, goats and donkeys) were initially confirmed dead, with the total rising somewhat with time.

Fisheries were also affected as a number of fishponds and public and private hatcheries were washed away or damaged. Up to 2 million bales of cotton, out of the targeted output of 14 million bales, was also destroyed, crippling the country's main manufacturing industry, the textile sectors.

Of immediate concern was the increased risk of outbreaks of contagious diseases due to unsafe drinking water, poor sanitation and personal hygiene, food insecurity,

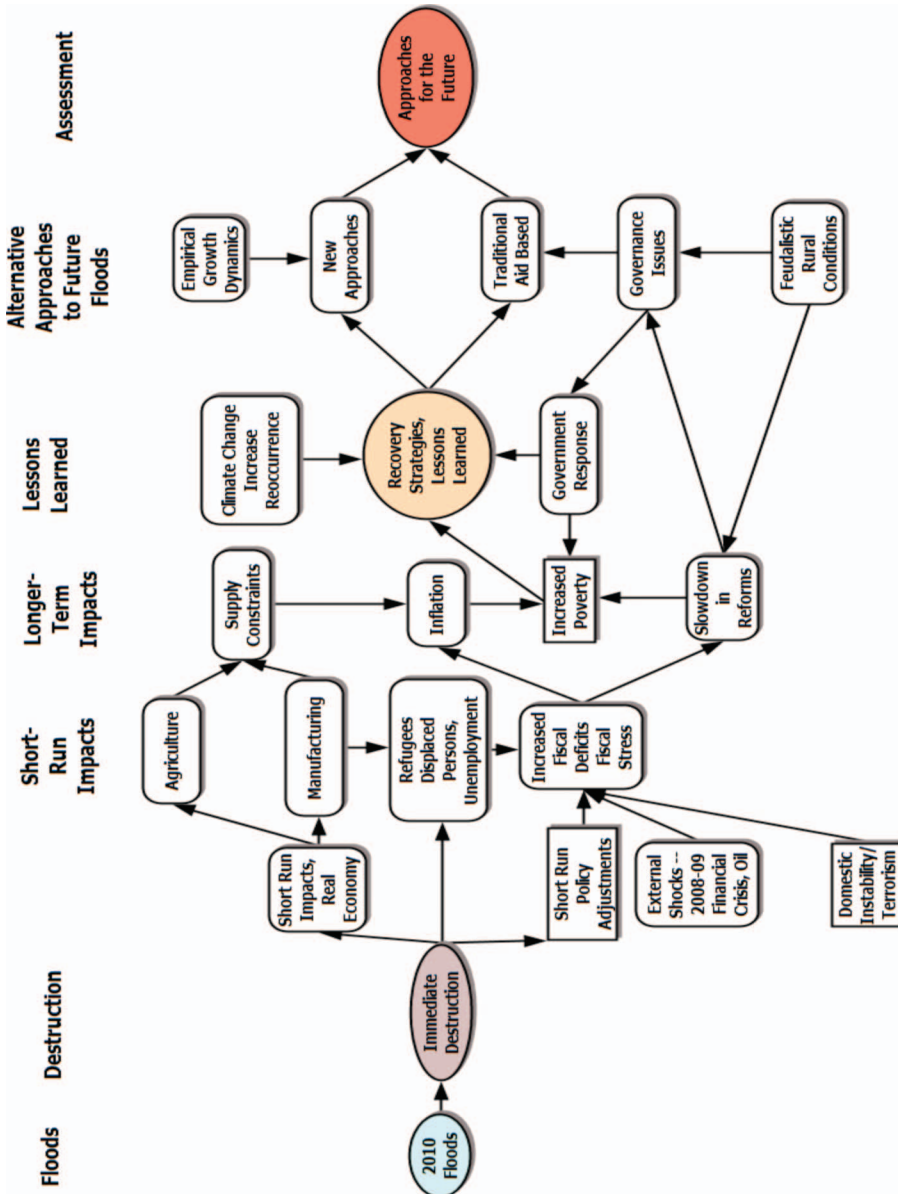


Figure 1. Overview.

lack of shelter, overcrowding and decreased access to health care. In late August of 2010, over 450,000 cases of dysentery and other diseases had been reported, and some 3.5 million children were considered at risk of contracting water-borne diseases including diarrhea and cholera.

A major refugee crisis was further compounded by the floods. More than 1.5 million Afghan refugees out of an estimated total of 1.7 million had settled in flood-affected provinces. In Khyber-Pakhtunkhwa alone, more than 12,000 dwellings in refugee villages were swept away, leaving almost 70,000 people homeless, raising concerns over post-disaster rehabilitation costs.

