

PIDE RESEARCH
2007–2010

ABSTRACTS



PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
ISLAMABAD

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© **Pakistan Institute of Development
Economics, 2011.**

ISBN 978-969-461-144-0

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PREFACE

As a globally-recognised leading research institution, Pakistan Institute of Development Economics (PIDE) conducts and disseminates its research findings through journals (including *The Pakistan Development Review*), as well as through PIDE Books, PIDE Monographs, and PIDE Working Papers series.

PIDE Research 2007-2010: Abstracts is being published to help inform researchers, academics, and policy-makers of the depth and range of research studies conducted by PIDE in the recent past. I think it would also increase access to general knowledge of specific subjects and of cutting-edge studies being conducted at PIDE in a single volume.

Research at PIDE 2000-2003 was published in 2004. The present publication continues coverage of the succeeding period in the same series. Any feedback on improving its format and design would be much appreciated.

I would like to acknowledge here the contribution made by Prof. Aurangzeb A. Hashmi, Chief, PIDE Publications Division—for the hard work and effort put in by him to bring out this and other publications. As Prof. Hashmi retires this year, this publication is dedicated to him as a recognition of his long years at PIDE during which he ensured that PIDE's publications were of the highest quality.

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CONTENTS

	<i>Page</i>
PREFACE	(v)
PART-I. MACRO ECONOMICS	1
I.1. Monetary and Fiscal Policy	1
Monetary Policy	1
Financial Sector	8
Fiscal Policy/Public Finance	14
Exchange Rate	27
Global Financial Crisis	32
Macroeconometric Model	35
Macroeconomic Brief	36
I.2. Trade and Industrial Organisation	36
Trade and Regional Cooperation	36
Corporate Sector	46
Investment (Private and Public)	53
I.3. Development Strategies and Governance	56
Governance	56
PART-II. POVERTY AND DEVELOPMENT DIVISION	75
II.1. Population, Poverty, and Labour Dynamics	75
Population Dynamics	75
Poverty and Labour Dynamics	80

	<i>Page</i>
Overseas Migration, Remittances, and Poverty	93
Rural Urban Migration	99
Urbanisation/Mega Cities	101
PART-III. SUSTAINABLE DEVELOPMENT AND GROWTH DIVISION	103
III.1. Growth and Environment	103
III.2. Human Capital	115
III.3. Energy	116
III.4. Agricultural Production, Markets, and Institutions	119

PART-I
MACRO ECONOMICS

I.1. Monetary and Fiscal Policy

I.1.1. *Monetary Policy*

- Khan, Sajawal and Abdul Qayyum (2007) **Measures of Monetary Policy Stance: The Case of Pakistan.** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2007:39). 18 pages.

In this paper we construct two measures of the monetary policy stance. The stance of monetary policy, regarded as a quantitative measure of whether the policy is too tight, neutral, or too loose relative to objectives of stable prices and output growth, is useful and important for at least two reasons. First, it helps the authority (central bank) to determine the course of monetary policy needed to keep the objective (goals) within the target range. Secondly, a quantitative measure of the stance is needed for an empirical study of the transmission of monetary policy actions through the economy. Measuring the stance of the monetary policy that is free from any criticism, however, is not an easy task. As pointed out by Gecchetti (1994), “there seems to be no way to measure monetary actions that do not raise serious objections”.

Our results show that an individual coefficient Monetary Condition Index (MCI) performs better than both the summarised MCI coefficient and the Overall measure proposed by Bernanke and Mihov (1998). The results show

that in the 21-year period from 1984 to 2004, the demand shocks have dominated for about eight years. The MCI (IS-Individual coefficient) can explain six of them. However, it indicates the negative demand shock in two years as neutral. The other two measures fail to capture demand shocks most of the time. This analysis suggests that the MCI (IS-Individual coefficient) plays an important role in determining output and inflation when the economy is not dominated by supply shocks. The results also show that supply shocks are dominant in the case of Pakistan. Furthermore, the exchange rate channel is more important than the interest rate channel.

- Malik, Wasim Shahid, Mahmood Khalid, and Amer Ali Ahmed (2007) **The Taylor Rule and Monetary Policy in Pakistan: An Empirical Investigation.** *Kashmir Economic Review* 16:2, (July–December).

This paper analyses the Taylor Rule and its implications for Pakistan. After testing the time series properties of the series, which show that series are at the stationary level, we find that the Taylor Rule holds for Pakistan. These results are consistent with the fact that interest rates follow a more gradual adjustment, i.e., the inertia factor and interest rate smoothing have been proved by earlier studies.

- Husain, Fazal and Abdul Rashid (2008) **Economic Liberalisation and the Causal Relations among Money, Income, and Prices: The Case of Pakistan.** *Pakistan Journal of Applied Economics* 18, 103–121.

The study re-examines the causal relations between money and the two variables, i.e., income and prices. In general the analysis indicates the long-run relationship among money, income, and prices. The analysis further suggests a one-way causation from income to money in the

long run, implying that probably real factors, rather than money supply, have played a major role in increasing Pakistan's national income. The study fails to find the active role of money in changing income even after taking care of possible shifts in these variables due to the economic reforms. As regards the causal relationship between money and prices, the analysis suggests a unidirectional causality from money to prices, implying the fact that monetary expansion increases inflation in Pakistan.

- Khan, Arshad (2008) **Long-run and Short-run Dynamics of Foreign Reserves and Domestic Credit in Pakistan.** *International Journal of Applied Econometrics and Quantitative Studies* 5:1, 612–684.

This study formulates and examines the monetary approach to the balance of payments by incorporating the currency substitution version of money demand function for Pakistan over the period 1962-2005, using FM-OLS and Johansen-Juselius cointegration techniques. The results suggest that real output, real exchange rate, and domestic credit play an important role in the determination of foreign exchange reserves in Pakistan in the long as well as in the short-run. Moreover, the monetary authorities sterilise foreign exchange reserves by 12 percent in the long run and 66 percent in the short run. The results support the evidence of long-run causality running from reserves to domestic credit. One important policy implication derived from the empirical analysis is that the validity of the monetary approach to the balance of payments and the effectiveness of monetary policy depend on the nature of the money demand function. As the specification of money demand changes, the evidence based on monetary approach also changes.

- Khawaja, M. Idrees and Sajawal Khan (2008) **Pass-through of Change in Policy Interest Rate to Market Rates.** *The Pakistan Development Review* 47:4, 661–674.

This paper examines the pass-through of the change in policy interest rate of the central bank of Pakistan to market interest rates. The market rates examined include KIBOR, six-month deposit rate, and weighted average lending rate. A more or less complete pass-through of the change in policy rate to KIBOR is observed within one month. However, the magnitude of change in policy rate to deposit and lending rates is not only low but is slow as well. The pass-through to the weighted average lending rate is 47 percent and occurs with a lag of one to one-and-half years. The pass-through to the deposit rate is only 16 percent and occurs with a lag of one year. The asymmetry between the magnitude of pass-through to the lending and deposit rates has served to increase the interest margin of the banks. The slow pass-through to the lending and deposit rates puts limits on the effectiveness of interest rate as a policy tool. The pass-through, and hence the effectiveness of monetary policy, will increase if all the lending and deposit rates are floating in nature and are quoted as KIBOR-plus and KIBOR-minus respectively.

- Qayyum, Abdul (2009) **Does Monetary Policy Play an Effective Role in Controlling Inflation in Pakistan?** In M. Irfan and M. Yasin (eds.) *Socio-economic Challenges Faced by Pakistan: Proceedings of National Conference*. Islamabad: International Institute of Islamic Economics, International Islamic University.

The paper is written with the aim of getting a clear understanding of the Monetary Policy Framework and its

effectiveness to control inflation in Pakistan. Salient features of current monetary policy are presented, and the findings are as follows.

The monetary authority was successful in controlling inflation when it controlled the money supply target. The calculation of money supply target needs to be improved to get an appropriate target level of M2. It is also concluded that in the recent years, the State Bank of Pakistan failed to control money supply, and hence the rate of inflation, within the set target level.

There seems to be a lack of coordination between the fiscal and the monetary authorities. The reaction functions of monetary policy seems to be inconsistent over time. An understanding of issues regarding the monetary policy transmission mechanism, like the state of effectiveness of different channels, the lag structure of monetary policy changes, the magnitude of pass-through of policy changes to inflation and output, and the nature of relationship amongst instruments and goals of monetary policy (inflation and output) seems to be lacking and needs fresh investigation.

- Husain, Fazal and Abdul Rashid (2009) **Price Hikes, Economic Reforms, and Causality in Money, Income, and Prices: Evidence from Pakistan.** *The Pakistan Development Review* 48:2, 155–168.

This study extends the analysis of causality by Husain and Rashid (2008) by taking into account the shift in the variables due to the price hikes in the early 1970s. The results indicate significant shifts in the variables during the sample period. In this context, the shift occurring due to price hikes in the early 1970s seems to be more important to be incorporated in the analysis. The study finds an active role of money in the Pakistani economy as it is found to be the leading variable in changing prices

without any feedback. In the case of income, the study finds the feedback mechanism of money, generally missing in the earlier studies, as the latter did not account for the shift in the macroeconomic variables in Pakistan in the early 1970s.

- Khan, Arshad (2010) **Testing of Money Multiplier Model for Pakistan: Does the Monetary Base Carry Any Information?** *Economic Analysis Working Papers* 9:2, 1–20.

This paper tests the constancy and stationarity of the mechanical version of the money multiplier model for Pakistan using monthly data over the period 1972M1-2009M2. We split the data into pre-liberalisation (1972M1-1990M12) and post-liberalisation (1991M1-2009M2) periods to examine the impact of financial sector reforms. We first examine the constancy and stationarity of the money multiplier and the results suggest that the money multiplier remains non-stationary for the entire sample period and sub-periods. We then test cointegration between the money supply and the monetary base and find the evidence of cointegration between two variables for the entire period and two sub-periods. The coefficient restrictions are satisfied only for the post-liberalisation period. Two-way long-run causality between the money supply and the monetary base is found for the entire period as well as post-liberalisation. For the post-liberalisation period, the evidence of short-run causality running from the monetary base to the money supply is also identified. On the whole, the results suggest that the money multiplier model can serve as a framework for conducting short-run monetary policy in Pakistan. However, the monetary authority may consider the co-movements between money supply and reserve money at the time of conducting the monetary policy.

- Malik, Wasim Shahid and Ather Maqsood Ahmed (2010) **The Taylor Rule and the Macroeconomic Performance in Pakistan.** *The Pakistan Development Review* 49:1, 37–56.

A near-consensus position in modern macroeconomics is that policy rules have greater advantage over discretion in improving economic performance. For developing countries in particular, simple instrument rules appear to be feasible options as pre-requisites since more sophisticated targeting rules are generally lacking. Using Pakistan's data, this study has attempted to estimate the Taylor rule, and using it as monetary policy strategy to simulate the economy. Our results indicate that the State Bank of Pakistan (SBP) has not been following the Taylor rule. In fact, the actual policy has been an extreme deviation from it. On the other hand, counterfactual simulation confirms that macroeconomic performance would have been better in terms of stability of inflation and output had the Taylor rule been adopted as the monetary policy strategy. The study also establishes that further gains are possible if the parameter values of the rule are slightly modified.

- Nasir, M. and W. S. Malik (2010) **The Contemporaneous Correlation of Structural Shocks and Inflation and Output Variability in Pakistan.** (PIDE Working Papers (forthcoming)).

During the last two decades, monetary policy has changed in a number of ways. Alongwith the other characteristics, modern monetary policy is forward-looking and central banks not only try to maintain credibility but also respond to structural shocks including expected inflation. This study aims at investigating this aspect of monetary policy in Pakistan. Using a modified version of

the Structural Vector Autoregression (SVAR) developed by Enders and Hurn (2007), we find a weak response of policy 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 make no significant contribution to output variability. On the other hand, both demand and supply shocks, along with the foreign supply shocks, significantly contribute to inflation variability.

I.1.2. Financial Sector

- Khan, M. Arshad and Sajawal Khan (2007) **Financial Structure Restructuring in Pakistan.** *The Lahore Journal of Economics* (Special Edition). September, 97–124.

In this paper an attempt has been made to review the financial restructuring process and its importance for economic growth and macroeconomic stability. The main focus is on the financial restructuring efforts undertaken by the government of Pakistan since 1990. We also analyse the impact of financial restructuring by using various financial indicators. The overall results suggest that the financial industry in Pakistan shows remarkable and unprecedented growth. Unlike 1990, the performance of the financial sector is much better today. After the successful completion of first generation reforms, the introduction of second generation reforms is required, which will help to further strengthen the financial system and transfer the benefits of the first generation reforms to society.

- Khan, Muhammad Arshad and Abdul Qayyum (2007) **Trade, Finance, and Growth Nexus in Pakistan.** *Economic Analysis Working Papers* 6:14, 1–25.

This paper empirically investigates the impact of trade and financial liberalisation on economic growth in Pakistan using annual observations over the period 1961-2005. The analysis is based on the *bound testing approach* of cointegration advanced by Pesaran, *et al.* (2001). The empirical findings suggest that both trade and financial liberalisation policies play an important role in enhancing economic growth in Pakistan in the long run. However, the short-run responses of real deposit rate and trade policy variables are very low, suggesting further acceleration of the reform process. The feedback coefficient suggests a very slow rate of adjustment towards long-run equilibrium. The estimated equation remains stable over the period of study as indicated by the CUSUM and CUSUMQ stability tests.

- Khan, Muhammad Arshad, Mahmood Khalid, and Muhammad Zubair Sajid (2007) **Financial Deregulation, Financial Savings, and Economic Growth: An Application of the Bound Testing Approach to Cointegration.** *Kashmir Economic Review* 16:2, 81–99.

This study examine the relationship between financial savings, economic growth and real rate of return on time deposits using the bound testing approach to cointegration for Pakistan over the period 1975- 2005. The evidence suggests that real GDP exerts positive influence on financial savings in the long-run as well as the short-run. The evidence further suggests that only 0.22 percent and 2.8 percent of additional income is saved in terms of financial assets in the long-run and the short-run respectively. The real return on financial savings possesses the negative sign and is statistically significant in the long-run. However, the magnitude of this variable is very small, showing a negligible impact on financial savings. The

short-run response of real deposit rate is positive but insignificant, suggesting that the availability of funds rather than the cost of funds is very important.

- Khawaja, M. Idrees and Musleh-ud Din (2007) **Determinants of Interest Spread in Pakistan.** *The Pakistan Development Review* 46:2, 129–143.

Interest spread of Pakistan's banking industry has been on the rise for the last two years. The increase in interest spread discourages savings and investments, on the one hand, and raises concerns about the effectiveness of the bank-lending channels of monetary policy, on the other. This study examines the determinants of interest spread in Pakistan using panel data of 29 banks. The results show that the share of interest-insensitive deposits in total bank deposits is a key determinant of interest spread, whereas industry concentration has no significant impact on interest spread. Furthermore, the ongoing merger wave in the banking industry will limit the options for the savers, with adverse implications for the interest spread. We argue that to maintain a reasonably competitive environment, merger proposals may be subjected to review by an anti-trust authority.

- Qayyum, Abdul (2007) **Financial Sector Reforms and the Efficiency of Banking in Pakistan.** (Unpublished).

The financial sector in Pakistan has gone through a number of changes during last two decades. These include, (i) liberalisation of bank opening policy, which resulted in the re-emergence of private banking sector, and (ii) strengthening the role of controlling authorities such as the State Bank of Pakistan and the Security and Exchange Commission of Pakistan.

The financial sector reforms changed the ownership structure of the banking sector during these two decades. Earlier, the banking sector was dominated by state-owned banks. Now the share of public sector banks has declined. There are only four purely state-owned banks operating in Pakistan. All public sector commercial banks, such as the Allied Bank of Pakistan Limited (ABPL), Muslim Commercial Bank (MCB), United Bank Limited (UBL) and Habib Bank Limited (HBL), privatised during the reform process, have improved efficiency.

Overall improvement in efficiency of commercial banks is also seen. It indicates that financial sector reforms improve the efficiency of the banks, and after the reform the Pure Technical Efficiency (PTE) is increased as compared to Scale Efficiency (SE). Efficiency analysis for the year 2005 reveals that twelve out of twenty banks are on the best practice frontier. Out of these best practice banks, only one belongs to the public sector. It is further concluded that the overall efficiency of the industry improved because of increase in the pure technical efficiency (PTE).

The main lesson of the study is that financial sector reforms are successful in improving the efficiency of the domestic commercial banks as an intermediary in Pakistan.

This study, however, concentrates only on one aspect of commercial banks, that is, their role as an intermediary. There are a number of other dimensions and aspects that need to be explored. These include efficiency of the bank as a production unit, and the economic and allocative efficiency of the bank. Therefore, a series of studies may be required.

- Khan, M. Arshad (2008) **Financial Development and Economic Growth: Evidence Based on Autoregressive Distributed Lag (ARDL) Approach.** *South Asia Economic Journal* 9:2, 375–391.

In this study, the relationship between financial development and economic growth is examined in an Autoregressive Distributed Lag (ARDL) framework for Pakistan, utilising annual data over the period 1961–2005. The main empirical findings suggest that in the long and short run, financial development and investment exerted a positive impact on economic growth. The findings also suggest that in the long run, real deposit rate is positively related to economic growth but had an insignificant impact; however, in the short run, the relationship between real deposit rate and real output is significant. The long- and short-run responses of the real interest rate are very low as compared to the financial development variable, implying that the availability of funds is more important than their cost. To achieve sustainable economic growth, the study suggests a further acceleration of the liberalisation process in Pakistan.

- Malik, Wasim Shahid and Musleh-ud Din (2008) **Monetary Policy Transparency in Pakistan: An Independent Analysis**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2008: 44). 26 pages.

This paper analyses monetary policy transparency of the central bank (SBP) using the Eijffinger and Geraats (2006) index. The results show that the SBP scores 4.5 out of 15, which is lower than any of the central banks' score in Eijffinger and Geraats (2006). The SBP is completely opaque on the procedural issues, whereas it is the least transparent in the policy transparency. On the political and economic matters, the SBP is partially transparent. An area where the SBP is quite transparent, with moderate score, is operational transparency. In comparison with the other central banks, the SBP is at par with some of the central banks in political and operational transparency but ranks low in all other respects.

- Ahmad, U., S. Farooq and H. Hanzla (2009) **Efficiency Dynamics and Financial Reforms: A Case Study of Pakistani Banks.** *International Research Journal of Finance and Economics* 25, 172–182.

The banking sector in Pakistan was facing problems of weak health and low profitability due to various factors, i.e., low productivity, high intermediation cost (high cost deposits), huge expenditures on establishment, over-staffing, a large number of loss-making branches, mismanagement of funds, etc. Owing to this, the banking sector in Pakistan was under a great deal of pressure to maintain its profitability. To overcome this issues, Pakistan undertook financial sector reforms in early 1990s with financial support from the World Bank and the Japanese government, under the banking sector adjustment loan (BSAL) programme. The main goal of these reforms was to improve the Total Factor Productivity (TFP) of the financial system through separating ownership and management and by strengthening the accountability mechanism. Using the data sets of 20 domestic commercial banks of Pakistan, this study is intended to measure the banking efficiency through Data Envelopment Analysis (DEA) and Malmquist Index of Total Factor Productivity (TFP) from 1990 to 2005 to assess the impact of reforms on the banking sector. The analysis is useful not only for policy-makers but also to assess the impact of reforms on domestic commercial banks of Pakistan.

- Husain, Fazal (2010) **Financial Sector Reforms and International Trade Competitiveness.** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers (forthcoming)).

This paper attempts to explore the relationship between the financial development and international trade competitiveness in the case of Pakistan. The paper suggests that there is a stable, long-run, positive relationship between international trade competitiveness of Pakistan and her level of financial sector development. The estimated external finance elasticity of international trade competitiveness of the textile sector in Pakistan is found to be 0.26, which is significantly higher than the one estimated around 0.17 by Hanif and Jafri (2008), indicating that they have underestimated the elasticity. We do not, however, have a different view than that of Hanif and Jafri (2008) regarding policy implications. Thus it is important for Pakistan to not only continue with the ongoing financial reforms but also to strengthen the same by implementing the second generation reforms as this would lead to further accelerate the comparative advantages of Pakistan's textiles exports in a highly competitive global external environment.

