

Research at PIDE 2010-2012

ABSTRACTS



PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
ISLAMABAD

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PREFACE

The Pakistan Institute of Development Economics conducts academic and policy relevant research on a wide array of economic and social issues. During the past three years, it has produced a significant body of research covering a broad spectrum of topics ranging from macroeconomics and economic growth to trade and industrial organisation and from poverty and inequality to institutions and governance. This booklet provides a compendium of the research conducted at PIDE during 2010-2012 highlighting the major topics and key findings of the research studies. It is hoped that dissemination of research through this volume will create greater awareness about the direction, coverage and the key messages emanating from our research activities.

A look at the research output reveals that our studies have been responsive to the need for research-based solutions to tackle Pakistan's economic challenges. For example, several studies have come up with insights on how to revive the process of economic growth focusing in particular on structural reforms in key economic sectors including improvement in the quality of institutions and governance. Similarly, studies on monetary and fiscal policies have pointed out the need for prudent macroeconomic management emphasising coordination between monetary and fiscal policies for a stable macroeconomic environment. At a time when Pakistan is facing a severe energy crisis, the research conducted at PIDE has shown that the crisis stems mainly from misgovernance in the energy sector and that energy

shortages can be mitigated to a significant extent with an improvement in the governance structure.

I would like to thank our professional staff especially Mr M. Ali Kemal, Mr Omer Siddique, Mr Ahmed Waqar Qasim, Ms Unbreen Qayyum and Mian Imran-ul-Haq for their excellent input in the preparation of this volume.

Musleh ud Din
Acting Vice-Chancellor

Islamabad
January, 2013

1. Economic Growth

- Saher, Aasma, Attiya Y. Javid, and Ather Maqsood Ahmad (2010) **Impact of Financial Market Performance and Macroeconomic Policies on Economic Growth: Case of Pakistan.** *NUST Journal of Business and Economics* 3:1.

This study investigates the determinants of the various components of debt, namely short and long-term debt and their categories in the case of non-financial listed firms in Pakistan for the period 2008–10. We make a significant distinction between these determinants depending on the components of debt issued: long-term or short-term forms of debt. Our results show that large firms are more likely to have access to long-term debt borrowing than small firms and due to supply constraints, small firms resort to short-term forms of debt. Firms with higher potential for growth prefer using less long-term debt as well as debt with fewer restrictive arrangements in order to become more financially flexible. Firms with sufficient fixed assets can generate external finance more easily and at lower cost by using these assets as collateral, which supports the trade-off theory. Firms generating high levels of profit, however, may choose to finance their investments using internal resources rather than by raising debt finance, which conforms to the pecking order theory. Our results also confirm the presence of the inertia effect and industry-specific effects, and are robust to alternative estimation techniques.

- Ahmed, Ayaz and Henna Ahsan (2011) **Contribution of Services Sector in the Economy of Pakistan.** (PIDE Working Paper Series 2011:79).

The services sector has provided steady support to Pakistan's economic growth. The paper analyses its contribution in the growth of the economy in general and development of trade and generation of employment in particular. The study identifies the bottlenecks in the growth and suggests measure to remove them.

- Amjad, Rashid, Musleh ud Din, and Abdul Qayyum (2011) **Pakistan: Breaking Out of Stagflation into Sustained Growth.** *The Lahore Journal of Economics* 16:SE, 13–30.

This paper proposes that the underlying causes of the macroeconomic problems facing Pakistan today are a series of supply shocks that have constrained output growth. It is argued that while the current debate has solely focused on government expenditures and revenues, it is critical to also address the acute energy shortages, which are constraining supply. The paper goes on to present four recommendations for breaking out of the present stagflation: (i) prudent macroeconomic management, (ii) reviving the role of the government in development while restoring fiscal balance, (iii) loosening monetary policy in order to spur the private sector, and (iv) improving social safety nets.

- Haider, Adnan, Musleh ud Din and Ejaz Ghani (2011) **Consequences of Political Instability, Governance and Bureaucratic Corruption on Inflation and Growth: The Case of Pakistan.** *The Pakistan Development Review* 50:4, 333–353.

This paper presents a theoretical model with micro-foundations that captures some important features of

Pakistan's economy that have emerged in sixty-four years of its history. A comparison of Pakistan's economic performance during different regimes shows that macroeconomic fundamentals tend to show an improvement during the autocratic regimes as compared with those prevailing during democratic regimes. In particular, periods of autocratic regimes are typically characterised by low inflation, robust growth and low level of bureaucratic corruption due to better governance. In contrast, the economic performance during the democratic regimes is observed to worsen with weak governance and high levels of corruption, high inflation, due partly to reliance on seigniorage to finance public spending, and lacklustre growth. Using annual data from 1950 to 2011, computational modelling is carried out by applying Markov-Regime switching technique with maximum-likelihood procedures. The estimation results based on empirical modelling setup are supportive of the above stylised-facts and also confirm the implications of the theoretical model.

- Javid, Muhammad and Abdul Qayyum (2011) **Foreign Aid-Growth Nexus in Pakistan: Role of Macroeconomic Policies.** (MPRA Paper 29498:2011).

Despite receiving large amount of foreign aid, similar to other developing countries, growth of Pakistan has remained stagnant and become more aid dependent. This grim reality provokes vigorous debate on the effectiveness of aid. This paper examines the effectiveness of aid, focusing on the ongoing debate on the interactive effect of aid and policy on sustainable economic growth. The empirical analysis is based on the ARDL co-integration approach using the data for the period 1960 to 2008. Based on the empirical results, we find that foreign aid and real

GDP has negative relationship, while aid-policy interactive term and real GDP growth has positive and significant relationship. Interesting results emerge when Aid/GDP alone is introduced into the growth equation. It has insignificant positive coefficient in the long run and negative and weakly significant coefficient in the short run, whereas aid policy interactive term has positive and significant coefficient both in the short run and long run. When we disaggregate aid in bilateral and multilateral components, bilateral aid is significant as well as positive in the short run and multilateral aid is insignificant, while aid interactive term is positive in both cases. The results strongly support the view that foreign aid does have positive impact on economic growth in Pakistan conditional on sound macroeconomic policies.

- Khan, Muhammad Arshad and Ayaz Ahmed (2011) **Macroeconomic Effects of Global Food and Oil Price Shocks to the Pakistan Economy: A Structural Vector Autoregressive (SVAR) Analysis.** *The Pakistan Development Review* 50:4, 491-511.

This paper examines the impact of global food and oil price shocks and their transmission channels to select macroeconomic variables including inflation rate, output, money balances, interest rate and real effective exchange rate for Pakistan using monthly data over the period 1990M1-2011M7. An empirical analysis is carried out by employing structural vector autoregressive (SVAR) framework. Generalised impulse response functions and generalised forecast variance decompositions are employed to track the impact of oil and food price shocks to Pakistan's economy. The results suggest that oil price shocks negatively affect industrial production, appreciates real effective exchange rate and positively affect inflation

and interest rate. On the other hand, following food price shocks, industrial output increases. Similarly, interest rate and inflation rate responds positively following food price shocks.

- Khan, Muhammad Arshad and Musleh ud Din (2011) **A Dynamic Macroeconometric Model of Pakistan's Economy**. (PIDE Working Paper, 2011:69).

This paper develops a dynamic macroeconometric model of Pakistan's economy to examine the behaviour of major macroeconomic variables, such as output, consumption, investment, government expenditure, money, interest rates, prices, exports and imports. The model consists of 21 equations, of which 13 are behavioural and the rest are identities. The two-step Engle-Granger co-integration procedure is used to derive the long-run and short-run elasticities for the period 1972-2009. The test of significance of each estimated equation seems to validate the model. The estimated long-run parameters are used to perform simulation experiments to determine the model's ability to track historical data and to assess the behaviour of key macroeconomic variables in response to the changes in selected exogenous variables. The results indicate that the majority of macroeconomic variables follow an increasing trend over the period of simulation, 2009-2013.

- Khan, Sajawal and Idrees Khawaja (2011) **Predation, Institutional Quality and Economic Growth**. *The Pakistan Development Review* 50:4, 809–820.

In this paper a theoretical model to examine the impact of predation on aggregate output and aggregate consumption is developed. Using game-theoretic framework we show that predation reduces aggregate

output and per capita consumption. Predation occurs when some agents enjoy comparative advantage in predation. Given predation under comparative advantage of some agents, a larger part of the aggregate output accrues to the predators. We also demonstrate that given inequality of endowments, the poorly endowed enjoys an incentive to predate. The payoff of the well-endowed from production and predation is the same. Therefore, the well-endowed has no incentive to predate. If the well-endowed still predate, this would be owed to his comparative advantage in predation rather than the inequality per se. Large endowments are only one of the numerous sources that afford such comparative advantage. Good institutions, such as rule of law and effective government tame this comparative advantage. It is due to this kind of taming, that despite significant inequality in some economies, the level of predation observed is relatively low. Institutional quality thus determines the level of predation. The paper also shows that redistribution from well-endowed to poorly-endowed will not only increase per capita consumption but will also be a Pareto improvement.

- Qayyum, Abdul, Muhammad Javid, and Umaima Arif (2011) **Impact of Remittances on Economic Growth and Poverty**. *Academic Research International*, 2011:2.

This paper focuses on the importance of remittances inflow and its implication for economic growth and poverty reduction in Pakistan. Using ARDL approach we analyse the impact of remittances inflow on economic growth and poverty in Pakistan for the period 1973-2007. The district-wise analysis of poverty suggests that overseas migration contributes to poverty alleviation in the districts of Punjab, Sindh and Balochistan. Khyber Pakhtunkhwa, however, does not portray a clear picture. The empirical evidence shows that remittances

effect economic growth positively and significantly. Furthermore, the study also finds that remittances have a strong and statistically significant impact on poverty reduction thus suggesting substantial potential benefits associated with international migration for poor people in developing countries like Pakistan. Therefore, the importance of remittance inflows cannot be denied in terms of growth enhancement and poverty reduction, which consequently improves the social and economic conditions of the recipient country.

Box 1: Economic Growth

- In Pakistan, macroeconomic fundamentals tend to improve during autocratic regimes and deteriorate during democratic regimes. The hallmark of autocratic regimes has been low inflation, robust growth and low level of bureaucratic corruption due to better governance. In contrast, the scorecard of democratic regimes is punctuated with weak governance, high levels of corruption, high inflation—due partly to reliance on seigniorage to finance public spending—and lacklustre growth.
- Foreign aid does have positive impact on economic growth in Pakistan. This positive effect, however, is conditional on sound macroeconomic policies.
- Foreign aid helps to achieve economic growth but for it to be growth-enhancing, economies need to have good governance.
- Remittances spur economic growth in Pakistan. Furthermore, remittances have a strong impact on poverty reduction, implying substantial potential benefits associated with international migration. Therefore, the importance of remittance inflows cannot be denied in terms of growth enhancement and poverty reduction, which consequently improves the social and economic conditions of the recipient country.
- The district-wise analysis of poverty suggests that remittances help in poverty alleviation in the districts of Punjab, Sindh and Balochistan. Khyber Pakhtunkhwa, however, does not portray a clear picture.
- A new approach, conceptualised by researchers at PIDE, to estimate the size of the informal economy, shows that the informal economy of Pakistan was 91 percent of the formal economy in 2007-08.

- The remittances affect external sector, factoral income, poverty, and welfare. Although, remittances generate 'Dutch Disease' effects, yet, they have poverty-reducing and welfare-enhancing impact. The remittance inflows in 2002 have a strong positive impact on macro aggregates, but poverty reduces more in 1990.
- External debt exerts significant negative impact on economic growth, which confirms the existence of debt overhang in Pakistan in both long and short-run.
- Good governance and foreign aid affect economic growth positively, while external debt has a negative impact on economic growth.
- Although, both human capital and capital contribute positively and significantly to GNP in the long as well as the short-run, the positive impact of capital exceeds the impact of human capital in long-run and vice versa in short run.
- The comparative analysis of Pakistan, China, and India financial sector liberalisation and its impact on macroeconomic performance shows that there is a long-run relation among financial openness and macroeconomic performance in all three countries.
- Financial liberalisation has positive and significant effect on Pakistan's macroeconomic performance, while it has negative and significant effect on the Chinese economy. The relationship in India is positive but not significant.
- The supply-side effect of reduction in labour supply dominates the stimulus that comes from the demand side in response to rise in household income. Hence, they have not stimulated the growth process. The remittances from the Middle East have a poverty-reducing impact, but remittances from developed countries have no impact on poverty.
- The underlying causes of the macroeconomic problems facing Pakistan today are a series of supply shocks that have constrained output growth.
- Apart from focusing on government expenditures and revenues, it is critical to also address the acute energy shortages, which are constraining supply.
- In order to combat the stagflation, prudent macroeconomic management, reviving the role of the government in development while restoring fiscal balance, loosening monetary policy in order to spur the private sector, and improving social safety nets are needed.
- Empirical results indicate that good governance and foreign aid affect economic growth positively, while external debt has a negative impact. These results are robust for various alternative specifications.

- Siddiqui, Rizwana (2011) **Pakistan: Migration, Remittances and Development**. Chapter 3 in *Saman Kelegama Migration, Remittances, and Development in South Asia*, Sage, India, 2011.

This paper tracks the economy-wide effect propagated in Pakistani economy through remittance inflow and labour outflow. First, it explores the difference in the impact of remittances in 1990 and 2002 using the static Computable General Equilibrium (CGE) model. Second, it uses the dynamic CGE model to explore the contribution of remittances to growth. Third, a partial regression analysis is conducted to trace the impact of remittances on poverty from different regions—developed and developing countries. The results show that remittances affect external sector, factorial income, poverty, and welfare but generate ‘Dutch Disease’ effects in both years in the static framework. However, they have poverty-reducing and welfare-enhancing impact. The remittance inflows in 2002 have a strong positive impact on macro aggregates, but poverty reduces more in 1990. Simulation results from the dynamic model suggest that the supply-side effect of reduction in labour supply dominates the stimulus that comes from the demand side in response to rise in household income. Hence, they have not stimulated the growth process. A disaggregated analysis in partial equilibrium framework shows that remittances from the Middle East have a poverty-reducing impact, but remittances from developed countries have no impact on poverty.

- Ali, Rifaqat and Usman Mustafa (2012) **External Debt Accumulation and Its Impact on Economic Growth in Pakistan**. Presented at the 28th AGM and the Conference of the PSDE.

This study analyses the long-run and short-run impact of external debt on economic growth in Pakistan for the period 1970–2010 using annual data, collected from different sources. This study uses extended production function that measures Gross National Product (GNP) as a function of annual education expenditure (used as a proxy for human capital), capital, labour force and external debt as a percentage of GDP. Long run estimation employs a co-integration analysis while short run analysis relies on Error Correction Method (ECM). The estimated results indicate that external debt exerts significant negative impact on economic growth, which confirms the existences of debt overhang in Pakistan in both long and short-run. Labour force affects GNP negatively in long run and short run as well, but in short run impact is insignificant. However, human capital and capital contribute positively and significantly to GNP in long run and short run as well, yet the positive impact of capital exceeds the impact human capital in long run and vice versa in short run. The coefficient of Error Correction Term (ECT) suggests that any deviation from the long-term inequality is corrected by 33 percent each year. Significant ECT is further proof of the existence of stable long-run relationship.

- Iftikhar, Zainab and Amanat Ali (2012) **Impact of Income Inequality and Defence Burden on Economic Growth.** *The Singapore Economic Review* 57:03, 1–15.

This paper explores how income inequality and defence burden affects economic growth in different parts of the world. We follow an endogenous growth model that proposes a negative relationship of growth with income inequality and defence burden. The implications of the model are tested using panel data. The results suggest a negative relationship of growth with income inequality and

defence burden. A by-product of this analysis is the conclusion regarding convergence. Our study finds no support for convergence across the world.

- Kemal, M. Ali and Ahmed Waqar Qasim (2012)
Precise Estimates of the Informal Economy.
Presented at the 28th AGM and the Conference of the PSDE.

Informal activities are present in almost all the sectors of the Pakistan economy, whether it is agriculture, manufacturing, construction, finance, transport or services. Several approaches are available in the literature to estimate the size of the underground/informal economy. Most popular among these approaches is the monetary approach. Other approaches include labour market approach, fiscal approach, etc. However, all these approaches have a number of problems among which the first and foremost is that they do not give actual estimates of the underground economy. Instead, they give trend estimates of the informal economy. In this paper, we are estimate size of the informal economy using a new approach. We call it “KQ” (Kemal and Qasim) approach or discrepancy approach. Our idea in this paper is to calculate total private consumption from the household survey for the total population and adjust trade mis-invoicing and calculate the true estimates of the GDP which is then compared with the GDP estimates reported in the National Accounts (at current prices). The difference between the two is the size of the informal economy. PSLM 2007-08 is used to calculate total private consumption and Mahmood (2012) is used for mis-invoicing of exports and imports. Our estimates show that the informal economy of Pakistan was 91 percent of the formal economy in 2007-08.

- Qureshi, Madeeha Gohar (2012) **The Inter-Linkages between Democracy and Per Capita GDP Growth: A Cross Country Analysis.** (PIDE Working Paper, 2012:85).

The empirical growth literature gives no clear indication as to how democracy affects growth. There is evidence of both positive and negative effects and also of no direct link between in democracy and growth. In this study an attempt has been made to resolve this controversy by putting this question in a dynamic simultaneous equation framework that combines in a system the regression in differences with regression in levels applied on a cross county data set over the period 1987-2002. Our result shows evidence in support of a quadratic impact of the democracy on per capita GDP growth (an inverted U relationship), that is, per capita GDP is found to be increasing in democracies at low levels but after a certain moderate level of democracy, this relation turns negative. The support of reverse causation from per capita GDP growth to political and civil freedom is found only in countries grouped as partially free and free democracies. However, we do not find any evidence in support of Lipset Hypothesis that prosperity leads to increase in propensity to experience political freedom taking all countries into consideration.

- Qayyum, Unbreen, Musleh ud Din, and Adnan Haider (2012) **Foreign Aid, External Debt and Economic Growth Nexus in Low-Income Countries: The Role of Institutional Quality.** Presented at the 28th AGM and the Conference of the PSDE.

Institutional quality plays an important role in promoting economic development of a nation. Foreign

capital can work efficiently and its productivity will be high if the quality of institutions is good. This study attempts to investigate empirically the impact of external debt and foreign aid on economic growth by taking into consideration the quality of institutions in terms of effective governance. Annual data for the period 1984 to 2008 is taken from a panel of sixty developing countries. Empirical results indicate that good governance and foreign aid affect economic growth positively, while external debt has a negative impact. These results are robust for various alternative specifications.