After the floods subsided, the World Bank and the Asian Development Bank in a major effort systematically surveyed the entire range of possible impacts, culminating in a major report released in November 2010 (World Bank/Asian Development Bank 2010). The final calculations included three types of costs: (1) direct damage; (2) indirect costs; and (3) reconstruction costs.

As defined by the World Bank and Asian Development Bank (World Bank/Asian Development Bank: 14), Direct Damage refers to the monetary value of completely or partially destroyed assets, such as social, physical and economic infrastructure calculated at the book value, or the depreciated value of lost immovable assets. Movable assets like goods, furniture, machineries and inventories lost during the floods were valued at the replacement cost.

Indirect Losses refer to income losses, and comprise both the change of flow of goods and services and other economic flows such as increased expenses, curtailed production and diminished revenue – all of which occur from the direct damage to production capacity and social and economic infrastructure. Wherever possible, damage and losses were further split across public and private sectors to facilitate the development of focused recovery strategies.

Reconstruction Costs were calculated by the World Bank/Asian Development Bank by using the replacement value (and not the book value) of assets and infrastructure. In calculating the reconstruction cost the principle of Building-Back-Smarter (BBS, better than before plus enhanced flood protection) was applied in the joint Bank study. Under the BBS principle Building-Back-Better (BBB) was selectively applied across sectors and within sectors to ensure a cost-optimized multi-hazard reconstruction.

Using these conventions the total damage (direct, 64.6% and indirect, 35.4%) brought on by the floods amounted to \$10.056 billion (Table 1). About half of the damage occurred in the agricultural sector (50.2%) with housing (15.8%), transport and communications (13.2%) also heavily impacted.

By provinces, (Table 2) Sindh (43.6%) suffered the most damage, followed by Punjab (25.7%) and Khyber-Pakhtunkhwa (11.7%). In terms of reconstruction costs, Option 1, building as before would come to \$6.799 billion, Option 2, restoration to flood resistant, \$7418 billion and Option 3, building back better, \$8.915 billion.

Short-term impacts

Even before the catastrophic floods, Pakistan's economy was under considerable stress. The government's debt had increased to over \$55 billion. The tax base was anemic, and a third of the population fell below the poverty line (Rodriguez 2010). In addition, the Pakistani government calculated that since 2001 the war on

Table 1. Estimate of total damage by sector.

Sector	Direct damages, PKR (million)	Indirect losses, PKR (million)	Total damage, PKR (million)	%	Total damage, USD (millions)
Social infrastructure					
Housing	91,843	43,171	135,014	15.8	1,588
Health	1,562	2,661	4,222	0.5	50
Education	22,047	4,418	26,464	3.1	311
Subtotal	115,451	50,249	165,700	19.4	1,949
Physical Infrastructure					
Irrigation and flood management	23,600		23,600	2.8	278
Transport and communications	62,491	50,420	112,911	13.2	1,328
Water supply and Sanitation	3,194	6,112	9,306	1.1	109
Energy	13,184	13,116	26,300	3.1	309
Subtotal	102,469	69,648	172,117	20.1	2,025
Economic sectors					
Livestock and fisheries	315,547	113,257	428,805	50.2	5,045
Private sector and industries	110	57,141	57,251	6.7	674
Financial sector	110	57,141	57,251	607	674
Subtotal	330,120	179,866	509,987	59.7	6,000
Cross cutting sectors					
Governance	3,141	2,835	5,976	0.7	70
Environment	992		992	0.1	12
Subtotal	4,133	2,835	6,968	0.8	82
Total	552,173	302,599	854,771	100	10,056

Source: Derived from: Pakistan 2010: Preliminary Damage and Needs Assessment (Islamabad: World Bank/Asian Development Bank November 2010 p.16).

Table 2. Estimated damage and reconstruction costs by province/area.

Province/region	Damage		Reconstruction costs					
	costs	%	Option 1	%	Option 2	%	Option 3	%
AJK	7,303	0.85	155	2.28	13,866	2.20	16,009	2.11
Baluchistan	52,676	6.16	321	4.72	34,359	5.45	58,116	7.67
FATA	6,271	0.73	89	1.31	7,873	1.25	9,544	1.26
Gilgit-Baltistan	4,165	0.49	78	1.15	6,893	1.09	10,027	1.32
Khyber-Pakhtunkhwa	99,625	11.66	1,247	18.34	109,942	17.44	179,844	23.73
Punjab	219,272	25.65	1,100	16.18	107,903	17.11	117,650	15.53
Sindh	372,341	43.56	2,681	39.43	253,791	40.25	269,650	35.59
Federal-cross-cutting sectors	93,117	10.89	1,128	16.59	95,911	15.21	96,866	12.78
National total	854,771	100.00	6,799	100.00	630,556	100.00	757,760	100.00