I.1.3. Fiscal Policy Public Finance

- Ahmed, Iftikhar, Usman Mustafa, and Mahmood Khalid (2007) **National Finance Commission Awards in Pakistan: A Historical Perspective.** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2007:33). 22 pages.

This study explores the evolution of fiscal resource distribution in Pakistan. A thorough look at the history of such awards indicates that this process has been complex and has a far-reaching impact. A less systematic approach has been adopted to decentralise the financial matters. Over time, the divisible pool has expanded due to heavy reliance on indirect taxes as well as improvement in their collection. Population is the sole distribution criteria, adopted in all

NFC awards from the divisible pool. This has raised frictions among the provinces, necessitating inclusion of other potential variables evolved from international best practices. In addition to that, absence of technical experts and permanency of the NFC are the other impediments. The NFC is supposed to provide the framework for an amicable distribution of resources between the federal and the provincial governments for the joint goal of development and prosperity.

- Mustafa, Usman (2009) **Global Governance Dealing with the Non-Traditional Security Threats**. Paper present at the National Seminar on Non-Traditional Security Threats to Pakistan. 27-28 January 2009. Islamabad Policy Research Institute. (Forthcoming).

Conflict and volatility are gravely increasing in developing countries including Pakistan. The world is facing more danger and a greater intensity of the Non-Traditional Security Threats (NTST) than that of direct conflicts between countries. Extremism, emergence of non-state actors, environmental degradation, poverty, diseases, natural disasters, etc., are the main NTST faced mainly by developing countries. The major causes are bad governance, globalisation, vested local and international interest, uni-pluralism, etc. There is a need to develop holistic multilateral regional linked with global governance to manage these effectively and efficiently. Governance needs more coordination in which global and regional organisations should work together with governments, local civil societies, groups, agencies, multi-stakeholder, etc. It should also deal with the whole cycle of the conflicts with clear rules, regulations, and principles based on equity and equality. Global governance should respect the norms,

values, and tradition of local people. Already, there are a number of international organisation, treaties, UN working groups, and resolutions dealing with different global issues. For effectiveness these should take a balanced and non-hierarchical approach to NTST. Global governance must recognise the importance of not only economic growth but also matters related to security, health, environment, and general human welfare.

- Mustafa, Usman, G. M. Arif, and Soofia Mumtaz (2010) **Economic Cost of Conflict in Pakistan: Its Socio-demographic Causes and Implications**. Pakistan Institute of Development Economics, Islamabad. (Unpublished).

Pakistan is no stranger to conflict. The country was established as a nation-state after several years of conflict between Hindus, Muslims, and the British rulers of the sub-continent at that time. After its formation in 1947, Pakistan has seen many other kinds of conflict played out in the garb of linguistic, ethnic, and sectarian strife. In 1971, the eastern part of Pakistan was separated by yet another conflict, this time nationalist in character, which led to the creation of Bangladesh. Such conflicts have now assumed alarming proportions. For primary data collection, five region i.e., FATA, PATA, Khyber Pakhtunkhwa (KP) Balochistan, and Sindh were selected. Hangu, Bajor, Swat, Quetta, and North and South districts of Karachi were selected from these regions. The Multi-stage stratified proportional systematic random sampling technique was adopted to collect empirical data from the households (HHs) based on field work, through a comprehensive questionnaires. The anthropological aspects of the research were conducted mostly through qualitative means of information adopting different Participation Reflection and

Action (PRA) tools. Seventeen Focus Groups Discussions (FGD) and 1015 in-depth interviews were organised for the stakeholders at their premises in five regions. Secondary sources of information were also collected and analysed mainly for demographic analysis.

The findings of this research reveal that Pakistan is faced with multiple conflicts that have different localised and regional causes. Yet, the actual causes exist at the national level, with poor governance, unstable political environment, weak democratic institutions, and continuing and increasing polarisation amongst the provinces and different ethnic and minority groups. The youth is economically less active, particularly in the conflict areas; their absorption in the labour market is not satisfactory. Rather, in some areas, unemployment levels are alarmingly high, and female share in the labour force is projected to grow gradually. The question is: What are the policy responses or how has the government addressed these challenges? The estimation of economic cost of conflict in this study is human-centric and focuses on direct and indirect damage to the economy. Conflicts not only hamper the ongoing development activities but also pull the nation backwards. Their socio-economic and political impacts are severe. The huge cost of conflict highlights the need for policy interventions (that may be funded by the government of Pakistan and/or others) that may help mitigate the causes of conflict.

- Khalid, Mahmood, Wasim Shahid Malik, and Abdul Sattar (2007) **The Fiscal Reaction Function and the Transmission Mechanism for Pakistan.** *The Pakistan Development Review* 46:4, 435–448.

In developing economies such as Pakistan, the fiscal transmission mechanism needs to be identified as an active fiscal policy is practised and large seigniorage revenues

exist. In this context, the present study aims at estimating the fiscal policy reaction function and identifying the fiscal policy transmission mechanism. More specifically, the Vector Autoregression (VAR) model, containing the three variables of output gap and inflation as policy objectives and fiscal deficit as a percentage of the GDP as a fiscal instrument, has been estimated. We find evidence of the fiscal policy in Pakistan being endogenous over the period 1965 to 2006. Though the response to both of the variables is significant, we find only procyclical response of fiscal policy to the business cycle fluctuations specifically in the boom periods. The effect of fiscal policy changes on output and inflation is not significant. We also find the evidence of contemporaneous response of policy to the state of the economy but the policy is not forward-looking at all.

- Shah, Syed Arshad Hussain, Syed Akhter Hussain Shah, and Mahmood Khalid (2007) **Incompatibility of Laws and Natural Resources: A Case Study of Land Revenue Laws and Their Implications in the Federal Areas of Pakistan.** *The Pakistan Development Review* 46:4, 1105–1118.

Direct and indirect implications of incompatible land laws are studied for Islamabad district. It is observed that incompatible revenue laws directly affect civil litigation, crime rate, and transaction cost in the society. Inconsistent laws increase work-load for the governance institutions. Work-load of civil and criminal courts also increases due to incompatible laws. Quality of service delivery and dispensation of justice is adversely affected. Risk-averse investors normally avoid making investment in such an ambiguous property rights regime. Transaction cost to individuals and society also increases with ambiguous laws.

- Ahmed, Hafeez and Attiya Y. Javid (2011) **The Ownership Structure and Dividend Payout Policy in Pakistan (Evidence from Karachi Stock Exchange 100-Index)**. *International Journal of Business Management Economic Research* 1:1, 58–69.

The study examines the impact of external block holding and managers' share holding on the debt and equity choices of non-financial firms listed at Karachi Stock Exchange for the period of 2000 to 2006. The results support the evidence that the distribution of equity ownership among corporate managers and the external share holders has no significant relationship with the leverage. The firms which are more profitable and have more earning volatility rely less on leverage. These results in the Pakistan scenario differ with the Agency theory but at the same time support the Pecking Order theory.

- Iqbal, Nasir and Saima Nawaz (2009) **Investment, Inflation, and Economic Growth Nexus**. *The Pakistan Development Review* 48:4, 863–874.

The paper has twofold objectives. First, the impact of the inflation rate on economic growth with the possibility of two threshold levels for Pakistan, using annual data from 1961 to 2008, is examined. Secondly, non-linear relationship between inflation and investment has been investigated. Inflation and growth models support the existence of a non-linear relationship with two thresholds (6 percent and 11 percent). Inflation below the first threshold affects economic growth positively but insignificantly; at moderate rates of inflation, between the two threshold levels, the effect of inflation is significant and strongly negative; at high rates of inflation, above the second threshold, the marginal impact of additional inflation on economic growth diminishes but is still

significantly negative. Investment is one of the possible channels through which inflation influences economic growth, and the analysis indicates the non-linear relationship between these two variables with only one threshold at 7 percent. The rate of inflation below the threshold level has positive but insignificant impact, while above the threshold it has strong negative and significant impact on the investment. Therefore, it is desirable to keep the inflation below 6 percent, because it may be helpful for the achievement of robust economic growth and investment.

- Javid, Attiya Y., Umaima Arif, and Abdus Sattar (2008) **Testing the Fiscal Theory of Price Level in the Case of Pakistan.** *The Pakistan Development Review* 47:4,763–778.

The study tests the fiscal theory of price determination for Pakistan's economy for the period 1970 to 2007. The evidence is less clear-cut to infer that authorities are following a certain type of regime—fiscal-dominant or monetary-dominant—during the sample period. The liabilities respond negatively to the innovation in surpluses, that is, in the subsequent period the liabilities decrease in the case of an increase in surplus. This characterises a monetary-dominant regime. The events that give rise to surplus innovation are likely to persist, causing the rise in future surpluses, and surpluses pay off some of the debt, causing the fall in the liabilities. By analysing the behaviour of nominal GDP, an innovation in surplus reduces nominal income and decreases the level of debt in the subsequent periods. This analysis also confirms the Ricardian analysis. On the other hand, the study finds that, as predicted by the fiscal theory of price determination, the occurrence of wealth effects of changes in nominal public

debt may pass through to prices by increasing inflation variability in the case of Pakistan. The implication is that nominal public liabilities, as reflected either in money growth or in nominal public debt, matter for price stability in the case of Pakistan. The authorities may be following different regimes for different time-periods during the 1970-2007.

- Nawaz, Ahmad (2010) **Efficiency of Microfinance and Donor's Role**. Paper to be presented at the meeting of the Microfinance Project at the Centre for Study of Global Ethics, University of Birmingham, Birmingham, UK. (Unpublished).

The paper relates the results of statistical analyses concerning the issue of the effectiveness of donors' funding for the economic success of microfinance institutions (MFIs). MFIs can get external funding of many kinds (direct grants, revenue grants, paid-up-capital, discounts on public debt) from a variety of sources (IFIs, bilateral donors, multilateral donors, private investment funds, private banks, own deposits). Analysis suggests that private investment capital now constitutes over 30 percent of all subsidies to MFIs. More to the point, however, the results indicate that deposit-taking is bad for business, while subsidies, especially from private banks and bi- and multilateral donors, increase efficiency. And the best way of subsidising MFIs seems to be through discounted credit lines.

- Nawaz, Ahmad (2010) **Issues in Subsidies and Sustainability of Microfinance: An Empirical Investigation**. Université Libre de Bruxelles, Solvay Brussels School of Economics and Management, Centre Emile Bernheim (CEB). (Working Papers CEB No. 10-010.RS). 41 pages.

This essay empirically investigates some important relationships and phenomena in microfinance linked to efficiency and sustainability of MFIs. The evidence lends some support to the existence of mission drift tendency in microfinance even after correcting the endogeneity bias. Notwithstanding the interest rate policy, evidence is found that MFIs do charge a higher interest rate to women borrowers with small loan sizes. Further, the determinants of MFIs' profitability and sustainability have also been identified. The evidence does not support the trade-off between outreach and sustainability. However, the trade-off between costs and sustainability of MFIs is well-supported.

- Nawaz, Ahmad (2010) **Performance of Micro-finance: Which Institutional Factors Matter?** Paper presented at the Conference on the Institutional and Technological Environment for Microfinance, New Delhi, India. (Unpublished).

This paper empirically investigates the role of various institutional variables on the performance of microfinance. The institutional variables of interest are ownership structure, regulations, lending methodologies, savings, and other financial services. This quality financial information has been generated directly from the audit reports of the 204 MFIs with 23 million borrowers in 54 countries worldwide for the years 2005 and 2006. This constitutes a significant part of the microfinance outreach worldwide. The results suggest that the MFIs located in Africa and South Asia those with the status of "Banks" and "NGOs", those with group lending methodology are on average less efficient (more subsidy-dependent). The paper further highlights the role of institutional factors on the efficiency and profitability of microfinance.

- Javid, Attiya Y. and Umaima Arif (2009) **Dynamic Effects of Changes in Government Spending in Pakistan's Economy.** *The Pakistan Development Review* 48:4, 973–988.

This study analyses the effects of changes in government spending on aggregate economic activity, and the way these effects are transmitted in Pakistan for the period 1971-2008. To analyse the transmission mechanism of government spending innovations, the Vector Autoregressive Model is estimated to follow five variables: government spending per capita, GDP per capita, consumption per capita, debt to GDP ratio, long-term interest rate, and real exchange rate. The consumption and output respond negatively to the innovation in government spending, which is consistent with the standard neoclassical model. The interest rates increase in the face of expansionary fiscal spending. As government debt builds up with fiscal expansion, the rising risk of default or increasing inflation risk reinforce crowding out through interest rates. The real exchange rate tends to appreciate in response to the rise in government spending. This finding agrees with the open economy literature, and also with the conventional literature.

- Nasir, M., A. Ahmed, A. Ali, and F. Ur Rehman (2010) **Fiscal and Monetary Policy Coordination: Evidence from Pakistan.** *International Research Journal of Finance and Economics* 35, 202–213.

The study investigates the presence of coordination between the fiscal and monetary policies in Pakistan, using annual data from 1975 to 2006. The empirical results, using Vector Autoregression (VAR), suggest that there is evidence of weak or very little coordination between the policies. The results are interpreted using the Impulse

Response Function (IRF). It has been observed in the analysis that there is evidence of weak responses of variables to the shocks induced in various variables. The variables converge to their long-run path after the long gap of twenty-two to twenty-four years, showing that there is a very weak response of policy-makers to each other's policies. Hence, one may conclude that there is weak coordination among the policy-makers.

- Nawaz, Ahmad (2010) **Efficiency and Productivity of Microfinance: Incorporating the Role of Subsidies**. Université Libre de Bruxelles, Solvay Brussels School of Economics and Management, Centre Emile Bernheim (CEB). (Working Papers CEB No. 10-009.RS). 59 pages.

The social nature of MFIs is mainly financed by subsidies from donors. Therefore, the role of subsidies cannot be underestimated in the MFIs efficiency and productivity analysis. This paper is a first attempt to measure the financial efficiency and productivity of Microfinance Institutions (MFIs) worldwide, taking into account the subsidies received by the MFIs by using the non-parametric Data Envelopment Analysis (DEA). Towards this aim, a three-stage analysis is carried out. First, technical and pure efficiency scores are calculated. Secondly, DEA-based Malmquist indices are calculated to analyse the intertemporal productivity change. Thirdly, Tobit regression analysis is carried out to test a series of hypotheses concerning the relationship between financial efficiency and other indicators. Overall subsidies contribute to financial efficiency of the MFIs, albeit marginally. Results uphold the trade-off between outreach to the poor and financial efficiency. Also evident is the fact that lending to women is efficient only in the presence of

subsidies. The MFIs in South Asia, Middle East, and North Africa tend to be less efficient than those located elsewhere.

- Nawaz, Ahmad (2010) **Performance of Micro-finance: The Role of Subsidies.** *Savings and Development* 34:1, 97–137.

Microfinance institutions (MFIs) strive for financial sustainability, but also for the empowerment of the poor. The social nature of MFIs is mainly financed by subsidies. This paper measures the sustainability of microfinance, employing Yaron's Subsidy Dependence Index (SDI) which measures the social cost of subsidised MFIs. Generating the data set directly from the audit reports of the 204 MFIs with 23 million borrowers in 54 Countries, the results show that microfinance sector is highly subsidised. Moreover, once subsidies are accounted for, MFIs financial performance declines substantially. Further, the paper also highlights the factors which contribute to and decrease the sustainability of microfinance.

- Nawaz, Ahmad and M. Hudon (2010) **Efficiency of Microfinance: Do Subsidies Matter?** Paper presented at the Centre of European Research in Microfinance (CERMi), Solvay Business School, Université Libre de Bruxelles, Brussels, Belgium (Submitted to *the Journal of Operations Research*). (Also presented at the seminar at Solvay Business School, Université Libre de Bruxelles, Brussels, Belgium on July 30, 2010).

This paper provides first empirical evidence on the impact of various types of subsidies (revenue grants, concessionary or subsidised lending, and subsidised equity) on the efficiency of microfinance institutions (MFIs). Our

results suggest that while subsidies globally increase the financial efficiency of MFIs as assessed using the non-parametric DEA, the second-stage regression analysis shows the impact to be insignificant in general. However, subsidies are found to be inefficient up to a certain threshold level, after which these start contributing towards efficiency only for the larger microfinance institutions (MFIs). Notwithstanding different kinds of subsidies, only the concessional borrowings improve the efficiency of MFIs, among others. Larger microfinance institutions are found to be more efficient. While the percentage of women served no effect, the clientele targeted (outreach) or a specific ownership structure is found.

- Qasim, Muhammad Ali and Fazal Husain (2010) **The Relationship between the Federal Government Revenue and Expenditure.** (Forthcoming in *The Pakistan Development Review*).

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 then, later, to pay for this expenditure, it raises taxes. Potential investors may construe such government behaviour negatively—that is, investment decisions may take into account the possibilities of paying higher taxes in the future.

- Ghani, Ejaz and Musleh-ud Din (2006) **Impact of Public Investment on Economic Growth in Pakistan.** *The Pakistan Development Review* 45:1, 87–98.

This paper explores the role of public investment in the process of economic growth, in the context of Pakistan's economy, using the vector autoregressive approach (VAR). Based on theoretical considerations, the model also includes private investment and public consumption besides public investment. The results show that growth is largely driven by private investment and that no strong inference can be drawn from the effects of public investment and public consumption on economic growth.

I.1.4. Exchange Rate

- Khan, Muhammad Arshad and Abdul Qayyum (2007) **Exchange Rate Determination in Pakistan: Evidence Based on Purchasing Power Parity Theory**. *Pakistan Economic and Social Review* 45:2, 181–202.

This paper presents the empirical evidence on purchasing power parity (PPP) for Pak rupee *vis-à-vis* US dollar exchange rate, using Johansen (1988) and Johansen and Juselius (1990) multivariate cointegration and bound testing approach to cointegration [Pesaran, *et al.* (2001)] over the period 1982Q2-2005Q4. We find considerable support for the existence of long-run PPP. Furthermore, the results of error-correction suggest that nominal exchange rate plays an important role in eliminating deviations from long-run PPP. The results further suggest that there is a high degree of foreign exchange and goods markets integration. One major policy implication derived from the findings of this study is that the monetary authorities should contain money supply growth in order to stabilise the prices and reduce the balance of payments deficits.

- Khawaja, M. Idrees (2007) **Exchange Market Pressure and Monetary Policy: Evidence from**

Pakistan. *The Lahore Journal of Economics* 12:2, 83–114.

The study employs the Girton and Roper (1977) measure of exchange market pressure (defined as the sum of exchange rate depreciation and foreign reserves outflow) to examine the interaction between exchange market pressure and monetary variables, *viz.*, domestic credit (Reserve Money) and the interest rate. Evidence from the impulse response functions suggests that domestic credit has remained the dominant tool of monetary policy for managing the exchange market pressure. The increase in domestic credit upon increases in the exchange market pressure (during 1991-98) was imprudent. The results suggest that fiscal needs/growth objectives might have dominated external account considerations during this period. From 9/11 there is evidence of sterilised intervention in the forex market. The interest rate has also weakly served as the tool of monetary policy during the hey day of foreign currency deposits (1991-98). The finding implies that a reasonable degree of capital mobility is called for, so that the interest rate may work as the tool of monetary policy *vis-à-vis* exchange market pressure.

- Khawaja, M. Idrees and Musleh-ud Din (2007) **Instrument of Managing Exchange Market Pressure: Money Supply or Interest Rate.** *The Pakistan Development Review* 46:4, 381–394.

The magnitude of exchange market pressure has ramifications for the overall economy. Countries use instruments ranging from quantitative controls on the movement of foreign currency to variation in the level of money supply or interest rate to keep the exchange market pressure within a certain desired band. Each instrument has different implications for the economy. Using the sum of

exchange rate depreciation and foreign reserves outflow as a measure of exchange market pressure, the study seeks to investigate whether the authorities in Pakistan use interest rate or domestic credit for managing the level of exchange market pressure. Evidence from the Granger causality test suggests that during the active life of foreign currency deposits (FCDs), interest rate has been used to manage exchange market pressure. However, the instrument changed to domestic credit with the freeze on FCDs in May 1998. Use of domestic credit to manage the exchange market pressure continued in the post-9/11 period. By and large, evidence shows that money supply is mainly used to manage exchange market pressure.

- Khalid, Mahmood, Afzal Mahmood, and Kanwal Zahra (2008) **International Trade Tax Revenue and Trade Liberalisation: A Case Study of Pakistan**. International Conference of the South Asia Chapter of AGBA on Globalisation and Change: Issues, Concerns and Impacts, South Asian International Conference (SAICON), Murree. 12 November to 14 December.

