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The *Social Science and Policy Bulletin* is published quarterly by the School of Humanities, Social Sciences and Law at LUMS. It provides a forum for debate on the economic and socio-political issues pertaining to the formulation and conduct of public policy as well as its impact. The *Bulletin* aims to disseminate, to a wider audience, high quality research and policy-oriented work being done by social scientists. The editors of the *Bulletin* welcome short essays, either analytical or quantitative, that are relevant as well as intellectually stimulating.

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## Editors' Note

The last five years have seen annual economic growth in Pakistan stagnate to an anemic three to four percent. With population growing at more than two percent per annum, income per capita growth is just above one percent, making Pakistan the slowest growing country in the South Asian region. Although a host of reasons can be cited to explain this dismal growth performance, much of the blame rests on the energy crisis which has bedeviled the country and its policymakers. Chronic energy shortages have indiscriminately affected both the economy and society. However its impact on the country's industry is perhaps the most alarming, given that the manufacturing sector drives economic growth and development. Pakistan's manufacturing sector has borne the brunt of the energy crisis causing an increase in urban unemployment, a secular decline in incomes, and a significant fall in overall exports since 2007.

Recent studies on industrial constraints have shown an estimated increase of almost 20 to 30 percent in production costs of firms as a consequence of electricity and gas shortages. The severity of the impact varies across size, location, and type of production. Smaller and continuous process units are affected most, while regionally the historically vibrant industrial clusters of Gujranwala, Wazirabad, Faisalabad, and Sialkot are the worst hit. Large- and medium-sized firms in these clusters generally have the capacity to adopt alternative power generation, albeit at a higher cost. Smaller units on the other hand are entirely dependent on the national electricity grid and hence significantly more vulnerable to continued energy shortages. All this has led to a costly and uncertain business environment which deters new investment and is a disincentive for surviving firms to increase the scale and scope of their business. At a time when trade opportunities are opening with India—which constitutes a growing and vibrant market for

Pakistan's manufactured exports—a beleaguered domestic industry would reduce the potential gains from trade.

In order to pull the economy out of this low equilibrium trap, the industrial sector has to be given an energy lifeline immediately. Given that the effect of energy shortages varies across industrial clusters, industry, and firm size, a short-run energy distribution policy should be designed which takes into account these differential impacts. Prioritization of energy allocation to the worst hit industrial clusters and scheduled loadshedding for continuous process industries are the more easily implementable policy measures that could significantly reduce production costs and save many units from shutting down. It is imperative over the medium- to long-term to resolve the circular debt problem and change the energy mix from oil to coal and hydel power.

This issue of the *Bulletin* has three articles that delve into the layered effects of certain exogenous shocks to Pakistan's economy. In the first article, Syed Turab Hussain investigates the reasons behind the surprising resilience of remittances to Pakistan in the face of major shocks including 9/11, the global financial crisis, and the Arab Spring. The author cautions policymakers not to rely on remittances alone to sustain long-term economic growth and reduce poverty, and warns against the return of migrants which, coupled with existing unemployment, could be catastrophic. The second article by Bisma Haseeb Khan finds strong support for prioritizing education to protect Pakistan's labour force against economic recessions, with young workers and females benefitting the most. In the last article, Takashi Kurosaki offers a survey of Japanese research done on Pakistan's economy to offer insight on Pakistan's rural economy. While some policy implications are evident, the author sees major scope for future contributions.

# Migration and Remittances in South Asia in the Wake of Emerging Global Challenges

By Syed Turab Hussain



The last decade saw three major events fundamentally alter the global political and economic landscape. The first and arguably the most significant was 9/11, creating a huge gulf between the West and the Middle East that was further widened by the NATO occupation of Iraq and Afghanistan. The second major event was the financial crisis that beleaguers the economies of both the US and Europe and threatens to engulf the world through contagion effects. Finally in the Middle East last year, a wave of protests against years of autocratic rule blossomed into an Arab Spring with Egypt, Tunisia and, more recently Libya, winning their freedom. The states which are currently stable, such as Saudi Arabia and the Gulf countries, look anxiously at the fast-changing political map of the Middle East, uncertain of their own political future.

These historic events can have serious ramifications on both migration from and remittances to South Asia—a region with a large migrant population in both the West and the Middle East. This article investigates the apparent resilience of remittance flows to South Asia in the wake of these shocks. It explores the reasons behind the unabated upward trajectory of remittances in the region, with a special focus on Pakistan—a country which had a remittance-triggered boom and bust cycle in the last decade. It also presents strategies which could help the region cope better with the fallout from these global events.

## Remittance dependency in South Asia

The importance of migration and remittances in the economies of South Asia cannot be overstated. The degree of the region's remittance dependence is clear from Table 1 below. South Asia has the highest remittance to GDP ratio in the world; remittances now far exceed other financial flows including Official Development Assistance (ODA) and Foreign Direct Investment (FDI). In spite of the aforementioned events, remittances remain a major and relatively stable financial flow into the region.

**Table 1: Changes in remittance dependency in South Asia**

	Re/GDP (%) 2000	Re/GDP (%) 2009	Re/Exports (%) 2000	Re/Exports (%) 2009	Re/ODA + FDI (%) 2000	Re/ODA + FDI (%) 2009
Bangladesh	4	12	28.57	64.7	136	542
India	3	4	23.1	18.14	259.8	129.8
Nepal	2	23	-	150	28.7	334
Pakistan	1	5	10	42.85	106.6	170.3
Sri Lanka	7	8	16.66	33.33	260.2	238.8

Source: World Development Indicators (WDI) and Global Development Finance (GDF).

In South Asia, the spike in migration and remittances came in the early 1970s. Following the oil boom in the Middle East,<sup>1</sup> a large number of skilled and semi-skilled migrants from India, Bangladesh, and Pakistan met the growing labour demand in oil-exporting countries. This resulted in an unprecedented rise in remittances into the region which tended to fluctuate in tandem with movements in oil prices. This upward trend in remittances was augmented in the 1990s by financial liberalization reforms across South Asia pushing India, Pakistan, and Bangladesh to the top ten remittance-recipient countries of the world. The other major destinations of South Asian emigrants are the OECD countries, in particular the US and UK, and East Asia. In contrast to the Gulf, migrants from South Asia to the OECD have been predominantly high-skilled/highly-qualified and of Indian origin (Oda, 2004).

Numerous studies have investigated the effect of remittances on growth and poverty in the region. Theoretical explanations behind the motives to remit have ranged from strategic self-interest to familial altruism. Migration decisions are usually analyzed from the perspective of the family rather than the individual.<sup>2</sup> Remittances within this broad framework have been shown to smooth income and consumption (Lipton, 1980), to provide insurance and credit for risk-averse and credit-rationed poor households (Stark, 1991), and to finance both physical and human capital investments in the home country (Adams, 1998; Batzlen, 1999). However, the link between remittances, growth, and poverty across developing countries is tenuous and the empirical evidence on this remains fairly contentious.<sup>3</sup> The scope of this article will remain focused on the impact of major global events on migration and remittances, especially in South Asian economies.