- Asghar, Saima and Sajid Amin Javed (2011) **On Measuring Inclusiveness of Growth in Pakistan.** *The Pakistan Development Review* 50: 4, 879–894.

Using social opportunity function approach, this work assesses, firstly, the change in and access to education and employment opportunities available to the population and secondly, how equitably these opportunities are distributed. Based on data extracted from Pakistan Social and Living Standards Measurement (PSLM) Surveys of 1998-99 and 2007-08, Opportunity Index (OI) and Equity Index of Opportunities (EIO) are calculated to measure and quantify the extent of progress made in these two most important socioeconomic components of development.

- Raza, Muhammad Wajid and Hasan M. Mohsin (forthcoming) **Financial Liberalisation and Macroeconomic Performance, Empirical Evidence from Selected Asian Countries.** *Journal of Economics and Behavioural Studies* (Unpublished).

A financially repressed economy cannot grow with an increasing growth rate and that is why most of the developing countries have moved toward liberalised

financial system. This paper provides a comparative analysis of Pakistan, China, and India financial sector liberalisation and its impact on macroeconomic performance. It uses Johansen co-integration technique to provide cross-country evidence of long-run relationship between macroeconomic variables and financial openness. Results show that there is a long-run relation among financial openness and macroeconomic performance in all three countries. Financial liberalisation has positive and significant effect on Pakistan's macroeconomic performance, while it has negative and significant effect on the Chinese economy. The relationship in India is positive but not significant.

2. Institutions and Development

- Jalil, Hafiz Hanzla and M. Mazhar Iqbal (2011) **Urbanisation and Crime: A Case Study of Pakistan.** *The Pakistan Development Review* 49:4, 741–755.

From economic point of view, urbanisation is beneficial as it facilitates achievement of economies of scale and thus promotes growth of industries and development in the economy. However, from social point of view urbanisation encourages crimes, as the rate of crime is higher in large cities and in urbanised areas. Several explanations are provided on the causes of crime in the literature but none of these provides a sound analysis of linkages between urbanisation and crime. Thus, the objective of this paper is to determine the linkages between urbanisation and crime in Pakistan for the period from 1964 to 2008. For this purpose, we use Johansen co-integration method. Beside urbanisation, four other socio-economic determinants, which may influence crimes, are also used, namely unemployment, inflation, income inequality and

education. The results show a long-run positive and unique relationship of urbanisation with crimes in Pakistan. Since migration to urban areas is mostly in search of jobs, therefore the policymaker should plan for more industrial centres in rural areas. These industrial centres will provide employment and consequently, urbanisation and crimes will be controlled.

- Khawaja, Idrees (2012) **Development, Disparity and Colonial Shocks: Do Endowments Matter?** UCLA Institute for Research on Labour and Employment. (Working Paper, 2012:7).

The province of Punjab – home to 56 percent of Pakistan’s population, is marked by regional disparity. This paper argues that the socioeconomic disparity observed today between the South-West of Punjab and the rest of the Province is largely owed to the historical differences in regional endowments. During the colonial rule over India, the North and Centre of the province benefitted from Canals, Cantonments (military garrisons) and enlistment in the Indian army to fight on the side of the Britain in the two world wars. These shocks rested upon endowments unique to the two regions. The barren but cultivable land and sparse population of the Centre facilitated canal colonisation. The geo-strategic location of the North allowed the establishment of military headquarters and smaller garrisons in the region. The hardy men of the North, experienced in warfare since the 12th century, were suitable for the army. The South-West of the Punjab lacking the endowments of interest to the British, failed to benefit. Hence, the socioeconomic disparity observed today.

- Qayyum, Unbreen, Musleh ud Din and Adnan Haider (2012) **Foreign Aid, External Debt and Governance.** (MPRA Paper, 40260:2012).

This paper presents a theoretical model for governance. Specifically, the Ramsey-Cass-Koopman's growth model is extended by incorporating governance in an open economy framework. Steady-state and short run analysis show that external debt and foreign aid do not affect the growth rate of consumption but have level impact on consumption. Foreign aid and governance encourage the economic growth but external debt creates a burden on the economy. Both investment and saving are independent of external debt and thus the current account surplus. Foreign aid does not affect investment directly but it has a direct positive impact on the savings in the economy. Therefore, it is argued that improvements in the quality of governance will stimulate output and consumption rapidly and will act as a catalyst.

3. Monetary and Fiscal Policy

3.1. Monetary Policy

- Answar, Saba and Abdul Qayyum (2011) **Impact of Monetary Policy on the Volatility of Stock Market in Pakistan.** *International Journal of Business and Social Science* 11:2, 18–24.

This paper addresses the linkages between monetary policy and the stock market in Pakistan. This study contributes to the ongoing debate in the monetary policy rule literature regarding the proactive and reactive approach. The estimation technique employed includes Engle Granger two-step procedure and the bi-variate E-GARCH method. The results indicate that any change in the monetary policy stance has a significant impact on the volatility of the stock market.

- Kemal, M. Ali (2011) **Policy of Inflation Targeting in the Presence of Fiscal Deficit and**

External Debt: Opt or Not to Opt. *The Pakistan Development Review* 50: 4, 841–852.

The main task of the macroeconomic policymakers is to keep unemployment and inflation at the minimum possible level. Different policies have been tried to control inflation at its minimum possible level and inflation targeting is the most popular among them. It is the commitment to maintain inflation at the announced level and use interest rate as an instrument to control it if it is expected to diverge from the announced level. However, in a highly “dollar denominated debt” country, central bank is reluctant to increase interest rate because it pressurises the foreign exchange market, which leads to exchange rate depreciation. If there is exchange rate pass-through effect to prices, depreciation leads to increase in prices. Thus, increase in interest rate does not decrease prices and instead results in increase in prices. The two important linkages tested in this study are (i) increase in real interest rate depreciates the currency, and (ii) depreciation in real exchange rate leads to increase in prices. Using VAR model we conclude that real exchange rate is not significantly associated with the real interest rate in the short run and exchange rate pass-through effect to prices is not present in Pakistan.

- Mohsin, Hasan Muhammad (2011) **Impact of Monetary Policy on Lending and Deposit Rates in Pakistan: Panel Data Analysis.** *Lahore Journal of Economics* 16: SE, 199–213.

This paper estimates impact of monetary policy (discount rate) on lending and deposit rates in Pakistan using bank type data from November 2001 to March 2011. The study finds evidence of long run relationship between lending and discount rate but deposit rate is not co-

integrated with the discount rate, a monetary policy instrument. The study also finds an increase in the lending rate pass through rate during restricted monetary policy times (2005-2010), whereas deposit rate pass through remains same. The study finds that overall banks pass on only 20 percent impact of a change in discount rate to the lenders in first month implying that it is not complete. There is also a significant difference in various bank types pass through rates. The pass through of deposit rate is further low at 0.16 as revealed by the short-run analysis. It implies that the effectiveness of monetary policy is limited in Pakistan.

- Mohsin, Hasan Muhammad and Patrick A. Rivers (2011) **Are Domestic Banks' Interest Rate Pass Through Higher Than Foreign Banks? Empirical Evidence from Pakistan.** *International Journal of Economics and Finance* 3:6, 198–206.

This paper contributes to the literature by estimating Interest Rate Pass Through (IRPT) using Pakistani aggregate banks' lending and deposit rate data. Lending and deposit rates are estimated to be sluggish in terms of their response to a change in monetary policy rate. There is also evidence of asymmetry in the pass through of four types of banks (i.e., privatised, nationalised, foreign and specialised). Overall, the domestic banks' pass through is estimated to be higher than that of foreign banks. Although the IRPT is estimated to be incomplete, the degree of lending rate pass-through is not very low. This study provides evidence of an increase in the adjustment speed when the lending rate is below equilibrium after January 2005. However, there was no significant change in the pass through after January 2005, which coincided with the constant increase in the Treasury bill rate by the State Bank of Pakistan.

- Nasir, Muhammad and Wasim Shahid Malik (2011) **The Contemporaneous Correlation of Structural Shocks and Inflation-Output Variability in Pakistan.** *The Pakistan Development Review* 50:2, 145–162.

Monetary policy has changed in a number of ways in the last two decades. Along with other characteristics, modern monetary policy is forward-looking and today central banks, to maintain credibility, respond contemporaneously to structural shocks that might make inflation deviate from the target in future. This paper aims at investigating this aspect of monetary policy for Pakistan. Using the modified version of Structural Vector Auto regression (SVAR) developed by Enders and Hurn (2007), the study finds a weak policy response to supply side shocks as the correlation coefficient between demand and supply shocks is only 0.041. Moreover, the results show that the demand shocks have no significant contribution in output variability. On the other hand, both demand and supply shocks, along with foreign supply shocks, significantly contribute to inflation variability.

- Nazeer, Nadia and Attiya Yasmin Javid (2011) **Impact of Increase in Bank Rate on Inflation in the Context of Pakistan's Monetary Policy.** *Interdisciplinary Journal of Contemporary Research in Business* 3:2.

This paper examines the impact of long and short-run interest rates on inflation using time series data (1961-2010). These two interest rates have never been discussed together before. To carry out the analysis, call money rate is taken as bank rate and efficient technique ARDL is used. The CUSUM and CUSUMQ tests indicate stability and model fit of inflation, while Granger causality is used for

the direction indication. The results show that inflation has significant relationship with GDP, broad money and bank rate but insignificant relationship with government bond yield. The results of the Granger causality test indicate that inflation has unidirectional causality with GDP, broad money and bank rate. The study concludes that the bank rate can be used by the policymakers to control inflation in the context of Pakistan.

- Rahman, Habib-ur- and Hasan M. Mohsin (2011) **Monetary Policy Announcements and Market Interest Rates in Pakistan: An Event Study Approach.** *The Pakistan Development Review* 50:4, 821–839.

This paper analyses the impact of monetary policy (MP) announcements on market interest rates at nine different maturities (1-Week, 2-Week, 1-Month, 3-Month, 6-Month, 9-Month, 1-Year, 2-Year and 3-Year) in Pakistan. The event window of 11 days and an estimation window of 250 days is used for the analysis. The study did not find significant evidence of ARCH effect in market interest rates at (1/Year, 2/Year and 3/Year) maturities. However, there is an evidence of significant abnormal returns which shows a positive impact of monetary policy announcements on market interest rates at all the nine different maturities.

- Shaheen, Farzana, Azad Haider and Sajid Amin Javed (2011) **Estimating Pakistan's Time Varying Non-Accelerating Inflation Rate of Unemployment: An Unobserved Component Approach.** *International Journal of Economics and Financial Issues* 1:4, 172–179.

This paper attempts to estimate the Time-Varying Non-Accelerating Inflation Rate of Unemployment (TV-NAIRU) as an unobserved stochastic variable for Pakistan

over the time period 1973-74 to 2007-08 using Kalman filter. From the results of the study, it is evident that TV-NAIRU increased from 5.3 percent (1990-91) to 8.12 percent (2004-05) but fell to 6.17 percent again in 2007-08, which is above the actual unemployment rate. The results also indicate that the NAIRU is a relevant concept and the unemployment gap should be one of the factors considered when assessing inflationary pressure in Pakistan.

Box 2: Monetary Policy

- Although discount rate, a monetary policy instrument used by the State Bank, is related to the lending rate in the long-run, it is not related to the deposit rate. The banks only pass through 20 percent of a change in the discount rate to the lenders, implying that transmission is not complete. Therefore, the effectiveness of monetary policy is limited in the case of Pakistan.
- Lending and deposit rates respond sluggishly to changes in monetary policy rate in Pakistan. However, the interest rate pass through is higher for domestic banks than that of foreign banks. The adjustment speed of the interest rate increased after January 2005 when the lending rate was below the equilibrium level but after January 2005 there was no significant change in the pass through, which coincided with the constant increase in the Treasury bill rate by the State Bank of Pakistan.
- As far as the relationship between the monetary policy and stock market is concerned in Pakistan, the monetary policy has significant impact on the volatility of stock market.
- The Time-Varying Non-Accelerating Inflation Rate of Unemployment (TV-NAIRU) increased from 5.3 percent in 1990-91 to 8.12 percent in 2004-05 before falling again to 6.17 percent in 2007-08, which was above the actual employment rate at that time. This, therefore, implies that unemployment gap should be one of the factors considered when assessing inflationary pressures in Pakistan.
- In a highly denominated debt country like Pakistan, the central banks are often reluctant to increase interest rate because it

pressurises the foreign exchange market, which leads to exchange rate depreciation. However, in Pakistan, it is found that, real exchange rate is not significantly associated with the real interest rate in the short-run and exchange rate pass-through effect to prices is not present.

- The monetary policy announcements have significant and positive impact on market interest rates at different maturities.
- Monetary policy has changed in a number of ways in the last two decades. Modern monetary policy is forward-looking and today central banks, to maintain credibility, respond contemporaneously to structural shocks that might make inflation deviate from the target in future. Against this backdrop, in Pakistan the policy responds weakly to supply-side shocks. Also, the demand shocks, do not contribute to output variability. However, both demand and supply shocks, along with foreign supply shocks, contribute to inflation variability significantly.
- The money supply is the most significant factor affecting food prices in Pakistan both in the long-run and short-run.
- Interest rate is very effective in controlling inflation in Pakistan but inflation responds with a lag of 5 months. However, transmission of monetary policy shock is faster in the case of prices as compared to output.
- An increase in interest rate, that is contractionary monetary policy, does not affect narrow money (M0 and M1) but it leads to decline in broad money aggregate (M2), which shows revival after 34 months.
- Credit to public sector enterprises and private sector declines in response to a positive shock in monetary policy. However, credit to the private sector declines more as compared to credit to the public sector enterprises and M2. Therefore, the monetary policy should be tailored to the needs of the private sector credit demand.

- Ahsan, Henna, Zainab Iftikhar and M. Ali Kemal (2012) **The Determinants of Food Prices in Pakistan.** *Lahore Journal of Economics* 17:1, 101–128.

Controlling prices is one of the biggest tasks that macroeconomic policymakers face. This paper analyses the

demand and supply-side factors that affect food prices in Pakistan. Using ARDL co-integration approach for the sample period of 1970-2010, results indicate that the most significant variable affecting food prices in both long and short-run is money supply. We also find that subsidies can help reduce food prices in the long-run but that their impact is very small. Increases in world food prices pressurise the domestic market even in the absence of imports, which cause domestic food prices to rise. If, however, we import food crops at higher international prices, this can generate imported inflation. The error correction is statistically significant, which shows that market forces play an active role in restoring the long-run equilibrium.

- Asghar, Zahid and Amena Urooj (2012) **Structural Breaks, Automatic Model Selection and Forecasting Wheat and Rice Prices for Pakistan.** *Pakistan Journal of Statistics and Operation Research* 08:01, 1–20.

Structural breaks and existence of outliers in time series variables results in misleading forecasts. This paper forecasts wheat and rice prices by capturing the exogenous breaks and outliers using Automatic modelling. The procedure identifies the outliers as the observations with large residuals. The suggested model is compared, on the basis of Root Mean Square Error (RMSE) and Mean Absolute Percentage Error (MAPE), with the usual ARIMA model selected ignoring the possible breaks. Our results strongly support that forecasting with breaks by using General to Specific (Gets through Autometric) model performs better in forecasting than the traditional model. We have used wheat and rice price data (two main staple foods) for Pakistan.

- Javed, Sajid Amin, Saud Ahmad Khan, Azad Haider, and Farzana Shaheen (2012) **Inflation and Inflation Uncertainty Nexus: Evidence from Pakistan.** *International Journal of Economics and Financial Issues* 2:3, 348–356.

This paper examines relationship between inflation and inflation uncertainty for Pakistan using monthly data over the 1957:1-2007:12 periods. ARMA-GARCH model is applied to estimate conditional volatility of inflation. Findings of the study support Friedman-Ball hypothesis for Pakistan as Granger-causality test reveals that inflation affects inflation uncertainty positively. We find no evidence for inflation uncertainty affecting inflation rates, as suggested by Cukierman and Meltzer (1986) and only unidirectional relation is evident, with causality running from inflation to inflation uncertainty. High volatility persistence for inflation is also confirmed. Results of the study may be useful for policy-makers at central bank to devise more efficient monetary policy.

- Khawaja, Idrees (2012) **Interest Margins and Banks' Asset-Liability Composition.** *The Lahore Journal of Economics* 16: SE, 255–270.

This paper examines the determinants of interest margin of the banks. The results suggest that the short-term government bonds (floating debt) held by the banks and the rather large share of the interest-insensitive deposits held by the banks are the key determinants of the interest margin. This contrasts with the popular perception that market power of the oligopolistic industry contributes to the high interest margin of the banks. While a behavioural change—greater inclination to save and increase in output may reduce the share of interest insensitive deposits, the reduction in the government debt depends upon the state of

certain macroeconomic variables and the macroeconomic management. Given the determinants and possible ways of margin containment, the containment shall prove to be a tall order. The study also implicitly confirms that the government borrowings are crowding out private investment.

- Munir, Kashif and Abdul Qayyum (forthcoming) **Measuring the Effects of Monetary Policy in Pakistan: A Factor Augmented Vector Autoregressive Approach.** *Journal of Empirical Economics* (Unpublished).

This paper examines the effects of monetary policy on macroeconomic variables in Pakistan's economy. Factor Augmented Vector Autoregressive (FAVAR) methodology is used, which contains 115 monthly observations for the period 1992:01 to 2010:12. The study uses VAR and FAVAR models. The comparison of the results of both the models show that results obtained from the FAVAR model are consistent with the theory and explains the effects of monetary policy better than the VAR model. The VAR model shows the existence of price puzzle and liquidity puzzle in Pakistan, while FAVAR model does not provide any evidence of such puzzles. Interest rate negatively influences prices, hence interest rate is a good instrument for controlling inflation in Pakistan but it takes a lag of 5 months. The transmission of monetary policy shock is faster in case of prices as compared to output in Pakistan. FAVAR model supports the effectiveness of interest rate channel in Pakistan.

- Munir, Kashif and Abdul Qayyum (forthcoming) **Measuring the Effectiveness of Money and Credit in Pakistan.** *Journal of Argumenta Oeconomica* (Unpublished).

This paper examines the effectiveness of monetary policy on money and credit in Pakistan. Using FAVAR methodology, it finds that after a positive shock in interest rate (discount rate) M0 and M1 does not show any significant response, while M2 shows an instantaneous decline and shows revival after 34 months. Credit to public sector enterprises and credit to private sector both decline after a positive shock in monetary policy but credit to private sector declines more than the credit to public sector enterprises and M2. An increase in interest rate discourages private sector, which leads to slowdown in the economic activities and that creates upward pressure on prices. In Pakistan, the victim of monetary policy is credit to private sector and therefore the policy should be tailored to consider the demands of credit by the private sector.