This paper tries to evaluate the implications of the process of trade liberalisation for revenue generation. The paper focuses on quantitative restriction in the form of tariff, but at the same time it also focuses on the theoretical explanation of the effect of trade liberalisation on trade tax revenue by hypothesising the crucial fact that trade liberalisation leads to a significant effect in trade tax revenue. It is concluded that trade liberalisation in Pakistan has led to a significant improvement in trade tax revenue in both the short run and the long run. Even, given the significant positive effect of the import-GDP ratio on customs revenue, it is imperative for government to couple

the liberalisation policies with other macroeconomic policies such as exchange rate liberalisation that would work to mitigate budgetary pressures. The results for Pakistan economy are quite different from those for many other developing countries.

- Khan, Muhammad Arshad and Abdul Qayyum (2008) **Long -run and Short-run Dynamics of the Exchange Rate in Pakistan.** *The Lahore Journal of Economics* 13:1, 29–56.

The main focus of this paper is to measure the speed of adjustment of the exchange rate by means of the persistent profile approach developed by Pesaran and Shin (1996) to examine the symmetry and proportionality assumptions of the purchasing power parity (PPP) theory of exchange rates for the Pak rupee vis-à-vis the US dollar exchange rate over the period 1982Q2-2005Q4. Using cointegration and vector error-correction modelling approaches, we find considerable support for the validity of weak-form PPP in Pakistan. Furthermore, the symmetry and proportionality assumptions of PPP are not verified. In the short run, the exchange rate and foreign prices play a significant role in the convergence process to achieve long-run equilibrium. However, the speed of adjustment is very slow and the persistence profiles suggest that almost 4.5 years are required to eliminate deviations and bring the nominal exchange rate in line with the long-run equilibrium path.

- Rashid, Abdul and Fazal Husain (2010) **Capital Inflows, Inflation, and Exchange Rate Volatility.** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2010:63). 23 pages.

This study investigates the effects of capital inflows on domestic price level, monetary expansion, and exchange rate volatility. We find that, particularly for the period of large capital inflows from 2001 to 2007, the variables are cointegrated and domestic price level is significantly linearly and nonlinearly Granger-caused by capital inflows, money supply-to-GDP ratio, and domestic debt. We also find strong evidence of linear causality running from capital inflows to the real effective exchange rate volatility. Regarding Granger causality between domestic price level and market interest rate and exchange rate, the results indicate that neither the linear nor the nonlinear causality exists between them. Finally, the plots of the impulse response function show that the net effect of a one-standard deviation shock to the ratio of foreign assets to GDP, the ratio of money supply to GDP, and the change in the level of domestic debt are positive in the short run as well as in the long run. The key message of the analysis is that there is a significant inflationary impact of capital inflows, in particular during the last 7 years. The findings suggest that there is a need to manage the capital inflows in such a way that they should neither create an inflationary pressure in the economy nor fuel the exchange rate volatility.

- Zia, Uzma and Zafar Mahmood (2010) **Exchange Rate Depreciation and Export Price Competitiveness: The Case of Pakistani Manufacturing Industries**. Submitted to *PDR*.

Export price competitiveness assessment is a vital component in evaluating a country's macroeconomic performance and the sustainability of its policies. It is generally argued that exchange rate depreciation stimulates exports and curtails imports, while exchange rate appreciation harms exports and stimulates imports.

Favourable factors (such as depreciation of currency), however, may not result at times into increased exports. This is because exchange rate movements affect exports not only by means of its depreciation but also through its variability (risk). Whereas currency depreciation raises exports, the associated exchange rate risk could offset it. Greater exchange rate risk increases the riskiness of export profits and the risk-averse exporters reduce exports. Nevertheless, in certain situations, it is possible to get a positive effect of conditional variance on exports. Therefore, the combined effect of currency depreciation and its variability is important to study. The above prediction has been assessed in this paper by considering the co-existence of import content in the production of exportables and dynamic productivity gains. The results of the analysis show that in the manufacturing sector of Pakistan, given the exchange rate depreciation, the exchange rate volatility partially offset the positive effect of depreciation on exports, that is, volatility in exchange rate has resulted in a decrease in the export price competitiveness despite currency depreciation and, hence, the country experienced slow growth in its manufactured exports.

I.1.5. Global Financial Crisis

- Amjad, Rashid and Musleh-ud Din (2010) *Economic and Social Impact of Global Financial Crisis: Implications for Macroeconomic and Development Policies in South Asia*. Pakistan Institute of Development Economics, Islamabad. (PIDE Monograph Series). 57 pages.

The South Asian economies were hit hard by the global financial crisis that came in the wake of global food and fuel price hikes. The regional countries experienced

serious macroeconomic difficulties as inflation soared, public finances worsened, and economic growth slowed down. This monograph examines the macroeconomic performance of the South Asian economies before and after the financial crisis with a view to identifying initial conditions—including shock absorbers and shock amplifiers—that prevailed before the crisis. The paper spells out key macroeconomic and development policies to mitigate the adverse impact of the crisis in the short-to-medium term and to enhance competitiveness in a longer-term perspective. The paper also looks at prospects for regionally coordinated policy measures to deal with external economic shocks.

- Iqbal, Nasir and Saima Nawaz (2010) **Dynamics of Migration and Remittances in Pakistan and the Global Financial Crisis**. (PIDE Working Papers (forthcoming)).

International migration is growing rapidly due to increasing integration of the world economies and the changing needs in both the countries of destination and of origin. Remittances, which make up a considerable percentage of GDP in developing countries, contribute in economic growth through enhancing investment, providing balance-of-payment support, and building foreign exchange reserves. The purpose of the present study is to assess the impact of the global financial crises (GFC) on migration and workers' remittances in Pakistan. Despite the global financial crunch, Pakistan has experienced a high outflow of its workers and remittances touched a new peak of more than US\$ 7.8 billion in 2008-09. However, there are a few risks attached to the future migration and remittances. First, the future of workers' remittances is uncertain given the fact that employment in host countries is limited. Secondly,

if the crisis last longer than expected, the growth in the construction and other sectors may not be sustained and outflows of workers will decline. Thirdly, weak job markets and persistently high rate of unemployment in the destination countries may lead to further tightening of immigration controls especially for low-skilled migrants. Fourthly, the currency appreciation with respect to the US dollar may lead to reduction in inflows. Keeping this in view, Pakistan is required to adopt a few measures to minimise the impact of global financial crisis on migration and remittances. First, return migration in the current crisis is so far negligible, but if it is happen, then steps should be taken by the government to absorb these return migrants in the labour market through setting up small business and reintegrate them into their communities. Secondly, government should promote the size of overseas migration by retaining the current markets and finding new avenues as well. Thirdly, to promote the flow of remittances through formal channels, there is a need to facilitate a cheaper and faster flow of remittance. One of the potentially cheaper and quickest options is money transfer using the mobile phone network.

- Khawaja, M. Idrees (2010) **Global Financial Crisis: A Tale of Moral Hazards**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers (forthcoming)).

We argue that while the decline in housing prices might have triggered the financial crisis, the moral hazards, to which the agents were exposed because of their perverse incentive structure, lie at the root of the crisis. Perverse incentives characterised the behaviour of all the links in the securitisation chain. These include the investment banks and their staff, the rating agencies, the special purpose

vehicles, the mutual funds, the pension funds, and the monoline insurance companies that sold protection against default through credit default swaps. Even the incentives of some borrowers who were not required to make any down payment were perverse. Upon default, such borrowers were to lose only the house that they purchased against the mortgage, which could not have been purchased without the mortgage in the first place. Thus they did not stand to lose much. The regulators could have checked the hazardous behaviour but they chose to watch from the benches.

“Credit madness is over, a diet was overdue...those who will have to follow a rigid diet are not those who put on weight”. Marco Onado

I.1.6. Macroeconometric Model

- Malik, Afia (2009) **Effects of Private Initiatives in Infrastructure on the Macro Economy of Asia.** *European Journal of Economics* 16, 52–67.

Since the early 1990s, countries in South Asia and East Asia and the Pacific have opened up their infrastructure sectors (traditionally public monopolies) for private participation to increase competition; to overcome deficits in the provision of services; and to promote growth and investment. This paper attempts to test empirically the impact of private sector participation in infrastructure on macroeconomic variables in Asia. Applying the fixed-effect model, the study finds a positive and significant impact of private participation in the energy and telecom sectors on GDP per capita and current expenditures. Private participation in the same two sectors has a crowding-out effect on the overall public investment with a crowding-in effect on the overall private investment. While private

participation in the transport sector facilitates a crowding-in effect on private investment, and a crowding-out effect on public investment, no significant influence is found on GDP per capita.

I.1.7. Macroeconomic Brief

- Hasan, Lubna and Musleh-ud Din (2010) *Macroeconomic Brief*. No.1 (January, 2010). Pakistan Institute of Development Economics, Islamabad.

The *Brief* presents PIDE's analytical view of the health of the economy, an impartial view that is comprehensible to even the lay reader. At a time when general perception was of improving economic fundamentals, the *Brief* warned of serious structural challenges to the economy on both external and domestic fronts. The main policy advice is to focus on consolidation of macroeconomic stability by keeping the stabilisation policies on track. It recommends giving impetus to economic activities through shoring up revenues and addressing the supply-side constraints that have marred the performance of the real sector.

I.2. Trade and Industrial Organisation

I.2.1. Trade and Regional Cooperation

- Siddiqui, Rizwana (n.d.) **Changing the Rules of the Game of Textile Trade: Gender Implications for Pakistan from a CGE Analysis**. Chapter 2 in 'Dynamics of International Trade, Regional Trading Agreements, and WTO: Developing Countries' Perspective'. (forthcoming).

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 disproportionate 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 type 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.

- Din, Musleh-ud and Ejaz Ghani (2007) **Regional Trade Integration in South Asia: Rationale, Impediments, and the Way Forward**. UNESCAP, Bangkok, Thailand. (ARTNet Policy Brief No.7.)

Like others, the South Asian developing economies are opening up with a view to accelerating their economic growth through greater trade and investment. In this context, a major initiative is the signing of the South Asian Free Trade Agreement (SAFTA) among the seven member states of the South Asian Association for Regional Cooperation (SAARC)—namely, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. As implementation of SAFTA began on 1 July 2006, this policy brief underlines the importance of regional trade integration in South Asia. It spells out the factors which have so far hampered trade cooperation in the region, and outlines trade policy measures that will contribute to greater economic integration in South Asia.

- Din, Musleh-ud, Ejaz Ghani, and Tariq Mahmood (2007) **Technical Efficiency of Pakistan's Manufacturing Sector: A Stochastic Frontier and Data Envelopment Analysis**. *The Pakistan Development Review* 46:1, 1–18.

This paper examines the efficiency of the large-scale manufacturing sector of Pakistan using parametric as well as non-parametric frontier techniques. Production frontiers are estimated for two periods, 1995-96 and 2000-01, for 101 industries at the 5-digit PSIC. The results show that there has been some improvement in the efficiency of the large-scale manufacturing sector, though the magnitude of improvement remains small. The results are mixed at the disaggregated level: whereas a majority of industrial groups have gained in terms of technical efficiency, some industries have shown deterioration in their efficiency levels. The results from both the approaches are consistent and in line with similar studies.

- Kemal, A. R., Musleh-ud Din, and Ejaz Ghani (2007) **Trade-related Challenges Facing Exporters in Pakistan**. PIDE/UNIDO. Joint Report.

This report discusses the results of a survey of 157 exporting firms in the Sindh and Punjab industrial region. It analyses the exporting behaviour of firms and the challenges pertaining to trade policy, supply-side issues, and conformance factors (relating to capacity to meet market requirements with proof of compliance both for products and enterprise management systems).

- Siddiqui, Rizwana (2009) **Modeling Gender Effects of Pakistan's Trade Liberalisation**. *Feminist Economics* 15:3, 287–321.

This study uses a computable general equilibrium (CGE) model specially constructed for investigating gender dimensions of the effects of trade liberalisation in Pakistan in both production and consumption. The model employs various indicators to measure the gendered impacts, including income poverty (Foster-Greer-Thorbecke [FGT] Indices), time poverty (leisure), capability poverty (literacy and infant mortality), and welfare (Equivalent Variation [EV]). The simulation results show that revenue-neutral trade liberalisation in Pakistan increased women's employment in unskilled jobs and increased women's real wage income more than men's for all types of labour, but kept the division-of-labour bias against women. The study finds that Pakistan's trade liberalisation adversely affected women in relatively poor households by increasing their workload, deteriorating capabilities, and increasing relative income poverty. However, the effects remained gender-neutral or favoured women in the richest group of households.

- Zia, Uzma (2007) **International Competitiveness—Where Pakistan Stands**. (PIDE Working Paper 2007:28). 20 pages.

The concept of competitiveness has been widely accepted and has become a part of world-wide discussion at forums. Today global economy cannot be explained in the same manner as it was a few decades ago. Improved competitiveness of economies is the need of the day, and the ability to compete in the world market is of major concern. This paper attempts to assess the position of Pakistan in terms of International Competitiveness. As a survey paper, the concept, definition, and measurement of competitiveness have been analysed further to assess Pakistan's position in the region. Competitiveness is linked with export performance of other trading and non-trading countries. Pakistan's export performance is analysed in this context. Lessons for Pakistan have been drawn on the basis of experiences of emerging economies. It has been concluded that countries can strengthen their export markets with the passage of time. They need to improve the governance as well as technological progress to increase high-tech exports. Developing countries like Pakistan start with low technology and, with passage of time, shift to improved technologies. Technology-based activities help improving export performance, which increases the competitiveness of a country. The paper also suggests a model with high technology exports resulting from extensive research and development (R&D) using human capital as an investment in the country. Its success depends upon the combined efforts of the government, individuals, and business initiatives, both in the public and private sectors.

- Akhtar, Naseem, Nadia Zakir, and Ejaz Ghani (2008) **Changing Revealed Comparative Advantage:**

A Case Study of Footwear Industry of Pakistan.

The Pakistan Development Review 47:4, 695–710.

The study looks at the issues facing the footwear industry regarding its competitiveness in the global perspective, and its potential for growth. The methodology of Revealed Comparative Advantage (RCA) is used to analyse the comparative advantage at 2-digit and 4-digit levels of industrial classification. The paper highlights the problems faced by the footwear industry and identifies the role of entrepreneurship for the progress of the industry. The analysis shows that in recent years, specifically the period from 2003-06, the footwear industry has moved from a position of disadvantage (as compared with China and India) to comparative advantage. The study indicates that there is a potential for higher growth of the industry and it can become a source of export earnings. The study suggests that in the rapidly changing global economic environment and in the face of increasing cost of doing business in Pakistan, there is a need to strengthen the competitiveness of the footwear industry in Pakistan.

- Ghani, Ejaz and Musleh-ud Din (2008) **Doing Business in Pakistan: A Case Study of OICCI Members.** PIDE/OICCI Joint Report.

A key determinant of the cost of doing business is the business climate in which firms operate. The analysis shows that businesses in Pakistan operate in a challenging environment that is characterised by poor infrastructure and amenities, problems with the availability of skilled labour, excessive regulations, and weak governance and institutions. Consequently, the cost of doing business remains high, which adversely affects competitiveness.

- Din, Musleh-ud, Ejaz Ghani, and Usman Qadir (2009) **Recent Experience and Future Prospects of Pakistan's Trade with China**. *The Lahore Journal of Economics* 14:SE, 87–110.

This paper examines the prospects of expanding bilateral trade between Pakistan and China particularly in the context of the recently-signed free trade agreement between the two countries. Using the augmented gravity model, the paper shows that there is a significant potential for expansion of bilateral trade between the two countries as a result of the free trade agreement. The paper also analyses the bilateral trade flows between the two countries in terms of trade specialisation index and Grubel-Lloyd index of intra-industry trade. It is shown that bilateral trade between the two countries is heavily tilted in favour of China and this situation may persist in a short term perspective.

- Din, Musleh-ud, Ejaz Ghani, Usman Qadir, and Naseem Akhtar (2009) **ASEAN- Pakistan Free Trade Agreement, A Feasibility Report**. Prepared for the ASEAN Secretariat. Pakistan Institute of Development Economics, Pakistan and Malaysian Institute of Economic Research, Malaysia.

In today's fast evolving globalised economy, strong intra-regional and bilateral links between countries and regions are assuming greater importance in the policy arena. Both Pakistan and the ASEAN region are actively pursuing closer economic and trade ties with their major trading partners, as well as with other developing/emerging economies. The proposed ASEAN–Pakistan Free Trade Area Agreement is an important step in this direction, given the fact that these countries are in the process of forming closer ties.

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.

- Haque, Nadeem Ul and Ejaz Ghani (2009) **Economic Structure and External Orientation. Chapter in ADB. *National Strategies for Regional Integration: South and East Asian Case Studies.*** Asian Development Bank, Manila.

This country paper provides a comprehensive review with a particular emphasis on Pakistan trade and investment and the potential for regional cooperation. Pakistan is increasingly seeking to strengthen its trade and economic relations particularly with the countries of South Asia and East Asia. Against this backdrop, this study provides an analysis of Pakistan’s trade and investment linkages and potential areas of cooperation with East Asian and South Asian Countries.

- Haque, Nadeem Ul and Ejaz Ghani (2009) **National Strategies for Regional Integration: South and East Asian Case Studies: Pakistan.** In Joseph Francois, Pradumna B. Rana and Ganeshan Wignaraja (eds.) *National Strategies for Regional Integration: South and East Asian Case Studies.* London/Manila: Publication of the Asian Development Bank and Anthem Press. (97–135).

The study indicates four important lessons: (i) integrate with a large neighbouring economy, (ii) emphasise market orientation in regional strategy, (iii) tailor the policy mix to fit national circumstances, and (iv) involve the private sector in developing a regional strategy.

- Akhtar, Naseem and Ejaz Ghani (2010) **Regional Integration in South Asia: An Analysis of Trade Flows Using the Gravity Model**. PIDE. (Unpublished).

The study deals with the trade benefits from free trade agreement of SAARC countries. It assesses the trade potential and trade creation with member and non-member countries. The gravity model has been used to measure the bilateral trade flows and to assess the trade effect for member and non-member countries.

The study has made two analyses to estimate the gravity model. The first analysis is based on cross-sectional data to capture the trade effect individually each year; and 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, the trade volume will increase only if the major partners (Pakistan, India, and Sri Lanka) sign regional trade agreements.

- 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 issue of technology adoption by export-oriented enterprises based on survey data. Using the Rank Model of technology adoption, the paper explores the role of several firm level characteristics that can influence firms' decision to adopt new technology. The results show that younger and bigger firms have a higher probability of technology adoption. Firms that have obtained certifications to 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 to foreign-owned firms. The empirical findings underscore the need for policy options to encourage export-oriented enterprises to adopt new technology including, for example, fiscal incentives to encourage research and development activities as well as upgradation of physical infrastructure for product testing to facilitate certifications.

- Siddiqui, Rehana (2010) **Trade Poverty Nexus: Evidence from Pakistan.** In Athukorala and Kelegama (ed.) *Trade-Poverty Nexus in South Asia.* Chapter-9. London: Routledge.

Globalisation offers large potential benefits for the countries that decide to engage strategically and actively in the process. But the benefits are neither automatic nor guaranteed. Only countries that create patterns of comparative advantage towards high skill and high productive activities are expected to gain significantly. The paper focuses on Trade-Growth-Poverty linkages. The results show a robust relationship between growth and poverty. Other variables of critical importance are unemployment and inflation rate. The rise in unemployment and inflation leads to a significant rise in poverty incidence. Therefore, the recent rise in prices

should be monitored closely to minimise its impact on poverty. The efforts to control unemployment can also be very effective in reducing the incidence of poverty significantly. The linkage between indicators of openness and poverty is not uniform. The rise in imports-GDP and trade-GDP plays an important role in poverty reduction, whereas other indicators, like the average tariff rate and the export-GDP ratio, indicate that the gains from globalisation depend significantly on the competitiveness of the production structure, particularly of the export sector. Another issue is the access of the developing countries to the markets. The focus on increased market access under the WTO regime will benefit the poor countries if market access is provided for the products produced and exported by developing countries.

1.2.2. Corporate Sector

- Javid, Attiya Yasmin (2007) **Small-scale Manufacturing Sector: A Large Contributor to Employment.** *Kashmir Economic Review* 16:1, 45–58.