### **Post-9/11 remittance surge in Pakistan: Boon or bane?**

The events of 9/11 marked a major shift in the security paradigm of the United States. Greater international scrutiny on informal transfers of money

through the *hawala* and *bundi* system made migrants switch to formal channels, partly explaining the subsequent surge in official remittances. Moreover, there was a large transfer of savings to Pakistan by people of Pakistani origin living in the US, which was perhaps triggered by general uncertainty prevailing in the Muslim community post 9/11. So large were these transfers from the US that the share of remittances from the Gulf countries came down from 67.9 percent to 45.5 percent in the course of one year. This, accompanied by the rescheduling of Pakistan's debt payments, resulted in an unprecedented rise in capital inflows (Table 2) into the country in the year 2001-02 (Oda, 2004).

These remittances and repatriated savings made their way into a burgeoning commercial banking sector, the stock market, and a highly lucrative real estate market causing a bubble in both. Exchange rate appreciation and low interest rates on consumer lending in turn fueled a consumption boom in Pakistan.<sup>4</sup> Imports of luxury items increased manifold, while exports lagged behind due to both the appreciated exchange rate and sluggish manufacturing sector growth. What transpired was a classical case of 'Dutch disease' caused by large inflows of capital which appreciated the exchange rate and made Pakistan's exports significantly less competitive. Despite the pressure on the exchange rate to depreciate, the State Bank of Pakistan kept the rate stable and overvalued, further widening the gap in the balance of trade (Table 2). The economy grew at an impressive average rate of six to seven percent between 2002 to 2006. Poverty also fell from 31 percent to 22 percent in this period giving credence to the 'trickle down' effect; however, this was due to the large proportion of the poor clustered around the poverty line making the headcount rate in the country very sensitive to changes in economic growth (Nabi, 2010).

This consumption-led growth turned out to be more of a 'mirage than a miracle' (Nabi, 2010). When international oil prices rose in 2007 and the country's political and security situation deteriorated, this growth

**Table 2: Remittances and the boom and bust cycle in Pakistan**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Remittances (US\$, billions)	1	1	4	4	4	4	5	6	7
GDP growth rate (%)	4	2	3	5	7	8	6	6	2
Consumption per capita growth (%)	-2	-2	-1	-1	8	11	-1	3	-4
Trade balance (US\$, billions)	-1	0	0	1	1	-4	-11	-11	-18
Manufacturing value- added growth rate (%)	2	9	4	7	14	16	9	8	5

Source: World Development Indicators (WDI).

spurt came to a sudden stop and the short-lived boom gave way to a painful bust characterized by a plummeting growth rate of GDP, unmanageable external and internal deficits, rising inflation, and unemployment. Throughout this period, when other short- and long-term capital flows had dried up, remittances kept their momentum and contributed to financing the current account deficit keeping the economy afloat, albeit at a much lower equilibrium growth rate.

The central lesson from this boom and bust tale is that remittance flows alone cannot be viewed as a panacea for all that ails an economy. The lack of sustainability of Pakistan's growth rate was essentially due to structural reasons and chronic fiscal mismanagement. Consumption grew at a phenomenal rate while investment in manufacturing remained relatively low.<sup>5</sup> Although there was impressive growth in services during this period, due to increased FDI in both the financial and telecommunication sectors, this was not enough to sustain growth (Nabi, 2010). Furthermore, an abysmally low tax to GDP ratio of around nine percent, misallocation of budgetary resources towards unproductive expenditures, and a proliferation of non-targeted subsidies worsened the fiscal balance contributing to the eventual bust. Therefore remittances alone cannot be expected to sustain economic growth and reduce poverty unless they are accompanied

by policies designed to facilitate manufacturing and export growth, whilst providing social infrastructure and targeted subsidies/social safety nets to the poor.

Remittances can have more 'bang for the buck' if these are directed through appropriate incentives into capital investment and also finance social and physical infrastructure—the main bottlenecks facing Pakistan's manufacturing sector. Venture capital schemes and information on investment opportunities for the expatriate community in the US and Europe are ways by which remittances can be channelized more productively. Innovative financial tools can also help leverage migration and remittances for development goals. Government-issued expatriate or diaspora bonds are an effective instrument to raise revenue at a lower cost for critical physical and social infrastructure projects in transport, energy, health, and education. This has been done quite effectively to tap expatriate savings by Greece, Israel, and India (Mohapatra, Ratha, & Silwal, 2011).

### **Global financial crisis and Middle East political instability: Impact on migration and remittances in South Asia**

The global financial crisis has reduced GDP growth rates across Europe and the US to as low as two to

three percent and unemployment in most of the OECD countries is at a record high.<sup>6</sup> The large fiscal stimulus in the US and in Europe has not stimulated aggregate demand, employment, and growth as expected. With the world economy increasingly integrated through trade and capital flows, this crisis has had global ramifications. For the large South Asian diaspora in the US, Europe, and the Middle East, this global economic downturn continues to threaten incomes and employment. High unemployment in US and Europe has led to a palpable increase in right-wing political rhetoric against immigration, putting pressure on governments to tighten immigration controls and introduce greater selectivity in immigration policies (Mohapatra et al., 2011).

Finally, in 2010, a major pro-democracy movement erupted in the Middle East succeeding in ousting longstanding dictatorial regimes in Tunisia, Egypt, and Libya within a span of six months. The political unrest has spread to Syria, Bahrain, and Yemen and threatens the Kingdom of Saudi Arabia as well as the other Gulf countries. The full impact of this political upheaval on the fate of the large migrant community of South Asia is yet to unfold—although Bangladesh recently saw a major repatriation of 30,000 migrants from Libya, thus becoming the first South Asian country directly affected by the Middle East crisis.

In such an adverse and unpredictable climate the

expectation remains that migration and remittances in South Asia might decline over the medium- to long-run. However, until now, remittances have proven to be remarkably resilient in almost all South Asian countries throughout the global financial crisis and the political unrest in the Middle East (Table 3). In fact, in Pakistan, remittances have reached a record high of US\$ 1 billion in a single month during March, 2011.

Perhaps the most compelling argument behind the stability of remittances is the fact that the stock of existing migrants in the destination countries has not fallen. Although new migration flows fell significantly, the net flow of migrants remained positive. As remittances are dependent on the stock of migrants, they are likely to be persistent over time (Mohapatra, Ratha, & Silwal, 2010). Therefore, it might be too early to expect a fall in the stock of migrants in the host countries to cause a decline in remittances to South Asia.

Secondly, most South Asian migration has been to the Gulf countries (GCC)—a region relatively less affected by both the economic and political crises.<sup>7</sup> In fact, as a consequence of the recent increase in oil prices and enhanced economic activity in the Gulf, remittances to South Asia and to East Asia grew at 8.2 percent and 7.4 percent respectively in 2010 (Mohapatra et al., 2011). Also, the fiscal stimulus provided in Saudi Arabia, the US, and Europe in the wake of the financial crisis might have provided a cushion to migrant employment and

**Table 3: Resilience of remittances to South Asia during the financial crisis**

US\$ (billions)	2005	2006	2007 (Financial crisis)	2008	2009	2010
Bangladesh	4	5	7	9	11	11
India	22	28	37	50	49	54
Nepal	1	1	2	3	3	3
Pakistan	4	5	6	7	9	10
Sri Lanka	2	2	3	3	3	4

Source: World Development Indicators (WDI) and Global Development Finance (GDF).

income, consequently buffering any fall in remittances.