- Mohsin, Hasan Muhammad and Scott Gilbert **The Relative City Price Convergence in Pakistan: Empirical Evidence from Spatial GLS.** *The Pakistan Development Review* 49:4, 439–448.

This paper estimates relative city price convergence using CPI data from July 2001 to June 2008 on 35 Pakistani cities. Two cities, Lahore and Karachi, are chosen as the numéraire cities. The half-life of relative city price shock is also estimated. The study finds average half-life of price shock to be less than 5 months but it varies from 1.3 to 68 months in the case of individual cities. The estimates of Spatial GLS methodology are found to be lower than OLS, which may imply that Spatial Correlations are an important factor for the estimation of half-life. Furthermore, the average half-life of a price shock in Lahore is less than that in Karachi.

- Ashraf, Muhammad Shahzad and Hasan M. Mohsin **Monetary Policy Restriction and Dividend Behaviour of Pakistani Firms: An Empirical Analysis**. *African Journal of Business Management* (Unpublished).

This paper observes the impact of restricted monetary policy on dividend behaviour of Pakistani firms. During restricted monetary policy, cost of external funds increases and firms prefer to utilise internal funds leading to reduction in dividend payoff. Using Lintner's modified model, this study observes the behaviour of 100 listed firms for the period from 2001 to 2009. During the period of nine years, monetary policy has gone through both loose and tight phases. The proposed model is a dynamic one as lagged dependent variable is used as an explanatory variable. Due to certain limitations with selection of monetary policy instrument, overall stance of State Bank of Pakistan (SBP) in its annual reports is used as a dummy variable in the model. Results of all the three estimations reveal almost the same results. First, lagged dividend has proved to be the most deterministic factor of dividend policy, followed by current earnings. The monetary policy and lagged dividend interactive variables provide mixed results. First, interactive variable has negative coefficients in all three—fixed effect, random effects and GMM—models but with insignificant p-values. Second, monetary policy interactive variable has positive coefficients with significant values in random effects and GMM models. Firms seem to follow relatively stable dividend policies with lower adjustment factor. Monetary policy is not observed as a significant determinant of dividend policy of Pakistani firms.

3.2. *Fiscal Policy*

- Husain, Fazal, Muhammad Ali Qasim and Mahmood Khalid (2010) **The Relationship Between Federal Government Revenues and Expenditures in Pakistan.** *The Pakistan Development Review* 49:4, 641–649.

This paper investigates the relation between expenditures and revenues at the federal level of the government of Pakistan for the period 1978 -79 to 2008-09 using the Toda and Yamamoto (1995) methodology. The results show that there is a unidirectional causality from expenditures to revenues. The results revealed evidence of the spend-revenue hypothesis for Pakistan. This suggests that government first spends and later, to pay for this expenditure, it raises taxes. Potential investors may construe this government behaviour negatively—that is, investment decisions may take into account the possibilities of paying higher taxes in future.

- Iqbal, Nasir and Saima Nawaz (2010) **Fiscal Decentralisation and Macroeconomic Stability: Theory and Evidence from Pakistan.** Paper presented at the 26th AGM and the Conference of PSDE.

The research on the relationship between macroeconomic stability and fiscal decentralisation has been rather inconclusive about the benefits of fiscal decentralisation. The current paper is the first to investigate the effect of fiscal decentralisation on macroeconomic stability by using Misery Index at country level especially for Pakistan. The evidence that has been presented reveals a significant positive impact of fiscal decentralisation on macroeconomic stability of Pakistan, although the results are much weaker for expenditure decentralisation. Effectiveness

of expenditure decentralisation in curtailing macroeconomic instability is depending upon the level of revenue decentralisation. The current study clearly indicates that process of fiscal decentralisation is beneficial for the economy of Pakistan. The present developments under taken by the government of Pakistan in term of 7th NFC award and 18th Constitutional Amendment will have clear implications for the Pakistan's long term economic prosperity and macroeconomic stability. However, outcome of these reforms crucially depends upon the will of the political government.

- Ejaz, Khurram and Attiya Yasmin Javid (2011) **Assessment of Debt Sustainability in Scenario of Debt Burden of Pakistan.** *Kashmir Economic Review* 18:1.

This paper analyses the sustainability of overall public and external debt of Pakistan using the debt dynamic equation for the period 1971–2008. The study analyses public debt sustainability through interest rate and growth rate differential and level of primary budget balance, while external debt sustainability is assessed through interest rate on debt and growth rate of exports differential and current account balance. The results indicate that primary budget deficit and current account deficit have played major role in accumulation of public debt and external debt of Pakistan respectively. The study concludes that public and external debt of Pakistan is sustainable in the short-run but unsustainable in the long-run.

- Hussain, A., A. Farid, S. Hussain, and S. Iqbal (2011) **The Future of Budgetary Allocation to Sports Sector in Pakistan: Evidences from Autoregressive Integrated Moving Average Model.** *Journal of Managerial Sciences* 5:2, 111–124.

This paper forecasts Public Sector Development Programme (PSDP) allocation to sports sector up to 2020 in Pakistan, utilising time series data from 1988 to 2010. The data is taken from the official documents of the Ministry of Sports, Islamabad. For the analysis of the data, descriptive statistics and Autoregressive Integrated Moving Average (ARIMA) model are applied. The findings reveal that there exist extreme fluctuations in these allocations during 1988-2010, showing uncertainty in these allocations. Further, the allocation to sports sector in PSDP will be Rs 120.082 million, Rs 124.113 million, Rs 128.349 million and Rs 134.711 million in 2013, 2015, 2017 and 2020 respectively. It is recommended that there should be a sustained growth in these allocations to remove the uncertainty component. There should be public-private partnership in the sports sector of Pakistan which will not only improve the projects life in sports sector but will also add to incurring operation and maintaining costs of the schemes after their construction.

- Khalid, Mahmood and Ayaz Ahmad **Provincial Budgets Shares and Trends.** (PIDE Working Paper) (forthcoming).

This paper finds that Provincial Budgeting Process is underpinned by Federal Fiscal authority. Over all the provinces own revenue base is low and stagnant. But clearly Fiscal Transfers plays a key role in cost of debt and debt servicing for the provinces. Further there are different expenditure menus for each province representing its political/governance economy. Considering the new constitutional amendments and otherwise there has to be a constitution barring provinces to go over and above a threshold level of fiscal deficit. Finally Provincial capacity building in public financial management is required. However

it should not just be in accounts keeping rather linking it with targets and achievements should be done. In the end the study recommends that after the 18th amendment now all the federal planning documents should also incorporate the provincial public-finance aspects as well.

Box 3: Fiscal Policy

- The analysis of relationship between macroeconomic stability and fiscal decentralisation shows that there is a positive impact of fiscal decentralisation on macroeconomic stability of Pakistan. However the results are much bigger for expenditure decentralisation.
- The analysis of the Fiscal Responsibility and Debt Management Act-2005 (FRDL-2005) reveals that the Act is prepared more to meet the constitutional provision rather than the economic realities of the country and for that reasons no targets has been set for reduction in fiscal deficit which is a source of concern.
- The targets laid in the FRDL-2005 for debt reduction are not realistic.
- The act did not put any restrictions on federal government borrowing from the SBP. Therefore, the FRDL-2005 should be reformulated, grounded in the economic realities of the country and also fiscal responsibility laws for the provincial governments so as to achieve the target of “rest rotation of fiscal responsibility in the country”.
- The public and external debt may be sustainable in the short-run but not in the long-run.

- Javid, Attiya Yasmin, Umaima Arif, and Asma Arif (2011) **Economic, Political and Institutional Determinants of Budget Deficits Volatility in Selected Asian Countries.** *The Pakistan Development Review* 50:4, 649–662.

This paper examines the economic, political and institutional sources of budgets deficits for the countries of South Asia and ASEAN regions for the period 1984 to 2010. The results reveal that high income, rising inflation

and large budget-to-GDP ratio are associated with budget instability, whereas a strong inertia in budget deficit volatility exists. The exposure of more external shocks makes the budget deficit more volatile. However, countries with high population growth have less volatile budget deficits. The results indicate that high level of political stability and democracy and improvement in social and economic condition reduce the budget deficit volatility whereas high corruption and low institutional quality lead to more fluctuations in the budget deficit. The results also suggest that political and institutional factors have a direct impact on fiscal instability beyond the economic reasons to effect fluctuations. The implication of these results is that by improving the quality of institutions, creating situations for economic stability and moving towards democratic regimes would ensure more stable fiscal deficits and resultantly having a positive effecting on long-term economic growth.

- Khalid, Mahmood and Muhammad Ali Qasim (2012) **Fiscal Responsibility: A Critical Analysis of FRDL (2005) Pakistan**. Presented at the 28th AGM and the Conference of PSDE, 2012.

The economic future of a nation largely depends on the way fiscal responsibility is practiced. Fiscal responsibility is critical for a nation to remain prosperous and stronger in future. At least for the last two decades poor/weak fiscal responsibility is being practiced in Pakistan as the fiscal deficit for the last two decades remained more than five percent of GDP. The persistent fiscal deficit resulted in the increased debt burden both in terms of internal as well as external debt and interest payments. In 2001-02 Finance Minister, Mr Shaukat Aziz stated that there is a need to promulgate fiscal responsibility law in the country. The law was promulgated

as “Fiscal Responsibility and Debt Management Act-2005”. The objective of the paper is to critically evaluate FRDL-2005, with reference to four major clauses/conditions laid down for restoration of fiscal discipline and also see the extent of implementation of these conditions. The analysis indicates that the act is prepared more to meet the constitutional provision rather than the economic realities of the country and for that reasons no targets has been set for reduction in fiscal deficit which is a source of concern for fiscal policy maker. The provincial governments are not in the purview of the act. The targets laid for debt reduction are not realistic. The act did not put any restriction on federal government borrowing from the SBP. The paper suggests reformulation of FRDL-2005 on the economic realities of the country and also fiscal responsibility laws for the provincial governments so as to achieve the target of “rest rotation of fiscal responsibility in the country”.

4. Finance and Stock Market

- Gul, T., A. Hussain, S. Bangash and S. W. Khattak (2010) **Impact of Terrorism on Financial Markets of Pakistan (2006-2008)**. *European Journal of Social Sciences* 18:1, 98–108.

This paper estimates the impact of terrorist activities on the financial markets in Pakistan over the period of three years i.e., from 2006 to 2008. It also finds out the extent and direction of relationship between the terrorist activities and three financial markets of Pakistan, which are the Karachi Stock Exchange, the FOREX market and the interbank market. After collection of the primary data for the terrorist activities on daily basis and the secondary data on the indicators of the three markets, by using the OLS model it attempts to quantify the impacts of various types

of terrorists' activities on financial markets. We have found that the terrorist activities adversely affect the financial markets under study but the significance varies for different markets. Along with terrorist activities, many other stochastic activities are responsible for the adverse performance of financial markets, which have not been taken into account. The study recommends the policy stance on institutional development regarding investment in the innovative security industry and providing rosier environment for investors by altering the money supply and interest rates.

- Haleem, Fazli and Attiya Yasmin Javid (2011)
Modelling Dividends Behaviour in Pakistan.
Information Management and Business Review 3:6,
289–301.

This paper examines the relationship between financial variables and corporate governance, particularly the board of director's effectiveness in Pakistani companies listed on the stock exchange. The Logit analysis is used to investigate whether board of director is influenced by financial variables: firm size, profit, turnover, D/E, ROE, sector and types of firm or not. The empirical analysis for board effectiveness, composition and size is done on the cross-section of the 50 firms for the year 2009. The results indicate that in Pakistan firms that belong to financial sector, multinational firms, large size and firms that are more profitable follow good governance practices. Most of the results of the study reveal that financial variables are less likely to influence the board effectiveness, while the performance of the firm has significant association with large board size.

- Javid, Attiya Yasmin and Eatzaz Ahmad (2011)
Asset Pricing Behaviour with Dual-Beta in Case

of Pakistani Stock Market. *The Pakistan Development Review* 50:2, 95–118.

This paper investigates the dynamics of beta by the asymmetric response of beta to bullish and bearish market environment on 50 stocks traded on the Karachi Stock Exchange during 1993-2007. The results show that the betas increase (decrease) when the market is bullish (bearish). The results, however, suggest that investors receive a positive premium for accepting down-side risk, while a negative premium is associated with up-market beta. The results suggest that the conditional Fama and French three-factor model has performed better than the conditional CAPM when news asymmetry is taken into account compared with the unconditional Fama and French three-factor model and the unconditional dual-beta CAPM in explaining the relationship in beta and returns in the case of Pakistani market.

- Kayani, Ferheen, Mehwish Aziz Khan, and Attiya Yasmin Javid (2011) **Determinants of Board Effectiveness: Logit Model.** *Interdisciplinary Journal of Contemporary Research in Business* 3:2, 1970–1981.

This study examines the relationship between financial variables and corporate governance particularly the board of director's effectiveness in Pakistani listed companies. Logit analysis is used to investigate that whether board of directors is influenced by financial variables: firm Size, Profit, Turnover, D/E, ROE, Sector (financial or non-financial), and type of firm (local or international). This empirical analysis for board effectiveness, composition and size is done on the cross-section of the 50 firms for the year 2009 to examine how the cross firm differences in the type of firm, the sector to

which firm belongs, the size, profitability, capital structure of the firm influence this crucial corporate governance component board composition and effectiveness in Pakistan. Most of the results of the study reveal that financial variables are less likely to influence the board effectiveness. The performance (ROE and Turnover) of the firms have significant association with large board size. Moreover, firms with high performance in terms of ROE conduct more board meetings.

- Mohsin, Hasan Muhammad and Patrick A. River (2011) **Financial Market Integration of South Asian Countries: Panel Data Analysis.** *International Journal of Economics and Finance* 3:2, 314–326.

In order to attain financial integration using the Feldstein-Horoika (FH) model, the real interest rates differentials must be short lived. This paper estimates the degree of financial market integration in South Asian countries (i.e., Pakistan, India, Bangladesh, Sri Lanka and Nepal) utilising two techniques, that is, FH model and Real Interest Rates Differentials (RIDs) methodology. This study finds some degree of integration with the FH model, which has increased in the post-liberalisation period since the 1990s. The estimates from (RIDs) methodology show that real interest rates differentials of South Asian countries are stationary when compared with the United States, Canada, United Kingdom, Germany, Sweden, Netherlands, Australia, Malaysia, Indonesia, South Korea, Singapore, China and Japan. The empirical evidence of integration using both techniques is a unique finding in the literature. Even though the RIDs technique provides strong evidence of integration, correlation between savings and investment is still significant.

- Badar, Munib and Atiya Yasmin Javid (2012)
Measuring Efficiency of Pakistani Banks with Data Envelopment Analysis. *Saarj Journal on Banking & Insurance Research* 1:1, 1–15.

This paper evaluates the individual and overall performance of commercial banking industry consists of 20 Pakistani banks possess almost 90 percent of the share in terms of deposits, advances, total assets, profitability and labour force divided into four group large, medium, small conventional and Islamic banks for the period which is characterised by slow economic growth and precarious macroeconomic indicators started from 2006 till 2010 by using non parametric technique Data Envelopment Analysis. Technical efficiency under CRS and VRS models and scale efficiency in respect of production and intermediation approaches are calculated. This study earmarks and reason out the most efficient and inefficient banks, overall performance which is seen under slow growth in commensurate with the economic growth. Whereas, Islamic banking group is less efficient but flourishing significantly among all groups. Performance of large conventional banks is less affected with economic upheavals.

- Qayyum, Abdul and Faisal Nawaz (2012)
Measuring Financial Risk Using Extreme Value Theory. *Journal of Basic and Applied Scientific Research* 2:8, 7454–7458.

This paper is the first effort to measure the stock market risk using Pakistani financial data by modern risk management tools, such as the extreme value theory. The paper compares the results from this modern tool with Basel accord proposed risk measure and found former method better one. We believe that using better risk

measuring tools helps to manage the stock risk in a better way. This boosts the investor's confidence and economic growth as well.

5. Industry and Trade

- Din, Musleh ud, Ejaz Ghani, and Tariq Mahmood (2010) **Determinants of Export Performance of Pakistan: Evidence from Firm Level Data.** *The Pakistan Development Review* 48:3, 227–240.

This paper explores the determinants of export performance at the level of firms in respect of their characteristics and supply side constraints. The analysis is based on a survey of export-oriented firms in four major sectors. The results indicate a relationship between the better performance of foreign-owned firms to their better know-how and resources compared to the domestically owned firms. Export performance is positively affected by the level of investment in market/client oriented technologies. Lack of certification of product and process standards is the main supply-side constraint adversely affecting the firms' export performance. Facilitation measures like export processing zones, internationally recognised testing labs, and industrial clusters would be helpful in improving the export performance of firms.

- Mahmood, Tariq, Musleh ud Din, and Ejaz Ghani (2010) **An Analysis of Technology Adoption by Export-Oriented Manufacturers in Pakistan.** *The Pakistan Development Review* 48:4, 939–948.

This paper analyses the factors influencing the probability of technology adoption by export-oriented firms using survey data of export-oriented enterprises. Employing the rank model of technology adoption, firm-specific characteristics such as age, volume of sales, firm

size, type of ownership, certification to standards, and geographical location have been explored as possible factors influencing firms' decision to adopt new technology. The results show that younger and bigger firms have a higher probability of technology adoption. Similarly, firms with higher sales are more likely to adopt new technology. Firms that have obtained certifications of conformity with international product and process standards demonstrate a higher likelihood of technology adoption. Domestically-owned firms are found to have a higher probability of technology adoption as compared with foreign-owned firms due perhaps to the use of lower-end technology by the domestic firms in relation to the foreign-owned firms.

- Rahman, Abdul, Talat Afza, Abdul Qayyum, and Mahmood Ahmed Bodla (2010) **Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan**. *International Research Journal of Finance and Economics* 47, 151–163.

Working capital management plays a significant role in better performance of manufacturing firms. This paper analyses the impact of working capital management on firm's performance in Pakistan for the period 1998 to 2007. For this purpose, balanced panel data of 204 manufacturing firms is used which are listed on the Karachi Stock Exchange. The results indicate that the cash conversion cycle, net trade cycle and inventory turnover in days are significantly affecting the performance of the firms. The manufacturing firms are in general facing problems with their collection and payment policies. Moreover, the financial leverage, sales growth and firm size also have significant effect on the firm's profitability. The study also concludes that firms in Pakistan

are following conservative working capital management policy and the firms are needed to concentrate and improve their collection and payment policy. The effective policies must be formulated for the individual components of working capital. Furthermore, efficient Management and financing of working capital (current assets and current liabilities) can increase the operating profitability of manufacturing firms. For efficient working capital management, specialised persons in the fields of finance should be hired by the firms for expert advice on working capital management in the manufacturing sector.