Small-scale Manufacturing Industries (SSMIs) are considered to be labour-intensive, and they create employment, upgrade quality of workforce, and help technology absorption and poverty alleviation. Small and Household Manufacturing Industries (SHMIs) surveys of urban sectors for the year 1983-84 and 1996-97 have been used to identify that employment elasticity is negatively related to employment cost but positively related to fixed assets and value addition. Food, textile, and machinery-producing industries showed more flexibility to create employment in the SSMI sector.

- Javid, Attiya Yasmin and Robina Iqbal (2007) **External Financial Resource Management by**

Listed Pakistani Firms. *The Pakistan Development Review* 46:4, 449–464.

This study examines the determinants of external finance through equity, to find out whether the firms which are more in need of external finance are valued higher in the stock market, using the firm-level data of 50 corporations listed on Karachi Stock Exchange for the period 2002 to 2008. The results reveal that the firms which need more equity financing practise good governance. The results show that firms large in size and high growth are in more need of external finance. The results also generally confirm the prediction of the theory that a positive relationship between greater need of external financing and valuation is strong in weak legal regime countries like Pakistan.

- Javid, Attiya Y. (2008) **Forecasting Performance of Capital Asset Pricing Models in the Case of the Pakistani Market.** *The Business Review, Cambridge* 11:2, 290–297.

This study empirically tests the conditional CAPM, conditional consumption CAPM, and conditional multifactor CAPM model with individual stocks traded at Karachi Stock Exchange (KSE), the main equity market in Pakistan for the period 1993-2004. The ability of conditional CAPM models in forecasting asset returns is assessed through predictability of excess return for the period 2005-2006. The results show that the macroeconomic variables that capture business cycle fluctuations are better at explaining the cross-section variation in expected returns; they are found to have better forecasting ability for out-of-sample stock returns in the case of Pakistani market. The evaluation of forecasting ability of the conditional asset pricing models shows that the forecasting power of conditional multifactor CAPM is

relatively better as compared to the conditional CAPM model and conditional consumption CAPM models. It follows, therefore, that the business cycle variables provide useful information for predicting the future direction of stock prices. These variables include market return, call money rate, term structure, industrial production growth, inflation rate, foreign exchange rate and growth in oil prices.

- Javid, Attiya Y. (2008) **Time Varying Risk Return Relationship: Evidence from Listed Pakistan Firms.** *European Journal of Scientific Research* 22:1. 16–39.

This study empirically investigates the Fama-French three-factor model and consumption CAPM model in unconditional and conditional settings with individual stocks traded at Karachi Stock Exchange (KSE), the main equity market in Pakistan for the period 1993-2004. These extensions are in response to the empirical findings that do not support standard CAPM as a model to explain assets pricing in Pakistani equity market. The observation is that the dynamic size and book-to-market value coefficients explain the cross-section of expected returns in some sub-periods. In the second stage, the consumption risk is incorporated in standard CAPM in static and dynamic contexts. The findings reveal that the market rewards systematic risk for higher return, but the relevant measure for systematic risk appears to be conditional consumption beta rather than market beta. This evidence leads to investigate macroeconomic risks that can describe the variation in expected return in a more complete and meaningful way.

- Javid, Attiya Y. and Robina Iqbal (2008) **Does Corporate Governance Affect a Firm Performance: A Case Study of Pakistani Market.** *NUST Journal of Business and Economics* 1:1, 1:23.

The study investigates whether differences in quality of firm-level corporate governance can explain the firm-level performance in the cross-section of companies listed at Karachi Stock Exchange for the period 2003 to 2006. The relationship between firm-level value and total Corporate Governance Index (CGI) and three sub-indices (board composition, shareholdings and ownership, and disclosures and transparency) is analysed for a sample of 50 firms listed on the Karachi Stock Exchange. The firm value is measured by Tobin's Q, return on asset, and return on equity. The results indicate that corporate governance does matter in Pakistan. However, not all elements of governance are important. The board composition and ownership and shareholdings enhance firm performance, whereas disclosure and transparency has no significant effect on firm performance. However, the study points out those adequate firm-level governance standards cannot replace the solidity of the firm. The low production and bad management practices cannot be covered with disclosures and transparency standards.

- Ahmad, Hafeez and Attiya Y. Javid (2009) **Determinants of Dividend Policy in Pakistan.** *International Research Journal of Finance and Economics* 29, 110–125.

This study examines the dynamics and determinants of dividend payout policy of 320 non-financial firms listed in Karachi Stock Exchange during the period of 2001 to 2006. For this analysis we use dividend model of Lintner (1956) and its extended versions in a dynamic setting. The results consistently support that Pakistani listed non-financial firms rely on both current earning per share and past dividend per share to set their dividend payments. However, the dividend tends to be more sensitive to current

earnings than prior dividends. The listed non-financial firms having the high speed of adjustment and low target payout ratio show the instability in smoothing their dividend payments. To find out the determinants of dividend payout policy, a dynamic panel regression has been performed. It is found that the profitable firms with more stable net earnings can afford larger free cash flows, and therefore pay larger dividends. Furthermore, the ownership concentration and market liquidity have a positive impact on dividend payout policy. Besides, the investment opportunities and leverage have a negative impact on dividend payout policy. The market capitalisation and size of the firms have an impact on dividend payout policy which shows that the firms prefer to invest in their assets rather than pay dividends to their shareholders.

- Javid, Attiya Y. (2009) **Test of Higher Moment of Capital Asset Pricing Model in the Case of Pakistani Equity Market.** *European Journal of Economics, Finance and Administrative Studies* 15:1, 144–162.

In this study the mean-variance capital asset pricing model (CAPM) developed by Sharpe (1965) Lintner (1966) is tested on individual stocks traded at Karachi Stock Exchange (KSE), the main equity market in Pakistan for the period 1993-2004, using daily and monthly data. The empirical findings do not support standard CAPM as a model to explain assets pricing in Pakistani equity market. In response to this finding, first, the model is extended to mean-variance-skewness and mean-variance-skewness-kurtosis model. Then the covariance, coskewness, and cokurtosis are allowed to vary over time in the autoregressive context leading to conditional three-moment

CAPM and conditional four-moment CAPM. The results of unconditional and conditional higher-moments CAPM reveal that three-moment CAPM performed relatively well in explaining risk-return relationship in Pakistan during the sample period. However, the results of higher-moment model indicate that systematic covariance and systematic cokurtosis have a marginal role in explaining the asset price behaviour in Pakistan.

- Javid, Attiya Y. and Eatzaz Ahmad (2009) **Testing Multifactor Capital Asset Pricing Model in the Case of Pakistani Market.** *International Research Journal of Finance and Economics* 25, 114–137.

This study explores a set of macroeconomic state variables along with market return as the systematic sources of risk explaining variations in expected stock returns for 49 stocks traded at Karachi Stock Exchange for the period 1993-2004. Some of these economic variables are found to be significant in explaining expected stock returns. The test of conditional multifactor CAPM is carried out by specifying conditional variance as a GARCH (1,1)-M process. The results of the conditional multifactor CAPM-with-GARCH-M model reveal that the conditional model showed very marginal improvement in explaining risk-return relationship in the Pakistani market during the sample period. As regards the risk premium for variance risk, the results are not so convincing; only for a few stocks significant compensation for variance risk to investors is observed. The model is then extended to allow variability in economic risk variables, and conditioning information is taken as lagged macroeconomic variables that influence the business conditions in Pakistan. The results show evidence in support of the conditional multifactor CAPM. The economic variables that are observed to perform relatively

well in explaining variations in assets' returns include consumption growth, inflation risk, call money rate, and term structure. However, the market return, foreign exchange risk, and oil price risk, which explain a significant portion of the time series variability of stock returns, have limited influence on the asset pricing. Therefore, we can conclude that expected returns variation could be explained by macroeconomic variations and this variability has some business cycle correlations.

- Mubarik, Fauzia and Attiya Y. Javid (2009)
Analysis of Asymmetry in the Price-Volume Relation: Evidence from Pakistani Stock Market.
Indian Journal of Finance 4:4, 42–48.

The study examines the causal relationship between stock returns and trading volume and the level of association of information asymmetry with stock return volatility and volume relationship of Pakistan at market-level and firm-level for the period of July 1998 to December 2008. The results show that in the overall market, both market return and market volume, influence each other. In the case of firm-level analysis, the evidence indicates that for more stocks return causing volume than volume causing return. The relationship between trading volume and return volatility is analysed by applying the EGARCH model, where volume is incorporated as information innovation in the conditional variance equation. The empirical results verify that there is significant inaction between trading volume and return volatility contemporaneously when volume is integrated into the conditional variance equation both for the overall market and at firm-level. The results indicate that the persistence of volatility does not diminish after introducing trading volume in conditional variance for the overall

market and for most of the stocks. This suggests that return volatility and trading volume are found to follow lead-lag pattern in the overall market and in a large number of stocks, which supports the sequential information arrival hypothesis in the case of Pakistani market.

- Mubarik, Fauzia and Attiya Y. Javid (2009) **The Relation between Stock Returns, Trading Volume, and Volatility: Evidence from Pakistani Stock Market.** *Asia Pacific Journal of Finance and Banking Research* 3:3, 1–17.

This study investigates the relationship between trading volume, returns, and volatility of Pakistani Market for the period July 1998 to October 2008. The results indicate that there is evidence of first-order autocorrelation in market return and individual stock returns. The results of the Granger causality test suggest that there is a feedback relationship between the market return and volume. However, in the case of individual stock returns, the evidence shows that causal relationship runs from stock returns to trade volume not from trade volume to stock returns. The empirical results verify that there is significant interaction between trading volume and return volatility when volume is entered into variance equation of the GARCH-M model.

I.2.3. Investment (Private and Public)

- Ahmad, Imtiaz and Abdul Qayyum (2007) **Do Public Expenditure and Macroeconomic Uncertainty Matter to Private Investment? Evidence from Pakistan.** *The Pakistan Development Review* 46:2, 145–161.

The empirical findings support the proposition that public development expenditures lead to enhance the private investment in the economy. The well-targeted

public investment complements private investment and stimulates private sector's initiatives.

Public non-development expenditures have considerable negative effect on the private fixed investment. This result might be interpreted as a view that a larger government size is an obstacle to the private sector. It can be argued that higher public non-development expenditures leave less resource for development. It can also be argued that higher expenditures create expectations of higher future tax that might discourage the private investment activities in the economy.

We have found that Pakistan has been facing macroeconomic instability and uncertainty, which leads to depress the private sector. We can conclude that macroeconomic stability and policy credibility are key factors for the achievement of strong investment response. If the policy measures are perceived as inconsistent or suspected to be only temporary, then investors will prefer to wait and see before committing resources to irreversible fixed investment. Therefore, the present stabilisation programme should continue for macroeconomic stability.

The results of the study also strongly support the view that private investment is positively related with the income level. It may also be argued that the higher the size of the market, the higher will be the private investment in the economy. These results provide a fair basis for policy formulation as well as future research.

- Ahmad, Imtiaz and Abdul Qayyum (2008) **Effects of Government Spending and Macro-economic Uncertainty on Private Investment in the Services Sector: Evidence from Pakistan.** *International Research Journal of Finance and Economics* 11, 84–96.

This study examines the effect of government spending and macroeconomic uncertainty on private fixed investment in the services sector of the Pakistan for the period 1972 to 2005. We first investigated time series properties of data and then estimated the long-run model using the cointegration technique. The results show that government spending and interest rate affect private investment in the services sector in Pakistan. The preferred short-run dynamic investment function indicates that the increase in government current spending and interest rate discourage private investment and, similarly, macroeconomic instability and uncertainty affect the private investment negatively.

- Ahmad, Imtiaz and Abdul Qayyum (2009) **The Role of Public Expenditure and Macroeconomic Uncertainty in Determining Private Investment in Large-scale Manufacturing in Pakistan.** *International Research Journal of Finance and Economics.* 26, 34–40.

Considering the importance of the large-scale manufacturing sector in Pakistan economy, we analyse investment behaviour of the private sector in large-scale manufacturing. The main emphasis in this paper has been to explore the role of public expenditures (development and non-development) and macroeconomic uncertainty in determining the private sector's fixed investment in large-scale manufacturing. It is found that most of the series are non-stationary, and there is one cointegrating relationship amongst the private investment, public consumption expenditures, public development expenditures, and size of market. The dynamic ECM model of private investment indicates that public development expenditures enhance private investment, whereas non-development expenditures and macroeconomic uncertainty negatively affect private investment.

I.3. Development Strategies and Governance

I.3.1. Governance

- Qasim, Muhammad Ali and Rehana Siddiqui (n.d.) **Financing for Education in Pakistan.** (Forthcoming in *The Pakistan Development Review*).

The study analyses the allocation of funds to the education sector at various levels. At the provincial level, allocations to the education sector as a percentage of total budget stands between 20 to 30 percent. The major-portion of provincial education budget is used to meet the recurring expenditures, the expenditures meant for the maintenance of existing national assets. The development expenditures, necessary to generate future national assets, on the other hand, are less than satisfactory. It is recommended that to meet the EFA goals, allocations to the education sector, especially for development expenditures, need to be enhanced.

- Hasan, Lubna (2007) **An Anatomy of State Failures in Forest Management in Pakistan.** *The Pakistan Development Review* 46:4, 1189–1203.

Most discussions about the causes of deforestation in Pakistan consider over-population and the imprudent behaviour of forest communities as the primary culprits behind forest degradation. This simplistic conceptualisation of the issue shifts attention away from more important causes (e.g., failure of government to manage forests), and leads to wrong policy conclusions. This paper examines the role of state in forest degradation in Pakistan to highlight issues of weak institutional capacity and the need to mend this state of affairs.

- Hasan, Lubna (2007) **Myths and Realities of Long-run Development: A Look at Deeper Determinants.** *The Pakistan Development Review* 46:1, 19–44.

This paper reviews debate about the ‘deeper determinants’ of economic growth—institutions and geography. The “institutions school” assigns primary importance to institutions, whereas the “geography school” considers geographical factors as the primary determinant of economic performance of countries. The paper examines the evidence provided by the respective schools in favour of their hypotheses. It concludes in favour of the ‘institutions’ hypothesis as the geography school does not provide a consistent story of long-run development.

- Hasan, Lubna (2007) **On Ranking Cities: Issues and Options.** Nadeem Ul Haque and Durr-e-Nayab (eds.) *Cities—Engines of Growth.* Islamabad: Pakistan Institute of Development Economics.

Around the world, national governments as well as international organisation measure and monitor performance of large cities and the quality of life (QoL) of urban residents to gain insights into the well-being of the citizens and the state of various amenities at city level in order to make informed policy decisions. This paper highlights the need to develop a system of measuring and monitoring QoL and city performance in the large urban areas of Pakistan and to suggests such a framework.

- Janjua, Pervez Zamurrad and Ghulam Samad (2007) **Intellectual Property Rights and Economic Growth: A Case of Middle Income Developing Countries.** *The Pakistan Development Review* 46:4, 771–722.

Intellectual property (IP) refers to the creations of the mind: inventions, literary and artistic works, and symbols, names, and images used in commerce. Intellectual property rights (IPRs) have been widely recognised as a growth-enhancing factor for the global economies as a whole. IPRs regime can influence the growth process through domestic and external sector of an economy. This study is primarily concerned with the effects of IPRs regime through external sector. Through different channels, IPRs can promote economic growth in the recipient countries. The most important is technology transfer and its positive spillovers. Therefore, IPRs exert economic growth, which requires increase in productivity. Increase in productivity requires increase in technological innovation, and this requires the efficient protection of IPRs [Rapp and Rozek (1990)]. The IPRs can influence the average growth more effectively in the open economies as compared to the close ones [Gould and Gruben (1996)]. Thompson and Rushing (1999) extend the model and include total factor productivity (TFP) in their growth model, which shows that IPRs have an insignificant impact on TFP for developed and developing countries but a positive and significant impact for the developed countries. A secured property rights system is required to sustain economic growth.

- Khan, Muhammad Arshad and Ayaz Ahmed (2007) **Foreign Aid—Blessing or Curse: Evidence from Pakistan.** *The Pakistan Development Review* 46:3, 215–240.

The role of foreign aid in promoting economic growth is a debatable issue and remains unsettled at the theoretical and empirical levels. Pakistan has received a substantial amount of foreign aid since its independence in 1947, but little improvement has been observed in its socio-economic

development. This study considers the question as to whether foreign aid is a blessing or a curse for Pakistan. We examine aid-growth link at both the aggregate and disaggregate levels for the period 1972-2006. The results show negative and insignificant effects of foreign aid on the growth at the aggregate as well as the disaggregate level. The findings further suggest that domestic investment, export growth, and inflows of foreign direct investment are important contributors in enhancing economic growth in Pakistan.

- Rehman, F. Ur, A. Ali, and M. Nasir (2007) **Corruption, Trade Openness, and Environmental Quality: A Panel Data Analysis of Selected South Asian Countries.** *The Pakistan Development Review* 46:4, 673–688.

Globalisation has increased the importance of trade manifold. It also provides a momentum to the idea of sustainable development. But these developments also depend on the quality of institutions in the economy. This paper discusses the idea of environmental sustainability to demonstrate the impact of trade, corruption, and income level on environmental policy formation. Trade affects the environmental quality positively, but this relationship can be distorted by the level of corruption in the economy. Demand for environmental quality increases as the output level starts rising, but it is also offset by the corruption level. Therefore, policy-makers must consider the importance of institutions in the economy before formulating any welfare-directed policy in such a dynamic and complicated system.

- Saeed, Amara (2010) **Pakistan Earthquake : Gender Study.** PIDE Working Paper Series (forthcoming).

There is very limited experience in Pakistan in responding to massive disasters and addressing issues that arise from the onset of such humanitarian disasters; even less is the experience in recognising and addressing gender issues arising from disasters. Just as humanitarian disasters have differential impact on men and women, so do policies, programmes, and projects in accrual of benefits. The October 2005 earthquake impacted men and women in various ways. There has been a shift in traditional gender roles and responsibilities, though men and women were not equipped for their new roles. Women are being further marginalised due to economic dependency on men, limited mobility, very well-defined and rigid social roles, low literacy levels, and limited role in decision-making. The affected area is home to a traditional society with roles chalked out for men and women, women being generally excluded from the public sphere. The shift in the role of women, as perceived in these societies, in particular, have left many women feeling exposed and unprotected. This study analyses some of the earthquake reconstruction policies with a gender lens to document lessons learnt and provide feedback to policy-makers for future disasters.

- Saeed, Amara and Peter Hunnam (2007) **Situation Analysis Report—One UN Thematic Working Group on Environment.** (UN Report).

This is a report prepared for the One UN Environment Thematic Working Group as a situational analysis of the current environment issues in Pakistan. It looks at the environment from a governance perspective, studying the present policies and structures in the country to govern the area of environment. It also goes on to review the budget figures (taking the NWFP-ADP as an example) related to both 'environment' as well as 'non-environment'. The analysis clearly supports the need for 'environment' to be

recognised as a cross-cutting theme and not a stand-alone pillar. This highlights the need to mainstream environment in the planning system of Pakistan.

- Siddiqui, Rizwana (2007) **Quantifying the Impacts of Development of the Transport Sector in Pakistan.** *The Pakistan Development Review* 46:4, 779–801.

The paper quantifies the impact of tax-financed public investment in infrastructure and services by mode of transportation, land, air, and water, using the dynamic computable general equilibrium model. The model includes resource cost, taxes, and cost of externalities, such as congestion, pollution, and accident, where congestion and accident are incorporated for land transport only. The model measures benefits of an investment programme by a change in prices not only in the transport sector but also in taking account of the advantages to other sectors of the economy. The results show that tax-financed investment in transport has reduced its share and cost of non-factor services in the total value of commodities (first objective of NTC). It reduces transport cost of movement of passengers. Improving safety and reliability of transport operations can be concluded from a reduction in the environmental and accident cost (second objective of NTC). Overall, the transport sector development has a positive impact on macro aggregates too.

- Bhatti, A. M., A. Ali, M. Nasir and W. Chaudhary (2008) **Impact of Democracy, Political Instability, and Policy Uncertainty on Private Investment: A Case Study of Pakistan.** *Foreman Journal of Economics Studies* 4, 87–101.