During the last eight years, Pakistan has seen remittances increase to US\$10 billion per annum and has had one of the highest percentage increase in inflows during the global crisis within the region. A recent paper by the IMF posits compelling explanations behind this counterintuitive surge in remittances to Pakistan which have been empirically verified by the authors using data from 1997 to 2008 (Kock & Sun, 2011).

Kock and Sun (2011) argue that the movement of Pakistani migrants from a crisis-hit UAE to an economically secure Saudi Arabia helped offset a potential fall in remittances. Even though the number of Pakistani migrants in the UAE decreased by almost 43 percent, remittance per migrant in the UAE outstripped those from Saudi Arabia during this period, mainly because of laid-off migrants from UAE who brought their accumulated savings back to Pakistan. It is also found that an increase in the share of skilled Pakistani migrants (60 percent) in the past twenty years has contributed significantly in explaining the sustained upward trajectory of remittances (Kock & Sun, 2011).

Increased remittances to Pakistan in this period can also be explained by familial consumption smoothing and insurance motives of migration and remittances. Remittances rose substantially from US\$ 7.4 billion to almost US\$ 10 billion in 2010, in response to both the worsening economic conditions in the country and the devastating floods which inundated large swathes of land along the Indus, affecting millions of poor households. Finally, remittances in Pakistan registered an increase because of efforts made by the government to minimize the transaction costs of remittance transfers, thereby incentivizing a shift to formal channels (Pakistan Economic Survey, 2011).<sup>8</sup>

The central lesson which can be drawn for South Asia from these crises is that diversity in the destination of

migrants and a higher share of skilled migrants is integral in ensuring the security and magnitude of remittance inflows. Public policy should thus be designed to provide a wide range of skills independent of specific labour market conditions or requirements in major migrant destinations. This will give labour more flexibility and more diversified employment options, domestically and abroad.

The fluidity of the current economic and political situation in the OECD and Middle East countries makes it difficult to predict long-term migration and remittance trends for South Asia. The unpredictability of emigration prospects along with the demographic change taking place in the region, where one third of the population is below the age of 20, pose a serious economic and social challenge. South Asian countries have to create new vents for growth to ensure employment opportunities not only absorb the growing number of youth entering the labour force every year, but also cater to a possible influx of returning migrants. These numbers would increase substantially if there is deterioration in migration prospects globally.

Arguably the most important vent for growth in South Asia is greater regional integration, the success of which crucially depends on the two largest economies of India and Pakistan. The geo-strategic location of Pakistan—China, to the north, Central Asia, to the west—can only be exploited to its full economic potential by South Asia if trade between India and Pakistan is liberalized, paving the way for improvements in their political relationship. This will gradually lead to deeper regional economic integration, with capital and labour mobility, bringing the region closer to SAARC's vision—peace, stability, and prosperity in South Asia.

## Conclusion

This article looked at the effects major events in the last decade have had on South Asian migration and remittances. The impact of 9/11 was analyzed from



the perspective of Pakistan; the main conclusion drawn was that a sudden increase in remittances may cause an economic boom, but sustainability demands prudent macroeconomic management and strategic public policy initiatives. In the absence of employment- and export-generating real growth, remittances can only serve to partly stabilize the current account deficit of the country, keeping it at a low equilibrium growth path—as is the case in Pakistan today. Also, remittances can be effectively channelized through the issuance of diaspora bonds and can be directed through schemes like venture capital towards greater entrepreneurship and investment in an economy.

Finally, the article analyzed the anomalous resilience of remittance flows to South Asia in the wake of the global financial crisis and Middle Eastern political turmoil. Since remittances are dependent on the stock of migrants and not the flow, the impact from a net fall in migration might not be felt, at least in the short-term. Also, most of the migrant flows from South Asia have been to relatively stable countries of the Gulf, both economically and politically, which explains the persistence of these flows.

In the case of Pakistan, the continued rise in remittance flows during the past three to four years can be partly explained by an improvement in worker skills over the past 20 years and movement of labour from an economically unstable UAE to a relatively more stable Saudi Arabia. The recent floods and economic slowdown also factor into the surge in remittances, as motivated by familial altruism, insurance, and consumption smoothing of origin households.

Given the unpredictability of future migration and remittance patterns, the recommendations for the region are policies which focus on skill acquisition and regional employment generation. The latter objective can be achieved by invigorating the economic integration of South Asia in general, and Pakistan and India in particular, to put the region on a potentially higher growth and development trajectory.

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## Notes

<sup>1</sup>These are primarily the Gulf Corporation Council (GCC) countries comprising Bahrain, Qatar, Kuwait Oman, Saudi Arabia, and the UAE.

<sup>2</sup>In the 1980s, the literature on migration by Stark (1991), Lucas (1985), and Banerjee (1981) shifted the focus of analysis away from the Harris-Todaro (1970) type individual decision-making framework to a family-level approach. This came to be known as the New Economics of Labour Migration (NELM).

<sup>3</sup>The ambiguity between remittances and economic growth is exemplified by a study conducted in 2009 by Barjas et al., which used panel data from 84 countries in the period 1970 to 2004. The study found no robust and significant impact of remittances on long-term growth and often found a negative relationship between the two variables.

<sup>4</sup>“The KSE 100, which is the benchmark of Karachi Stock Exchange (KSE), increased from 1,247 points immediately prior to the 9/11 attack to over 150,000 points in early 2008. Meanwhile annual sales of automobiles increased from slightly under 35,000 in 1999 to more than 180,000 in 2006/07.” Excerpt from “Pakistani Migration to the US: An Economic Perspective” by Oda (2009).

<sup>5</sup>There was a spike in the growth of large-scale manufacturing which lasted only two years from 2004 to 2006. Also, the construction sector benefited in these years from the real estate and housing boom, contributing nominally to the growth in manufacturing during the period.

<sup>6</sup>According to IMF forecasts, unemployment in the Euro area will remain more than 9.6 percent in 2011 to 12.

<sup>7</sup>There are of course exceptions to this, such as the UAE and Bahrain. The UAE was hit hard due to the financial crisis which caused a real estate collapse, while Bahrain has had periodic spates of intense political instability since last year.

<sup>8</sup>Higher inflows from the UAE and UK seem to be the result of bilateral arrangements of the State Bank of Pakistan and commercial banks with foreign entities under the Pakistan Remittance Initiative (PRI). The PRI schemes such as Xpress Money and Interbank Fund Transfer Facility have played an important role in increasing remittances by lowering the costs of fund transfers.