- Akhter, Naseem and Ejaz Ghani (2010) **Regional Integration in South Asia: An Analysis of Trade Flows Using the Gravity Model.** *The Pakistan Development Review* 49:2, 105–118.

This paper deals with trade benefits from the free trade agreement of the SAARC countries. It assesses the trade potential and trade creation with member and non-member countries. The gravity model is used to measure the bilateral trade flows and to assess the trade effect for member and non-member countries. To estimate the gravity model, two types of analyses are used. The first analysis is based on cross-sectional data to capture the trade effect individually each year, whereas the second analysis utilises the pooled data to measure the overall trade effects and trade flows for the period 2003 to 2008. The results from the two approaches show that estimated coefficients are consistent with the model assumptions. Both analyses show that the regional trade agreement of the SAARC countries could divert the trade for member countries as well as for the non-member countries. However, trade volume will increase only if the major partners (Pakistan, India, and Sri Lanka) sign regional trade agreements.

- Din, Shahab-U- and Attiya Yasmin Javid (2011) **Impact of Managerial Ownership on Financial Policies and the Firm's Performance: Evidence from Pakistani Manufacturing Firms.** *International Research Journal of Finance and Economics* 81, 13–29.

This paper evaluates the impact of managerial ownership on the firm's performance and financial policies in the context of Pakistani market for sixty non-financial firms included in the KSE 100 index for the period of 2000 to 2007. The analysis support that the concentration of managerial ownership affects the firm's financial policies, mainly the leverage and dividend policies. The empirical analysis shows that leverage policy variable influence managerial ownership negatively, supporting that the lower leverage level leads high profitability firms to engage in low managers' ownership program. The result also determines a negative and significant association between the mangers ownership concentration and dividend policy of the firms. This result is supported by the agency theory prediction suggesting that as a firm has high managerial ownership, the asymmetric information will decrease and directly decrease the effectiveness of the dividend policy. Beside this, the firms with higher managerial ownership decrease their perquisites, so the conflict between manager's shareholders can be settled. It is also observed that the managers' ownership concentration in general has a positive relationship with the performance in the corporate culture of Pakistan, where major firms are the family oriented. When the managerial ownership is divided in three levels, low-level (0–5 percent), moderate-level (5–25 percent) and high-concentrated (above 25 percent), the performance positively affect only at low and moderate level. The ownership

beyond 25 percent has a negative association with performance and support the entrenchment theory.

- Mushtaq, Nasir, Saghir Mushtaq, and Laura A. Beebe (2011) **Economics of Tobacco Control in Pakistan: Estimating Elasticities of Cigarette Demand.** *Tobacco Control Journal*, 431–435.

Despite ongoing global efforts for tobacco control, low-income countries with struggling economies have challenges to effectively implement tobacco policies and programmes. Due to the complexity of tobacco control issue and lack of comprehensive policies, tobacco use is increasing in Pakistan. The aim of this study is to assess the effect of taxes on tobacco demand in Pakistan. To this end, various tobacco surveillance indicators of tobacco use are assessed from year 2001 to 2009. Price elasticities of cigarette demand in Pakistan are investigated. Results indicate that during 2003–2009, annual per capita cigarette consumption increased by 30 percent. Analysis of economic data indicates that a 10 percent increase in cigarette prices would lead to 4.8 percent decrease in cigarette consumption while controlling for per capita income in the short run. The long run price elasticities of cigarette demand are estimated at -1.17 . The estimations provided support for myopic addiction model for cigarette consumption in Pakistan. Therefore, increasing tobacco taxes would have a significant impact on tobacco consumption in Pakistan. Cigarette consumption can decrease by 11.7 percent in the long run if there is a 10 percent increase in its price. The results of this study benefit policy makers as it provides information on characteristics of the cigarette consumption and cigarette demand function that may help in planning tobacco control strategies in lower and middle-income countries.

- Rahman, Abdul, Abdul Qayyum, and Talat Afza (2011) **Sector-Wise Performance of Working Capital Management Measures and Profitability Using Ratio Analysis**. *Interdisciplinary Journal of Contemporary Research in Business* 3:8, 285–310.

Working capital management efficiency plays a very significant and vital role in the performance of a manufacturing firm, where a major part of assets is composed of current assets. Therefore, the level of working capital must be properly determined and allocated to various segments, effectively controlled and regularly reviewed in order to have adequate and efficient flow of working capital. In this perspective, this paper analyses working capital management performance of the manufacturing sector by using different working capital management measures, which include Cash Conversion Cycle (CCC), Net Trade Cycle (NTC), Receivable Turnover in Days (RTD), Inventory Turnover in Days (ITID), Payable Turnover in Days (PTD) and Return on Total Assets (ROTA). It also compares the ranking of sectors/industries based on working capital management performance in order to identify the prominent and laggard sectors. This study covers a period of 10 years from 1998 to 2007 for 204 manufacturing and trading firms listed on the Karachi Stock Exchange and classified in 24 sectors. In general, the sectors, which are leading based on overall average results are also among the leading sectors throughout the study period. There is divergence among sectors over 1998-2007 in terms of working capital measures and corporate profitability. Sector-wise working capital management performance reveals that CCC and NTC, both comprehensive measures, provide almost similar results. Oil & Gas Exploration and Refinery, Cement, Fertiliser and Oil and Gas Marketing sectors are

on top based on both measures of working capital management. Above sectors are also among the leading sectors according to inventory turnover measure of working capital management performance. Similarly, sectors that are laggard in terms of CCC and NTC are mainly due to inefficiency in ITID and RTD. Therefore, the laggard sectors must review their inventory and collection policy in order to be efficient in working capital management. There are few sectors, which are although among the efficient sectors in terms of working capital but still among the laggard in terms of profitability such as Cement, Sugar and Vanaspati & Allied sectors. All Textile sectors are among the laggard sectors in terms of working capital management measures and ROTA. The cable and electric goods, Engineering and Pharmaceutical sectors are the laggard in terms of CCC because of problems and inefficiency with their inventory and collection policy. Dominant and laggard sectors in terms of working capital performance are mainly attributed to their inventory turnover in days. In most cases, the CCC and NTC are driven by the inventory turnover of the firm.

- Siddiqui, Rizwana (2011) **Changing Rules of the Game of Textile Trade: Gender Implications for Pakistan from A CGE Analysis**. Chapter 2 in Shahid Ahmed and Shahid Ashraf (eds.) *Dynamics of International Trade, Regional Trading Agreement of WTO: Developing Country Perspective*. Rutledge, New Delhi, India, 2011, 44–67.

Given the economic importance of women in the labour-intensive textile sector of Pakistan, the changes in the governing rules of textile trade (abolition of MFA) are expected to bring about structural changes to various dimensions of Pakistani economy that have a dispropor-

tionate impact on women. Using the computable general equilibrium model, in the first two simulations the study measures the impact of quota abolition against Pakistan only, and then quota abolition against all countries. Then it measures the change in these effects in relation to domestic policies. The results show that Pakistan benefits from quota elimination against Pakistan's exports in terms of higher textile production and exports. However, the domestic policy of rise in energy prices significantly reduces these benefits. Elimination of quota against all countries negatively affects production and exports of textile items from Pakistan in the presence of increased competition from other low-cost suppliers. Labour market effects reveal gender-differentiated effects by types of households—rich and poor. Abolition of quota against Pakistan improves welfare, time poverty, and income poverty indicators at the national level despite deterioration of the indicators for urban household. These indicators deteriorate when quota is abolished against all countries. Domestic liberalisation reduces negative effects of welfare and poverty in urban households. The overall results show the dire need to prepare a policy framework to boost a textile sector that takes into account the constraints, such as energy shortage, to make the country more competitive in a quota-free world.

- Akram, Adnan (2012) **The Determinants of Intra-Industry Trade between Pakistan and Selected SAARC Countries.** PIDE Working Paper (forthcoming).

This paper analyses country-specific and industry-specific determinants of intra-industry trade (IIT) between Pakistan and other SAARC countries using panel data techniques. This paper also disentangles total IIT into horizontal and vertical IIT. Vertical IIT is further divided

into high-quality and low quality IIT. This paper finds that country-specific variables are more important in explaining IIT relative to industry-specific variables. Decomposition of IIT shows that in the SAARC region Pakistan's IIT is mostly comprised of the vertical IIT and to a lesser extent is horizontal IIT. The study concludes that regional governments should pay special attention to improve not only the conditions of transport and communication infrastructure but also strive to reduce the cost of shipping goods across borders.

- Amjad, Rashid, Ejaz Ghani, Musleh ud Din and Tariq Mahmood (2012) **Export Barriers in Pakistan: Results of a Firm-Level Survey**. *The Lahore Journal of Economics* 17, SE: 103–134.

This paper attempts to evaluate exporters' perceptions of the problems they face in exploiting their full competitive potential in the international market. Using firm-level survey data, we find that a shortage of skilled labour, the energy crisis, institutional rigidities, market imperfections, and weaknesses in physical infrastructure are the key impediments to achieving export competitiveness. Policies geared toward improving the quality of skilled labour, resolving the energy crisis, and reducing transaction costs by improving the institutional and physical infrastructure are key to expanding Pakistan's exports on a sustained basis.

- Khan, Muhammad Arshad and Ayaz Ahmed (2012) **Modelling Trade, Investment, Growth and Liberalisation: Case Study of Pakistan**. Presented at the 28th AGM and the Conference of PSDE.

This paper models the transmission channels through which trade liberalisation policy indirectly affects industrial productivity and economic growth in Pakistan over the

period 1972-2011. To measure the international trade reform policy, an index for trade liberalisation policy is constructed and channel analysis is employed to quantify the direct and indirect impacts of liberalisation policy on the industrial productivity in Pakistan. Results suggest that liberalisation policy promotes industrial productivity and economic growth through its favourable effects on private sector industrial investment, manufactured exports and imports of capital goods. The contributions of direct channel of trade liberalisation to industrial productivity is 30.49 percent, while the indirect contributions of trade liberalisation through its impacts on private industrial investment, manufactured exports and capital goods imports are 31.71 percent, 18.9 percent and 18.9 percent, respectively. The overall impact of liberalisation is 0.164 percent, which implies that a 1percent increase in liberalisation index increases industrial productivity by 0.164 percent. The impact of trade liberalisation policy on manufactured goods exports and capital goods imports is 0.18 and 0.17 percent respectively, which implies that increase in technological capability of exports and imports occupies 17-18 percent of the overall channels impact.

Box 4: Industry and Trade

- As far as free trade agreement among SAARC countries is concerned, analyses show that the regional trade agreement of the SAARC countries could divert the trade for member countries as well as for the non-member countries. However, trade volume will increase only if the major partners (Pakistan, India, and Sri Lanka) sign regional trade agreements.
- Market concentration measured by four-firm concentration leads to high price-cost margin. Import has the tendency to make the domestic firms more competitive, but its effects on more-concentrated firms are smaller as compared to non-concentrated firms. Minimum efficient scale and assets of industry have positive effects on margins while capital intensity reduces gross profitability.

- In the manufacturing sector of Pakistan, the exchange rate volatility has resulted into a decrease in export price competitiveness despite currency depreciation and therefore the country experienced a slow growth in manufactured exports.
- Imported raw material and machinery have positive effect on technical efficiencies of the textile manufacturing industries in Pakistan, whereas non-industrial costs effect technical efficiencies in a negative way. Electricity does not play its due role in affecting technical efficiencies.
- Increase in trade volumes has influenced positively the manufacturing sector's growth but more significant influence is through the liberalisation of imports. Moreover, trade barriers have also effected positively on the growth of the manufacturing sector. In other words, trade openness is beneficial for Pakistan, provided it is based on the neutrality of trade regime.
- The trade liberalisation policy promotes industrial productivity and economic growth through its favourable effects on private sector industrial investment, manufactured exports and imports of capital goods in Pakistan.
- Data based on a firm-level survey that measures exporters' perceptions of the problems they face in exploiting their full competitive potential in the international measures suggest that a shortage of skilled labour, the energy crisis, institutional rigidities, market imperfections, and weaknesses in physical infrastructure are the key impediments to achieving export competitiveness.
- Increasing tobacco taxes would have a significant impact on tobacco consumption in Pakistan. Cigarette consumption can decrease by 11.7 percent in the long-run if there is a 10 percent increase in its price.
- A perceptions survey about the recently initiated Afghanistan-Pakistan trade agreement reveals that improvements in infrastructure arrangements to facilitate trade for fostering cooperation in South Asia between Pakistan, Afghanistan and India. However, trade facilitation also requires harmonising customs procedures and harmonising the regulatory framework of other controlling

authorities at the border crossings. Moreover, the relations between India and Pakistan must be broad-based and allow guarantee towards non-reversal of a liberalised bilateral trading environment, aided by the business community and civil society.

- Pakistan must also realise that while additional investment in trade infrastructure is necessary for sustaining economic growth, an equal emphasis is required to address issues that keep the existing infrastructure underutilised.

- Samad, Ghulam and Vaqar Ahmad (2012) **Trade Facilitation for Economic Corridors in South Asia: The Perspective of Pakistan.** Book Chapter in *Developing Economic Corridors in South Asia*, Asian Development Bank (ADB).

This study outlines the role of trade facilitation in Pakistan for economic corridors in South Asia. We study the current state of trade related infrastructure in Pakistan and its connectedness particularly with Afghanistan and India. The implications of recently initiated Afghanistan—Pakistan transit trade agreement are discussed and current impediments in expanding trade relations with India are revisited. A perception survey reveals the issues faced by importers and exporters particularly those dealing with Afghanistan and India. We also held detailed focus group discussions where government functionaries and commercial counsellors also participated. The policy recommendations are grounded in existing literature and survey results. The study highlights the required improvements in infrastructure arrangements to facilitate trade for fostering cooperation in South Asia between Pakistan, Afghanistan and India. However, trade facilitation also requires harmonising customs procedures and harmonising the regulatory framework of other controlling authorities at the border crossings. Linkages need to be established among the customs organisations of

the respective countries to exchange data so that export document of one country could serve as the import document of the other country. The phytosanitary and other quality standards of the countries need to be exchanged and harmonised to the extent possible to eliminate the technical barriers to trade. Finally, the relations between India and Pakistan must be broad-based and allow guarantee towards non-reversal of a liberalised bilateral trading environment. Towards achieving this objective governments on both sides must be helped by the business community and civil society. Pakistan must also realise that while additional investment in trade infrastructure is necessary for sustaining economic growth, an equal emphasis is required to address issues that keep the existing infrastructure underutilised. In its overall infrastructure score, Pakistan is almost in line with its regional competitors, however it fares poorly when it comes to organising and managing the already available assets.

- Ullah, Akbar, Ejaz Ghani, and Attiya Yasmin Javid (2012) **Market Power and Industrial Performance in Pakistan**. PIDE Working Paper (forthcoming).

Using a panel of 8 Pakistani manufacturing industries, we have examined the changes in price-cost margin (gross profitability) during 1998-2009. Using the traditional industrial organisation approach of Structure-Performance, we have analysed the effects of concentration and import intensity on price-cost margins. We have found that market concentration measured by four-firm concentration leads to high price cost margin. Import has the tendency to make the domestic firms more competitive, but its effects on more-concentrated firms are smaller as compared to non-concentrated firms. Minimum efficient scale and assets of

industry have positive effects on margins while capital intensity reduces gross profitability.

- Zia, Uzma and Zafar Mahmood (2012) **Exchange Rate Depreciation and Export Price Competitiveness: The Case of Pakistani Manufacturing Industries.** *Journal of Asia Pacific Economy*, 1–14.

Export price competitiveness assessment is a vital component in evaluating a country's macroeconomic performance. A general argument is that exchange rate depreciation stimulates exports and curtails imports, while exchange rate appreciation harms exports and stimulates imports. At times favourable factors may not result into increased exports because exchange rate movements affect exports not only by means of its depreciation but also through its variability. In this paper the above prediction is assessed by considering the co-existence of import content in production of exportables and dynamic productivity gains. Data is used from 1971-2011. To check long-run relationship Johansen co-integration technique is applied. Exchange rate volatility has been assessed by GARCH-M process. Results indicate that in manufacturing sector of Pakistan, the exchange rate volatility partially offsets the positive effect of depreciation on exports, that is, volatility in exchange rate has resulted into a decrease in export price competitiveness despite currency depreciation and therefore the country experienced a slow growth in manufactured exports.

- Mahmood, Tariq (forthcoming) **Effects of Input Composition on Technical Efficiencies of Textile Industries in Pakistan.** *The Pakistan Development Review* (Unpublished).

This paper studies technical efficiencies of textile manufacturing industries in Pakistan using 5-digit level industry data. Technical efficiencies are computed by Data Envelopment Analysis technique under the assumption of constant returns to scale as well as variable returns to scale. The efficiency scores thus obtained are analysed by Tobit regression technique to determine how input compositions influence these efficiency scores. It is found that imported raw material and machinery have positive effect, whereas non-industrial costs effect technical efficiencies in a negative way. Electricity does not play its due role in affecting technical efficiencies.

- Malik, Afia (forthcoming) **Role of Trade Liberalisation in Pakistan's Industrial Growth.** *Middle East Journal of Economics and Finance* (Unpublished).

In this study, different indicators of trade openness are used to investigate the impact of trade liberalisation on the manufacturing sector's growth. Increase in trade volumes has undoubtedly influenced positively the manufacturing sector's growth but more significant influence is through the liberalisation of imports. Moreover, trade barriers have also effected positively on the growth of the manufacturing sector. In other words, trade openness is beneficial for Pakistan provided it is based on the neutrality of trade regime.

- Samad, Ghulam and Muhammad Nasir (forthcoming) **Intellectual Property Rights and Technology Transfer: A Panel Study of Pakistan, India and Bangladesh.** *Transitional Study Review* (Unpublished).

In theory, the strong protection of Intellectual Property Protection (IPRs) would encourage technology transfer from

North to South. This study examines the association between IPRs protection in developing countries like India, Pakistan and Bangladesh and technology transfers for the period 1990-2005. Using royalty and license fees as indicator for technology transfer, the study concludes that IPRs protection does encourage technology transfer to these countries. Furthermore, the results indicate positive impact of economic freedom and GDP on technology transfer. However, the impact of diasporas on technology transfer is found to be negative in this study.