This paper examines the impact of political institutions on growth through the investment in the private sector of Pakistan. Three main determinants of private

investment in the politico-economy are democracy, political instability, and policy uncertainty. The empirical results show that political instability and policy uncertainty are negatively related with gross fixed capital formation whereas democracy does not significantly affect the level of private investment in the case of Pakistan.

- Haq, Rashida and Uzma Zia (2008) **Dimensions of Well-being and the Millennium Development Goals.** *The Pakistan Development Review* 47:4, 851–876.

Human well-being indices can shed light on a society's quality of life. This study ranks human well-being by employing objective and subjective indicators of quality of life for one hundred districts of Pakistan. Data used for the analysis include 'The Pakistan Social and Living Standards Measurement Survey' for the year 2006-07. The human wellbeing is examined in four domains: education, health, living conditions, and economic situation. The paper demonstrates the importance of education, health, and living condition domains in determining the human wellbeing. Objective indicators of education, i.e., adult literacy rate, net primary enrolment, and gender equality in education are important variables in the ranking of districts. Economic status of the households and communities, respectively, are important variables in the subjective perception of wellbeing. The results indicate substantial variation in human wellbeing among various districts of Pakistan. It may be considered that disparity in objective conditions and in subjective perceptions adequately depict the well-being differences. Finally, it is argued that objective indicators and subjective well-being measures are needed in unison to understand human quality of life and to make informed policy decisions.

- Hasan, Lubna (2008) **On Measuring the Complexity of Urban Living**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2008:46). 30 pages.

This paper explores the concept of city ranking as a way to measure the dynamics and complexities of urban life. These rankings have various dimensions and uses. Both the context in which these rankings are done and their nature has changed considerably over time. These rankings are also affected by many methodological and measurement problems. A review of major city rankings and related literature is carried out to suggest a framework for the ranking of Pakistani cities.

- Iqbal, Nasir, Sardar Javaid Iqbal Khan, and Muhammad Irfan (2008) **Democracy, Autocracy, and Macroeconomic Performance in Pakistan**. *Kashmir Economic Review* 17:1.

Pakistan showed a healthy growth rate of 5.6 percent during much of its history, but faced many ups and down in the economic growth due to dramatic changes in the political regimes. The literature shows mixed results regarding the impact of autocracy or democracy on economic growth. The aggregate growth of the economy under the autocracy remained better as compared to the democratic period. Financial Indicators show a consistent path throughout the history of Pakistan. Different trade policies are designed in different regimes to run the external sector, and the impact of each policy is different.

- Khan, Faheem Jehangir and Musleh-ud Din (2008) **Attitudes Towards Civil Service of Pakistan: A Perception Survey**. *The Pakistan Development Review* 47:4, 779–790.

Amid growing concerns on the popularity of the civil service among the students, the study reports the findings of a perception survey of enrolled university students. Contrary to common perceptions, the results suggest that the civil service still retains its allure among the potential entrants. Those who prefer the civil service as a career are more concerned with job security than those who prefer a job in the private sector. The Foreign Service of Pakistan appears to be the most favourite group, whereas the Accounts Group is the least preferred. The District Management Group (DMG) no longer seems to enjoy a coveted position due perhaps to the implementation of the devolution plan which has stripped the group of its power and privileges.

- Qayyum, Abdul, Idrees Khawaja and Asma Hyder (2008) **Growth Diagnostics in Pakistan**. *European Journal of Scientific Research*. 24:3, 433–450.

Following the Hausmann, *et al.* (2005) methodology, we attempt to identify the binding constraints to growth for Pakistan. We argue that governance failure and institutional shortcomings are the heart of the matter. Corruption is rampant, judicial independence is low, educational institutes do not furnish the right kind of labour force, legal institutes do not protect the lenders against loan defaults, ambiguous land titles constrain mortgage financing and construction activity, labour market institutions restrict hiring/firing, SBP has not done its bit to contain the rising interest spread, and SECP/stock market has not played its due role to intermediate the transfer of funds from savers to investors. We identify three binding constraints to growth in Pakistan. These are: (i) poor state of governance, (ii) poor state of institutions, and (iii) lack of competitive environment (that constrains innovation and hence growth).

Without improving the state of governance and that of institutions, sustainable growth cannot occur even if other factors, like a reasonable savings rate, are in place.

- Siddiqui, Rizwana (2008) **Income, Public Social Services, and Capabilities Development: A Cross-District Analysis of Pakistan**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers Series 2008:43). 24 pages.

Is household income enough for human development or should government direct resources towards the provision of social services to improve capabilities of individuals? The former is emphasised by the World Bank, and the latter by the United Nation Development Programme (UNDP). This paper tests both sides of the question by estimating a basic needs policy model for Pakistan, using cross-district data for the year 1998-99. The results are consistent with the view that government provision of social services affects human capabilities significantly. However, the ultimate constraints on the sustainable capability development are the availability of material resources.

- Siddiqui, Rizwana (2007) **Modelling Gender Dimensions of the Impact of Economic Reforms in Pakistan**. University of Laval, Canada. (PEP MPIA Working Paper-13). 57 pages.

After more than three decades of protective trade policy, Pakistan undertook substantial trade liberalisation beginning in the 1980s. We assess the short- and long-run impacts of trade liberalisation during the 1990s (full and partial) on household incomes, welfare, and poverty under various fiscal scenarios. A computable general equilibrium (CGE) model of the Pakistan economy for the year 1990 is used with 10 household categories (identified by employ-

ment status in urban areas and by land holdings in rural areas), 12 production activities, and two factors of production. Our general conclusion is that trade reform improves the average welfare of urban households but reduces the welfare of rural households. In both regions, the rich generally benefit, whereas the poor lose out. The fall in urban poverty dominates the increase in rural poverty, but overall poverty in Pakistan decreases. Rationalisation of the tariff structure reduces welfare and poverty impact more than proportionately. However, in the long run, while it enhances the positive impact on welfare, it reduces the positive impact on poverty as a whole.

- Haq, Rashida and Uzma Zia (2009) **Does Governance Contribute to Pro-poor Growth? Evidence from Pakistan.** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2009:52). 20 pages.

This paper explores linkages between governance and pro-poor growth in Pakistan for the period 1996 to 2005. The analysis indicates that governance indicators for Pakistan have low scores and rank at the lowest percentile as compared to other countries. The dimensions of pro-poor growth, which include poverty, inequality, and growth, demonstrate that the poor do not benefit proportionately from economic growth. It is found that poverty and inequality have worsened and the share in income and expenditure for the bottom 20 percent has also decreased, while inflation for this lowest income group is high as compared to the highest-income group. It is also observed that approximately 25 percent households reported that their economic status was worse than in the previous year (2004-05). The results of the study show that a strong link exists between governance indicators and pro-poor growth in the country. Econometric analysis shows that there is a

strong relationship between good governance and reduction in poverty and inequality. It is concluded that greater voice and accountability, political stability, regulatory quality, and rule of law can control corruption and the pro-poor policies, which ultimately reduce poverty and inequality in the long run.

- Hasan, Lubna (2009) **Disease, Institutions and Underdevelopment**. Posted 03, September 2009, Munich Personal RePEc Archive. (MPRA Paper No. 17090).

There is an absence of agreement about the causes of the persistence of poverty in Sub-Saharan Africa and South Asia. One view holds the disease environment of these regions as the primary culprit. Others see it as a typical symptom of growth-retarding institutions. This paper tests these competing assertions for a cross-section of countries. The results indicate that institutions are the prime determinant of economic performance of countries. Disease does not play a significant role in determining outcomes. On the contrary, the paper finds support for the indirect effect of disease via institutions, as asserted by the 'institutions school'.

- Iftikhar, Zainab and M. Ali Kemal (2009) **Impact of Income Inequality and Defence Burden on Economic Growth**. PIDE Monograph (forthcoming).

This study explores how income inequality and defence burden affect economic growth in different parts of world. We follow an endogenous growth model that suggests 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 around the world. A byproduct of this analysis is the conclusion regarding convergence. Our study finds no support for convergence across the world.

- Khattak, Sharafatullah and Anwar Hussain (2009) **An Analysis of Utilisation of Asian Development Bank's Loans for Books Procurement: A Case Study of Loan Provided to Technical Education Project, NWFP (1996-2004).** *Sarhad Journal of Agriculture* 25:2.

The present study has been conducted to show how the loan named 1373 PAK(SF), provided by Asian Development Bank (ADB) under Technical Education Project (TEP) was utilised in the NWFP. The data were collected from the official documents of the project and audit reports. The study reveals that a total loss to the government exchequer was about Rs 5.87 million Net total value of books purchased from the local firm was Rs 6.11million instead of Rs 7.96 million An amount of Rs 4.03 million out of Rs 79.88 million was spent on undemanded/non-essential/un-useable books. The 5 percent discount offered by supplier was not availed of, which amounts to Rs 0.36 million. In short, the loans were not properly utilised. Based on the findings of this study, it is recommended that checks should be made on the employees' selection and performance should be checked. Arrangements for the availing of the 5 percent donation offer on total purchase of books should be made on an emergency basis and ways should be devised to stop malpractices in future. Un-demanded/non-essential/un-usable books should be returned to the supplier. Research and development cells of each department in the province may be given the chance to work with the Ministry of Higher Education and of Science and Technology. Project

managers, officers of the Planning and Development Department, and ADB officers should properly check quarterly progress reports of projects and should be made responsible for any mishap.

- Khawaja, M. Idrees (2009) **Colonial Roots of Educational Outcomes in Pakistan**. Fellowship Report submitted to Centre for International Studies, University of Oxford. (Unpublished).

The study adds to burgeoning evidence in favour of ‘History matters’, that is, the initial conditions of a country play a crucial role in determining contemporary outcomes. Broadly, we find evidence in favour of strong persistence in literacy rate. The correlation between historic and contemporary literacy rate is not fully explained by the usual determinants like the extent of urbanisation, population density, and occupational specialisation, etc., across the districts of Pakistan. Colonial public spending on education is found to be a key determinant of literacy in 1931 and 1998. This serves to show that colonial investments had far-reaching consequences for the subsequent development of human capital.

- Khawaja, M. Idrees and Sajawal Khan (2009) **Reforming Institutions: Where to Begin?** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2009:50). 27 pages.

No society is devoid of institutions but many live with poor institutions. Institutions promote growth. This is a view now held firmly and widely. The task then is to ‘engineer’ growth-promoting institutions. Endogeneity characterises institutions; for example, groups enjoying political power influence economic institutions, but political power itself is a function of wealth. Given

endogeneity, if the task is to design institutional reforms, the question then arises as to what to reform first. We use the theories of institutional evolution put forth by Douglas North, Daron Acemoglu, and Dani Rodrik, and the historical experiences of different countries in the context of development (or non-development) of institutions, to determine the starting-point of institutional reforms, if the objective is to design institutional reforms. We argue that in Pakistan, neither large commercial interest nor fiscal constraints can force the *de jure* power to reform institutions. Typically, large commercial interests in Pakistan have thrived on favours from *de jure* power, and therefore do not have teeth. Given the strategic interests of foreign powers, foreign aid will alleviate the fiscal constraint and the ruler-citizens bargain—though reforming institution in exchange for tax revenue will remain a dream. The country does not seem ready for a revolution either; the thought process that typically precedes revolutions seems to have barely begun. The alternative that remains, then, is the gradualist approach preferred by North, Acemoglu, and Rodrik. Institutional reforms in Pakistan should begin with the reform of the educational system—the introduction of a common educational system for all and sundry up to a certain level. Two reasons make us choose the educational system as the candidate to start the process of institutional reform. First, a common educational system, will produce a shared value system, which, in turn, will reduce the heterogeneity in the society. Lesser heterogeneity in society will then facilitate an agreement over the minimal set of institutional reforms. Second, politicians being myopic, the *de jure* power is more likely to concede to the demand for reform of the educational system as compared to the demand to, say, put an end to rent-seeking. The former will affect the *de jure* power a generation hence, while the latter will affect them today.

- Malik, Afia, Mir Annice Mahmood, and Ayaz Ahmed (2009) **Power Sector Reforms in Pakistan: A Critical Review.** *The Middle East Business and Economic Review* 21:2, 1–29.

As in a number of countries, power sector reforms began in Pakistan in the mid-1990s, to transform the sector into a technically efficient and commercially profitable sector. This paper critically evaluates the performance of the power sector in the post-reform period in comparison to the pre-reform period. The paper discusses major policy changes undertaken by the government since the initiation of these reforms and the impact these policies have had on the overall performance of the sector. The paper, based on the assessment of the sector's performance, also outlines possible policy suggestions for improving the power sector's performance in the future.

- Saeed, Amara (2009) **Kashmir Relief and Recovery Operation.** Diakonie Katastrophenhilfe. Diakonisches Werk der Evangelischen Kirche in Deutschland e.V., Germany. (An Evaluation Report).

This evaluation study looks at the impact, relevance, sustainability, effectiveness, and efficiency of an INGO is response to a disaster. It describes the overall of programming with special emphasis on community participation, gender and other intangible aspect of humanitarian response.

- Siddiqui, Rizwana (2009) **Human Capital vs. Physical Capital: A Cross-country Analysis of Human Development Strategies.** Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers Series 2009:51). 27 pages.

This study estimates a small simultaneous equation model using panel data from sixty-four countries for the years 1996 and 2004. The model is estimated by various techniques—OLS, TSLS, dummy variable approach introducing variation at the regional level, and fixed and random effect approaches introducing variation at the individual country level. The objective is to identify the importance of basic needs in human development strategies in Asia, Africa, and the rest of the world (ROW). The results show that income per capita has priority over basic needs expenditure in the development strategies of all regions despite being quantitatively different. However, the importance of basic needs expenditure cannot be denied in terms of capabilities development (improvement in health), which ultimately increases productivity.

- Hasan, Lubna (2010) **Rule of Law, Legal Development, and Economic Growth: Perspectives for Pakistan**. Pakistan Institute of Development Economics, Islamabad. (PIDE Monograph Series (forthcoming)).

Rule of law and strong legal systems are considered as a pre-condition for sustained development. Their relative weakness in the underdeveloped world is considered as the main obstacle to growth. Strengthening the rule of law and legal systems has, therefore, become a standard advice from the developed community. This paper reviews the legal obstacles to economic growth in the context of Pakistan and finds significant impediments for growth and market development due to legal shortcomings.

- Khalid, Mahmood and Nasir Ayat (2010) **Consumer Satisfaction in Social Security Hospital: A Case Study of Punjab Employees' Social Security Institution Hospital, Rawalpindi**. (Forthcoming in the *Pakistan Development Review*).

This present study—which is cross-sectional—is designed on the ground that there is a need to incorporate consumer satisfaction in health care evaluation. This study presents a scientific analysis of Punjab Employees' Social Security Institution Hospital, Rawalpindi, using the Patient Survey Questionnaire technique, the most universal approach used by international studies to evaluate consumer satisfaction with health services. We conclude that consumers have expressed a high level of satisfaction for various quality assessment scales. Despite these findings, it has also been noted that a significant proportion of patients have also expressed medium as well as low satisfaction for certain scales. It tends to suggest that the quality of services needs to be improved for specific items as well as certain scales including communication, general satisfaction, and interpersonal aspects for improvements in provision of certain services at the hospital.

- Khan, M. Arshad and Ghulam Samad (2010) **Intellectual Property Rights and Foreign Direct Investment: An Analysis of Fourteen South and South East Asian Countries, 1970-2005.** *Applied Econometrics and International Development* 10:1.

The main focus of this paper is to examine the impact of intellectual property rights (IPRs) and economic freedom of the world (EFW) on inward foreign direct investment (FDI) in a panel of fourteen developing South Asian and Southeast Asian countries over the period 1970-2005. We find that besides other variables, IPR exerts a positive and significant impact on FDI, while EFW produces a negative impact on FDI. This implies that property rights protection, good quality institutions, and more economic freedom encourage foreign investors to invest more in production sectors and focus less on distributional networks.

- Nasir, M., A. Ali, and F. Ur. Rehman (2010) **Determinants of Terrorism: Panel Data Analysis of Selected South Asian Countries.** *Singapore Economic Review* 56:2, 175–187.

The study investigates the determinants of terrorism in the South Asian region. Applying negative binomial regression, the study finds that both political structure and economic conditions are responsible for terrorism. On the economic front, relative deprivation, represented by income disparity, is the major cause of terrorism. On the other hand, political repression, with people deprived of their political rights and civil liberties, compel, a population towards terrorist activities.

- Samad, Ghulam (2010) **Panel Study: Intellectual Property Rights and Technology Transfer: A Case of India, Pakistan, and Bangladesh.** Accepted for 8th Globelics Institute Conference, Kuala Lumpur, Malaysia.

In theory, strong protection of Intellectual Property Protection (IPRs) would encourage technology transfer from the North to South. This study examines the level of IPRs protection in developing countries like India, Pakistan, and Bangladesh, as well as the technology transfers. The indicators used for technology transfer are net foreign direct investment (FDI) and royalty and licence fees. I use the fixed effect methodology for the balance period of 1995-2005. First, we find that besides other important explanatory variables, the form and nature of technology transfer like exports of goods, FDI, licensing and franchises and joint ventures are important. Secondly, strong protection of IPRs is making licensing a viable alternative to FDI.

PART-II

POVERTY AND DEVELOPMENT DIVISION

II.1. Population, Poverty, and Labour Dynamics

II.1.1. *Population Dynamics*

- Bashir, Saima and Uzma Zia (2007) **Perception and Awareness of Reproductive Health Issues among Youth in Pakistan.** Paper presented at the Eighth Annual Population Research Conference, 2007. Population Association of Pakistan.

Pakistan has one of the largest groups of young people, with approximately 25 million adolescents and youth between the ages 15-24 years. The sad fact remains that more than 20 million adolescents and youth in their formative years of life are deprived of knowledge and awareness about reproductive health-related matters, an area that forms the basis to formulate policy and programmatic interventions and requires substantial in-depth analysis. This study, therefore, attempts to undertake a more comprehensive analysis of the level of awareness, using quantitative research techniques, about reproductive health and related issues amongst youth in Pakistan. The objective of this study is to examine the factors that affect the reproductive health awareness among youth, as well as the reproductive health indicators by selected-background socio-demographic characteristics. The analysis has been done for males and females separately to see the differential effect of selected variables on dependent variables in both urban and rural settings.

Our analysis finds a positive association between youth education and level of awareness regarding reproductive health issues. Youth of urban areas are more likely aware about reproductive health issues, especially males have more knowledge in both urban and rural areas. However, women's autonomy variables do not show a significant effect on use of maternal health care. The results of this study suggest that steps should be taken to expand and improve the level of awareness about reproductive health issues, especially in rural areas, where awareness is much less than in urban women.

- Haq, Rashida and Nabeela Arshad (2007) **Poverty and Access to Maternal Health Care Services in Pakistan: Evidence from Perception-based Data.** *Population and Regional Development Nexus*. Presented at the Eighth Annual Research Conference of the Population Association of Pakistan (PAP), December 17-18, 2007, published in the 8th Annual Conference Proceedings Issue, pp. 241–260.

The study investigates the role of poverty status as a barrier to the utilisation of preventive maternal health care services in Pakistan by region and province. The analysis is based on “The Pakistan Social and Living Standard Measurement Survey 2004-05” conducted by Federal Bureau of Statistics (FBS) which provides ample information on poverty status and maternal health care services. Three important indicators, prenatal care, institutional delivery, post-natal care and ever-utilisation of family planning services are taken to assess the utilisation of maternal health care services across perception-based economic status.

The study reveals that that approximately 20 percent to 27 percent women's economic status became worse off,

while 50 percent observed no change in their economic status across the region. A vast variation in economic status is also observed across four provinces. Although the share of health sector budget in GDP remained small and stagnant during the last two decades, yet the health indicators improved to some extent. The antenatal care services received by women suggest that 49 percent births are preceded by a single prenatal visit in Pakistan. Tetanus immunisations had some widespread improvement, but in Balochistan it had not got its place across different economic status groups. In Pakistan delivery care is still dominated by home births, particularly in rural areas and among the lower economic status groups. As far as health providers are concerned, better-off women avail of the facility from the private sector while the majority of poor women visit public sector hospitals or clinics. The role and content of post-natal care has been paid less attention across regions and provinces. Only a quarter of women had ever utilised the facility of a family planning centre during the last three years. Finally, it can be concluded that the economic status of women is a barrier in utilising the maternal health care services. In the provincial comparison, Balochistan is the most vulnerable province in all respects.