# Does Skill Formation Act as a Buffer against Economic Downturns?

By Bisma Haseeb Khan



The value of education and skills as a form of insurance in adverse circumstances, including economic crises, is a recurring policy debate. Since the seminal work of Becker (1962), it has widely been accepted that skill formation in the form of education and vocational training leads to better labor market outcomes in general, but there is limited evidence on how these returns fare over the business cycle. Anecdotal evidence suggests that unskilled workers suffer the brunt of recessions in terms of unemployment and decreased real income, especially in developing countries where workers, generally lacking formal risk mitigation mechanisms, rely on human capital during recessions. Existing literature examining this phenomenon concentrates on the developed world,<sup>1</sup> whereas it is developing countries that face greater fluctuations in their business cycles. For these countries, such studies can serve to not only inform policymakers on the need for investment in education and vocational training, but also identify the types of social safety nets that need to be in place to protect workers against economic downturns. This article seeks to fill this critical gap in the academic and policy literature by providing novel evidence on the difference in the cyclical variability of employment, real wages, and hours worked between skilled and unskilled workers in Pakistan.

In theory, during recessions a greater risk of unem-

ployment exists for unskilled rather than skilled workers resulting from the crowding-out of the former by the latter. Unable to afford losses caused by a less productive workforce, firms tighten their hiring criterion during crises (Reder, 1955; Lindquist, 2004). However, the unemployment duration for unskilled workers is likely to be shorter as they are more easily absorbed in the informal sector unlike skilled workers, who tend to avoid this option because of the risk of rapid de-skilling (Bernabe & Stampini, 2009). Existing literature distinguishes between two types of skills: firm-specific and general skills (Becker, 1993). This distinction is important as general skills (measured by educational attainment) increase worker productivity in all industries, whereas firm-specific skills (vocational training) are unique to one firm/industry and hence depreciate once the worker leaves that industry. As general skills are more portable, educated workers have greater 'allocative ability' enabling them to deal with disequilibria and adapt more effectively to downturns (Schultz, 1975). Those with firm-specific skills, on the other hand, find it harder to find employment in other firms due to skill mismatch, increasing the duration of their unemployment spells. However, workers with vocational training have a higher likelihood of being retained by firms due to the difficulty of finding these skills and the effort and cost of training such workers if the training is given on-the-job.

Conditional on being employed, the impact of a recession on hours worked and real wages also differs for skilled and unskilled workers. On the one hand, skilled workers may be willing to accept lower wages to avoid unemployment in recessions making the returns from skill formation pro-cyclical (Hashimoto, 1981). On the other hand, implicit contracts between risk-averse workers and risk-neutral firms may discriminate in

favor of skilled workers, offering them smoother wages, while the unskilled are paid their marginal product, leading to an increase in the wage-gap between skilled and unskilled workers during downturns (Azariadis, 1975). Thus the overall impact of business cycle fluctuations on skilled and unskilled workers is ambiguous and ultimately an empirical question.

The exogenous nature of the recent economic crisis in Pakistan provides a good opportunity to analyze these effects. This article follows the empirical framework provided by Leung, Stampini, and Vencatachellum (2009)<sup>2</sup> to shed light on the relative vulnerabilities of skilled and unskilled workers to economic downturns in Pakistan.

## Data and methodology

The data for this study was obtained from the Pakistan Labor Force Survey for the period 2005:Q3 to 2009:Q2. The dataset consists of nine rounds of data for the pre-crisis period (2005:Q3 to 2007:Q3) and seven rounds of data for the crisis period (2007:Q4 to 2009:Q2). The survey provides data on employment (employment status, hours worked, nominal wages)<sup>3</sup> and demographic variables of the labor force. For the purpose of this study, the data set is restricted to the working age population (15 to 64 years). The business cycle is identified using the quarterly Industrial Production Index (IPI), while the degree of the macroeconomic shock is measured as the deviation of the IPI growth rate from its long-term trend of 6.1 percent over the period 2001 to 2010.<sup>4</sup>

A person is defined as being 'employed' if she worked at least one hour a week prior to the survey and was either paid-employed or self-employed. Taking education as a proxy for general skills, a skilled laborer is defined as one who has completed at least secondary education (graduate) and an unskilled laborer as one whose educational attainment is below the secondary level. Vocational training received by the respondent is

used as a proxy for firm-specific skills.

The heterogeneous impact of the crisis on individual workers is measured through three labor market mechanisms: employment, weekly hours worked, and monthly real wages. A Probit model<sup>5</sup> is estimated and interaction terms between the shock variable and the independent variables are included to measure the heterogeneous impact of the crisis. Tobit estimation and Heckman Selection models are used to estimate the hours worked and real wage equations respectively, using the same independent variables as in the employment equation. Further, to look at the impact at different levels of schooling rather than just graduate status, three proxies are used in the regressions that measure the maximum education attained by the respondent in terms of primary, secondary, and tertiary levels.

## Results

According to the IPI growth rate, Pakistan entered recession in the fourth quarter of 2007 when IPI growth fell 2.1 percentage points below its long-term trend of 6.1 percent. The economy further contracted during 2008, reaching its lowest IPI growth rate of -12 percent in quarter 1 of 2009.

Overall, a statistically significant and negative impact of the recession is seen on the probability of employment, with non-graduates below 25 years of age suffering a fall of 0.3 percentage points in the likelihood of employment with each unit deviation of the IPI growth below its long-term trend. General skills act as a strong, statistically significant barrier against the recession as indicated by the positive, significant coefficient of  $\text{graduate} * \text{shock}$  (Table 1). This is supported by the separate regressions for graduates and non-graduates, where graduates experience a fall of 0.1 percentage points in the probability of employment relative to non-graduates who suffer a 0.4 percentage point fall. This result is also robust to using education level dummies instead of graduate, as the interaction terms

**Table 1: Marginal effects for Probit**

	(1) Whole sample		(2) Graduates	(3) Non-graduates
	Graduate dummy	Education level dummies		
Graduate	0.001*** (0.000)	-	-	-
Primary	-	0.001*** (0.000)	-	-
Intermediate	-	-0.125*** (0.000)	-	-
Degree	-	0.037*** (0.000)	-	-
Shock	-0.004*** (0.000)	-0.004*** (0.000)	-0.001*** (0.000)	-0.004*** (0.000)
Voctrain	0.056*** (0.000)	0.061*** (0.000)	0.073*** (0.000)	0.059*** (0.000)
Primary*shock	-	0.000*** (0.000)	-	-
Intermediate*shock	-	0.002*** (0.000)	-	-
Degree*shock	-	0.000***	-	-
Graduate*shock	0.001*** (0.000)	-	-	-
Voctrain*shock	-0.004*** (0.000)	-0.004*** (0.000)	-0.006*** (0.000)	-0.004*** (0.000)
Observations	288,861,666	288,861,666	31,174,213	257,687,453
Pseudo R-squared	0.589	0.5945	0.7326	0.577
Percent correctly predicted	89.8%	92.1%	96.3%	89.9%

Source: Author's estimation.

Note: The dependent variable for these regressions is 'employment'. The excluded categories include female, 15 to 25 years, no education, non-graduate, Baluchistan, agriculture, quarter 4 and no vocational training. The table shows the main variables of interest only. Standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

of all the three levels of education with shock have a positive significant coefficient. The coefficient of voctrain\*shock is negative and statistically significant for all the regressions. This implies that firm-specific skills do not protect workers against unemployment during

downturns. The post-estimation results show that the role of education as insurance against recessions is strongest for the youth and females. Graduates between 15 to 25 years of age experience a fall of two percent in the likelihood of employment due to the

shock, whereas non-graduates in the same age group experience a steeper decline of approximately 14 percent. Employment probability for female graduates falls only by seven percent against a 13 percent fall for

non-graduates. For men the difference is smaller, with male graduates experiencing a fall of two percent in their probability of employment due to the crisis against a five percent fall for non-graduate men.