- Samad, Ghulam and Vaqar Ahmad (forthcoming) **Economic Contribution of Copyright Based Industries in Pakistan.** *The Pakistan Development Review* (Unpublished).

The copyright-based industries substantially contribute to the national economy in form of value addition, tax revenues, trade and employment. This study highlights both the core and non-core copyright-based industries in Pakistan. With the technical guidance of World Intellectual Property Organisation (WIPO) and National Institute of Cultural Studies (NICS) we conducted the first ever survey of the copyright based industries in Pakistan. The estimates of contribution to GDP, tax revenues, trade and employment were also validated through focus group discussions and key informant interviews. Our findings reveal that copyright-based industries contributed Rs 136 billion to GDP (on 1999-2000 base year prices of Pakistan Bureau of Statistics). These industries also contributed Rs 18 billion in indirect taxes for the government. On the trade side the exports of these industries totalled \$943 million and imports amounted to \$2,130 million in 2007-08. In terms of job creation one of the core sub-sectors i.e. electronic media employed around 47,000 persons by the end of 2011.

6. International Economics

- Khan, Muhammad Arshad and Abdul Qayyum (2011) **Exchange Rate Determination in Pakistan: Role of Monetary Fundamentals.** *Journal of Economic Cooperation and Development* 32:2, 67–96.

This paper examines the role of monetary fundamentals in the determination of Pak-rupee *vis-à-vis* US-dollar exchange rate using quarterly data over the period 1982Q2-2008Q2. Based on the Johansen (1988) and Johansen-Juselius (1990) co-integration approach, there exist one significant long-run relationship among the co-integration vectors between the exchange rate and the monetary fundamentals. The long-run co-integrating coefficients are generally consistent with the predictions of Frankel's (1979) interest rate differential variant of the monetary exchange rate model. The results of the adjustment coefficients suggest that disequilibrium is corrected by changes in exchange rate, relative money and inflation differential in the short-run. To examine the short-run dynamics in a system-wide context, we have applied persistence profiles approach and the results indicate that the effect of system-wide shocks initially declines rapidly but decays slowly thereafter and completely dies out after 9 quarters. These results are consistent with nonlinear adjustment and monetary factor being the main source of exchange rate volatility in Pakistan.

- Nasir, Zafar Mueen and Arshad Hassan (2011) **Economic Freedom, Exchange Rates Stability and FDI in South Asia.** *The Pakistan Development Review* 50:4, 423–433.

This paper empirically examines the role of economic freedom, market size and exchange rates in attracting

foreign direct investment in South Asian countries for the period 1995-2008 by employing panel data analysis in fixed effect setting. Results clearly indicate the presence of significant positive relationship between economic freedom and FDI inflows in South Asian countries during the period of study. The real effective exchange rate has negative association with it, indicating that depreciation in host country currency negatively influences the inflow of FDI to that country. Therefore, monetary policy should focus on providing stability to currencies of host countries. The model explains approximately 90 percent of total variation in FDI. The paper concludes that South Asian countries should make concerted efforts in devising policies that improve level of economic freedom. In other words, they should provide more investment friendly climate, trade openness, efficient monetary and fiscal policies and freedom from corruption. This can help to attract more foreign direct investment in the South Asian countries.

- Naseem Akhter (forthcoming) **The Dynamic Impacts of Current Account Imbalances in Pakistan.** *Review of International Economics and Finance.* (Unpublished).

The present study aims at analysing the dynamics of current account imbalances in Pakistan. To investigate the issue, we develop a small open economy general equilibrium model following Obstfeld and Rogoff (2005). To their static general equilibrium framework, we add the inter temporal approach and consider, implicitly, nominal rigid prices to examine the impacts of current account imbalances on real exchange rate, inflation rate and output of tradable and non-tradable. The findings provide evidence that with low elasticities of substitution and presence of home bias effects in Pakistan, the effects of relative prices

of home non-tradables on all economic variables are large, while terms of trade have small impact on output of tradables and non-tradables and inflation rate and cause large variation in real exchange rate. Therefore, the positive shocks in current account balance increases overall real economic activity and provide implications for the economic policies.

7. Agriculture

- Hussain, A., N. R. Khattak and N. Muhammad. (2010) **Impact of Major Farm Inputs on Tobacco Productivity in Pakistan: An Econometric Analysis (1960-2006)**. *Sarhad Journal of Agriculture* 26:1, 93–96.

This study conducted during 2008 evaluates the impact of area under tobacco crop and fertiliser off-take on its productivity in Pakistan during 1960-2006 using econometric techniques. The findings revealed that one-hectare increase in area under tobacco cultivation brings 2.47 tonnes increase in total tobacco production. 1 percent increase in the fertiliser off-take leads to increase tobacco production by 0.05 tones. The coefficients of the explanatory variables are statistically significant at both 5 percent and 1 percent level of significance. Due to high value of the coefficient of area under tobacco crop, it is recommended that the government should bring more and more area under tobacco cultivation in the country and distribution of the fertiliser should be properly managed.

- Hussain, A. and A. Q. Khan. (2011) **Relationship between Agriculture and GDP Growth Rates in Pakistan: An Econometric Analysis (1961-2007)**. *Academic Research International* 1:2, 322–326.

This study aims to conduct econometric analysis of the relationship between agriculture growth rate and GDP growth rate in Pakistan. Time series data ranging from 1961 to 2007 on the above variables is taken from Economic Survey of Pakistan (Statistical Supplement, 2006-07) and the Federal Bureau of Statistics (1998). Augmented Dickey Fuller (ADF) test is used to check stationarity of the data. The Akaike-Information Criterion (AIC) is used to select the optimum ADF lag. Furthermore, the Johansen co-integration test (Likelihood Ratio statistic) is used to detect long-term relationship among the series. The method of Ordinary Least Square is used to show the contribution of agriculture growth rate to GDP growth rate. The results show that 1 percent increase in the agriculture growth rate brings 0.34 percent increase in GDP growth rate. The explanatory variable (agriculture growth rate) is statistically significant at both 1 percent and 5 percent levels of significance. It is recommended that the government should stimulate GDP growth rate through agriculture growth in the Pakistan

- Hussain, A. F. Rabbi, I. Hussain, and G. Sher (2011). **“The Determinants of Maize Productivity: Towards a Policy of Food Security in Pakistan”**. *Farming and Rural System Economics, Issues and Challenges in Rural Development: Compendium of Approaches for Socio-Economic and Ecological Development in Developing Countries*. Book Chapter 4, Article 4.1. Edited by Werner Doppler and Siegfried Bauer, Margraf Publishers GmbH, Germany. Vol. III, 191–196.

This paper empirically investigates the determinants of the growth of maize production in West Pakistan over the 1960-2007 period. Our interest is to identify how

government policy variables reflecting credit disbursement and fertiliser off-take affect maize productivity in Pakistan. Since maize crop is an important food staple in Pakistan for majority of the poor households, increase in its production would be helpful in coping with food insecurity in Pakistan. This study uses the Johansen's co-integration techniques to identify the impact of policy variables on the vertical and horizontal growth of maize production in Pakistan. The Johansen's co-integration test indicates long-run relationship between maize production and farm inputs. The policymakers should, therefore, focus on the provision of subsidies on fertiliser and other farm inputs to enhance the maize productivity in Pakistan to ensure food security for the majority of rural poor families.

- Hussain, A. and N. R. Khattak. (2011). **Economic Analysis of Sugarcane Crop in District Charsadda**. *Journal of Agriculture Research* 49:1, 153–163.

This paper carries out economic analysis of sugarcane crop in district Charsadda. The study is based on primary data collected from randomly selected five villages, namely Dargai, Mani Khela, Sapula Khile, Qalat Naseer, and Khule. The data is collected through structured questionnaire using a sample size of 50 farmers, allocated proportionally to four villages. The results reveal that capital employment, labour employment, marketing, credit and financing and sources of income are more closely related with sugarcane production. The major economic practices identified are preparation of land, water management, weed control, insecticides and making of black sugar (Gur), while main sugarcane varieties grown are 77/400,44, Mardan-92, 48, 310 and 722082. Variety 77/400 is observed as the most profitable variety. The

average per acre cost is calculated to be Rs 35,450 for all varieties and major cost elements are land rent, labour input, seed, manure, irrigation, land preparation, fertiliser, hand weeding and making of black sugar (Gur). The net revenue of variety 77/400, 44, Mardan-92, 48, 310 and 722082 are observed to be Rs. 54,550, 48,550, 48,550, 45,550, 48,550 and 45,550, respectively. Sugarcane crop is characterised by increasing returns to scale. It is recommended that modern techniques should be adopted for making Gur and awareness among sugarcane growers about improved varieties should be created.

- Hussain, Zamir (2011) **Application of the Regional Flood Frequency Analysis to the Upper and Lower Basins of the Indus River, Pakistan.** *Water Resources Management* 25:11, 2797–2822.

This paper presents results of an application of the L-moments based regional flood frequency analysis to annual maximum peak (AMP) flows observed at seven stations (Tarbela, Kalabagh, Chashma, Taunsa, Guddu, Sukkur and Kotri) located on the main stream of the Indus River, Pakistan. The results of Run-test and lag-1 correlation coefficient show that the data series at given sites is random and has no serious serial correlations respectively. Furthermore, the results of Grubbs and Beck test illustrate that there are no irregularities (abrupt variations) except low outlier(s) in the data series at various sites. To avoid their undue influence, these low outliers are discarded and the sample information is re-summarised using the idea of left censored type a partial probability weighted moments. L-moments based regional heterogeneity measure (H) show that the region, defined by seven stations, is heterogeneous. Therefore, it is sub-divided into two homogeneous regions. Region 1 and Region 2 consist of four (Tarbela, Kalabagh,

Chashma and Taunsa) and three sites (Guddu, Sukkur and Kotri,) respectively) using Ward's clustering method based on the site characteristics only. The results of various goodness-of-fit measures (L-moment ratio diagram, average weighted distance and Z-DIST measures) show that Region 1 has four candidates, namely generalised normal (GNO), generalised logistic (GLO), generalised extreme-value (GEV) and Pearson type III (PE3), while Region 2 has only one candidate, GLO, as regional distribution. Based on the results of different accuracy measures (regional average absolute relative bias, relative bias and relative root mean square error) of the estimated regional growth curves and quintiles, obtained from simulation experiments, PE3 is the robust distribution for Region 1, while for Region 2, GLO distribution can be used for the estimation of flood quintiles. Moreover, the results of the simulations study are extended to obtain standard errors of the estimated quantiles at each site of the subdivided homogeneous regions.

- Memon, Junaid Alam and Gopal Bahadur Thapa (2011) **The Indus Irrigation System, Natural Resources, and Community Occupational Quality in the Delta Region of Pakistan.** *Journal of Environmental Management* 47, 173–187.

This paper examines the impact of an elaborated irrigation system on the natural resources and society in the deltaic part of the Indus River in Pakistan. Time series information is collected to analyse the ecological and natural resource dynamics, and their impacts on the structure and quality of the occupations of the people in the Indus delta during pre and post-irrigation system development periods. The information is collected through literature review, reconnaissance, structured questionnaire

survey, focus group discussions and interviews. The findings reveal that the expansion of the irrigation system and the resulting reduction in the downstream flow has their differential impacts on the various segments of downstream ecology and society. Some of the resources, for example, the agricultural mudflats have been adversely affected due to the accelerated seawater intrusion that severely impinged on the paddy farms. On the other natural resources, such as mangroves, the impacts are both negative and positive. On one hand, the diversity of the mangroves species has deteriorated, while the mangroves have benefited from such development because of the alleviated pressure of camel grazing as a result of the occupational change on the part of the camel herders. Furthermore, changes in the hydrological regimes have forced the paddy farmers and camel herders to switch to fishing as an alternative source of employment and income. Considering that currently about 87 percent people are already engaged primarily in marine fishery, this scenario is threatening the sustainability of the fishery resources as well as the livelihoods of both the traditional and converted fishermen. The findings of the study are, therefore, meant to advocate different treatments which should be accorded to the various segments of the downstream ecology and society during the planning of any remedial irrigation projects in order to mitigate the adverse impacts of the previous irrigation development strategies and of any water resources development to be carried out in the future.

- Memon, Junaid Alam and Usman Mustafa (2012) **Emerging Issues in the Implementation of Irrigation and Drainage Sector Reforms in Sindh Province of Pakistan.** Presented at the 28th AGM and the Conference of PSDE.

This paper analyses the implementation of institutional reforms seeking a paradigm shift from the state to a farmer-managed irrigation and drainage system in Sindh, Pakistan. Required information is extracted from the one-page profile of Farmer Organisations (FOs) obtained from Sindh Irrigation and Drainage Authority. Findings shows that the reform package that required the formation of 14 Area Water Boards (AWBs) and irrigation and drainage management transfer to 1400 FOs in Sindh has so far established only three AWBs and 359 FOs. About 94 percent FOs of Nara Canal AWB (NC-AWB), 38 percent FOs of Ghotki Canal AWB (GC-AWB) and 60 percent FOs of Left Bank Canal AWB (LBC-AWB) have transferred the irrigation management responsibility of their respective minors and distributaries. On average, an FO of NC-AWB has 280 farmers, GC-AWB has 347 farmers and LBC-AWB has 347 farmers. All of these farmers are members of their respective FO General Body by virtue of their land titles. The average landholding of the largest and smallest landholder in a FO of NC-AWB is 98 and 2.76 hectare, in GC-AWB was 84.33 and 2.45 hectares and in LBC-AWB is 176.32 and 4.77 hectares, respectively. This indicates unequal land distribution among member farmers and thereby their differential social and political power in the agrarian society having implication for the participatory irrigation management. Although, the available information does not permit a rigorous analysis of the large landholders' capture of FO Management Committees (MCs), but the statistics are somewhat indicative. In NC-AWB about 40 percent, in GC-AWB about 36 percent and LBC-AWB about 33 percent of the largest landholders are the office bearers of FO Management Committees. Most of them are Chairmen, followed by Vice Chairmen, General Secretaries, Treasurers and only a few of them are the

members of FO management committees. Nevertheless, the smallest landholders are also office bearers but mostly are Members. Anecdotal evidences suggest that the magnitude FO capture by large landholders could be much higher than the data in hand suggests and thereby requires a more in-depth analysis. Finally, despite a substantial number of female landholders are members in FO by virtue of their land titles, their participation in FOs management is negligible. Only four women in all three AWBs could be identified as FO office bearers but none of them as a Chairwoman. The findings of this study suggest that although the overall progress in implementation of reforms is unsatisfactory, it could be taken as a learning opportunity that can provide valuable lesson for extending the farmer-managed irrigation model to the remaining canals and distributaries. These lessons could also be translated into more inclusive policies for marginalised farmer groups.

Box 5: Agriculture

- Since maize is the staple food for many poor households in Pakistan, therefore policymakers should focus on the provision of subsidies on fertiliser and other farm inputs to enhance the maize productivity in Pakistan to ensure food security for the majority of rural poor families.
- The analysis of the sugarcane crop in Charsadda shows that it is characterised by increasing returns to scale. Therefore, using of modern techniques for the production of *Gur* (jaggery) is warranted together with creating awareness among sugarcane growers about improved varieties.
- Agricultural growth and economic growth are positively related in Pakistan: a 1 percent increase agricultural growth leads to 0.34 percent growth in the GDP.
- The examination of the impact of an elaborated irrigation system on the natural resources and society in the deltaic part of the Indus River in Pakistan shows that some of the resources, for example, the agricultural mudflats have been

adversely affected due to the accelerated seawater intrusion that severely impinged on the paddy farms.

- Changes in the hydrological regimes have forced the paddy farmers and camel herders to switch to fishing as an alternative source of employment and income. Considering that currently about 87 percent people are already engaged primarily in marine fishery, this scenario is threatening the sustainability of the fishery resources as well as the livelihoods of both the traditional and converted fishermen.
- According to the empirical analysis of two villages of Balochistan that mini-dams play positive role in agricultural productivity, livelihood of the community and contribute in improving their living standard.
- According to projections made in a study, there would be an excess of supply over demand for rice and wheat in Pakistan. However, being an agricultural country, the surpluses are low production-push measures need to be adopted to ensure higher productivity.

- **Hussain, A. (2012) Impact of Credit Disbursement, Area under Cultivation, Fertiliser Consumption and Water Availability on Rice Production in Pakistan (1988-2010). *Sarhad Journal of Agriculture* 28:1, 95–101.**

This paper estimates the impact of major agriculture inputs (credit disbursement, area under cultivation, fertiliser consumption and water availability) on total rice production in Pakistan using time series ranging from 1988 to 2010. The study uses a log-linear Cobb-Douglas production function to estimate the impact and importance of these inputs. It finds that area under cultivation and water availability have a positive and statistically significant impact on rice production and the other two inputs have a positive but statistically insignificant impact. Estimation reveals that a 1 percent increase in area under rice cultivation brings 1.64 percent increase in total rice

production and a 1 percent increase in water availability increases total rice production by 0.87 percent. The insignificance of credit disbursement and fertiliser consumption indicates the presence of inefficiencies which begs for some policy attention.

- Hussain, Anwar, Muhammad Iqbal, and Jaffar Hussain (2012) **Demand and Supply Projections of Major Food Grain in Pakistan**. PIDE Working Paper (forthcoming).

The projections about the demand and supply of agriculture crops plays vital role in an agricultural economy. This study aims to project the demand and supply of major food grain crops, namely rice and wheat in Pakistan. For projections, moving averages, exponential smoothing, Holt-Winter and ARIMA models are applied, using time series data from 1976 to 2009. The findings reveal the excess of the supply over the demand in future for both rice and wheat in Pakistan. However, being an agricultural country, the surpluses are still low and this study strongly supports production-push measures to ensure higher productivity.

- Saeed, Zohaib, Usman Mustafa, Hafsa Hina, and Shazia Saeed (2012) **Agricultural Productivity Impact of a Mini-Dam: A Case Study of Ziarat, Balochistan**. Presented at the 28th AGM and the Conference of PSDE.

Water scarcity in Balochistan is the most severe in Pakistan as ground water level is depleting day by day. One of the solutions for such problem is to store water through mini dams. This study is conducted to find an impact of mini dam on agricultural productivity in Ziarat, taking apple as the main crop. Primary data of 80 households is

collected from two villages (one having a dam and other without having a dam), namely Kawas and Verchoom through stratified random sampling. Cobb-Douglas production function is utilised to form the production function for apple and is estimated using OLS technique. Eight explanatory variables are used for finding the impact over apple yield, that is, farm size, farmer education, farming experience, tree age, fertiliser, irrigation number, pruning and dummy (for capturing the importance of dam). Results reveal that all variables are significant except farming experience and tree age. It is concluded that mini dam play an important role in increasing agricultural productivity, livelihood of the community and contribute in improving their living standard.