- Nayab, Durr-e- (2007) **Self-reported Symptoms of Reproduction Tract Infections: The Question of Accuracy and Meaning.** *The Pakistan Development Review* 46:3, 241–265.

Verbal surveys are the most common way of gauging any population's health status, but questions remain regarding the accuracy of the responses they elicit. The present paper compares women's self-reports regarding their experiences with reproductive tract infections (RTIs) and the medical diagnosis that they went through to ascertain the presence or otherwise of the infections. Weak

concordance was found between women's self-reports and the medical diagnosis, with the former over-representing the presence of infections. Some of the self-reported symptoms were pathogenic in nature, as represented by the true positive reports, but the majority of the self-reports were false positives when compared to medical diagnosis. The conventional health surveys, relying solely on verbal responses, thus, do not essentially represent the actual health situation of a population studied, and any policy intervention formulated exclusively on this information would be flawed. There is a need to understand the non-medical context of illnesses to understand the disease fully.

- Arif, G. M. and Nusrat Chaudhry (2008) **Demographic Transition and Youth Employment in Pakistan.** *The Pakistan Development Review* 47:1, 27–70.

There is convincing evidence that Pakistan has entered the demographic bonus phase; child dependency is declining and youth share in the total population is rising. This paper examines the changes in youth employment and educational attainments in the context of demographic transition. This study has found that the benefits of demographic transition in terms of the rising share of youth has partially been translated through their human capital accumulation and productive work in the labour market. In urban areas, this human capital accumulation is satisfactory; however, it is dismal in rural areas, particularly among females. The high level of inactivity among females and unemployment for both male and female suggest the need of a strong employment and skill policy for their adjustment in the labour market.

- Nayab, Durr-e- (2008) **Demographic Dividend or Demographic Threat in Pakistan?** *The Pakistan Development Review* 47:1, 1–26.

Population growth and size have remained the focus of debate for centuries but the recent demographic transition in developing countries has made social scientists take note of the changing age structure of the population as well. As a result of declining population growth and consequent changes in age structure, the proportion of working-age population is increasing in most developing countries. An associated decline in the dependent age population offers a window of opportunity, referred to as the 'demographic dividend'. Pakistan is also going through the demographic transition, and is experiencing a once-in-a-lifetime demographic dividend as the working-age population bulges and the dependency ratio declines. This paper looks into the demographic dividend being offered to Pakistan, and its implications for the country, mainly through three mechanisms: labour supply, savings, and human capital. For economic benefits to materialise, there is a need for policies dealing with education, public health, and those that promote labour market flexibility and provide incentives for investment and savings. On the contrary, if appropriate policies are not formulated, the demographic dividend might, in fact, be a cost, leading to unemployment and an unbearable strain on education, health, and old age security.

- Nayab, Durr-e- (2009) **Who Marries Whom in Pakistan: Role of Education in Marriage Timing and Spouse Selection**. Pakistan Institute of Development Economics, Islamabad. (PIDE Monograph Series (forthcoming)).

Marriage markets in Pakistan have been undergoing changes in the recent decades, with age at first marriage increasing steadily especially for the more educated ones. Increasing women education, in absolute terms and in

relation to men, is providing an opportunity for educational homogamy compared to that in the past. At the same time, the tradition of hypergamous marriage arrangements for women is creating a “*success penalty*” for those who are more educated. The absolute level of educational homogamy is rising but no definitive word can be given on whether the function of education in spouse selection is strengthening or weakening in Pakistan. Marriage markets in the country are in a transitory state, showing increasing trends of educational homogamy on the one hand, and on the other, a rising trend of familial endogamy and living in polygynous relationships for the more educated women.

- Nayab, Durr-e- (2010) **Demographic Transition in Pakistan: Implications for Old Age Employment and Economic Security**. In Moneer Alam, *et al.* (ed.) *Demographics, Employment, and Old Age Security: Emerging Trend in South Asia*. pp. 37–55. New Delhi: Macmillan India.

Demographic transition is taking place in Pakistan but the country is far from being characterised as an aged population. It is a middle-aged population at best. Although the share of the elderly is low, the effects of their increasing numbers are starting to become visible in the labour market. Unemployment rate shows an increasing trend with age, especially that for elderly females. With changes appearing in the family structure, and in the absence of any concrete old-age security system, the situation can leave the elderly in a vulnerable state. Poor state of human capital of the labour force contributes to this vulnerability during old age.

II.1.2. Poverty and Labour Dynamics

- Arif, G. M. and Faiz Bilquees (2007) **Chronic and Transitory Poverty in Pakistan: Evidence from**

Longitudinal Household Survey. *The Pakistan Development Review* 46:2, 111–127.

Using the panel data set, this paper analyses the incidence of chronic and transitory poverty in Pakistan during 1998-2000. The study finds that the rural poverty is chronic while the urban poverty is transitory. The homogeneous rural set-up affects employment and wages adversely; whereas the heterogeneous urban population with diverse occupations provides better employment and wage opportunities. Further, illiteracy, landlessness, lack of ownership of dwellings, and dependency on sharecropping are the main factors accentuating rural poverty. The paper also analyses the zakat element for safety net strategy and finds that zakat has become an “identification mark” for the absolute poor. These findings have very strong implications for the poverty reduction strategy of the Government of Pakistan.

- Farooq, Shujaat and Usman Ahmed (2007)
Underemployment, Education and Job Satisfaction.
The Pakistan Development Review 46:4, 895–907.

Over-education is obviously a critical problem because it represents wasteful investment of scarce resources. Over-education is costly for the society and for the individuals. The hidden agenda of technocratic administrators is efficiency and productivity: “over-education/underemployment represents an inefficient usage of human resources and lost output for the society” [Glyde (1977)]. Our key conclusion is that there is a significant and genuine incidence of over-qualification in clerical occupation (70 percent out of the sample). Over-educated workers are young as compared to the old and possess more qualifications as compared to the old. There is little substantiation of widespread qualification inflation, i.e., the

employer systematically upgrading the educational requirements of jobs in response to the increase in the supply of more educated labour, without changing the job content. There has also been a substantial increase in the supply of more educated labour. The results confirm our hypothesis that individuals in jobs that underutilise their education and skills are dissatisfied because they earn almost no return on surplus education. The excess education, which is not required and hence may be underutilised, has zero or lower impact on earnings. Furthermore, there is evidence that individuals who studied certain types of traditional humanistic subjects are more likely to be overeducated.

- Amjad, Rashid, G. M. Arif, and Usman Mustafa (2008) **Does the Labour Market Structure Explain the Differences in Poverty in Rural Punjab?** *The Lahore Journal of Economics*. Special Edition, September, 139–162.

This study analyses the poverty differentials in rural Punjab and finds a lower incidence of poverty in *barani* Punjab (north Punjab) and the highest in the cotton/wheat zone (South Punjab). Four factors have been identified for these differentials. First, the lower level of poverty in *barani* and rice/wheat zones (central Punjab) is due to their strong integration with the urban industrial and services sector. Second, the proportion of this zone has also benefited from overseas migration. Third, as compared to north Punjab, the southern areas of Punjab are still largely dependent on agriculture for employment, and, finally, the demographic and social factors are less favourable in southern Punjab to make a major breakthrough in poverty reduction. To overcome these regional gaps, the study suggests a major policy intervention in southern Punjab by

enhancing the rural-urban linkages with the industrial set-up, as well as investment in human capital and overseas employment.

- Mumtaz, Soofia (2008) **Strategies to Combat Trafficking of Women and Children**. Paper presented at the 8th Global Development Network Conference, Brisbane.

Human trafficking is said to be the most lucrative of businesses after arms and drugs. The paper looks at Pakistan as a country of origin, transit, and destination and seeks to explore strategies, from a human rights perspective, to prevent the crime, protect the victims, and prosecute the multiple actors involved in the organisation and execution of the process. Since human trafficking is a multidimensional phenomenon, no single measure to fight the menace is judged as sufficient. A comprehensive counter-trafficking strategy includes legislation that protects the human rights of citizens and prosecutes the victims; also policies that seek to reduce the inequality between men and women and create greater opportunities to empower women socially, politically, and economically. The paper takes stock of who the victims are, what factors render them liable to trafficking, and what mechanisms and venues assist trafficking in humans takes place. The forces and circumstances that foster or create an enabling environment for the flesh trade to flourish, and the consequences of the crime for the victims, are also discussed.

- Mustafa, Usman and G. M. Arif (2008) **Sustainable Livelihood in Barani Punjab: Preliminary Findings of the Baseline Survey**. Pakistan Institute of Development Economics (PIDE) and Sustainable Livelihood in Barani Areas Project (SLBAP). (Unpublished). 168 pages.

The sustainable livelihood in *Barani* areas of Punjab (SLBAP) project is one of the special programme in a multi-sector rural development project of the Government of Punjab. The study conducted the “Benchmark/Baseline” survey for the project. Twelve hundred and ninety-four male and female farmers were interviewed at their premises in 10 Districts, 20 Thesils, 20 Union Councils and thirty villages by well-trained at least graduate male and female enumerators. The sample also includes the non-project area for comparison. Overall, 70 percent HHs were directly engaged in agriculture, while the rest of 30 percent were involved in non-agricultural activities. Non-agricultural HHs percentage was three percent higher in the non-project area, while in the SLBAP areas it was 3 percent less than in the overall categories. On an average, HHs owns almost 32 kanals, which was 34 and 28 kanals in SLBAP and non-project areas respectively. The major sowing method reported by the 67.7 percent farmers was broad cast, followed by 23.8 percent by drill, and 8.5 percent by kera. Similar trends were observed in the project and non-project areas. The major source of drinking-water was hand-pump at home amongst all categories, followed by the electric motor, piped water, water from ponds, etc. Only 4 percent respondent revealed that they were treating drinking water. Boiling the water was the major treatment, and, on average, they boiled the water for 2.23 minutes. The boiling time was almost double that amongst the non-project area respondent. The survey revealed that the majority of the HHs possessed flush-type toilet, 48 percent pit and 12 percent public flush. A substantial number (36 percent) HHs indicated “no toilet”, as they used “open-air toilet”.

The adjusted poverty line for 2007 is Rs 1023 per month per adult equivalent. While adjusting household expenditure in order to get per adult equivalent

consumption expenditure, the scale weighs 0.8 to individuals younger than 15 years and 1 for all other individuals. The adjusted poverty line of Rs 1023 per month per adult equivalent has been used in the study. Overall, the incidence of poverty in *barani* areas was 19.2 percent in 2007. It means that about one-fifth of the sampled population was living below the poverty line in 2007. The incidence of poverty was lower in project areas, (about 17 percent) than in control areas (24 percent). It appears that areas covered by SLBAP are relatively better off. In almost all chores the wife's share was less than the husband's. Even decisions regarding education of girls beyond the primary school was mainly made by the husband (46 percent), with the wife at 7 percent and both at 19 percent. Managing HH money was also decided mainly by the husband (52 percent), by the wife (33 percent), and by both (10 percent) in the sample areas. Any other decisions were also (15 percent) made by the husband mainly. Eighty-nine percent of the overall survey HHs responded that roads were developed with devolution and this response was higher (90 percent) in the project area than in the non-project area (83 percent). Similarly, the HHS responded about development in water supply, 42 percent in the overall, 47 percent in the project area, and 26 percent in the non-project area.

- Siddiqui, Rizwana (2008) **Welfare and Poverty Implications of Global Rice and Agricultural Trade Liberalisation for Pakistan**. In *Global Rice and Agriculture Trade Liberalisation: Poverty and Welfare Implications for South Asian Countries*. Commonwealth Secretariat and Academic Foundation.

The objective of the research is to examine the macroeconomic, welfare, and poverty impacts of global and partial liberalisation of rice trade and agriculture trade in Pakistan. Simulations are conducted in a CGE static framework using data from 2002 social accounting matrix. The model assumes segregated labour market—agriculture and non-agriculture. The paper incorporates supply and demand side factors affecting Pakistan's agriculture trade, with a special focus on rice trade. The results indicate that trade liberalisation of rice and agriculture trade liberalisation benefit all households, especially farm households in rural area. The welfare and poverty indicators, equivalent variation and FGT indices, improve for majority of households. Pakistan as a whole is better off in each exercise as welfare improves and poverty reduces by all measures. However, the intensity of impact differs across five experiments. Lastly, long-run analysis of rice trade liberalisation is conducted assuming that land and capital are also mobile within agriculture and non-agriculture economies, respectively. Global full liberalisation of rice trade has more favourable effects in terms of welfare and poverty reduction in the long run.

- Siddiqui, Rizwana (2008) **“Tariff Reduction, Fiscal Adjustment, and Poverty in Pakistan: A CGE-based Analysis”**. Rizwana Siddiqui, Abdur-Razzaque Kemal, Rehana Siddiqui, and Muhammad Ali Kemal Chapter 8 in *Trade Liberalisation and Poverty: A CGE Analysis of 1990 Experience in Africa and Asia*, in John Cockburn, Bernard Decaluwe, and Veronique Robichaud (eds.) Canada: International Development Research Centre.

After more than four decades of protective trade policy, Pakistan undertook substantial trade liberalisation beginning in the 1990s. We assess the short- and long-run impacts of trade liberalisation (full and partial) in household incomes, welfare, and poverty under various fiscal scenarios. A computable general equilibrium (CGE) model of the Pakistan economy for the year 1990 is used with 10 household categories (identified by employment status in urban areas and by land holdings in rural areas), 12 production activities, and two factors of production. Our general conclusion is that trade reform improves the average welfare of urban households but reduces the welfare of rural households. In both regions, the rich generally benefit, whereas the poor lose out. The fall in urban poverty dominates the increase in rural poverty, so that overall poverty is reduced.

- Arif, G. M. (with assistance of Nasir Iqbal and Shujaat Farooq) (2009) **Poverty Dynamics in Rural Pakistan: Evidence from the Panel Data Sets**. Pakistan Institute of Development Economics, Islamabad. (PIDE Monograph Series (forthcoming)).

This study has used two rounds of the two panel data sets to examine the poverty dynamics in rural Pakistan (Sindh and Punjab). The PSES covers two periods, 1998 and 2000, while the PRHS covers the 2001 and 2004 period. More than one-fifth of the households were chronic 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' as compared to 'central and northern Punjab'. Illiteracy, household size, dependency ratio, lack of livestock, landlessness, and lack of ownership of dwellings are the main factors accentuating

long-term poverty. The higher incidence of transitory poverty in rural Sindh and southern Punjab requires large investment in the public sector to bring them closer to the better-off regions.

- Farooq, Shujaat, Asif Javid, Usman Ahmad, and M. Jehangir Khan (2009) **Educational and Qualificational Mismatches: Non-Monetary Consequences in Pakistan.** *European Journal of Social Sciences* 9:2, 275–291.

Labour market mismatches, either in qualification or in education, reflect inefficiencies in the allocation of resources. A greater access to higher education became the mantra of the Government of Pakistan during past ten years. There is a significant rise in the average level of education, but, over time, concerns come up about the heterogeneity of the skills of the new workers, as well as the capacity of the labour market to absorb the influx of extra workers. Over-education is defined as the educational attainments exceeding the requirements of education in a particular occupation. Over-education implies under-utilisation of skills and unemployment for the least qualified. The research is based on clerical workers of Pakistan, working in both public and private sector. In the light of education and qualification mismatches, the findings show that individuals who underutilise their education and skills are dissatisfied because they earn almost no return on surplus education. Since they get no reward for surplus education, they have less job involvement and a high quit intention rate as compared to the better matched workers.

- Haq, Rashida (2009) **Multidimensional Well-being: An Index of Quality of Life in a Developing Economy.** Pakistan Institute of

Development Economics, Islamabad. (PIDE Monograph Series (forthcoming)).

Human well-being indices can shed light on a society's quality of life. This study ranks human well-being by employing objective and subjective indicators of quality of life for one hundred districts of Pakistan. The data used for the analysis includes 'The Pakistan Social and Living Standards Measurement Survey' for the year 2006-07. The human wellbeing is examined in four domains: education, health, living conditions, and economic situation. Principal component analysis employed for indexing human well-being and rated in five quintiles is generated. The paper demonstrates the importance of education, health, and living condition domains in determining the human wellbeing. Objective indicators of education, i.e., adult literacy rate, net primary enrolment, and gender equality in education are important variables in the ranking of districts. The economic status of the households and communities are important variables in the subjective perception of well-being. The results indicate substantial variation in human wellbeing among districts of Pakistan. It may be considered that the disparity in objective conditions and subjective perceptions adequately depict the well-being differences. Finally, it is argued that objective indicators and subjective wellbeing measures are needed in unison to understand human quality of life and to make informed policy decisions.

- Mumtaz, Soofia (2009) **Transnational Organised Crime.** *Beyond Tolerance, Slave Trade, and Slave Labour: New Metamorphoses of Old Crimes and New Methods of Combating.* Published in Russian by the State Economics University (POSEU), Vladivostok, 107-119.

Lack of education and employment opportunities constitute the major reasons for migration across international borders. States that do not allow legal migration of workers to their country for security reasons create an incentive for irregular migration. Irregular migration and human smuggling involve the consent of the person(s), usually men, who either migrate clandestinely without the required documentary sanction of state authorities, or are illegally transported across an international border (by a third party) with the promise of lucrative jobs and a better future. A smuggler facilitates the illegal entry of persons who believe they will become rich in a few years after entering the country of destination, for which the aspirants pay large amounts of money to agents and are generally free upon arrival, unless a smuggling situation turns into trafficking where the victims are duped by coercion into slavery and bonded labour. The article cuts across all stages of the smuggling spectrum where irregular migrants are faced with discrimination in access to resources, information, and justice in attaining their basic human rights. The eventual goal of the strategies proposed is to create a society that is sensitive to the serious consequences of trafficking in humans, and the role of the state as a partner in combating the crime.

- Mustafa, Usman, Soofia and Sarah Javed (2009) **Social Dynamics of Conflict**. In *The Economic Cost of Conflict and its Socio-demographic Causes and Implications for Pakistan*. Research Report prepared for British High Commission, Islamabad.

The objectives of the social component of the study were to ‘discover the voices’ of the local population affected by the diverse kinds of conflict, and to develop responses to the causes, by recommending measures that

could address the widespread malaise and steer the country towards a path of conflict resolution, if the otherwise disastrous consequences of continuing with the present trends are to be avoided. Qualitative data revealed that the social consequences of conflict were similar in all six sample districts regardless of the type of conflict dominant in the area or its causes: religious extremism in Khyber Pakhtunkhwa province; ethnic conflict in urban Sindh; and nationalism in Balochistan. Instead of empowering liberal, democratic voices, the respective governments in Pakistan have co-opted the religious right and continue to rely on it to counter civilian opposition. By depriving democratic forces of an even playing field and continuing to ignore the need for state policies that would encourage and indeed reflect the country's diversity, the government has allowed religious extremist organisations, *jihadi* groups and the religious seminaries or *madrassas* that provide them an endless stream of recruits, to flourish. It has failed to protect a vulnerable judiciary and equip its law enforcement agencies with the tools they need to eliminate violence in the name of religion.

Conflict, and violence related to conflict, is manifested in Pakistan in a number of spheres, for instance, ethnicity, sectarianism, religious militancy, and nationalist movements. The social component of the larger study commissioned by the British High Commission (2009), entitled "The Economic Cost of Conflict and Its Socio-demographic Causes and Implications for Pakistan", was undertaken in Sindh, Balochistan, and Khyber Pakhtunkhwa. It examines the social drivers and impacts of this multi-faceted phenomenon on the basis of a sample survey and qualitative techniques such as Focus Group Discussions and Key Informant Interviews.

- Siddiqui, Rizwana (2009) **Do Dividends of Liberalisation of Agriculture and Manufactured**

Food Trade Trickle Down to the Poor in Pakistan?

In Muhammad Mazhar Iqbal and Muhammad Idrees (eds.) *Trade and Economic Growth Linkages*. Islamabad: Department of Economics, Quaid-i-Azam University.

This study examines the dynamic effects of domestic and global liberalisation of trade in agriculture and manufactured food commodities on macroeconomic aggregates, welfare, and poverty in Pakistan. Simulations exercise in dynamic CGE framework, using data from the 2002 Pakistan Social Accounting Matrix, illuminate the greater effectiveness of agriculture trade liberalisation along with liberalisation of agro-based manufactured food trade. The results indicate that trade liberalisation of agriculture only benefits farm households in rural area in terms of equivalent variation and FGT indices of poverty (except severity index), while non-farm rural households and poor urban households are worse off and poverty also increases in these groups of households. When manufactured food trade is liberalised, urban households, being the major consumers of these goods, gain more in terms of welfare and poverty. In aggregates, welfare improves in all exercises except global liberalisation of agriculture, where welfare remains at the base level.