**Table 2: Marginal effects for Tobit**

	(1) Whole sample		(2) Graduates	(3) Non-graduates
	Graduate dummy	Education level dummies		
Graduate	-0.226*** (0.000)	-	-	-
Primary	-	-0.023*** (0.000)	-	-
Intermediate	-	-0.356*** (0.000)	-	-
Degree	-	-0.228*** (0.000)	-	-
Shock	-0.002*** (0.000)	-0.001*** (0.000)	-0.004*** (0.000)	-0.002*** (0.000)
Voctrain	-0.023*** (0.000)	-0.021*** (0.000)	0.018*** (0.001)	-0.038*** (0.001)
Primary*shock	-	-0.000*** (0.000)	-	-
Intermediate*shock	-	-0.002*** (0.000)	-	-
Degree*shock	-	0.001*** (0.000)	-	-
Graduate*shock	-0.001*** (0.000)	-	-	-
Voctrain*shock	-0.004*** (0.000)	-0.004*** (0.000)	-0.002*** (0.000)	-0.019*** (0.000)
Observations	288,861,666	288,861,666	31,174,213	257,687,453
Pseudo R-squared	0.2262	0.2309	0.4058	0.2166

Source: Author's estimation.

Note: The dependent variable for these regressions is 'log (weekly hours worked + 1)' and the marginal effects are calculated as  $E(\log hrs / \log hrs > 0)$ . The excluded categories include female, 15 to 25 years, no education, non-graduate, Baluchistan, agriculture, quarter 4 and no vocational training. The table shows the main variables of interest only. Standard errors in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

The Heckman Selection model for real wages shows a positive but insignificant coefficient for graduate\* shock. Using education levels and shock interaction terms rather than graduate status gives similar results with insignificant coefficients for all the education variables. The *voctrain\*shock* coefficient, however, is negative and statistically significant. These selection-corrected results suggest acyclical returns from schooling and pro-cyclical wage differentials between those with and without firm-specific skills. In the hours worked equation, the marginal effects after the Tobit estimation (Table 2) shows a decline of 0.2 percent<sup>6</sup> in the weekly hours worked for non-graduates between 15 to 25 years of age. The coefficients of graduate\* shock and *voctrain\*shock* are negative and statistically significant, implying that those with more general and specific skills have more pro-cyclical hours worked than unskilled workers. The regression with education levels reduces the coefficient of the shock variable but retains its significance. The results show that workers with any level of education have more pro-cyclical hours worked than workers with no formal education.

### Policy implications

The results of the empirical analysis imply that human capital acts as a barrier against exogenous shocks, lowering the probability of unemployment during recessions. However, educated workers tend to have more pro-cyclical hours worked demonstrating that these workers prefer under-employment to unemployment. Unskilled workers, on the other hand, get engaged in subsidiary activities, working multiple jobs in the informal sector in order to mitigate the losses incurred due to the recession (Federal Bureau of Statistics, 2009). The selection-corrected estimates imply that returns to schooling remain constant over the business cycle. This is an important finding from a policy perspective as it stresses the importance of investment in education: educational attainment not only increases returns in the labor market but these returns are robust to exogenous shocks common to developing countries like Pakistan.

Surprisingly, workers with vocational training not only face greater pro-cyclical wages and weekly hours worked but also a higher probability of being unemployed in recessions. This implies structural change during recessions where the existing firm-specific skills become obsolete, creating skill-gaps as the skills attained by the workers may no longer be demanded by the firms (Mustafa, Abbas, & Saeed, 2005). Firms are less likely to lay off trained workers if the firms share in the training cost. However, as the data provides no information on whether the training workers received was on-the-job or off, the study cannot control for this.

In light of these results it is evident that if an economy is subject to frequent spells of unemployment caused by business cycle fluctuations, investment in education has a higher return than firm-specific training as the general skills attained through education are portable, allowing workers to adjust to changing market demand during economic downturns. As a policy tool this identifies the unskilled as the most in need of social protection, as despite smoothing their income through employment in the informal sector, they may not attain a minimum standard of living. Along with providing safety nets to the unskilled, investments should be made to increase their educational attainment and to equip them with suitable skills. This is especially true for women and young workers, as these groups are shown to benefit the most from educational attainment. Further, the government should implement programs to ease the transition of specifically trained workers over the business cycle, providing them with more flexible skills and risk-coping mechanisms such as unemployment insurance. Social protection in this case can help mitigate the market imperfections created during recessions in terms of skill mismatch and provide long-term employment stability for such workers.

### Concluding remarks

This article used the recent economic crisis to provide



evidence on the role of skill formation as a barrier against exogenous shocks in Pakistan. The results confirm the findings of the existing literature, indicating that firms adjust hiring standards during recessions to avoid any productivity loss caused by incompetent workers at a time when such losses are least affordable. Vocational training, however, is not robust to exogenous shocks, demonstrating the inability of specifically trained workers to relocate to other sectors during downturns. The difference between skilled and unskilled workers in weekly hours worked is pro-cyclical while monthly real wage differentials are acyclical. Hence, although the wage gap between skilled and unskilled workers does not increase during a recession, it remains robust to it and, as unskilled workers are more likely to be unemployed than skilled workers, the overall inequality between skilled and unskilled workers increases.

The estimates might be biased if the government, reacting to the recession, enacted job-creation policies or other welfare programs that affect skilled and unskilled workers differently. In the period of this study there is only one such program worth noting: the Benazir Income Support Program (BISP). This is a comprehensive social protection scheme providing health insurance, vocational training, and interest-free loans to encourage self-employment amongst the poor. This scheme is aimed at unskilled workers and hence would bias the graduate\*shock coefficient downward if it significantly increased the number of self-employed unskilled workers. However as the coverage of this program was poor during the period of investigation, controlling for this would not change the signs of the estimates. A last caveat worth mentioning is quality of schooling. In Pakistan, quality of schooling varies for different groups with the poor attending lower quality, public schools and the more advantaged attending higher quality, private schools (Muhammad & Akbari, 2000). This disparity in schooling may confound the results presented, but it would imply a downward bias as schooling would be a poor proxy for skill formation for some of the groups.

Hence, the signs of the coefficients of the interaction terms should remain the same even after controlling for quality of schooling.

In conclusion, poor labor and education policies may lead to increased skill mismatch, rising employment in the informal sector, and unemployment of skilled workers during economic downturns. Hence, when designing vocational training and education policies, policymakers need to keep in view the structural changes that occur over the business cycle in order to mitigate the rise in structural unemployment during slumps. A demand-driven approach should be adopted to avoid skill mismatch. Moreover, the evidence presented in this article suggests that along with equipping workers with adequate skills, policymakers should emphasize safety nets for unskilled and specific-skilled workers to reduce their vulnerability to economic shocks.