- Memon, Junaid Alam and Fateh Muhammad Mari (forthcoming) **Factors Influencing Equity in Farmer-Managed Irrigation Distribution in Sindh, Pakistan.** (Unpublished).

Equitable distribution of irrigation is one of the most compelling factors for irrigation management reforms in many countries. Policy response to such need in Pakistan is the introduction of farmer-management of tertiary level irrigation affairs. This study presents an empirical analysis of the effect of reforms on equitable irrigation distribution in Farmer Organisations (FO) of three Area Water Boards (AWBs) in Sindh, Pakistan. Cross-sectional quantitative information obtained from secondary sources include the official datasets on irrigation discharge measurements, FO maturity indexes and FO profiles prepared by Sindh Irrigation and Drainage Authority (SIDA) and Water Sector Improvement Project (WSIP-I). A multinomial logistic regression model, having Equity between Head and Tail watercourses as the regress and Institutional maturity index,

Culturable command area, and Membership size of FO as the regressors are used to model the determinants of equity. The study identifies institutional maturity as one of the influential factors explaining variation in the irrigation delivery performance of FOs. With some caveats, findings have some useful policy implications for the success of irrigation reforms for sustainable agriculture in the Sindh Province of Pakistan.

8. Poverty

- Arif, G. M., Nasir Iqbal and Shujaat Farooq (2011) **The Persistence and Transition of Rural Poverty in Pakistan, 1998-2004.** (PIDE Working Paper: 2011:74).

This paper uses two rounds of the two panel data sets to examine the poverty dynamics in rural Pakistan (Sindh and Punjab). The Pakistan Socio-Economic Survey (PSES) covers two periods, 1998 and 2000, while the Pakistan Rural Household Survey (PRHS) covers the 2001 and 2004 period. More than one-fifth of the households are chronically poor in the PSES rounds, and 11 percent in the PRHS rounds. Further, both chronic and transitory poverty are higher in Sindh and southern Punjab than in central and northern Punjab. Illiteracy, household size, dependency ratio, lack of livestock, landlessness, lack of ownership of dwellings and health expenditure are the factors responsible for aggravating long-term poverty. The higher incidence of transitory poverty in rural Sindh and southern Punjab indicates the impact of large investments made in the public sector to raise the living standards there to the level of the better-off regions.

- Arif, G. M. and Shujaat Farooq (2011) **Poverty, Inequality and Employment in Pakistan.** A Report Published by the Islamic Development Bank (IDB), October 2011.

The paper reviews the situation of poverty, inequality and employment in Pakistan to explore the growth-employment-poverty-inequality nexus during last decade (2000-2010). During this period, the government of Pakistan has developed various inclusive growth policies to achieve sustained economic growth with poverty reduction. However, the desired targets were not achieved. The paper makes a critical diagnostic analysis of these policies and programs and highlights the key binding constraints as well. In addition, the role of international donors is also viewed to promote the schema of pro-poor growth. The study makes some key policy recommendations for Islamic Development Bank (IDB) and Multilateral Development Bank (MDB) where these banks can take lead in Pakistan by providing the microfinance services to the poor in many pro-poor economic activities. Through these activities, the Bank should identify carefully both the poorest of the poor and destitute who are economically inactive and economically active and directs a part of funds towards meeting the basic needs of the economically inactive (or destitute) and also provides them necessary training. After training, financing can be provided by using a combination of for-profit debt-based modes such as *bai-muajjal*, *ijara*, *Salam* or *istisna* or equity-based modes such as *mudaraba* or *musharaka* or declining *musharaka*. These types of financing can help promote entrepreneurship amongst the poor and subsequently alleviate poverty.

- Arif, G. M. and Shujaat Farooq (2011) **Poverty Reduction in Pakistan: Learning from the Experience of China.** (PIDE Monograph Series).

This paper reviews the poverty reduction mechanism through which China has been successful in reducing its poverty during the last three decades, while Pakistan could not succeed in its efforts during this time. This historic

Chinese success in poverty reduction was mainly based on rural agricultural reforms introduced in the late 1970s, massive targeted public investment since the mid-1980s and promotion of the rural non-farm economy and urbanisation in 1990s. Moreover, the foundations of Chinese success, in poverty reduction, are rooted in its solid political determination and powerful organisational ability, which ensured macroeconomic stability and successful poverty alleviation policies at the macro level and empowered the poor at the micro level. Successive policies and programmes including land reforms, social action programs have also been launched in Pakistan but they have not brought any real change in poverty, mainly due to policy gaps, poor implementation, weak institutions and poor governance, low public spending, low human capital, population pressure and conflicts.

Box 6: Poverty

- One-fourth of households experience an adverse shock, be it natural, agricultural, economic, social or relating to health, while the natural/agricultural shocks have major share in the total burden of shocks.
- The households' coping mechanism to shocks is overwhelmingly informal and largely asset-based. The poorest of the households adopt behaviour-based strategies like reducing food consumption, employ child labour, work more hours, etc.
- A gradual shift from traditional emergency relief measures towards *ex ante* actions to reduce and mitigate hazard impacts should be encouraged along with non-exploitative credit and more effective safety nets.
- Analysis based on a panel survey data conducted in 2001, 2004 and 2010 reveals that poverty declined in 2001-04 and rose in 2004-10, while two waves of panel survey shows that around 9 percent of households remained poor in two periods. Poverty declined to only 4 percent when three-wave data is taken into account.

- Three-wave results show that more than half of the rural population in Punjab and Sindh remained poor for at least one period: 31 percent were categorised as one-period poor and around 17 percent were poor in two periods. In rural Sindh, about two thirds of the population experienced at least one episode of poverty in the last 10 years.
- According to the Pakistan Socio-Economic Survey (PSES), which covers 1998 and 2000 period, more than one-fifth of the households were chronically poor in the, whereas according to the Pakistan Rural Household Survey (PRHS), which covers 2001 and 2004 period, 11 percent of the households were chronically poor.
- Illiteracy, household size, dependency ratio, lack of livestock, landlessness, lack of ownership of dwellings and health expenditure are the factors responsible for aggravating long-term poverty in Sindh and southern Punjab compared to central and northern Punjab. The higher incidence of transitory poverty in rural Sindh and southern Punjab indicates the impact of large investments made in the public sector to raise the living standards there to the level of the better-off regions.
- Pakistan Panel Household Survey (PPHS) 2010 shows that the Benazir Income Support Programme (BISP) has no significant impact on poverty, school enrolment and improvement in women employment in labour market, while a significant and positive impact is found on per capita food and per capita health expenditures of the household.
- The results suggest that oil price shocks negatively affect industrial production, appreciates real effective exchange rate and positively affect inflation and interest rate. On the other hand, following food price shocks, industrial output increases. Similarly, interest rate and inflation rate responds positively following food price shocks.

- Arif, G. M. and Shujaat Farooq (2012) **Rural Poverty Dynamics in Pakistan: Evidence from Three Waves of the Panel Survey.** (Poverty and Social Dynamics Paper Series 2).

This paper examines poverty dynamics in rural Pakistan using three rounds of a panel survey conducted in 2001, 2004 and 2010. Based on the spell approach, chronic and transient poverty is estimated separately for the second and third waves of the panel data. For the two-wave analysis, panel households are grouped into four categories: (i) never poor, (ii) poor in two periods, (iii) moved out of poverty, and (iv) moved into poverty. For the three-wave analysis, the sampled households are grouped into (i) the chronic poor, (ii) poor in one or two periods, and (iii) never poor. The data points to fluctuations in poverty—a decline in 2001–04 and a rise in 2004–10. Based on the two-wave panel, the analysis reveals that around 9 percent of households remained poor in two periods. Poverty declined to only 4 percent when three-wave data is taken into account. Poverty movements based on three waves of the panel dataset show that more than half the rural population in Punjab and Sindh remained poor for at least one period: 31 percent were categorised as one-period poor and around 17 percent were poor in two periods. In rural Sindh, about two thirds of the population experienced at least one episode of poverty in the last 10 years.

- Arif, G. M., Shujaat Farooq, Saman Nazir and Maryam Naeem Satti (2012) **Child Malnutrition and Poverty: The Case of Pakistan**. (Poverty and Social Dynamics Paper 3).

This paper examines trends in child malnutrition and develops its links with the characteristics of children and their mothers, the provision of healthcare services, and the poverty status of households. Poverty Panel Household Survey (PPHS) 2010 dataset is used for the analysis. We find that very high levels of malnutrition exist among children, but that there is no significant association between

poverty and child malnourishment or between perceived food shortages and child malnutrition. Rather, our results suggest that exposure to disease is the major cause of poor child growth, and the latter cannot necessarily be solely attributed to poverty. Child malnutrition is deeply rooted in child illness, the nutrition status of their mothers, environmental factors, and a weak healthcare system.

- Haq, Rashida (2012) **Shocks as a Source of Vulnerability: An Empirical Investigation from Pakistan**. (Poverty and Social Dynamics Paper Series 6).

This paper investigates the incidence of different types of shocks and identifies the household characteristics that are associated with this phenomenon. It is observed that one-fourth of households experience an adverse shock, be it natural, agricultural, economic, social or relating to health. The natural/agricultural shocks have major share in the total burden of shocks while the households' coping mechanism is overwhelmingly informal and largely asset-based. The poorest of the households adopt behaviour-based strategies like reducing food consumption, employ child labour, work more hours, etc. Overall, large rural households with aged heads and ownership of land and livestock are more likely to suffer shocks, particularly of the natural/agricultural kind. For all these reasons, a gradual shift from traditional emergency relief measures towards *ex ante* actions to reduce and mitigate hazard impacts should be encouraged along with non-exploitative credit and more effective safety nets.

9. Welfare

- Arif, G. M., Durr-e-Nayab, Shujaat Farooq, Saman Nazir and Maryam Naeem Satti (2012) **Welfare**

Impact of Health Intervention in Pakistan: The Case of Lady Health Workers Programme.
(Poverty and Social Dynamics Paper Series 7).

To gauge the Lady Health Workers Programme's (LHWP's) welfare impact, this study adopts both the quantitative and qualitative approaches. For the quantitative analysis, PRHS 2001 and PPHS 2010 dataset are been used. The qualitative portion is addressed through fieldwork conducted in ten rural localities of eight selected districts covering all the four provinces. The analysis shows that Lady Health Visitors (LHWs) provide their services to all segments of society, irrespective of their patients' income status. The propensity score matching (PSM) method, which generates comparable samples of beneficiaries and non-beneficiaries of the LHWP, shows that the programme has had a significant and positive impact on contraceptive use, antenatal care and vaccination (TT) during pregnancy. Its impact on child health is evaluated by selecting four indicators—child immunisation, child illness, and infant and child mortality. A significant gain is found for child vaccination and child illness. However, the LHWP does not show a significant impact on infant and child mortality. The welfare impact of the programme in terms of poverty reduction is found to be statistically significant.

- Haq, Rizwan ul (2012) **Life Satisfaction and Basic Needs among Elderly People in Pakistan: Evidence from the PSES Data.** Presented at the 28th AGM and the Conference of PSDE.

There is an increase in elderly population worldwide. Pakistan is no exception to the phenomenon of ageing, yet the proportion of older population in the country's population does not seem to be quite significant. In turn,

there are very few studies on the elderly in the country; thereby the state of affairs of elderly people is still unveiled. This study aims to find out prevailing situation regarding basic needs, and to find the relationship of basic needs with overall satisfaction with life among the elderly. The study is embedded in the Maslow's hierarchy of needs, which classifies basic fundamental needs as physiological, safety, love, esteem and self-actualisation. The results show that huge proportion of the elderly do not enjoy physiological and safety needs, yet they enjoy love and esteem needs with family ties, especially with children, found to be the main sources of fulfilment of these needs.

- Haq, Rizwan ul (2012) **Subjective Well-Being of the Elderly in Islamabad, Pakistan**. PhD Thesis, Rozenberg Publishers, Amsterdam, 2012.

As an outcome of the demographic transition, proportion of elderly population is rising worldwide. In developing countries, including Pakistan, researchers and policymakers have mainly focused on economic situation and health-related issues of the elderly. Thus, people's perspective regarding their well-being is ignored altogether. This paper aims to study the subjective well-being (SWB) of the elderly in Pakistan from goals' perspective embedded in the social production function (SPF) theory. To get a better understanding of important goals of the elderly, the theory is grounded in the Pakistani setting. Apart from the universal goals of physical and social well-being, the elderly in Islamabad regard their life after death as another universal goal. Further, for studying the goal-SWB relationship, this study incorporates commitment to and attainability of goals together with progress in achieving goals. This research indicates that progress in achieving goals is necessary but not sufficient condition for

explaining SWB. Moreover, commitment to goals whose success might be associated with distal events in the future is essential for attaining SWB. Goals of comfort, status and affection proved to be the important for both affective and cognitive components of SWB.

- Nayab, Durr-e- and Shujaat Farooq (2012) **Effectiveness of Cash Transfer Programmes for Household Welfare in Pakistan: The Case of the Benazir Income Support Programme.** (Poverty and Social Dynamics Paper Series 4).

This paper evaluates the Benazir Income Support Programme's (BISP's) effectiveness in sustaining recipient households' welfare in the face of the prevailing tough economic conditions. The Pakistan Panel Household Survey (PPHS) 2010 dataset is used for this purpose. Using the propensity score matching (PSM) method, the study finds no significant impact of BISP on poverty, school enrolment and improvement in women employment in labour market, while a significant and positive impact is found on per capita food and per capita health expenditures of the household.

10. Cultural and Social Dynamics

- Haq, Rashida, Azkar Ahmad, and Saima Shafiq (2010) **Variation in Quality of Life within Punjab: Evidence from MICS, 2007-08.** *The Pakistan Development Review* 49:4, 1–23.

This paper explores variation in quality of life by using thirty-five indicators relating to quality of persons and quality of conditions to rank districts and Tehsils (sub-districts) of Punjab. The study demonstrates the importance of access to middle and secondary education, access to health facilities and household utilities; etc. The quality of

life ranking indicates that districts, which have big cities, are categorised as 'good' quality of life regions. It is important to note that majority of the districts and tehsils from north and central Punjab are doing better in terms of quality of life. However, Region with poor quality of life like west and south Punjab are identified as target for special resource allocations.

- Khawaja, Idrees, Tahir Mahmood, and Usman Qadir (2010) **Social Impact of Global Recession on Pakistan.** *Pakistan Economic and Social Review* 48:2, 261–278.

This paper examines the impact of global recession on the economy of Pakistan. For a fragile economy like that of Pakistan, coping with even a single economic crisis is difficult, let alone the two, that followed in succession—the unprecedented surge in commodity prices and then the global recession. The social impact of recession on Pakistan's economy can come through, possible fall in remittances from UAE and United States, reduced output growth, fiscal tightening, falling exports and the depreciation of exchange rate. Given the state of economy at the onset of recession the Keynesian prescription of strong fiscal stimulus could not be administered to stage recovery. Together, the adverse changes in the variables referred above have served to increase the poverty head count in the country.

- Naz, Iram, Sami Ullah, and Shujaat Farooq (2010) **Women Empowerment and Youth Perception in Pakistan.** *European Journal of Scientific Research* 39:1, 75–89.

Women empowerment is an important concern now a day. Women are also an important element of a country's population. Their contribution is equally important as of men.

Thus, to make them active participant for development there is need of proper initiatives. To integrate women in development it is important to preview male youth's thoughts regarding their integration. For this purpose, this study shows that the attitudes are changing but the male dominating culture in Pakistan is restricting its transformation into practice. There is need to amelioration in gender prospective by redefining gender roles for the meaningful women empowerment in the society. There is work going on to change the attitude and to transform it into action. However, women empowerment is a social phenomenon so any change in a social phenomenon is gradual and slow in nature. It will take time to bring a change in the situation of women empowerment in the country.

- Ahmed, Ajaz, Usman Mustafa and Mahmood Khalid (2011) **Rooftop Rain Water Harvesting Technology and Women Time Allocation in District Bagh and Battagram Pakistan.** *The Pakistan Development Review* 50:4, 459–470.

Water is essential requirement of life and its accessibility is the basic right of all human beings. Safe drinking water is an essential component of primary health. It plays a vital role in livelihood, food security and sustainable development. Rooftop Rainwater Harvesting Technology (RRWH) is a best alternative approach to conserve and supply water. Especially, it is crucial in seismically sensitive, geographically uneven, and countryside areas. A large majority of population in Pakistan is living in areas, where access to safe drinking water is very serious issue. In these areas most vulnerable segment of population is women because they are the ones who have to fetch water from far flung areas for their daily consumption. In order to resolve the issue of water in Pakistan, a number of public and private agencies are

working in this field. Different approaches, techniques, and practices are being adopted to address this issue. The present study evaluates the impact of RRWH technology with special reference to women time allocation in Bagh and Battagram districts of Pakistan. Analyses are carried out using Ordinary Least Square (OLS) technique to quantify the results. The results reveal that RRWH technology is viable, time saving, women friendly, and sustainable source of safe drinking water supply, especially in seismically sensitive, geographically uneven, and countryside areas of Pakistan.

- Nayab, Durr-e- (2011) **Estimating the Middle Class in Pakistan.** *The Pakistan Development Review* 50:1, 1–28.

The middle class is primarily an urban phenomenon, generally associated with professional occupations, service sector and salaried jobs. Yet despite a general acceptance of the important economic, political and social role that the middle class plays in society, the term itself remains ambiguous and arbitrary. In much of recent literature, the middle class is equated with middle income which does not reflect what “class” refers to in classical writings. The present paper takes a multidimensional approach to measure the middle class in Pakistan through a weighted composite index that takes into account all possible factors associated with the concept, including income, occupation, education, housing and lifestyle. Using the Pakistan Social and Living Measurement Survey (PSLM) 2007-08, the magnitude of the middle class in the country, as represented by the “expanded middle class”, is estimated at around 35 percent of the total population. The proposed measure of the middle class has a sense of stability attached to it, making it less susceptible to sudden inflationary shocks than an income-based measure.

- Javed, Sajid Amin and Muhmmad Irfan (2012) **Intergenerational Income Mobility in Pakistan: Evidence from Pakistan Panel Household Survey.** (Poverty and Social Dynamics Paper Series 5).