- Siddiqui, Rizwana (2009) **Fiscal Adjustment and Poverty: A Gendered Analysis for Pakistan in CGE Framework**. (Unpublished).

The study measures the gender dimensions of the impact of fiscal adjustment with three types of poverty indicators—monetary, capability, and time—using a gender-sensitive CGE model. The model includes three types of production activities—market, social reproduction, and leisure—and disaggregate household consumption by

gender. The main finding of the study is that retrenchment in government expenditure hurt poor households. Within poor households, the policies hurt women more than men. The study concludes that prosperity and education can be the routes to reduce the gender gap, whether it is measured in terms of monetary poverty, capability poverty, or time poverty.

- Haq, Rashida and Nabeela Arshad (2010) **Inequality and Welfare by Food Expenditure Components.** Pakistan Institute of Development Economics, Islamabad. (PIDE Monograph Series (forthcoming)).

This paper examines inequality and welfare in food consumption expenditure in Pakistan. The indices are derived on the basis of Sen's welfare function by employing HIES, 2005-06. The empirical results show that inequality and welfare varied widely in urban and rural areas. It can be seen that the concentration index of non-essential/luxury food components is unevenly distributed over the total expenditure in favour of rich families. The price elasticity of welfare indicates that rising prices of food components have a negative effect on the aggregate welfare. The present analysis provides a basis for determining the magnitude of inequality and welfare that can help in designing appropriate policies.

II.1.3. Overseas Migration, Remittances, and Poverty

- Arif, G. M. (2009) **Economic and Social Impacts of Remittances on Household: The Case of Pakistan.** IOM Research Report, Islamabad.

Saudi Arabia has been the largest host of temporary Pakistani migrants to the Middle East since the mid-1970s. Based on a household survey conducted in nine districts in

2009, this study analyses the economic and social impact of remittances on migrant-money-receiving households. The global economic crisis has not affected the outflows of migrants or the inflow of remittances. A major proportion of remittances received from Saudi Arabia are put into five areas: food, real estate, agricultural machinery, marriage, and savings. The study also finds that the migration has played an important role in the welfare status of these households in terms of children's education, use of health services, and housing facilities. These households have also contributed considerably in the development of their respective communities.

- Amjad, Rashid (2009) **Remittances and Poverty in Pakistan: A Note**. In R. Islam, *et al.* (eds.) *Development, Equity, and Poverty: Essays in Honour of Azizur Rehman Khan*. Macmillan Publishers, Ltd.

The paper makes two major points based on an analysis of data covering the 1975–2008 period. First, the impact of remittances on poverty depends on who sends the remittances. If those who send these come from poorer households (semi-skilled and unskilled workers), the impact on poverty would be greater. Second, that if remittances are sent through legal channels, the overall impact on the economy, and through this on poverty, is much greater than if they are sent through illegal channels.

- Arif, G. M. (2009) **Recruitment of Pakistani Workers for Overseas Employment: Mechanisms, Exploitation and Vulnerabilities**. In Focus Programme on Promoting the Declaration on Fundamental Principles and Rights at Work. ILO, Geneva. (Working Paper 64).

This paper highlights the process of outflow migration of Pakistani workers, and finds that Pakistan is heavily dependent on the Middle Eastern market to absorb its migrant workers. The skill composition of these workers has been stagnant over the past 30 years, and these migrants are exclusively male and more than 60 percent originated from only 20 districts of Pakistan. Based on secondary and primary information from returning migrants, the study finds that the main sources of information for overseas employment are friends, relatives, and recruiting agents. The cost reported by migrants who went abroad through OEPs is lower than the other channels. The study also identifies the recruiting process of illegal migrants and the vulnerabilities of those groups who end up bearing the high costs and who fall victim to illegal activities, breach of contract, deception and fraudulent practices. These findings suggest a number of policy measures to improve the recruitment system and migration process, to facilitate overseas employment and to curb the illegal and exploitative practices.

- Siddiqui, Rizwana (2009) **Impact Evaluation of Remittance for Pakistan: Propensity Score Matching Approach.** (Unpublished).

After balancing for the differences in observables using propensity score matching (PSM), the results show that migrant households receive higher income than the non-migrant only. Their expenditure per adult equivalent is higher on food and non-food commodities. The number of migrant households with income levels below the poverty line reduces by 0.1 points over the non-migrant in aggregate. Their higher human and physical capital ownership point to growth-promoting impact of the remittances, whereas lower entrepreneurial activity,

savings, and bank deposits illustrate the opposite. Therefore, growth impact of remittances remains inconclusive. The results show if we disregard differences in the observables, it overstates the actual impact. The disaggregated analysis by education level shows that remittances bring a larger positive impact for relatively illiterate households.

- Siddiqui, Rizwana (2009) **Pakistan: Migration, Remittances, and Development in South Asia**. In *Migration, Remittances, and Development in South Asia*. (Forthcoming).

This paper tracks the economy-wide effects 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 CGE model. Second, it uses the dynamic CGE model to explore the contribution of remittances to growth. Third, a partial regression analysis has been 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 the 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.

- Arif, G. M. (2010) **Overseas Migration and Millennium Development Goals: The Experience of Pakistan in Selected Indicators**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper Series (forthcoming)).

This study highlights the importance of overseas migration to achieve the MDGs targets concerning poverty reduction, child schooling, and infant and child mortality. Using the secondary and primary data sets, the study analyses the impact of remittances at national, regional, and household level in terms of poverty reduction and household wellbeing and finds the significant role of remittances on economic growth and poverty reduction. Across the regions, the rural zones with a higher level of migration were found to have a lower incidence of poverty. At the household level, the remittances have a strong impact in improving the per capita consumption, children's education, and investment on nutrition and health. To overcome regional disparities and to achieve the MDGs, these findings suggest the promotion of overseas employment through a sound migration policy especially in the poor rural zones.

- Naim, S. T. K. and Zainab Iftikhar (2010) **Migration of the Highly Skilled and Its Impact on the Economic and Technological Development of Pakistan and Bangladesh**. Pakistan Institute of Development Economics, Islamabad. (PIDE Monograph. (forthcoming)).

The analysis is based on primary data obtained from samples of highly qualified skilled professionals in Bangladesh and Pakistan. The two samples collectively comprise about 1800 highly skilled scientists, engineers, and medical professionals. The survey was designed to

reveal biographical information of prospective migrants including highest qualifications and names of institutions where training was received, area of study, current employment status, salary package, future career opportunities, collaboration with national and international networks, preferred future location of employment, and reasons for migration. The study analyses in detail the reasons of perspective migration using the information obtained from the survey.

- Nasir, Muhammad, Muhammad Salman Tariq, and Faiz-ur-Rehman (2010) **The Effect of Remittances on Schooling: Evidence from Pakistan**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper (forthcoming)).

The study shows the impact of remittances on educational performance of children in the households receiving remittances. Much of the literature in this area covers the effects of remittances on poverty, consumption, and investment behaviour of the receiving households. The literature on the impact of remittances on educational performance, however, is rare, especially in Pakistan. To investigate the impact of remittances on educational performance, primary data on household level is collected from four main cities of the Khyber Pakhtunkhwa Province, Pakistan. The results indicate that, without considering the parental education, remittances have significant adverse effects on educational performance. However, the effect becomes insignificant once the parental education is included, as a control variable, in the regression. The results also reveal that low level of parental education, current income, assets, family type, and family size play an important role in the educational performance of children.

II.1.4. Rural Urban Migration

- Arif, G. M. and Shahnaz Hamid (2007) **Gender Dimensions in Rural-to-Urban Migration in Pakistan**. Population Research Proceedings. Population and Regional Development Nexus.

The main objective of this paper is to examine the gender dimensions of rural-urban migration in Pakistan. Analysing the *Pakistan Socio-Economic Survey*, the objective has been achieved in three ways; first, it examines the trends in rural-urban migration to see its quantitative importance in internal migration, and an analysis of women's share and other dependents in this migration stream has also been carried out. Secondly, the change in rural-urban migration has been related to changes in rural economy and agrarian structure. Finally, the labour market participation of both males and females who move to urban areas has been analysed. Internal migration has been classified into four mutually exclusive streams: rural-urban, urban-urban, rural-rural, and urban-rural. The study reveals that until the mid 1980s, rural-rural flows were the largest category in internal migration; but it has now changed in favour of the rural-urban migration flows. Moreover, the finding of the study reveals that not only the female share in rural-urban migration has gone up, but there seems to be a trend in family migration to cities too. Population has been pushed out because of changes in the agrarian structure in rural economy. Job opportunities in the cities seem to be the major 'pull factor'.

The results show the gradual adjustment of rural-urban migrant women in the urban labour market. There is a marked difference between female rural-urban migrants and female non-migrants in occupational composition. Rural-urban female migrants were heavily concentrated in industrial work and elementary occupation. In these

occupations, wages are generally low and working condition are not good either. However, rural-urban female migrants consider their lives to be much better than their economic and social position in rural areas.

- Hamid, Shahnaz (2010) **Rural to Urban Migration in Pakistan: The Gender Perspective**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2010:56). 17 pages.

This paper analyses the gender dimensions in rural-to-urban migration (age 10 years and above) in Pakistan. The study is based on labour force surveys 1996-2006. The findings of the study show that over time internal migration (age 10 years and above) remained unchanged. Female migrants dominate in internal migration (age 10 years and above). In the case of female migration, marriage plays a vital role.

Further, the direction of migration reveals that, over time, in internal migration the share of rural-to-urban migration has increased, while urban-to-urban migration declined. However, the share of urban-to-urban migration remains the highest in internal migration. Females are dominating in recent rural-to-urban move as compared to long-term and total rural-to-urban migration. Gender composition of intra-provincial move of rural-to-urban migration reveals that in all provinces female migrants dominate. Further, the trend of intra- and inter-provincial move indicates that in all provinces long-distance movement of females has increased. Not only has the share of female migrant in rural-to-urban migration increased, but there seems to be an increasing trend in family migration to cities. This seems to be due to the changes in the agrarian structure and rural economy, particularly the increase in landless households, decline in sharecropping, and rise in small landholding.

In addition to this, the trend in intra- and inter-provincial move reveals that, except in province of Khyber Paktunkhwa, in all three provinces long-distance migration has an upward trend. Gender composition reveals that in all these three provinces the proportion of both male and female migrants has increased over time.

The study suggests that young migrants, both male and female, must be encouraged to complete their education at least up to the secondary level. In addition to this, short-term skill development training must be given to them so that they can get employment. Other than this, migrant women must be given training in small-scale trade and retail business, coupled with micro credit, which would facilitate establishment of their own small enterprises at home or very close to home.

II.1.5. Urbanisation/Mega Cities

- Arif, G. M. and Shahnaz Hamid (2007) **Life in the City: Pakistan in Focus**. UNFPA & PIDE. Joint Work of UNFPA and PIDE. Published by UNFPA.

This report studies the role of rural-to-urban migration in the growth of cities from a gender perspective. It makes an attempt to overcome the limited attention paid to the presence of women in the migration stock and their contribution to the household wellbeing. The study finds that life in the cities is harsher for migrant women. Many of them have lost the rural social network. They live in poorhouses with little access to basic necessities. They work for low wages in poor working condition and with average monthly earnings being lower than the minimum wage levels fixed by the government. Despite these hardships, migrant women are happy as they feel empowered to manage their household affairs and provide food for their children. Skill training for illiterate migrant

women would help them to find decent work with better wages. Migrant families may also be helped in improving their living conditions, particularly housing in cities.

- Arif, G. M. and Shahnaz Hamid (2009) **Urbanisation, City Growth, and Quality of Life in Pakistan.** *European Journal of Social Sciences* 10:2.

The unprecedented urban growth taking place in Pakistan reflects the hopes and aspirations of millions of new urbanites. People generally move from economically depressed areas to places that offer better opportunities. The study examines the trends in urbanisation, city growth, and women's share in rural-to-urban migration. A profile of migrant women and their contribution in improving the quality of the life have also been examined through quantitative and qualitative approaches. The findings of the study reveal that due to decreasing dependency on the agricultural sector, the rural population continued shifting to cities, leading to an increase in urbanisation. It also reveals that rural-to-urban growth affects the level of urbanisation. In addition, urban population is spread unevenly between the four provinces; Sindh is the most urbanised province while the least urbanised province is the Khyber Pakhtunkhwa. Further, more slums and marginal human settlements have spread in urban localities.

In the analysis, the role of migration in improving the quality of life has been assessed by using five indicators; female labour force participation, income differentials of working migrants as before and after migration, household consumption expenditures of migrants compared with those of non-migrants, infant mortality, and child malnutrition. Urban migration has made a difference in the lives of women and their families. The analysis reveals that women are economically more active.

PART-III
SUSTAINABLE DEVELOPMENT
AND GROWTH DIVISION

III.1. Growth and Environment

- Ahmed, Ayaz, Henna Iftikhar, and G. M. Chaudhry (2007) **Water Resources and Conservation Strategy of Pakistan.** *The Pakistan Development Review* 46:4, 997–1009.

Water is an essential element for survival of living things. The paper analyses the water resources and conservation strategy of Pakistan. Since independence our country has constructed only two big dams , i.e., Tarbela and Mangla. The sedimentation condition in these dams is also declining the storage capacity. The study indicates that due to stagnant water resources, the per capita water availability is decreasing at an alarming rate. The study highlights the proposed and ongoing water projects. Finally, the paper also articulates the water conservation strategy for Pakistan in order to fulfil the future requirements.

- Haq, Mirajul, Usman Mustafa, and I. Ahmad (2007) **Household's Willingness to Pay for Safe Drinking Water: A Case Study of Abbottabad District.** *The Pakistan Development Review* 46:4, 1137–1153.

Drinking water is the basic need of human life. The objective of the study was to know the Willingness to pay (WTP) for improved water services level and for water quality improvement from households of District

Abbottabad, Pakistan. The systematic random sampling technique was adopted for the collection of data. Four hundreds and fifty-five households were interviewed at their premises through a well-structured and pre-tested questionnaires. Contingent Valuation Method (CVM) was used to measure WTP and also multinomial logistic model was applied. In averting behaviour strategies (Filters, Boiling, Chemical) for quality improvement, the study finds that there are statistically significant effects of education on the water purification behaviour of the HHs. Interestingly, higher income quartile is highly significant in all strategies, while source of water, people getting water from the tap or fetch it from outside, is significant in both the boiling and chemical process. The tap is significant in filter use at 10 percent level of significance. As expected, the study finds that there is a strong effect of quality (unfavourable taste, smell, appearance) on all water purification behaviour of HHs, i.e., water quality is highly significant in all strategies. Apart from the above variables, awareness has an effective role in influencing the general public perception towards the opportunity cost for using unsafe water.

- Mustafa, Usman (2007) **Environmental Fiscal Reforms and Decentralisation for Sustainable Development and Poverty Eradication.** *The Pakistan Development Review* 46:4, 1087–1103.

Poverty and environment degradation are a serious peril in the country. Their causes and effects are highly dependent on the distribution of resources. Natural resources generate public revenues and benefits. Their equitable distribution and sustainable production leads to real development and, ultimately, help poverty reduction. Therefore, natural resource revenues necessitate a

distribution that favours the needs of the indigenous poor people and local sustainable development. The objectives of the study are to highlight and analysed the environmental situation, environmental fiscal reforms, decentralisation, and the relationship between sustainable development and poverty. EFR and Fiscal decentralisation can lay down the structure of expenditures, revenues, and legal discretion, within which provincial and local governments can operate in an effective, efficient, accountable, equitable, and transparent way. People are demanding greater self-determination and influence in the decisions of their governments. Fiscal decentralisation is inevitably a dynamic process. The devolution of power and decentralisation of resources offer many opportunities for empowerment of people and resolution of their local problems at local levels. Such a system is receiving unprecedented support from international partners and other stakeholders as well. But, at the same time, the system is at risk due to political reasons and a troublesome constitutional position.

- Siddiqui, Rehana (2007) **Pakistan's Development and Energy Imperative**. Paper presented at a Conference on Energy Quest in South Asia, Organised by Islamabad Policy Research Institute, February 13-14. (to be published in proceedings).

The role of energy in economic growth is well-established, and it indicates that for long-term viability of the energy sector, the focus on appropriate policy formulation and regulations is critical. Rational industrial structure and pricing regimes have implications for cost-of-service provision and on poverty. Therefore, implementation of an appropriate energy development plan can help to boost economic growth and development of indigenous conventional energy resources. The promotion

of renewable energy, with an emphasis on the development of remote and rural areas, e.g. wind energy, mini/micro-hydel plants, and solar energy, are critical for increasing the availability of energy. In addition, exploitation of the potential for cross-border energy transactions, creation of a favourable environment to mobilise the private sector investment, and the development of indigenous energy resources can help increase energy availability.

Regional cooperation is expected to play a critical role in enhancing energy security of the countries in the region. ASEAN Centre for Energy (ACE) was established to promote development of energy policies and programmes to ensure long-term economic growth and environmental sustainability in member countries. Regional cooperation to encourage energy efficiency and conservation is also needed. Clean coal technology, promotion of intra-ASEAN coal trade, energy standards and labeling, and promotion of energy efficiency in the transport sector are critical for increasing availability of clean and environment-friendly energy.

- Mustafa, Usman (2009) *Fiscal Decentralisation*. ed. Thushara Ranasinghe. International Union for Conservation of Nature (IUCN) Pakistan, Swiss Agency for Development and Cooperation (LDC), and PIDE, Islamabad. iv+34 pp. http://cmsdata.iucn.org/downloads/pk_efr_fiscal_dec_1.pdf

The pursuit of decentralisation is common to many countries. Fiscal decentralisation has the potential to enhance the efficiency of public services, to improve governance by increasing accountability, and to promote economic growth. The objective of the study is to conduct a scenario analysis of the fiscal decentralisation issues, constraints, and opportunities, and its links to the EFR initiative for Abbottabad District. Under current fiscal

arrangements, most revenue in the country is collected by the federal government and redistributed to lower tiers. At the district level, the tax base is weak, and some district taxes and user charges are difficult to collect. As a result, district governments continue to rely heavily on funding from higher tiers. Fiscal decentralisation is a dynamic process. It can create a fiscal structure within which provincial and local governments can operate in an efficient, accountable, equitable and transparent manner.

- Mustafa, Usman (2009) *Revenue and Expenditure: EFR in Abbottabad*. ed. Thushara Ranasinghe. International Union for Conservation of Nature (IUCN) Pakistan, Swiss Agency for Development and Cooperation (LDC), and PIDE, Islamabad. Iv+32 pp. http://cmsdata.iucn.org/downloads/pkEFR_rev_exp.pdf

It is vital to generate and utilise the small available budget wisely at all tiers of government. The budget should be the financial mirror of the society's economic, social, and political choices. The objective of the present study is to conduct a scenario analysis of the district financial system, environment and poverty issues, and its relation to EFR. The district government revenue sources are very meagre; leaving local governments almost entirely dependent on fiscal transfers from the federal and provincial governments. The major sources of domestic financial sources are mutation fees, health, and C&T. Innovative policies are required to achieve development targets while ensuring environmental sustainability. Environmental fiscal reform (EFR) is one such approach, which allows fiscal resources to be managed in such a way that development challenges can be tackled without sacrificing environmental conservation.

- Mustafa, Usman, Mirajul Haq, and I. Ahmad (2009) **Consumer Perceptions, Practices, Willingness to Pay, and Analysis of Existing Laws for Safe Drinking Water of Abbottabad District, Pakistan.** In Lin Heng Lye, Janet E Milne, Hope Ashiabor, Larry Kreiser, and Kurt Deketelaere (eds.) *Critical Issues in Environmental Taxation*. Vol. VII. Chapter VI. Water, Land, and Pollution Management. London: Oxford University Press. pp. 395–412.