Source: Derived from: Pakistan Floods 2010 Preliminary Damage and Needs Assessment (Islamabad: World Bank/Asian Development Bank) November 2010, p.19. AJK, Azad, Jammu and Kashmir; FATA, Federally Administered Tribal Areas; Option 1 = Building as before; Option 2 = Restoration to flood resistant; Option 3 = Building back better.

terrorism had cost the country \$67.93 billion, with the cost in 2010–2011 alone coming to \$17.82 billion (Government of Pakistan 2011a: 220). After the floods caused over US\$ 10 billion worth of damage, Pakistan was forced to cope with even

more adversity – some directly flood related, while others more tangentially so – strained fiscal resources, handicapped infrastructure, insufficient agricultural and textile output and subpar textile exports. Rising inflation, increased defense spending, reduced subsidies and acute power shortages negatively impacted rural and urban wages, private demand, manufacturing activity and public spending on economic development (already an extremely low percentage of the budget). Compounding the government's problems, renewed insurgent violence, kidnappings, and killings of public officials in early 2011 added another element of uncertainty and contributed to a significant drop in private investment critically needed for recovery and job creation.

With the end of the 2010–2011 fiscal year (1 July 2010 through 30 June 2011), a clearer picture of the floods impact has emerged. For the economy as a whole, the floods appear to have reduced GDP growth by about 2 percentage points (Government of Pakistan 2011a: i). Again, however, this number is open to question given, amongst other things, the difficulties in netting out the residual effects of the 2008–2009 global financial crisis and the rise in oil prices from \$70/barrel to \$125/barrel during the year.

Agriculture

As noted above, initial assessments identified the agricultural sector as hardest hit by the floods. With time, and the new planting season, the full economic impact of the floods has become more apparent. Overall the agriculture sector recorded modest growth of 1.2% in 2010–2011 against the target of 3.8%.

The floods impact on individual crops was largely affected by the planting season. Pakistan has two principle crops seasons, namely the 'Kharif', the sowing season of which begins in April–June and harvested during October–December; while 'Rabi', begins in October–December and harvested in April–May. Rice, sugarcane, cotton, maize, mung, mash, bajra and jowar are 'Kharif' crops while wheat, gram, lentil (masoor), tobacco, rapeseed, barley and mustard are 'Rabi' crops. Major crops, such as, wheat, rice, cotton and sugarcane account for 90% of the value added in the major crops (Government of Pakistan 2011a: 16).

The destruction of major crops, particularly rice and cotton, led to a negative growth of 4% in major crops (Table 3). Specifically rice production declined to 4.8 million tons which was the lowest level of production since 1994–1995. On the other hand, the wheat crop registered an unprecedented 24.2 million tons compared with the previous year's output of 23.8 million tons. The expansion in wheat occurred despite the fact that some sowing fields may not have been reclaimed.

The bumper wheat crop can be explained in part by the positive impacts stemming from the floods. Specifically the floods and extended heavy monsoon rains raised the underground water table and soil moisture level, and increased water availability in reservoirs, improving prospects for the rabi cropping season. In addition several crops benefited as a result of increased soil fertility from silt deposited by the floods. Sugarcane, for example, is estimated at 55 million tons which will be highest in the last three years. Price increases stimulated increased production of many minor crops, resulting in that sub-sector expanding at a rate of 4.8%. Despite the great flood-related loss of livestock, the sector still expanded at 3.7% as opposed to 4.2% in the previous year.

Table 3. Pakistan: Growth in Gross National Product (% growth at constant factor cost).

	1980s	1990s	2000s	2004– 2005	2007– 2008	2008– 2009	2009– 2010	2010– 2011
Commodity producing sector	6.5	4.6	4.5	9.5	1.3	1.8	4.7	0.5
Agriculture	5.4	4.4	2.7	6.5	1.0	4.0	0.6	1.2
Major crops	3.4	3.5	1.7	17.7	–6.4	7.8	–2.4	–4
Major Crops	4.1	4.6	0.2	1.5	10.9	–1.2	–7.8	4.8
Livestock	5.3	6.4	4.5	2.3	4.2	3.1	4.3	3.7
Fishing	7.3	3.6	4.0	0.6	9.2	2.3	1.4	1.9
Forestry	6.4	–5.2	–4.0	–32.4	–13	–3	2.2	–0.4
Mining and quarrying	9.5	2.7	5.7	10.0	4.4	–0.5	2.2	0.4
Manufacturing	8.2	4.8	7.4	15.5	4.8	–3.6	5.5	3.0
Large scale	8.2	3.6	7.8	19.9	4.0	–8.1	4.9	1.0
Small scale	8.4	7.8	4.6	7.5	7.5	7.5	7.5	7.5
Construction	4.7	206	6	18.6	–5.5	–11.2	28.4	0.8
Electricity and gas distribution	10.1	7.4	5	–5.7	–23.6	59	17.7	–21.1
Services sector	6.6	4.6	5.1	8.5	6.0	1.7	2.9	4.1
Transport storage and comm.	6.2	5.1	3.7	3.4	3.8	3.6	2.8	1.3
Wholesale and retail trade	7.2	3.7	4.6	12	5.3	–1.4	4.6	3.9
Finance and insurance	6.6	5.8	9.1	30.8	11.1	–7.6	–11.3	–6.3
Ownership of dwellings	7.9	5.3	3.5	3.5	3.5	3.5	3.5	1.8
Public administration and defense	5.4	2.8	4.5	0.6	1.2	3.6	2.5	13.2
Services	6.5	6.5	7.6	6.6	9.8	8.9	7.8	7.1
GDP (constant factor cost)	6.1	4.6	4.8	9.0	3.7	1.7	3.8	2.4
GNP (constant factor cost)	5.5	4	5.3	8.7	3.7	2.2	4.8	2.9