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## Notes

<sup>1</sup>For instance see Ammermueller (2009); Gautier et al. (2001); Keane and Prasad, (1993).

<sup>2</sup>Leung et al. (2010) examine the impact of the recent financial crisis on the labor market of South Africa, focusing on the role of human capital embodied in education and experience, as a buffer against exogenous shocks.

<sup>3</sup>In the analysis, the CPI index is used to deflate nominal wages and obtain real wages for the workers.

<sup>4</sup>The STAMPs package is used to fit an unobserved components model on the IPI growth rates, decomposing the series into trend, cycle, seasonal, and irregular components.

<sup>5</sup>Employment status is the dependent variable while graduate status, vocational training, age groups, gender, province, sector of employment, region (urban/rural), and quarter are the independent variables. Age groups in years (15-25, 25-35, 35-45, 45-55, and 55-64) are used rather than experience and experience-squared as in the Mincerian framework, because no information is provided in the survey on the age the respondent started/left school. Even though “(years of schooling—age—6)” is a good proxy for experience in the US, it is not adequate for Pakistan, where there is no uniform school starting age. Age and age-squared are used as robustness checks.

<sup>6</sup>Calculated as  $100 * [e^{\beta} - 1]$ .

# Empirical Studies in Japan on the Rural Economy of Pakistan†

By Takashi Kurosaki



In this article, I review empirical studies in Japan on the rural economy of Pakistan. My purpose is to identify characteristics of such studies, to discuss policy implications of findings from some of these studies, and to explore the directions of future research agendas. I focus on poverty, agriculture, and education on the one hand, and on research outcomes since the late 1990s on the other hand. I concentrate on the late 1990s because Hamaguchi (1997, 2000) presents a nice overview of such studies until the mid-1990s, including those on the rural economy.

I limit the survey to research results from Japanese social scientists for three reasons. The first and obvious one is that I am a Japanese and therefore in a position to know details of these studies, including their logistic backgrounds. The second and more substantial one is that Japan was one of the latecomers to economic development, where an attempt to modernize the economy and society began in the late 19<sup>th</sup> century, and we continue to have many socioeconomic characteristics common to South Asian, such as the importance of families in economic behavior. It took several decades for the Japanese economy to take off so that its real GDP per capita during the 1920s was similar to the level in Pakistan in the late 1990s. Furthermore, Japanese economic data have been accumulated since the late 19<sup>th</sup> century, enabling us to quantitatively examine the dynamic path of economic development in Japan. In our mindset as well as in statistics, we Japanese thus have a vivid memory of days where

poverty and low productivity prevailed in rural areas. This might enable us to derive implications useful to contemporary developing countries. The third reason is a more recent phenomenon of natural disasters such as earthquakes and floods in Pakistan. Because Japan is a country of frequent natural disasters, Japanese perspectives may be useful in understanding economic sequences of natural disasters and the dynamic process of recovery.

## Research on rural poverty

I first review studies on three sub-topics covering poverty, agriculture, and education in rural Pakistan. Japanese economists have covered a wide range of issues related to rural poverty. Vulnerability of the poor to short-run income shocks is the area which I have focused on (Kurosaki, 2006a, 2009a, 2010; Kurosaki & Fafchamps, 2002). Such analysis has been extended to natural disasters such as floods and droughts (Kurosaki, 2011a; Kurosaki & Khan, 2011; Kurosaki, Khan, Shah, & Tahir, 2011, 2012). Access to land is a key determinant of rural poverty, as empirically shown by Hirashima (1996, 2008, 2011). To overcome the vicious circle, what roles can community-based development play? This has been analyzed by Khan, Kurosaki, and Miura (2011), Kurosaki (2005, 2006b), Kurosaki and Khan (2012), and Nejima (2002a, 2002b, 2006). A more individualized approach to escaping poverty is to search for employment in lucrative activities, such as rural non-agricultural employment (Suda, 2011; Kurosaki & Khan, 2006) or migration (Oda, 2007, 2008).

For an illustrative purpose, I summarize the findings of Kurosaki (2011a). This paper investigates which households in rural Pakistan were vulnerable to floods and droughts in terms of a decline in their consumption. The regression results based on two-period panel data from Sindh and Punjab show that more

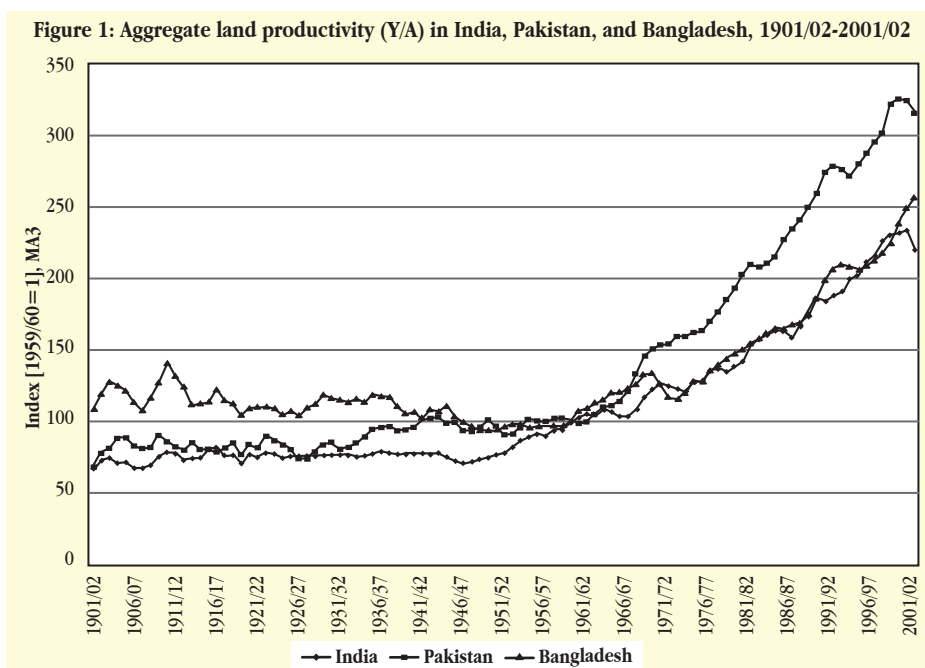
landed households were less vulnerable to flood shocks, while households with greater access to formal financial institutions were less vulnerable to idiosyncratic health shocks. On the other hand, households in which the household head is elderly as well as households with a greater number of working members bore a larger burden of village-level shocks, while they were not vulnerable to idiosyncratic health shocks. These patterns suggest the coexistence of unequal access to credit markets and risk-sharing among heterogeneous households in terms of risk tolerance. The first policy implication of these findings is that the pattern of a disaster's impact on individual welfare is heterogeneous so that targeted interventions are required to cope with natural disasters. Second, the contrast between the impact of droughts and that of floods indicates that whether or not a disaster damages physical infrastructure makes a substantial difference in terms of resiliency. Households have more difficulty in coping with floods than droughts as floods disrupt transport and communication. Third, improving the inter-temporal smoothing ability of households through developing asset and credit markets is a key to mitigating the ill-effects of

floods. Investment in infrastructure such as transport and communication could contribute to higher resilience against natural disasters through both the second and third routes.