This paper examines the dynamics and extent of intergenerational mobility for Pakistan using household data from Pakistan Panel Household Survey (2010). The study employs two methodologies for empirical analysis, namely transition matrix and regression analysis wherein the former gives the relative position of child as compared to the father while the later provides the extent to which father's economic status determines the economic status of son viz. the intergenerational mobility. This work, building on the life cycle bias hypothesis, undertakes cohort analysis and performs regressions analysis for all sons (greater than 21 years of age), sons of age 25-39 and 30-50 years of age. The results are suggestive for higher levels of intergenerational income immobility in Pakistan. Higher intergenerational income mobility is recorded when the earnings are observed at later stages of life confirming the life cycle bias. Transition matrix analysis, building on Markov Chains, reveals higher persistence for income, educational and occupational mobility.

11. Human Capital

- Sattar, Abdus (2010) **The Role of Foreign Assistance in Pakistan's Education Sector.** German Development Institute (Die), Inwent, Bonn, Germany 2010.

The education sector in Pakistan has been facing several problems during the last decades. These problems include low literacy rates, poor physical infrastructure, and a lack of funds, poor governance, a low enrolment level,

high drop-out rates and poverty, among others. Fragmentary education policies by the successive governments have even exacerbated these problems. The aim of this paper is to give an overview of the role of foreign assistance in the financing of the country's education sector. The percentage of foreign assistance in this sector, once as high as 45 percent of the total funds back in the early 70s, shrank to 5-10 percent in the nineties just to rise again to 15 percent since 2001. This study particularly emphasises what type of aid and in what areas of education foreign assistance is being provided. The analysis suggest that free primary education, focusing of the foreign aid on the reduction of the gap between male (69 percent) and female (45 percent) literacy, provision to all schools with basic infrastructure (drinking water, latrines, electricity, blackboards) and the preparation of school teachers should be targeted.

- Farooq, Shujaat (2011) **Mismatch between Education and Occupation: A Case Study of Pakistani Graduates**. Presented at the 28th AGM and the Conference of PSDE.

This paper estimates the incidences of job mismatch in Pakistan. The study has divides job mismatch into three categories: education-job mismatch, qualification mismatch vis-à-vis field of study and job mismatch. Both primary and secondary datasets are used in which graduates employed in the formal sector are targeted. This study measures the education-job mismatch through three approaches and finds that about one third of the graduates are facing education-job mismatch. Similarly, more than one-fourth of the graduates are mismatched in qualification, with half being over-qualified and the other half being under-qualified. The analysis also shows that

11.3 percent of the graduates have non-relevant and 13.8 percent have slightly relevant jobs in terms of their fields of study. Our analysis shows that women are more likely than men to experience mismatch between their jobs and their fields of study.

- Farooq, Shujaat (2012) **The Utilisation of Education and Skills: Incidence and Determinants Among Pakistani Graduates.** *The Pakistan Development Review* 50:3, 219–244.

This paper estimates the incidence of job mismatch and its determinants in Pakistan, based on three categories: (i) qualification mismatch, (i) skill mismatch, and (iii) field-of-study mismatch. It uses both primary and secondary datasets that target graduates employed by the formal sector. The study measures the qualification mismatch using three approaches and finds that about one third of the graduates sampled face a qualification mismatch. Similarly, more than one fourth are mismatched in terms of skill, about half are over-skilled, and half are under skilled. The analysis also shows that 11.3 percent hold jobs that are irrelevant to their discipline and 13.8 percent have jobs that are slightly relevant to their discipline. Women are more likely than men to be over-qualified, and age has a negative association with over-qualification. Graduates who belong to political families have a better qualification match but a lower field-of-study matches. While a higher level of schooling prevents graduates from being under-qualified, it also raises the likelihood of being over-qualified and over-skilled. Occupation-specific disciplines offer more protection against the possibility of job mismatch. Both fulltime education and semester-system education reduce job mismatch, while distance learning raises job mismatch. The phenomena of being over-qualified and over skilled is more prevalent in lower occupations, as is field-of-study mismatch.

- Masud, Faham and Shujaat Farooq (2012) **Gender Differentials in Preventive Health Care: Incidences and Determinants among Pakistani Children.** *Pakistan Journal of Commerce and Social Sciences* 6:2, 308–324.

This paper estimates gender health differential with a focus on preventive health care. Using the Pakistan Demographic Health Survey (PDHS) of 2006-07, the study targets children of age 12-23 months and finds substantial sex differences in the immunisation status of children where boys are more immunised than girls, reflecting gender biasness in preventive health provision. Through bivariate and multivariate analysis, the study finds that a variety of factors, including individual, socio-demographic and economic factors are causing this dilemma. Mother's characteristics including age, literacy and headship of the household significantly affect the immunisation status of the children. Similarly, the socioeconomic status of the household including income, household size, structure and gender of the head of the households are also the key determinants of preventive health care differentials. Across the provinces, the variation of coverage and discrimination is also evident with more coverage in Punjab and least in Balochistan.

- Qureshi, Madeeha Gohar (2012) **The Gender Differences in School Enrolment and Returns to Education in Pakistan.** (PIDE Working Paper 2012: 84).

This paper links the gender differences in parental resource allocation in demand for education at primary, secondary and tertiary level of education to gender differences in returns to education in these respective categories in Pakistan. The hypothesis is that if we find that

labour market rewards male more than female then this may be able to give a plausible explanation of why households invest much less in daughter's education. However, our results suggest that there is under investment in females education at all levels even though returns to education are much higher for females than males. One possible explanation could be that even though private rate of return to time spent in school than in labour market is higher for a female compared to male but the part of return that goes to parents are much lower for daughters than sons in Pakistan due to dependence of parents on their son for old age support. The key factor from policy point of view that can reduce such discriminatory attitude towards female enrolment in a household are found to be education of parents especially mother's education. Both fathers and mother's education is found to have significant positive impact on education of both sons and daughters. However, mother's education compared to father has much more impact in terms of magnitude at all levels of education and especially the role is more pronounced for daughters.

12. Energy

- Malik, Afia (2010) **Oil Prices and Economic Activity in Pakistan.** *South Asia Economic Journal* 11:2, 223–244.

Oil price shocks have raised serious concerns among the policy makers around the world because of its adverse impacts for the net oil-importing economies. This article, based on the data from 1979–80 Q1 to 2007–08 Q2, analyses the impact of rising oil prices along with the changing macro conditions on output. Oil prices and output are found to be strongly related, and to a great extent this relationship is non-linear. In addition, lower debt-GDP ratio, lower deficit spending, lower real effective exchange

rate, and the existence of foreign exchange reserves and capital investment would cause output to rise. In Pakistan, besides making adjustments at the macro level, what is required is to make rational choices about the development of energy mix for the future to reduce the risk of oil price fluctuations in the global energy market.

- Siddiqui, Rehana, Hafiz Hanzla Jalil, Muhammad Nasir, Mahmood Khalid and Waseem Shahid Malik. (2011) **The Cost of Unserved Energy: Evidence from Selected Industrial Cities of Pakistan.** (PIDE Working Paper 2011:75).

This study is an attempt to explore the cost of unserved energy due to power outages in Pakistan that started in 2007. The study is based on a survey conducted for four major industrial cities of Punjab-Gujrat, Faisalabad, Gujranwala and Sialkot. In addition to quantification of output losses, the effect on employment, cost of production, and delay in supply orders are also examined. The output loss is quantified using two-dimensional analyses, controlling for variations in the duration of outages and in the shift hours. The survey data reveal that employment has not suffered any significant drop due to alternative energy arrangements. These arrangements, nevertheless, have increased the production cost of the firms. Delays in the delivery of supply orders are also due to energy shortage. The study reports that the total industrial output loss varies between 12 percent and 37 percent, with Punjab as the major affected province.

- Malik, Afia (2012) **Power Sector Crisis: A Crisis in Governance?** (PIDE Monograph Series).

The existing power crisis, which activated in 2006-07 with a gradual widening in the demand and supply gap of electricity, is considered to be the worst of all such crises

that Pakistan has faced since its inception. The present government when took over recognising the magnitude of the crisis and its effect on the people and the economy undertook certain measures to address, manage and reduce the impact of power sector crisis which was crippling the economy extremely badly. However, unfortunately, after the passage of almost four years the situation instead of improving is becoming worse day by day. This paper has tried to evaluate the reasons behind the current energy crisis despite present government commitment and initiatives taken to solve energy problems and conclude that poor governance and wrong direction of adopted policies are responsible for the persistence of current crisis in the energy sector.

- Samad, Ghulam (2012) **Promoting Energy and Transport Connectivity**. Book chapter entitled *Global Recovery, New Risks and Sustainable Growth: Repositioning South Asia*. Published by Centre for Policy Dialogue (CPD), Bangladesh.

Realising the importance of transport connectivity, the Government of Pakistan initiated the National Trade Corridor (NTC) program of US \$ 9 billion in 2005. Out of this total program the sub-sector distribution was US \$ 5 billion for highways, US \$ 1.5 billion modernise Pakistan Railways, and expanding its tracks to Afghanistan and Iran and around US \$ 2.5 billion for improving ports, airports. However, due to fiscal constraints, the program now would take much longer time to complete. This study highlights the state of transport and logistics infrastructure and connectivity issues and reforms. It was realised that the current dismal performance of transport sector cost the economy 4-6 percent of the GDP. In hard infrastructure, such as roads and aviation, Pakistan performed well in South Asia, although, its connectedness is minimal. To

boost the transport connectivity along with trade facilitations measures at border strong political commitments are required. In addition, the issues like institutional capacities, consistency in infrastructure development are very much required in case of Pakistan. Finally, Pakistan Railways, Ships and Ports, and Pakistan International Airline (PIA) be separated from the Ministries and required to introduce meaningful deregulation measures in these sectors.

- Awan, Haroon Sarwar, Ghulam Samad, and Naseem Akhtar (forthcoming) **Electricity Subsidies and Welfare Analysis: The Perspective of Pakistan**. International Food Policy Research Institute (IFPRI), Working Paper (Unpublished).

Pakistan is facing acute energy shortage for the past few years. One of the most important reasons for these extraordinary power outages is the competing use for resources. Moreover, energy mix for electricity generation and consequent circular debt issue are also aggravating the situation. Government of Pakistan has paid more than one trillion rupees as Tariff Differential Subsidy (TDS) to safeguard the masses against the increasing generation cost of electricity. TDS being an untargeted subsidy is on one side piling financial burdens and on the other hand is resulting in welfare losses. This study aims at developing the scenarios like if TDS is paid through direct transfer mechanism only to the poor household what will be the impact on household welfare as compared with the base scenario. Similarly, what will be the impact on circular debt issue after targeting the subsidies, and the overall fiscal deficit situation of the country? To quantify these impacts we would be using the Social Accounting Matrix (SAM) 2010-11 and IFPRI developed Computable General Equilibrium (CGE) Model. This analysis, being in-line with

the recommendations of New Growth framework which will help policy makers to devise a long term and sustainable solution to the problem of power outages and its negative social and economic impacts. The study reveals that Tariff Differential Subsidy is an untargeted subsidy and urban rich segment of society are the largest beneficiaries of this subsidy. Moreover, removal of TDS results in high electricity prices and poor household especially rural poor are hit hard by this policy intervention. The analysis provides the insight that this TDS - which is meant for providing relief to the poor is benefiting rich class the most and thus may be phased out or be made more targeted. Reduction of TDS also reduces fiscal deficit significantly and thus eases out financial hardships of the government.

13. Environment and Climate Change

- Samad, Ghulam and Rabia Manzoor (2011) **Green Growth: An Environmental Technology Approach.** *The Pakistan Development Review* 50:4,471–490.

This paper focuses on achieving green growth through an environmental technology approach. The theoretical framework examines four elements, namely the enforcement of intellectual property rights (IPRs), research and development (R&D) expenditures, market size and environmental taxations of development of green/environmental innovation. We first time empirically test the green patent data to test the interrelationship of green patents representing the green innovations and IPR, R&D expenditures, market size and environmental taxations. Keeping in view the availability of the data, we study 11 developed countries, which are Austria, Australia, Canada, France, Japan, Finland, Germany, Sweden, U.K

and U.S. The panel data can better handle the technological change than the pure cross section or pure time series data. Therefore, this study uses the Pooled Least Square estimation techniques, such as Fixed Effect Model (FEM) and Random Effect Model (REM) for both balanced period of 2000-2005 and unbalanced period from 1995-2005. We only interpret the balance period results depicting that enforcement of IPRs has negative and significant impact on green patents, while the R&D expenditures, market size and environmental taxations have positive and significant impact on the green patents e.g. development of green innovations. The proliferation of green innovations eventually acquires green economy/growth.

- Memon, Junaid Alam (2012) **Preliminary Social and Environmental Assessment of Zulfikarabad: A New Coastal Mega City Project in Pakistan.** *International Journal of Environmental and Rural Development* 3:1.

This paper presents the preliminary social and environmental assessment of Zulfikarabad Mega City Project that is underway in the coastal region of the Sindh Province in Pakistan. Four parameters comprising the existing land use, hazard profile at the site, occupational structure of the local communities and existing land property rights are examined. Data sources include remote sensing imagery, questionnaire survey, rapid appraisals, literature survey and official records. Findings of the land use analysis reveal that most parts of the City would be built by clearing the mangrove areas, which have been declared protected forests since 1950s. Besides, the location is prone to modest frequency of earthquakes and cyclones, which in some cases were not only devastating for the lives and properties of local people but also had brought significant economic losses to the regional

economy. Numerous villages of varying sizes are located on the proposed site where the majority of the population ekes out their living from agricultural and fishing activities. There is a clear indication that the Government's prime attraction towards this location is the 'availability' of so-called 'wastelands'. This standpoint is contested in the light of land use analysis. Considering that the City is still in its planning stage, the finding of this study will serve as a useful guide for more in-depth studies on some of the emerging concerns over the megacity project.

- Siddiqui, Rehana, Ghulam Samad, Muhammad Nasir, and Hafiz Hanzla Jalil (2012) **The Impact of Climate Change on Major Agricultural Crops: Evidence from Punjab, Pakistan**. Presented at the 28th AGM and the Conference of PSDE.

This paper underscores the impact of climate change on major agricultural crops in the Punjab, Pakistan. These crops are wheat, rice, cotton and sugarcane. This is the first study of its nature that analyses the impact of scientific information on the stages of development of each crop in order to assess the impact of climate change on each stage of the crops. This detailed scientific information is obtained from Pakistan Agricultural Research Council (PARC), Islamabad, Cotton Research Institute, Faisalabad, Rice Research Institute, Kala Shah Kaka. Using panel data for the districts of Punjab for the period 1980-2008, Fixed Effect Model is estimated. The findings show that both in short and in long-term the impact of climate change on wheat productivity is non-negative, while the impact of climate change is negative for Rice, Cotton and Sugarcane.

- Janjua, Pervez Zamurrad, Ghulam Samad, and Nazakat Ullah Khan (forthcoming) **Climate Change and Wheat Production in Pakistan: An**

ARDL Approach. *Journal of Economic Modelling* (Unpublished).

Climate change is an emerging issue of agricultural production and the geographical location of Pakistan makes it vulnerable to climate change. Climate change is basically due to the increase in the concentration of greenhouse gases (GHGs), such as carbon dioxide, methane and nitrous oxide through anthropogenic activities. These gases trap the sunlight and increase the earth's overall temperature. This higher temperature may negatively affect the growth process of wheat and hence decreases the productivity of wheat. The objective of this study is to look at the impact of climate change on wheat production, which is the main food crop of Pakistan. The study uses Autoregressive Distributed lag (ARDL) model to evaluate the impact of global climate change on the production of wheat in Pakistan. The study considers annual data from 1960 to 2009. Based on this historical data, the study tries to capture the impact of climate change on wheat production up to now. The results of estimation reveal that global climate change does not influence the wheat production in Pakistan. However, on the basis of the results some appropriate adaptive measures are proposed to confront any adverse shock to wheat production in Pakistan.

14. Conflict

- Mohsin, Mariam and Hammad Zahid (2012) **The Predictors and Performance-Related Outcomes of Bi-Directional Work-Family Conflict: An Empirical Study.** *African Journal of Business Management* 6:46, 11504–11510.

This paper investigates the relationship of the conflicting domains of work and life with employees' self-

evaluated performance. Absenteeism is also included in the study as a variable that has direct effects on both family-work conflict (FWC) and performance. Demographic variables are taken as background predictors of the independent variables of the basic model. The study is conducted on employees of local banks in Rawalpindi/Islamabad. Findings reveal that work-family conflict (WFC) has no significant effect on performance whereas FWC and absenteeism are found to be significant and negative predictors of performance. Absenteeism is also found to have a positive association with FWC. A cultural analysis is conducted to understand the effects of the demographic variables.

1. Macroeconomic Brief

PIDE Macroeconomic Brief is published every year in February/March. This publication analyses the macroeconomic situation of the economy focusing in particular on fiscal and monetary policies and their impact on economic growth. It also takes into account the events that take place, over the year, at the international economic scene. The idea behind bringing out the Brief is to provide the policymakers and the general public with information regarding situation of the economy and ramifications of different measures taken by authorities.

Since its introduction in 2010, three issues of the Macroeconomic Brief have been published so far. Following are the main points of the Briefs numbers 2 and 3.

- **Macroeconomic Brief No. 2** (February, 2011)

Pakistan's economy has been hit hard by the triple blows of devastating floods, crippling energy shortages, and fragile domestic security situation. Economic growth remains anaemic, inflation is stubbornly high, and public

finances are in disarray. Worse still, macroeconomic stabilisation policies are not working, not least because of a lack of coordination between monetary and fiscal policies. What is more, policy reversals and procrastination on vital economic issues signs of a lack of political consensus ^¾have only added to the prevailing uncertainty with adverse consequences for consumer and business confidence. In this scenario, restoration of macroeconomic stability and revival of economic growth have become serious challenges. Urgent, decisive and bold steps are needed to put the economy on the path of sustained recovery with a stable macroeconomic environment and robust growth.

• **Macroeconomic Brief No. 3** (March, 2012)

Despite some positive developments including easing of inflation and reduction in fiscal deficit, Pakistan's economy remains in a precarious state with sluggish growth, fragile macroeconomic fundamentals, and heightened vulnerability to balance of payments shocks. Sadly, the key problems afflicting the economy including energy shortages and a host of structural impediments that have held back investment and growth have not been tackled effectively, showing signs of mis-governance and policy inertia. More worryingly, with the government embroiled in political controversies and the election year approaching, pressing economic issues are likely to remain on the backburner dimming hopes of a reversal in economic situation at least in the near term. At the same time, the government may be tempted to adopt populist measures ahead of the elections that could further compound economic difficulties. Challenging times thus lie ahead.