Source: Government of Pakistan, Ministry of Finance, Economic Survey, 2010–2011, p.6.

In part, favorable prices together with numerous government incentives were responsible for agriculture's somewhat surprising recovery. Soon after being elected in 2008, the Pakistan Peoples' Party (PPP) led coalition government initiated a significant increase in the support prices of major and minor crops. The price of wheat was more than doubled from 425 to 950 rupees (4.9 to 11 dollars) for 40 kilograms. The procurement prices for different types of rice were more than doubled and cotton prices were increased by over 40%.

Despite these price increases and the subsequent increase in rural incomes, Agriculture's flood-related difficulties had an effect on the flow of credit to that sector with credit increasing marginally by 1.4% from July 2010 through March 2011. This fall in disbursements is largely due to substantial decline of 23.7% in lending by one specialized bank (ZTBL) which more than offset the 9.5% rise in disbursements made by commercial banks. These credit patterns can be explained largely by the risk-adverse behavior of key lending institutions and the weaker demand in the aftermath of floods (Government of Pakistan 2011a: 25).

Manufacturing

Even before the floods the manufacturing industry (especially the large-scale component) was facing considerable adversity stemming from power shortages, high

interest rates, low foreign direct investment (FDI) and high external borrowing costs caused by the country's deteriorating security situation. While the sector's growth was not as directly affected by the floods as agriculture, indirect effects stemming from the floods was still a factor in that sector's relatively poor performance during 2010–2011. Flood related factors were most important in the textile and petroleum products sub-sectors (affected by submersion of refineries under flood waters, and further flood-related power outages). Growth in large scale manufacturing declined to 1.0% in 2010–2011 from 4.9% in the previous year. Less of a fall-off occurred for small scale manufacturing which expanded at 7.5%, the same rate as in 2009–2010 (Government of Pakistan 2011a: 35).

The demand side effects on manufacturing sales are complex. Clearly lost incomes from flood victims took a toll. On the other hand, higher agricultural prices stemming from flood-caused shortages resulted in a significant transfer of resources to rural areas, much of which went toward the purchase of consumer durables (Government of Pakistan 2011a: 36). In fact, the price support and subsequent increase in rural/agricultural incomes in the several years preceding the floods appears to have enabled that segment of the economy to become an engine of growth for the industrial sector: companies providing farm inputs such as fertilizers and tractors, or those engaged in the processing and marketing of food products. Following a slowdown in 2008–2009, increased sales of cars, motorcycles and other automobiles, as well as electronic consumer goods such as televisions, refrigerators, and air-conditions were led by this rural growth.

In addition a significant increase in worker remittances (much of which was to support flood-impacted relatives and friends) as well as public and private transfers to the flood affected population has strongly impacted on the consumer demand for a broad spectrum of domestically produced manufactures (Government of Pakistan 2011a: 36).

As for the future, the government's ongoing budgetary difficulties are likely to result in lower prices paid to farmers, potentially lowering rural incomes. This together with the likely on-going occurrence of floods points to the vulnerability of the agriculture-manufacturing nexus.

Services

The flood affect on Pakistan's services sector was partially responsible for that sector's growth of 4.1% during 2010–2011 as opposed to the original target of 5.4% (Government of Pakistan 2011a: i). The sector's performance was commendable under the circumstances rising from 2.9% during 2009–2010 (Table 3). The main contributors to this growth are public administration and defense (13.2%), and social services sector (7.1%). The former because of 50% pay rise for government servants and higher defense spending, the later because of logistics support and flood generated social activities (Government of Pakistan 2011a: ii).