## Research on agriculture

Both macro and micro aspects of agricultural development in Pakistan have been analyzed by Japanese social scientists. Kurosaki (2002, 2003, 2009b, 2011c) characterizes patterns of long-term agricultural growth at the national and district levels. At the micro level, Japanese scholars cover dairying (Nakasato 2006; Kurosaki & Fafchamps, 2002; Japan International Cooperation Agency [JICA], 2010) and nomadic agriculture in Baluchistan (Matsui, 2005, 2011). Regarding factor markets, the functioning of land markets is analyzed by Hirashima (1996, 2008, 2011), agricultural labor markets by Kurosaki (2011b) and Oda (1995, 1996), and irrigation by Qureshi and Hirashima (2007), as well as Nakashima (2000).

As an example of research findings in this area, I summarize results from Kurosaki (2011c). In this



Source: Kurosaki 2011c.

paper, sources of agricultural growth are analyzed at the national level corresponding to the current border from 1901/02 to 2001/02 (Figure 1). Land-productivity gain is decomposed into individual crop yield effect (improvement in per-acre value added of individual crops), static crop shift effect (shift of crops whose value added per acre was higher than other crops), and dynamic crop shift effect (shift of crops whose value added per acre was improving faster than other crops). As shown in Figure 2, crop shift effects explained more than a quarter of the observed productivity gain and they were a particularly important source of growth when technological improvement in crop yields was not significant, such as the 1950s in Pakistan. This paper and related works show the importance of resource reallocation in improving the productivity of Pakistan's agriculture. Such reallocation is facilitated by farmers' market-oriented behavior, which becomes more responsive to market incentives when rural infrastructure such as roads, irrigation channels, and regulated markets is developed. Here lies the important role of government intervention. The emphasis of public investment in rural infrastructure reflects the Japanese experience where such investment (coordinated by local communities) played a critically important role in enhancing agricultural productivity and reducing rural poverty. In the Japanese experience, public canals for irrigation, for example, were designed and constructed with active participation of rural communities with the communities taking complete responsibility for maintaining these canals (Hirashima & Gooneratne, 1996).

### Research on education

Japan achieved primary education for all in the first decade of the 20<sup>th</sup> century (JICA, 2004). This was much earlier than the start of rapid industrialization. Local communities again played a key role in expansion of education in Japan during the last three decades of the 19<sup>th</sup> century. In sharp contrast, Pakistan is currently struggling to achieve primary education for all, although it is already in the middle stage of industrialization. Japanese economists have pointed out several obstacles to school education in Pakistan.

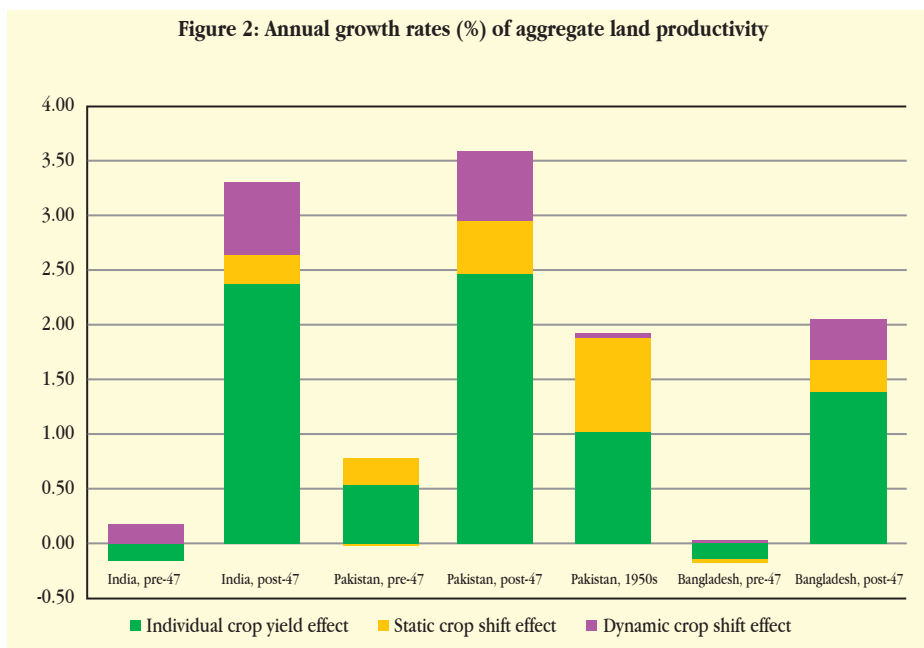
Sawada (1997) and Sawada and Lokshin (2001, 2009) focus on income risk and the nature of education as an accumulating process conditional on the child's age. They quantitatively demonstrate that transient shocks such as crop failure or loss of employment result in children's drop outs, which cannot be replenished even when the household enjoys a good harvest or lucrative employment later. Gender issues in slowing educational progress are analyzed by Ota (2006a, 2006b). Low economic returns to education in rural areas, especially when educated persons cannot find a non-agricultural, regular job, are pointed out by Kurosaki and Khan (2006).

These studies suggest the importance of improving credit access and safety nets for the poor (the demand side of education) and improving the quality of education, especially in government schools (the supply side) as the means to achieve education for all in rural Pakistan. Given the renewed focus on education in Pakistan (see the Autumn 2011 issue of this *Bulletin*), there is an increasing need to design policies to effectively improve both sides.<sup>1</sup>

### Geographical coverage of primary surveys

I now move to characterize the empirical studies in Japan on the rural economy of Pakistan. One interesting aspect of the studies reviewed above is that the majority of them are based on primary surveys conducted or led by Japanese scholars. This is indeed a tradition of empirical social sciences in Japan. Even among applied economists, the disciplinary training emphasizes the ability to conduct own primary surveys.

The geographical coverage of such primary surveys spreads over Pakistan. The largest number is found from Punjab: Oda (2007, 2008) surveyed villages in Chakwal, Hirashima (1996, 2008, 2011) surveyed villages in Gujranwala and Khanewal, Suda's (2011) field was in Mandi Bahauddin, while Kurosaki and Fafchamps (2002) surveyed farmers in Sheikhpura. Hafizabad district (both towns and villages) was the model district for Kurosaki's (2005, 2006b) analysis of community-based organizations. Oda (1995, 1996)



Source: Drawn from results in Kurosaki (2011c).

surveyed cotton pickers in Multan while Nakashima (2000) surveyed water users' association in Bahawalnagar. If I include Islamabad as a part of greater Punjab, I can add Ota's (2006b) literacy survey of adult women to the above.

Japanese social scientists have covered other parts of Pakistan as well. Nakasato (2006) and JICA (2010) investigated dairy development in Sindh, while in Khyber Pakhtunkhwa, Kurosaki (2006a, 2010) and Kurosaki and Khan (2006, 2011) conducted their surveys in Peshawar. Sawada (1997) and Sawada and Lokshin (2001, 2009) surveyed households in Dir, and Khan, Kurosaki, and Miura (2011) conducted their field work in Haripur. In Baluchistan, Matsui (2005, 2011) surveyed nomadic communities in Makran. Research on the Ismailis conducted by Nejima (2002a, 2002b, 2006) is based on his intensive field survey in Gilgit-Baltistan.