2. PIDE-Inflation Expectations Survey

The objective of the PIDE-Inflation Expectations Survey is to measure economists' and businessmen's perceptions about the macroeconomic situation in the economy. Specifically, the Inflation Expectations Survey records the respondents' expectations about the trend in prices, causes of inflation, and the effectiveness of measures to curb inflation, *inter alia*, through a questionnaire. An insight into the agents' expectations about the inflation can prove to be helpful in policymaking since controlling inflation has direct bearing on employment and consequently has effect on the overall macroeconomic situation.

The PIDE-Inflation Expectations Survey was launched in 2009 and is published quarterly. Below, the main findings of the Surveys conducted in 2011 and 2012 are presented.

• PIDE-Inflation Expectations Survey 2:1, 2010.

PIDE believes that monetary policy framework will be most effective, if it incorporates the views of independent professionals and experts to attain the objective of price stability. The main objective of this survey is to highlight the opinions of independent experts about inflation and state of the economy for the consideration of policy-makers. According to present survey, 89 percent of the respondents believe that inflation rate during current year will be higher than target rate i.e. (9 percent). Whereas, 5 percent are of the view that it will be lower and 6 percent say that it will remain the same.

• PIDE-Inflation Expectations Survey 2:2, 2010.

High and persistent inflation undermines public confidence in the management of economic policy. It

adversely affects the investment and other economic activities that are sensitive to the public's assessments of the prospects for future economic stability. Higher inflation feeds into higher expectations which in turn influence the actual inflation and economic activities through a number of channels. There exists a strong relationship between monetary policy actions and the formulation of inflation expectations because the monetary policy is a key determinant of inflation expectations. Monetary policy is likely to be the most effective if inflation expectations remain close to actual inflation target.

• **PIDE-Inflation Expectations Survey 2:3, 2010.**

According to PIDE inflation expectations survey economists expect high inflation, low growth and high unemployment in the future. Current stance of monetary policy is to be considered as ineffective to control inflation. The results of inflation expectations survey reveal that vast majority of the respondents expect higher inflation than the current year target (9.5 percent). According to the respondents, persistent high inflation, introduction of reformed GST, policy credibility and Law and order situation are the major factors of high inflationary expectations.

• **PIDE-Inflation Expectations Survey 2:4, 2010**

According to PIDE inflation expectations survey experts are expecting high inflation and high unemployment and stagnant growth during the current financial year. Current stance of monetary policy is considered as ineffective to control inflation. The results of inflation expectations survey reveal that vast majority of the respondents expect much higher inflation than the current year target (9.55 percent). According to the respondents, persistent high inflation, reformed GST,

policy credibility and law and order situation are the major factors driving high inflationary expectations.

• **PIDE-Inflation Expectations Survey 3:1, 2011**

PIDE inflation Expectations survey reveals that public is expecting high inflation and high unemployment and remains sceptical about the growth rate in future. According to respondents, persistent high inflation, policy credibility, political crises income of the oil producing countries, implementation of RGST and prevailing law and order situation in the country are the major sources of public expectations about future high inflation. Respondents think that inflation in Pakistan is largely driven by food prices, bad governance and oil prices. According to survey results, tight monetary policy is hardly the panacea to meet the inflation target (i.e., 9.5 percent).

• **PIDE-Inflation Expectations Survey 3:2, 2011**

PIDE Inflation Expectations Survey reveals that public is expecting high inflation and high unemployment. Yet there are some signs of optimism too as respondents see a turnaround in the economy with a pickup in economic growth in the coming months. According to respondents, persistent high inflation, policy credibility and prevailing law and order situation are the major sources of public expectations about future high inflation. Respondents think that inflation in Pakistan is largely driven by bad governance, food prices, utility prices and oil prices. According to the survey results, relying just on a high policy rate is not sufficient to meet the inflation target of 12 percent.

• **PIDE-Inflation Expectations Survey 3:3, 2011.**

The prime objective of SBP's monetary policy is to deliver price stability. Price stability is defined by the

Government's inflation target, which is announced each year in the annual budget statement. The current year (2012-13) inflation target is 9.5 percent (set by the government). In the second half of fiscal year 2012, there has been strong upward pressure on inflation in Pakistan because of worse energy crises and unrestrained government borrowing from the SBP. About 92 percent of the respondents are of the view that in the current year (2012-13) inflation will be higher than the target rate (9.5 percent) and 1 percent of the respondents are of the view that it will remain the same i.e. 9.5 percent. According to 28.2 percent respondents, current inflation is cost push whereas 14.1 percent of the respondents think that it is demand pull and 7.1 percent consider it structural in nature. A majority of the respondents (50.6 percent) think that current inflation is because of all three i.e. demand pull, cost push and structural.

3. PIDE Business Barometer

The main driver of the economic activity in any modern economy is the business manager. The outlook of the business managers regarding the state of the economy is very important; a positive outlook may lead businesses to expand their activities and vice versa. In order to gauge the perceptions of business managers of the large-scale industry about the economy's outlook, the Institute initiated PIDE-Business Barometer in 2007, a bi-annual publication. The Barometer questionnaire is filled by the business managers of large-scale financial and non-financial firms that are listed on the Karachi Stock Exchange (KSE). The questionnaire collects information on different aspects of doing business in Pakistan, such as cost of doing business, price trends, overall macroeconomic environment, etc.

Thus far, 10 issues of the PIDE Business Barometer have come out. Findings of the surveys conducted in the last two years are presented below.

• **PIDE Business Barometer No. 7, September 2010**

The key message of this report is that the growth in business activity July-December 2010 will remain somewhat subdued or at best at the level attained in the previous six months. Moreover a slight taming of the price spiral, as far as the manufactured goods are concerned, might also be witnessed during July-December 2010. The assessment is based on the responses of the firms regarding their production volume, sales volume employment levels, inventory levels, investment in business, wages, and prices of raw materials and the prices of the finished products. If the manufacturing activity registers a marginal decline, as cautiously predicted here, then given weak demand, slowdown in the price spiral, would be a logical outcome, to the extent that manufacturing activity contributes to aggregate prices. One can rightly expect that the slower growth in manufacturing activity and perhaps consequent taming of the related price trend is at least partially attributable to the unprecedented floods that the country recently witnessed.

• **PIDE Business Barometer No. 8, April, 2011**

The constrained availability of energy notwithstanding, a sense of moderate optimism seems to have re-emerged in the business firms, after the unprecedented floods of August 2010 dealt a devastating blow to the economy. Responses to our questionnaire suggest that almost half of the responding firms posted a modest increase in their business volume during July-December 2010 and the respondent firms also remain

moderately optimistic about the growth in business volume during January-June 2011. Responses regarding actual and expected capacity utilisation also mirror the responses regarding changes in business volumes. Prices of the final products of a large majority of the firms posted an increase of more than 10 percent primarily due to increase in cost of production. The respondents expect that the trend of increase in prices will continue in the first half of this year. Though some firms have indicated the availability of energy as a constraint to doing business this does not appear to have significantly impacted the production volume at the aggregate level. One reason could be that the energy constraint having become persistent, the firms have made some alternate arrangements like the use of generators and adjustment in working hours. The alternate arrangements, of course, add to the cost of production.

• **PIDE Business Barometer No. 9, October, 2011**

The responses of the firms suggest that the rate of increase in prices is likely to subside, albeit only slightly, during July-December 2011. The magnitude of increase in prices expected by the firms during July-December 2011 is less than what the firms experienced during the previous half of the year. Similarly the number of firms that expect an increase, during July-December 2011 are also lesser. These responses allow us to predict that the rate, at which prices have been increasing, is likely to decline slightly. The latest figures, on overall inflation and its components, published by the Federal Bureau of Statistics supports our view that the growth rate of prices will be contained somewhat, at-least with respect to manufacturing goods, during July-December 2011. The production and sales volume of the firms maintained the pattern of sluggish growth during January-June 2011 and the firms expect

that the trend would continue during July-December 2011. The extent of capacity utilisation of the firms, actual as well as expected, also suggests that production and sales trend are not likely to change much during July-December 2011. Slack demand and non-availability of energy continue to be cited as the major constraints to doing business. The improvement in the availability of energy, if sustained, provides hope that the production and sales volume may get a boost, to the extent that the two are constrained by the availability of electricity. However the possibility of shortage of natural gas in winter tends to dampen such expectations. Wages during the period under review have increased but only as a matter of annual routine and the increase is not directly tied to the high inflation observed in the preceding periods.

• **PIDE Business Barometer No. 10, August 2012**

The firms' responses indicate that increase in the demand is the major contributor to increase in production, sales and exports, while shortage of utility supplies is the major factor causing decline in production, sales, and exports for those firms which experienced decline in production. Most of the firms do not seem to be enhancing their productive capacity. Surprisingly, however, energy shortage is not the top most constraint faced by the firms. Majority of the firms have reported increase in the prices during the first half of the year 2012 and expect them to increase in the second half of the year as well. However, they expect the inflation to remain in single digits. Even though almost all the firms have reported to have a policy to increase wages once a year but not every industry is planning to increase wages. The recorded responses of the firms on input prices indicate that they deem the input prices to be too high and expect them to increase further due to

irregular availability in the local market and taxes imposed on them. Firms do not perceive the 2012-13 budget to be investment friendly because, according to them, no specific policy is announced to promote investment and taxes on raw materials are very high. Firms ranked overall business environment 3.71, on a scale of zero to ten, which is very low and indicates alarming situation.

4. ASEAN-Pakistan Free Trade Agreement

A Feasibility Study prepared for the ASEAN Secretariat.

This joint study examines the feasibility of the proposed Pakistan-ASEAN Free Trade Area Agreement, based on an analysis of trade and economic relations of the trading partners, and a gravity modelling exercise to determine the potential impact of the proposed agreement on trade flows. It also focuses on the current status and institutional arrangements of trade and investment cooperation between the two partners, and provides an assessment of potential for trade and investment cooperation between the two partners.

Study reviews the ties between Pakistan and the ASEAN members on a regional as well as individual and bilateral basis. With the East Asian countries such as Japan, South Korea, Hong Kong, Taiwan, China, Malaysia and Singapore looking poised to be the drivers of East Asian economic regionalism in the years to come, an ASEAN-Pakistan FTA would be a suitable consideration. Greater Pakistan-ASEAN linkages can increase the attraction of these two locations if an institutional mechanism is set up for freer movement of goods and services. In this way, both Pakistan and ASEAN will reap the benefits.

This study provides an in-depth look at bilateral trading patterns of Pakistan and the ASEAN member

countries. A Trade Specialisation Index (TSI) is computed to determine whether a country is export or import-oriented in a particular good in relation to the rest of the world. An analysis of the TSI patterns suggests that there are significant non-complementarities between the trade structures of Pakistan and the ASEAN member states. For instance, Pakistan, Cambodia, Indonesia, the Philippines, Thailand and Vietnam at times end up as competitors in the export of these products in third country markets. Conversely, they cannot source these products from each other. While non-complementarity of trade structures and the absence of a history of economic and social relationships are often cited as reasons for low levels of trade between the two, there are also other possible reasons. For example, Pakistan suffers from severe infrastructure bottlenecks, as reported in a recent World Bank report on Pakistan. And NTMs are prevalent in each of the ASEAN member states as well as in Pakistan.

Along bilateral trade in goods, study also looks into trade in services in the ASEAN region and in Pakistan, focusing on recent trends in the services sector, trade policy and the services sector, commitments made in preferential trading arrangements, existing trade barriers, and potential areas for expansion in the sector. Both sides offer large market potential and both are in need of services that can cater to a population seeking a better standard of living. The untapped areas to be explored that can benefit both ASEAN and Pakistan are wide ranging, including, among others, health care, education, construction, financial and other business services. The more advanced ASEAN members are more likely to gain in this area, however, the large pool of skilled manpower in Pakistan is an unexploited source of human capital for the CLMV countries, and as such joint program in training, human

resource development and R&D can benefit these countries.

The study reports the findings of a perception survey of various stakeholders in Pakistan and ASEAN member states about the proposed FTA between Pakistan and the ASEAN member states. The chapter discusses the methodology behind the survey conducted and respondents replies to the questions in the survey, according to country and according to their perceptions regarding various aspects of the proposed FTA. Of the 10 countries included in the survey, only Brunei, Malaysia and Pakistan are in favour of the FTA, while Laos, Myanmar, Singapore, Thailand and Vietnam are neutral to the proposed FTA. On the other hand, of the 10 countries, only Indonesia and the Philippines are hesitant regarding the potential benefit of the FTA.

The investment regimes in both ASEAN member states and in Pakistan are analysed; including a review of investment trends and latest developments in investment policies. Several obstacles to mutual investment have also been identified; and areas for potential mutual investment have also been pinpointed. Both the ASEAN member states as well as Pakistan have liberalised their investment regimes making the countries more open to FDI inflows. Pakistan offers investment opportunities in a variety of traditional and modern sectors including textiles, leather, engineering, electronics, chemicals, pharmaceuticals, telecommunication, information technology, energy, and livestock and dairy development. It must, however, be pointed out that such opportunities can only be realised if various impediments to FDI are removed not least infrastructural bottlenecks and security situation.

The feasibility of setting up a Pakistan – ASEAN Free Trade Area has been empirically tested using a gravity

model. The gravity model has been built using a dataset of 25 countries that are major trade partners of Pakistan and ASEAN member countries. The estimated results show that the trade flows between Pakistan and ASEAN economies are positively determined by the size of their economies and per capita income, while transportation costs have a negative impact on the bilateral trade flows. Empirical finding also suggests that Pakistan and ASEAN economies have a significant potential for future trade; if the Free Trade Agreement is operationalised, trade flows are expected to increase by roughly a factor of 3 over the existing levels. The enhanced level of trade will spur competition in the domestic economies resulting in lower prices for consumers, more product variety and quality and increased incentives for innovation. By promoting a more efficient allocation of resources, bilateral trade will help increase productivity, living standards and long-run growth of the trading partners. Finally, the results show that the beneficial impact of the FTA will spill-over to other countries in the South Asian region.

In conclusion, while there is a strong theoretical rationale for a Pak-ASEAN FTA supported by empirical evidence based on the gravity model, a lot of work needs to be done before the benefits of such an arrangement can be fully realised. At present, trade complementarities between Pakistan and ASEAN are weak and investment linkages are almost non-existent. To strengthen such linkages, Pakistan's economy needs a much more diversified production structure coupled with an environment that is conducive for foreign investment in particular. It must be pointed out here that in a longer term perspective, a Pak-ASEAN FTA may itself be a catalyst for changes in production structure in Pakistan leading to more diversification and greater trade complementarity on the

one hand, and investor friendly policies and institutions on the other.

5. The 7th NFC Award: An Evaluation. Pakistan Institute of Development Economics, Islamabad. May 2012. A Study Prepared for the Forum of Federations.

The 7th National Finance Commission (NFC) Award has seemingly put an end to the deadlock over revenue distribution among the constituents of the federation in Pakistan. This paper argues that though the 7th NFC Award's use of multiple indicator criteria for the distribution of resources is a step forward in the right direction, the distribution design still falls short on various counts. For example, the weight of 82 percent for the population share is on the higher side whereas the demographic structure of the population, an important indicator of the expenditure needs, does not figure up in the distribution design. Also, the basis of weights assigned to the four elements of the revenue distribution criteria is unknown and no rigorous exercise seems to have been undertaken to determine these weights. Similarly, matching grants are key elements of the distribution design elsewhere but are altogether absent in Pakistan. Furthermore, provinces will still rely on large transfers from the centre which will erode the incentives of the provinces to generate their own revenues. The paper emphasises that there is a need to rethink the mechanisms for resource sharing as well as the institutional structure of the NFC itself.

6. Fiscal Federalism in Pakistan. Pakistan Institute of Development Economics, Islamabad. May 2012. A Study Prepared for the Forum of Federations.

With the passage of the 18th Constitutional Amendment, Pakistan has taken a major step towards fiscal

decentralisation which, together with the adoption of the 7th National Finance Commission (NFC) Award, has far reaching implications for fiscal federalism in Pakistan. This study has been done with the objective of providing a non-technical introduction to the subject of fiscal federalism emphasising opportunities and challenges that it entails for Pakistan. In so doing, it draws on an extensive body of literature on fiscal federalism and international experience to elicit insights that can help design appropriate policy instruments and institutional structures for better implementation of fiscal decentralisation in Pakistan. The booklet covers a wide range of topics including the federal legislative structure of Pakistan, institutional mechanisms for inter-jurisdictional resource sharing, provincial resource mobilisation, and macroeconomic management in a fiscally decentralisation framework.

7. PIDE Viewpoint

- **Strengthening Intra-regional Trade and Investment in the ECO Region.** October 2011.

With the stalling of multilateral trade liberalisation efforts under the World Trade Organisation (WTO), the developing countries are rapidly moving towards the formation of regional trading blocs to boost their trade. Pakistan is also aiming to enhance its trade linkages with the regional partners and is a member of ‘Economic Cooperation Organisation’ (ECO)—a region comprising 9 other countries including Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan, and Uzbekistan. Unfortunately, despite various initiatives to strengthen regional economic cooperation, the region remains one of the least integrated in the world with weak intra-regional trade and investment linkages. This viewpoint argues that the ECO provides an important

platform for the member countries to enhance their growth prospects through greater trade and investment in the region, and suggests measures to bolster regional economic cooperation in the ECO. There exists potential for strengthening intra-regional trade across a wide range of commodities. Research has shown that Pakistan has the potential to export a broad range of commodities covering some 30 productive sectors including cotton and textile products, leather products, sports articles, cereals, carpets, staple fibres, apparel and clothing, vegetables, and fish products. A recent study conducted at PIDE has shown that trade in the ECO region can increase by a factor of eight as a result of a potential free trade agreement among the ECO member countries.

- **Rural Poverty Dynamics in Pakistan.** October 2012.

Pakistan Institute of Development Economics (PIDE) conducted a panel survey, named as the Pakistan Panel Household Survey (PPHS), three rounds of which were carried out in 2001, 2004 and 2010. Based on the PPHS, this viewpoint has analysed the dynamics of the rural poverty in Pakistan. The PIDE Viewpoint is that a one-time decline in poverty does not really matter in Pakistan. About half of the rural population is either poor or it has often moved into and out of poverty during the last decade. This vulnerability is even larger in Sindh and southern Punjab. In the large pool of rural poor and vulnerable, the proportion of chronically poor is relatively small. The majority, however, often moves into or out of poverty. To reduce rural poverty and for its sustainability, the strategy should aim to create assets for the rural poor, improve their human capital as well as the employability of working age population, and minimise the risks associated with shocks

(inflation, flood, drought etc.). It is further recommended that fertility should be reduced to lower the dependency ratio, develop rural infrastructure, and generate rural-urban linkages through investment in farm as well as non-farm sectors. Finally, the access of poor to both the local and international labour markets should be enhanced, particularly for rural population of Sindh and southern Punjab.