In the aftermath of the 2008–2009 global financial/economic dislocations, Pakistan's financial sector remained on relatively sound footing. However, domestic security problems, the break-down in law and order, power supply shortages and the government's tight monetary/fiscal policy combined to couple the sector with increased credit risks.

Non-performing loans (NPLs) increased from 2009 to 2010, with the NPL-to-loan ratio reaching 14% by September 2010 – substantially higher than that of

neighboring countries such as Bangladesh (8.7%) and Sri Lanka (8.9%). The most vulnerable sectors were small and medium enterprises (SMEs) where the NPL-to-loan ratio reached 25%, and the mortgage loans and agriculture sector where it rose to approximately 20% (World Bank 2011: 8).

Clearly, the floods have compounded the financial system's NPL problems. These increased by Rs 58 billion to reach Rs 517.9 billion by end-December 2010, against an increase of Rs 34.1 billion in the same period in the previous year (Government of Pakistan 2011a: 71). The new round of floods in 2011 may significantly add to the growing volume of NPLs, further weakening the country's already fragile financial sector.

Inflation

After peaking at 25.3% in August 2008 (height of the world-wide commodity boom) the country's Consumer Price Index (CPI) had been trending downward. However inflation surged after January 2010 due to: (i) upward revision in electricity rates (the base rate in FY2009/10 increased by 17%, almost 70% of it taking place in the latter half of the fiscal year); (ii) steady increases in the international price of oil which created significant pass-through effect on transportation-related costs; (iii) State Bank of Pakistan's decision to transfer all oil-related payments to the interbank market to stabilize the exchange rate; and (iv) deterioration of the fiscal stance and its financing through monetization. Consequently, Pakistan entered FY2010/11 with strengthened inflationary expectations (World Bank 2011: 10).

In this setting the disruptive effects of the floods no doubt contributed more to inflation that would normally have been the case. Inflation rose to 15.7% in September 2010 from 12.3% in July 2010. This increase in the price level was due mainly to a sharp increase in food inflation as a result of the flood-caused supply shortages of perishable foods. In addition, a simultaneous increase in the prices of international commodities further added to inflationary pressures.

A number of additional factors, not all directly related to flood caused food shortages have come to play a role in maintaining inflationary pressures into 2011. These included: the government's revised energy pricing (fuel and electricity), higher margins on many food-products (as traders took advantage of perceived supply shortages and administrative weaknesses), rising cost of imports (as international commodity prices began to firm up), and the demand stimulus from the monetization of the fiscal deficit.

Still the consumer price inflation (CPI) has moderated since January, 2011 due to better availability of food items, increased sugar production and the very good wheat crop that is exerting downward pressure on wheat and other products.

Fiscal developments

The government's fiscal accounts were significantly affected by the floods along with external shocks such as oil price and the deteriorating security situation. The floods not only forced the government to expand expenditures through relief efforts, but also along with slowing overall-growth, caused a significant drop in revenues. The result was a fiscal deficit expected to be 5% of GDP by the end of fiscal year 2010–2011, while the tax-to-GDP ratio has been languishing below 10 per cent – one of the lowest in the world.

To counter these trends the government undertook several new initiatives in March 2011 whereby three new tax measures were introduced. These included the imposition of a one-time flood-surcharge on income tax, an additional excise duty of 1% on some selected luxury items and removal of exemptions on many goods subject to sales tax (Government of Pakistan 2011a: vi). All in all, the deterioration in government accounts has dramatized the urgent need to broaden the tax base, rationalize expenditure and to better insulate the economy from shocks (Government of Pakistan 2011a: v).

Monetary developments

Growing deficits forced the government to borrow with increased financing requirements increasing from Rs397.6b in 2009/2010 to Rs614.2b in 2010/2011. The mounting fiscal deficits were largely monetized by the State Bank of Pakistan (SBP). However rising prices stemming from flood related food shortages created a quandary for the Bank – the need to finance the government's growing deficits and at the same time combat inflationary forces forced the Bank to pursue tight monetary policy at a time when normally easy credit to revive expenditures would be the normal policy response.

Even before the floods the Bank had maintained a tight monetary policy for some time. Post-flood inflationary pressures, however forced the Bank to increase the policy rate to 14% on November 30, 2010 (Government of Pakistan 2011a: iv). The net effect of these developments was a significant drop in Pakistan's investment-to-GDP ratio – from 22.5 per cent in 2006/2007 to 13.4 per cent in 2010/2011.

Throughout most of 2011, reduced levels of government borrowing from the Bank along with reduced inflationary pressures has precluded any further rate increases. Still, relatively high interest rates and tight credit to the private sector have no doubt contributed to the slow post-flood recovery. These developments may culminate in a prolonged period of stagflation.