### Comparative perspective

Another interesting aspect of those studies reviewed above is comparative perspective. Such perspective

can place the case of contemporary Pakistan in the relative context.

The rural economy in Pakistan in the Asian comparison is discussed by Hirashima and Gooneratne (1996) in analyzing the role of community and state in local resource management, and by Kurosaki (2011b) in investigating labor institutions involving in-kind wages. Comparison with India is a popular approach in general, to which Japanese economists also join. For example, Hirashima (1996, 2008, 2011) compares rural land markets in India and Pakistan while Kurosaki (2002, 2009b, 2011c) compares long-term agricultural growth. Inter-temporal comparison, in which contemporary Pakistan is compared with situations in the same area before 1947, has been attempted as well to look at the rural land market (Hirashima, 1996) and labor institutions (Kurosaki, 2011b).

### Conclusion

This article has identified some central characteristics of empirical studies in Japan on the rural economy of Pakistan. First, Japanese social scientists have emphas-

ized the importance of primary surveys and tended to use micro data collected from these surveys. The geographical coverage of these surveys spreads across Pakistan, overcoming the limit of earlier studies reviewed by Hamaguchi (1997) which concentrated on northern Punjab and Karachi. But the geographical coverage is still limited for rural Sindh and Baluchistan, for which more empirical studies are called for. Second, several Japanese authors have attempted comparative studies, such as the comparison of current Pakistan with situations before 1947 or the comparison of Pakistan with other Asian countries including India. Conducting this type of analysis could be attributable to a data-access advantage of Japanese scholars over scholars based in Pakistan. Third, most of these studies have shown interesting findings from an academic viewpoint, which is reflected in an increasing number of research outcomes published in English, including refereed journals with high academic reputation. Fourth, in spite of this, not many of these studies have been successful in deriving concrete and readily-useful policy implications. Considering the potential advantage of Japanese perspectives thanks to its experience of latecomer economic development and frequent occurrence of natural disasters, this is a pity. More policy-oriented research is called for. Policy designs in the area of community-based development could be the area to which Japanese social scientists can contribute more, because several field works have been conducted that show the positive role of community initiatives in Japan. Fifth, despite a modest increase in the number of studies in Japan on the Pakistani economy in recent years, the number is much smaller than those for India and Bangladesh. In future research, the first three characteristics need to be strengthened further, in collaboration with Pakistani scholars, so that the last two characteristics will disappear.

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## Notes

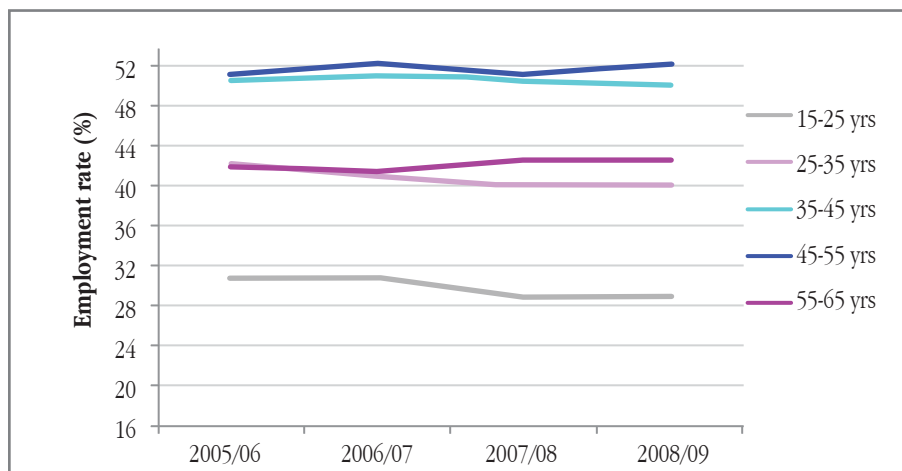
<sup>†</sup>This article is based on the author's presentation at a seminar on Pakistan Studies in Japan on the occasion of the 60th anniversary of Pakistan-Japan friendship, February 21, 2012, COMSATS Institute of Information Technology, Islamabad. The author is grateful to comments from seminar participants and the corresponding editor of this *Bulletin*.

<sup>‡</sup>In this aspect, it may be worth mentioning the ongoing JICA's Punjab Literacy Promotion Project, the second phase of which has just concluded and its evaluation is being undertaken.

## Revealing Facts: Youth Employment in Pakistan

With 60 percent of Pakistan's population below 30 years of age and a median age of 21.6 years, the country is experiencing a demographic bulge. However, Pakistan has thus far failed to take advantage of this. As Figure 1 below reveals, youth employment is much lower than that of the older cohorts.

**Figure 1: Employment rates in Pakistan by age group, 2005-2009**



Source: Bisma Haseeb Khan's estimation using the Labor Force Survey 2005/06 to 2008/09 (controlling for educational enrollment).

Moreover, younger cohorts are more vulnerable to economic shocks. The age-wise comparison of employment rates in the second quarters of 2007 and 2009 that constitute pre-crisis and crisis periods in Pakistan's economy shows that younger workers suffered the brunt of the recession in terms of fall in employment (Table 1). Interestingly, education protected the youth against unemployment more than their older counterparts. To take advantage of the demographic dividend, Pakistan needs to invest in its youth in terms of human capital and job creation.

**Table 1: Age-wise employment rates in Pakistan, pre-crisis (2007) and crisis (2009) periods**

Age group (Years)	2007:Q2			2009:Q2			Proportionate change		
	Non-graduates	Graduates	Total	Non-graduates	Graduates	Total	Non-graduates	Graduates	Total
15-25	24.15	19.26	23.69	20.65	20.32	20.61	-0.14	-0.06	-0.13
25-35	40.25	59.82	42.76	38.3	53.72	40.86	-0.05	-0.1	-0.04
35-45	47.61	79.13	50.79	48.04	76.06	51.69	0.01	-0.03	0.02
45-55	50.72	74.55	52.66	50.04	78.14	52.94	-0.01	0.05	0.01
55-65	41.79	53.34	42.4	41.12	53.2	42.98	-0.02	-0.001	0.01
Total	36.97	49.82	38.24	35.2	49.05	36.88	-0.05	-0.02	-0.04

Source: Bisma Haseeb Khan's estimation using the Labor Force Survey 2005/06 to 2008/09. The numbers represent the percentage employed in each group. Graduate implies having above secondary level of education.

## Guidelines for Authors

All submissions will be handled electronically and should be sent to *sspb@lums.edu.pk*. Submitted articles, not exceeding 3500 words in length, should preferably be in the form of plain text or as a word editor document. The Editorial board will review all submissions to determine their suitability for publication. Articles should not be simultaneously submitted for publication to another journal or newspaper. If a different version of the article has previously been published, please provide a copy of that version along with the submitted article. All correspondence, including notification of the editorial decision and requests for revision will take place by email. In case the author(s) do not respond in a timely manner, the Editors reserve the right to make final revisions before publication.

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