FDI

Foreign direct investment (FDI) declined by 28.7% during July-April 2010–2011 as a result of fall in equity capital and reinvested earnings. The decline in FDI in Pakistan has been attributed to a broad range of factors including the deterioration in law & order, the energy crises – frequent brown and blackouts, concerns over possible political instability and weak economic activity (Government of Pakistan 2011a: xv).

In addition the post flood environment with the massive destruction of infrastructure has undoubtedly discouraged new investment from entering the country. This was confirmed in a recent study (Rehman et al. 2011: 4) that found in the case of Pakistan there is a strong positive link between infrastructure and FDI.

Poverty

As might be anticipated, the floods have had a devastating impact on groups at or near the poverty level. Even before the floods the situation for many throughout the flood area was dire. In the 2010 United Nations Human Development Index, Pakistan ranked 125 out of 169 countries. It is estimated that one third of the population lives on less than US\$1 a day and almost one quarter of the population is

malnourished (including up to 38% of children). One in 10 children does not survive to the age of five. More than 42 million children between the ages of 5 to 19 do not attend school. Progress against the Millennium Development Goals (MDGs) has been slow, particularly against MDG 2 on primary education, MDG 4 on child mortality and MDG 5 on maternal health. Half of the adult population is illiterate (including two thirds of women) and only 62% of primary school-aged children are enrolled in school (AusAid 2010: 4).

Unfortunately the people most severely affected were predominantly small farmers and unskilled laborers. They are among the most vulnerable in Pakistan and almost all live below or just around the national poverty line (Government of Pakistan 2011a: 221). According to the United Nations Development Program's preliminary estimates, the floods pushed a further 4% of Pakistan's population below the calorie-based poverty line, mostly in rural areas. As a result, the MDG of halving the proportion of people living under US\$ 1 per day and the proportion of people suffering from hunger is now even less likely to be achieved (AusAid 2010: 5).

Refugees

Prior to the floods, Pakistan already had about four million internally displaced people and refugees due to the war along the Afghan border and the 2005 earthquake in Khyber-Pakhtunkhwa (formerly North-West Frontier Province). The floods largely spared Pakistan's principal urban centers, but they affected the lives of millions in small cities and villages as well as rural areas, some with high population density. About 1,550,000 were displaced, initially to camps outside the flooded area (Dixon and Schaffer 2010: 1).

Several months after the floods, the situation varied considerably from area to area. In Khyber-Pakhtunkhwa and Punjab, around 95% of those displaced were able to return to their homes. In Sindh province, however, nearly 85% of the affected population remained in grim refugee camps plagued by dire conditions (Parenti 2011).

While the numbers in refugee camps are winding down, many of those flooded out are not returning to their devastated homes, but instead are drifting into some of the country's major cities such as Karachi and Lahore. The result is increased pressure on existing infrastructure. Slums and congestion are increasing with electricity, sewage systems and other over-taxed public services feeling the strain. Lack of jobs and dire living conditions are creating a major social problem with crime and violence on the rise, particularly in Karachi.

Rural feudal system

Many of the flood victims in refugee camps or those taking up new residence in the country's urban areas are escaping the country's brutal rural feudal system. Vast estates belonging to feudal families stretch out across the country, sometimes covering hundreds of acres. According to the World Bank, about 2% of households control more than 45% of the total land area. Large farmers have also monopolized subsidies in water and agriculture – with the system in place contributing heavily to rural poverty (AlterNet 2011).

In a feudal country where landlords have strong influence, landless farmers face great difficulty in recovering their livelihoods. Because landlords have so much

power, farmers have been forced to pay high interest rates while receiving small returns from crops. This system places many into a constant cycle of debt.

The floods have only compounded the problems faced by the landless farmers and peasants. They have lost their livelihoods and shelter. Because they do not own the lands or their houses most do not qualify for government compensation. This money has gone to the landowners. In addition the government's cheap loans and other facilities have gone to the feudal lords and big farmers with little offered to the poor peasants and small farmers. These groups have been forced to turn to the exorbitant rates offered by private money lenders and the feudal lords.

For its part, the government has offered inexpensive loans and other assistance to the feudal lords and big farmers, but little or nothing to the masses of peasants and small farmers. Instead these groups have been left on their own – largely at the mercy of private money lenders and feudal lords. In short, the floods will further impoverish the hundreds of thousands of already extremely poor peasants and farmers. The sad situation is best summed by Dixon and Schaffer (2010: 2):

Some observers suggest that the disaster will change the feudal system under which much of Pakistan's rural farming areas still operate. What is more likely is that it will exacerbate the competition for land and work among the 'have-nots' of the large landholdings in Sindh and southern Punjab. Hard times generally reinforce existing dependency relationships in parts of Pakistan that have large landholdings. The Pakistan floods, although prompting a measure of demographic change, have not had the radical impact on the will of the federal government that would be required to counter this trend.

Assessment

The vast scope of the damage created a situation with long-term economic and political consequences, as government mismanagement of the disaster added to the distrust that many Pakistanis already felt for their civilian political leaders.

In the aftermath, there were scores of angry accusations that government officials had guided relief only to their own party supporters. Lacking confidence in the government's ability to deliver relief, the U.S. and international agencies turned instead to private groups to provide assistance (Gall 2010).

The Pakistani military stepped into the breach, greatly improving its public perception. The military was able to reach and rescue more than 100,000 flood-stranded people and coordinate sustained relief efforts in the months following the flooding. Unfortunately, the military's efforts appear to have stopped there. Those affected by the floods were forced to rely for long-term recovery on NGOs and their own creativity: selling animals, building new mud huts, planting more rice.

One year later, the effects on the floods linger on with growth likely to stagnate between 2.0-3.0% in 2011–2012. The impact of the damage, exacerbated by the 2011 floods will continue to be felt most acutely in the agriculture and manufacturing sectors. The economic impact still being felt from the floods is greater than might normally be the case due to the many of the country's on-going structural problems. Anemic tax receipts, ineffective management of public finances, low levels of foreign and flood-relief aid, and cuts in fuel subsidies have increased the cost of living for ordinary citizens and resulted in resource shortfalls for relief and reconstruction.

Longer-term consequences

As the discussion above suggests, even in the short-run, many of the economic consequences of the floods are hard to sort out from other causes – spurious correlations abound making even detailed statistical work, assuming detailed data were available, problematic. Once we get beyond a year after the floods impact identification difficulties increase exponentially, especially when we get into the area of policy – to what extent if any have the floods caused a major shift in the country's economic policies?

As Safiya Aftab (2010) has noted, the post-floods situation did present a unique opportunity to undertake tough economic reforms 'instead of looking towards the world to bail Pakistan out of a major crisis. The floods are a game-changer and we may never go back to being in a position where the next SBA bails us out. Let us by all means fulfill our international obligations, but let's not think that we can just muddle on as before, periodically blackmailing the world with the threat of the consequences of collapse of a nuclear power dealing with growing militancy. The world simply does not have the resources to get us out of this mess' (Aftab 2010).

Clearly, it is highly conjectural whether the floods in and of themselves convinced the government to initiate the country's New Growth Framework (Government of Pakistan 2011b), approved as the country's official development strategy in May 2011. Regardless of its origins, the following section suggests that implementation of the basic tenets of the New Growth Framework are likely to offer the country more hope than traditional aid programs (even if larger volumes of assistance were forthcoming) for combating future floods.

Future policy considerations

The government's inability to mount an effective response to the 2010 floods or prepare the country for the following year's monsoons is systematic of a pattern of failed economic policies and strategies that have plagued the country over the years. The country has a long history of economic stops and starts (Looney 2001) and failed take-offs (Looney 2004), in which rapid growth is followed by periods of relative stagnation (Looney 2009). Contributing to this pattern is a lack of effective governance, in which reforms are stifled by entrenched elites who benefit from the status quo (Burki 2011b). Unless governance can be improved, it will continue to pose a formidable barrier to sustained growth (Looney and McNab 2007).

Without sustained growth, post-flood recovery will always be anemic, with government deficits, inflationary pressures increasing poverty and reducing the country's capacity to provide viable employment opportunities for those unfortunate enough to lose everything – or those simply trying to flee rural feudal enslavement.

It is becoming increasingly clear, however, that traditional foreign aid is not the solution. Not only have massive infusions of foreign aid failed to bring stability or sustained growth to Pakistan or buy goodwill for major donors such as the United States (Witte 2010). The way these programs are managed has corrupted and corroded the country's institutions (Fair 2009). The top-down nature of traditional aid programs has encouraged corruption and rent-seeking, while lessening the need for the government to forge a bond with its citizens by raising revenues and redistributing those funds as services (Fair 2009). Civilian aid programs have little effect on the overall Pakistani economy, as illustrated by a recent estimate that US withdrawal of these funds would have only a 0.14% impact on the GDP growth rate

(Arnoldy and Ahmed 2011). The outcomes of foreign aid have been so unsatisfactory that both donor and recipient groups agree that, in many respects, Pakistan would have been better off without them (Birdsall and Kinder 2010; Burki 2011a). In fact, recent empirical evidence (Wahab and Ahmed 2011) suggests that aid may have even had a negative impact on the country's growth, with domestic savings providing a positive impact, implying that the best strategy for the country is to focus on domestic reforms to mobilize local the resources for productive investment.

In any case, an aid based flood recovery and prevention strategy may be a moot point with donors less willing to provide funds due to tighter budgets and the widely held view that the funds would not in any case be effectively used or go the victims in need.

As an alternative to the aid based approach, a growing number of Pakistani economists would like to see the replacement of the country's inefficient, state-run policies with entrepreneur-led growth. This sentiment is at the core of the Pakistani Planning Commission's New Growth Framework. The Framework represents a paradigm shift in Pakistan's approach towards the economy. It proposes that the country move from the current development model with the state still playing a pervasive role in an environment of limited economic freedom and low levels of governance to one that relies on freely-functioning markets with dynamic entrepreneurship playing the leading role in expanding investment, developing new areas of economic activity and providing productive employment for the country's rapidly burgeoning labor force.

While the Framework is intuitively appealing to professional economists, it is admittedly theoretical at this point and, as such, has drawn criticism that it offers a list of 'what to do', as opposed to 'how to do'. (Hassan 2011) Critics also note that it is vague regarding the sequencing of its policies and reforms (Aftab 2011) and question whether Pakistan's government has the ability and political will to implement such an ambitious agenda (Tahir 2011).

Criticisms aside, the key assumptions of the Framework are basically sound. In fact, countries whose circumstances resembled those of Pakistan have implemented similar programs that initiated a cumulative process of growth and reform (Havrylyshyn and Wolf 1999; Mitra and Selowsky 2002). For example nearly all the Central and Eastern European countries that successfully transitioned from Communism followed programs that shared key assumptions and elements espoused by both the New Growth Framework. Similarly, most of the former communist countries that did not encourage entrepreneurship and the creation of small businesses experienced far less economic growth.

While admittedly there are significant differences between Pakistan and East-Central Europe a recent study (Looney 2012) drawing on a large sample of developing and transitioning economies confirmed that an entrepreneurial-led development approach rests on a solid theoretical and empirical foundation. Countries that have successfully progressed up the development ladder have drawn heavily on entrepreneurial activity, growth and reform in creating their virtuous circles. In this sense an entrepreneurial-focused development has the potential to reverse the vicious circles of declining formal economic activity, a growing shadow economy, and increasing violence by creating a new group of stakeholders with a vested interest in stability, development and reform.

More importantly these findings imply that in Pakistan's case, the implementation of the New Growth Framework in conflict and disaster situations has the

potential to produce immediate gains in growth, employment and stability. Over time, the institutional reforms induced by the entrepreneurial class would enable the country to overcome existing impediments to sustained growth and move to higher levels of development. A summary of the main findings and identified linkages are sketched out in Figure 2.

Specific findings suggested:

- (1) It is unlikely that in Pakistan's current institutional/political setting traditional aid programs, even with greatly expanded funding, could initiate a process of institutional development and reform sufficient to offset Pakistan's current slow growth and cycle of violence.
- (2) However, an extensive quantitative assessment of successful country growth patterns found that entrepreneurial activity is a key element in driving the growth process through progressive stages of economic development.
- (3) Successful countries whose development relies on increased entrepreneurial activity appear to sustain growth through a series of ongoing reforms initiated by this growing stakeholder group. As a result, they are able to establish virtuous circles of increased economic liberalization, extended entrepreneurship, expanded growth, and improved governance, which lead in turn to further growth and development.
- (4) Increased trade liberalization and improvements in the business climate are the most important factors for stimulating entrepreneurial expansion for countries at Pakistan's stage of development.
- (5) Consequently, entrepreneurial efforts could be expanded in the short-term without major improvements in governance.
- (6) Entrepreneurial-led development could potentially create a virtuous circle of growth and reform in Pakistan capable of overcoming the constraints of violence, bureaucratic inertia, and the country's many vested interests.
- (7) In principle, Pakistan's New Growth Framework incorporates all of the elements noted above.

Conclusions

An aid based business as usual approach to post-flood reconstruction would no doubt result in a drag on the economy for years to come with growth rates significantly below historical levels. Given donor fatigue and the government's poor reputation the amounts of aid actually received will never be great. In any case it is unlikely even larger volumes of aid in and of themselves would initiate the processes of reform and governance improvements needed to put the country on a path of high sustained growth, capable of providing the resources to minimize the damage from future floods. Under these circumstances each round of floods would impose staggering costs (both direct and opportunity) on the economy.

In contrast, an entrepreneurial based strategy, especially one focused on the creation of new firms and innovative activities embodied in the New Growth Framework holds out hope for the future. The strategy, through initiating a process of governance improvement and on-going economic reform, would place the economy in a much stronger position and render it less aid dependent prior to disasters. More importantly, by focusing on growth and not just stabilization in post-flood or other disaster situations, the strategy would provide the needed rapid response in restoring jobs and getting the economy moving again.

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