The study describes the Contingent Valuation Method (CVM) and Averting Behaviour Approach (ABA) to analyse drinking water services and quality in the Abbottabad city, Khyber Paktunkhwa province of Pakistan. In-depth analyses of the existing laws on the drinking water sector is done. In an attempt to measure how many households are willing to pay for improved water services, we use CVM and apply multinomial logistic regression. In ABA, we use the same technique to estimate the water purification behaviour of households. The data used in the study was collected from Abbottabad District during 2007-08 by a PIDE survey team. The systematic random sampling technique was adopted for the collection of data. Four hundreds and fifty-five households, which consist of 2779 household members, were interviewed at their premises through a well-structured and pre-tested questionnaire. The existing system of drinking water in Abbottabad is not reliable in either service or quality to meet the requirements of the households (HHs). Similarly, there are a number of laws related to safe drinking water, but they are not implemented. The research finds that there are statistically significant effects of education on the water purification behaviour of the HHs. As expected, the study finds that there is a strong effect of quality (unfavourable taste, smell, appearance) on all water purification behaviour

of HHs, i.e., water quality is highly significant in all strategies. Education, available water sources, and quality of drinking water determine WTP of HH in the sample district. Apart from the above variables, awareness has an effective role in influencing the general public perception of the opportunity cost for using unsafe water.

- Mustafa, Usman, Mirajul Haq, and I. Ahmad (2009) *Environmental Fiscal Reform in Abbottabad: Drinking Water*. Rebecca Roberts. International Union for Conservation of Nature (IUCN) Pakistan, Swiss Agency for Development and Cooperation (LDC), and PIDE, Islamabad. iv+22 pp. http://cmsdata.iucn.org/downloads/pkEFR_drinking_water_study_pdf.pdf

It is imperative to understand the safe drinking water situation, consumer's preferences, and their willingness to pay about it. The focal district for the study is Abbottabad where the IUCN/PIDE Environmental Fiscal Reforms (EFR) project was initiated. There is an inadequate supply of safe drinking water in Abbottabad as it is with the other districts of the country. The situation is further aggravated due to the accelerated increase in population. Supply of water has always been one of the major problems in Abbottabad. The condition of general water supply, as well as that of safe drinking water, is further deteriorated in summers because of the presence of a large numbers of tourists in the area. This creates a huge gap between the supply and demand of water. Pro-poor environmental fiscal reform (EFR) represents one way of addressing water issues in the context of poverty and environmental sustainability. The underlying criterion for such reform is to increase revenues through water price revision while furthering environmental goals. Addressing systemic issues related to low-priced or cost-free supply is a key consideration.

- Mustafa, Usman, Mirajul Haq, and I. Ahmad (2009) ***Solid Waste Management***. eds. Rebecca Roberts, Thushara Ranasinghe and Saima Baig. International Union for Conservation of Nature (IUCN) Pakistan, Swiss Agency for Development and Cooperation (LDC), and PIDE, Islamabad. iv+20pp. http://cmsdata.iucn.org/downloads/pk_efr_solidwaste.pdf

The improper disposal of municipal waste has a serious and dangerous impact on a wide range of areas. Garbage thrown in the street or in open spaces creates a public health hazard, while waste dumped near rivers, lakes, and streams contaminates the water supply. This study relates to the EFR project and is initiated to have a deeper look at the causes, problems, public practices and determinants of Solid Waste Management (SWM) in Abbottabad District. While on the paper recommends different fiscal reforms through which further degradation of environment in Abbottabad can be curtailed. These include the introduction of user fees and taxes, as well as incentives for those engaged in garbage collection.

- Siddiqui, Rehana, *et al.* (2009) **Cost of Unserved Energy for Pakistan**. *The Pakistan Development Review* 48:4.

The shortage of energy is a major bottleneck for economic growth and prosperity. In Pakistan, energy supply increased from 28.132 million TOE in 2002/03 to 41.111 million TOE, in 2007-08, i.e., at a rate of about 7.9 percent per annum. The growth rate of energy consumption was 8.9 percent per annum. Per capita availability of energy increased by from 0.20 TOE in 2002.03 to 0.30 TOE in 2007-08. There was a small decline in transmission and distribution losses, by 0.9 percent per annum during 2002–08. However, the losses are still more

than 20 percent of the total energy supply. The reasons for the current crisis include slow progress in increasing the supply, lack of estimates of demand forecast, mismanagement in both supply and demand, water shortages affecting supply, volatility in prices of fuel, continued high T & D losses, and lack of political commitment. All this has resulted in a rise in the cost of production, loss of employment, delays in export delivery, and reduction in government revenue.

- Ahmad, Iftikhar, Mirajul Haq, and Abdul Sattar (2010) **Factors Determining Public Demand for Safe Drinking Water: A Case Study of Peshawar District**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper 2010:58). 22 pages. [http://www.pide.org.pk/pdf/Working%20 Paper/ WorkingPaper-58.pdf](http://www.pide.org.pk/pdf/Working%20Paper/WorkingPaper-58.pdf)

The study uses the Contingent Valuation Method (CVM) and Averting Behaviour Approach (ABA) to analyse drinking-water services and water quality in Abbottabad District. In an attempt to measure how many households are willing to pay for improved water services, we use CVM and apply multinomial logistic regression. In ABA, we have again used the same technique to estimate the water purification behaviour of households. Education, awareness, available water sources, and the quality of drinking-water determine WTP of HH in the sample district.

- Mustafa, Usman and I. Ahmad (2010) **Capturing Real Willingness to Pay through Bespoke Contigent Valuation Method**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper (forthcoming)).

This study was undertaken to look at the households' (HH's) demand for better environmental conditions through

estimating their willingness to pay (WTP) for improved Solid Waste Management (SWM) services. This research applies the contingent valuation method for estimating the HHs preferences for better living standards. Data used in the analysis were collected with the application of a tailor-made questionnaire, from both rural and urban areas of Abbottabad District, Pakistan. The objective was to find out the determinants of HH's WTP for better environment through improved SWM services, and the binomial logit regression technique was used. Education, income, awareness, location, and HH size were found to be influencing HH's WTP. The study found that HHs were WTP. (Currently no charges are being collected by Tehsil Municipal Administration (TMA) if adequate services are provided to them).

- Mustafa, Usman, Mirajul Haq, and I. Ahmad (2010) **Pro-poor Environmental Fiscal Reforms in Solid Waste Management Sector.** In *Peace and Sustainable Development in South Asia: Issues and Challenges of Globalisation*. Sustainable Development Policy Institute (SDPI) and Sang-e-Meel, Lahore. pp. 113–135.

A clean environment is a prerequisite to live a healthy and sound life. It is not only a moral responsibility, but also a religious duty to maintain cleanliness and good hygiene. The improper management of Municipal Solid Waste is causing major environmental degradation and health problems in Pakistan. There is a close connection between environmental degradation and poverty. Poor people are the most receptive part of the population directly and indirectly affected by environmental degradation. It is, therefore, essential to analyse data and conduct a study on the basis of poor and non-poor inhabitants at the district level for effectively and efficiently implementing pro-poor

environmental fiscal reforms (EFR). This study analyses the status, practices, compositions, consumer perceptions, willingness to pay, and potential revenue and environmental fiscal reform policy options for the solid waste produced by households and its management in Abbottabad District of Pakistan. A three-stage, i.e., stratified systematic random sampling technique was adopted for the study.

Average solid waste generation by households in Abbotabad was 2.14 kg/HH/day. Similarly, waste generation by households in urban Abbottabad was estimated to be 69.63 tons/day, while the collection capacity of the Tehsil Municipal Administrations (TMA) at Abbottabad and Havelian was around 42 tons of waste per day. Hence, there is a gap of 27.63 tons per day, which includes both recyclable and decomposable waste. The study finds that, given the importance of an efficient solid waste management system, people are willing to pay for the services and hence the system (if properly managed) has the potential to generate handsome revenues for the district. If TMA charges PKR 35 per month (average willingness to pay in the urban areas), it will collect more than 10 million rupees per annum from Abbotabad District, An effective and efficient solid waste management system for households, therefore, is pro-poor and environmentally friendly.

- Nasir, M. and F. Ur Rehman (2010) **Environmental Kuznets Curve for Carbon Emissions in Pakistan: An Empirical Investigation.** (Unpublished).

This study investigates the relationship between carbon emissions, income, energy consumption, and foreign trade in Pakistan for the period 1972-2008. By employing the Johansen method of cointegration, the study

finds that there is a quadratic long-run relationship between carbon emissions and income, confirming the existence of Environmental Kuznets Curve for Pakistan. Moreover, both energy consumption and foreign trade are found to have positive effects on emissions. The short-run results have, however, denied the existence of the Environmental Kuznets Curve. The short-run results are unique to the existing literature in the sense that none of the long-run determinants of emissions is significant. The contradictory results of the short-run and long-run give policy-makers the opportunity to formulate different types of growth policies for the two terms taking environmental issues into consideration. In addition, the uni-directional causality from growth to energy consumption suggests that the policy-makers should not only focus on forecasting the future demand for energy with different growth scenarios but also on obtaining the least-cost energy. Furthermore, the absence of causality from emissions to growth suggests that Pakistan can curb its carbon emissions without disturbing its economic growth.

- Nazir, Naila and Abdul Qayyum Khan (2010) **Impact of Socio-economic Variables on the Forest Area of Pakistan (1972-2005)**. (Unpublished).

The study highlights some socioeconomic factors. These factors are analysed by taking time series data from 1972 to 2005. Multiple regression technique is applied. The study shows that human population, livestock population, and construction sector growth has no negative effects on the forest area of the country. Rather, cultivated area and manufacturing growth have impacted adversely. Road construction has also affected forest area but the effect is minor. Increase in irrigated area has also adversely affected forest area. The study recommends proper implementation

of land use policy, control on encroachment, and compilation of accurate data on forest production.

- Siddiqui, Rehana (2010) **Environmental Issues and Policy Response in Pakistan**. *South Asian Journal*, April–June.

Given the complexity of the multi-dimensional environmental challenges faced by Pakistan, there is a need for creating awareness and for updating existing environmental legislation to facilitate adoption of low carbon growth strategy. Coordinated efforts, at the national and regional level, will help to solve the trans-boundary environmental concerns like air and water pollution.

- Siddiqui, Rehana (2010) **Population-Environment Nexus**. Paper presented at the Annual Conference of Population Association of Pakistan, held in March. (Unpublished).

The rise in temperature is threatening the livelihood and wellbeing of the world population. Currently Pakistan is facing the rise in temperature, droughts, and incidence of floods. In Pakistan, upto 2007, droughts and floods resulted in the loss of GDP equal to USD 6500.0 and USD 120942.0, respectively. This is equal to 10.5 percent of GDP.

III.2. Human Capital

- Khan, M. Jehangir, Asif Javed, Usman Ahmad, and Shujaat Farooq (2009) **Size of Government Spending and Human Capital Inequality: Evidence from Cross-Sectional and Panel Data Analysis**. *European Journal of Social Sciences* 9:2, 300–322.

This study examines the Meltzer and Richard's model regarding the role of income inequality in determining the size of government spending which argues that a wider

income distribution leads to larger size of state. Our research incorporates alternative inequality measures to test the hypothesis using cross-sectional as well as panel data regarding sixty countries including Pakistan. The panel estimation was undertaken at the level of whole sample. Inequality measures constructed from human capital data set stood consistent at the level of cross-section and panel estimation as compared to inequality measures from inequality data set. Control variables also showed consistency with the inclusion of inequality measures from human capital data set. It is also interesting to note that the ratio of bottom to top human capital quintiles gives robust and significant coefficient both at the level of cross-section and panel estimation. Furthermore, our graphical analysis portrays consistent relationship between the size of government spending and inequality measures computed from human capital data set as compared to that estimated from the income inequality data set.

III.3. Energy

- Malik, Afia (2007) **How Pakistan is Coping with the Challenges of High Oil Prices.** *The Pakistan Development Review* 46:4,551–574.

The paper is a review of possible consequences and challenges presented by high oil prices in Pakistan. Pakistan is heavily dependent on imported fuels, and this dependence is expected to increase even further in future given the depleting gas resources. The rising oil price in the international market has affected the balance-of-payment position as well as the budgetary position of the country negatively. Furthermore, it has contributed to creating inflationary pressures in the economy. For long-run development, oil will remain an important source of energy. The government, therefore, should chalk out

strategies for ensuring efficiency in use; and adequacy and reliability of supply. Unless appropriate steps are taken, this trend of rising oil prices will further aggravate the harmful impact on the economy.

- Khan, M. Arshad and Usman Ahmad (2008) **Energy Demand in Pakistan: A Disaggregate Analysis.** *The Pakistan Development Review* 47:4, 437–455.

This study examines the demand for energy at disaggregate level (gas, electricity and coal) for Pakistan over the 1972–2007 period. The results suggest that electricity and coal consumption responds positively to changes in real income per capita, and negatively to changes in own prices. The gas consumption responds negatively to real income and price changes in the short run. However, in the long-run, real income exerts a positive effect on gas consumption, while the price of gas has an insignificant effect. Furthermore, in the short run, the average own price elasticity and income elasticity for gas consumption (in absolute terms) are greater than those for electricity and coal consumption.

- Malik, Afia (2008) **Crude Oil Price, Monetary Policy and Output: The Case of Pakistan.** *The Pakistan Development Review* 47:4, 425–436.

This paper analyses the impact of rising crude oil prices on output. Crude oil prices and real output are found to be strongly related and this relationship is bell-shaped. That is, when crude oil prices are below the critical level (22 \$/bbl), the relationship between crude oil prices and real output is positive; whereas when the crude oil price rises and exceeds that critical level, the relationship becomes negative. Moreover, high debt-GDP ratio, high deficit spending, and high real effective exchange rate have a negative impact on output. The existence of foreign

exchange reserves and capital investment cause output to rise.

- Nasir, M., M. S. Tariq, and A. Arif (2008) **Residential Demand for Electricity in Pakistan.** *The Pakistan Development Review* 47:4, 457–467.

Pakistan is currently facing a severe electricity crisis in terms of its shortfall. This is due to both reduction in supply and increase in demand for electricity. This study is concerned with the second part. The results show that the short-run price elasticity is only -0.63 , suggesting that the electricity demand is price-inelastic. Although this value increases in absolute term in the long run to -0.77 , it still remains below unity. On the other hand, the short-run and long-run income elasticities are 1.05 and 1.29 respectively. The short-run and long-run elasticities for household size are 4.70 and 5.76 respectively. Some conclusions can be drawn from the above results. First, a low short-run and long-run price elasticity (inelastic demand), for whatever reasons mentioned above, means that the policy of electricity conservation through increase in price alone may not be affective. The government must also provide people with alternative appliances along with creating awareness in the general public about it. Secondly, the government should seriously focus upon the population growth rate in the country. It should formulate such policies that could reduce the population growth rate.

- Khattak, Naeem-ur-Rehman and Anwar Hussain (2009) **Determinants of Gas Energy Consumption in Pakistan: An Econometric Analysis (1971-2006).** *PUTAJ Humanities and Social Sciences* 16, 57–66.

The paper evaluates the determinants of gas energy consumption in Pakistan during 1971-2006 using

econometric techniques. Time series data ranging from 1971 to 2006 has been taken from *Economic Survey of Pakistan* (Statistical Supplement, 2006-07). For the analysis of the data, the Augmented Dickey Fuller (ADF) test, Johanson Co-integration test (likelihood ratio statistic), and the method of ordinary least square have been used. The results indicate that 1 percent each increase in the gas energy consumption in the household, cement, fertiliser, power, and industry sector brings 1.04 percent, 1.03 percent, 0.95 percent, 0.97 percent, and 1.37 percent change in the total energy consumption respectively. The coefficients of all the explanatory variables are statistically significant at both 5 percent and 1 percent levels of significance. It is recommended to increase the gas energy supply to meet the requirement in the household and industry sectors.

III.4. Agricultural Production, Markets, and Institutions

- Beintema, M. Nienke, Waqar Malik, Muhammad Sharif, Gert-Jan Stads, and Usman Mustafa (2007) **Agricultural Research and Development in Pakistan: Policy, Investments, and Institutional Profile: ASTI Country Report.** Agricultural Science and Technology Indicators (ASTI) and Pakistan Agricultural Research Council. International Food Policy Research Institute (IFPRI), Washington, DC, USA. <http://www.asticgiar.org/pdf/PakistanCR.pdf>

This report presents an overview of Pakistan's national agricultural R&D system in terms of institutional developments and recent trends in human and financial resources based on data collected under the Agricultural Science and Technology Indicators (ASTI) initiative. Public agricultural research in Pakistan is conducted by

federal and provincial government agencies and by various higher education agencies. The organisational structure of agricultural R&D in Pakistan is somewhat complex, but with a clear distinction between federal- and provincial-level research agencies. Research conducted by federal government agencies is largely long-term priority research, while the research conducted at the provincial level is mostly adaptive. Total public agricultural research spending fell by about one-third during the 1990s, but rebounded during 1999-2003. Public agricultural R&D in Pakistan is heavily reliant on government sources of support. Foreign donor support has traditionally played an important role in financing agricultural R&D in Pakistan (mostly through grants and loans from the United States and the World Bank), although exact shares of donor funding were not available. Agricultural research conducted by private companies is limited in Pakistan. In 2003, the private sector accounted for just 6 percent of the country's total public and private agricultural R&D spending. The total number of agricultural researchers in Pakistan's public sector has grown only slowly over the past two decades, mainly as a result of prolonged periods of recruitment restrictions. Compared to most countries in the Asia-Pacific region, the average qualification levels of Pakistan's agricultural research staff are relatively low; only 15 percent of the country's agricultural researchers had PhD degrees in 2003. In addition, researchers at the government agencies face limited promotion opportunities, low salary levels, and few other incentives. This has led to a brain drain of researchers from the government sector to universities, non-research agencies, or to opportunities outside Pakistan. Further, Pakistan's agricultural R&D agencies employ only a small portion of female scientists compared to other countries in the Asia-Pacific region.

- Qureshi, Sarfraz K., Madeeha G. Qureshi, and Ejaz Ghani (2007) **Agricultural Diversification in Pakistan: Status and Opportunities**. In *Agricultural Diversification and Smallholders in South Asia*. New Delhi: Academic Foundation.

We consider agricultural diversification as a shift of resources and income-generating opportunities towards high-value food commodities such as fruits, vegetables, milk, meat, eggs, and fish. Compared to food-grain crops, these commodities yield higher returns, and have immense potential for value addition through agro processing.

- Farooq, Umar, Muhammad Iqbal, and Munir Ahmad (2007) **Livestock Farming in Cholistan Desert of Pakistan: Setting the Development Strategies**. *Annals of Arid Zone* 46:1.

Livestock in Cholistan represents a notable proportion of total animal population of Punjab province, where livestock farming is primarily practised under a very difficult environment with little other livelihood opportunities in the area. Herders with their animals keep moving from one *toba* to the other. The lack of coordination among institutions involved in research and development of the area results in several duplications in their work. The average herd sizes are fairly large, mainly maintained to cover the diseases and drought risks. Besides this physical capital, low quantities of other capitals, like human capital, natural capital, and financial capital, are present in the area. However, social capital is found quite strong. Relatively more peculiar problems faced in livestock farming include limited supply of forage and fodder, physical exertion of animals while grazing, frequent incidence of diseases and drought, difficulties in getting health services and vaccination, little opportunity of getting

children educated while moving from one *toba* to the other, low milk productivity, highly limited milk marketing opportunities, non-existence of milk preservation facilities, and low prices of milk and live animals. A number of short-term as well as long-term priority areas are delineated for the researcher, development planners, and policy-makers for the overall development of livestock farming in the desert.

- Haq, Rashida (2007) **Land Inequality by Mode of Irrigation in Pakistan, 1990-2000**. *The Pakistan Development Review* 46:4, 1011–1022.

The aim of this study is to estimate the magnitude of inequality in land distribution by mode of irrigation in two agriculture census periods, 1990 and 2000. It also analyses relative equity performance in cultivated irrigated area as compared to the total cultivated area. Theil's indices of inequality illustrate that there exist considerable levels of inequality in the distribution of all land variables in all areas, increasing evidently over the two agriculture census periods. There is a significant level of increase in inequality in the cultivated area irrigated by canal except in the Khyber Pakhtunkhwa, whereas inequality in the irrigated area by tubewell has increased in all provinces in 2000. The equity index for irrigated area by canal has gone up, indicating that the distribution inequity is increasing in Pakistan. In Sindh, the picture is not encouraging for irrigated area by tubewell, as the distribution inequity has increased in the two periods. Relative equity performance for the irrigated area by canal and tubewell has worsened in Balochistan. The present highly skewed land distribution provides to large farms disproportionately large shares of incremental benefits from irrigation development.

- Khan, Muhammad Azeem, Muhammad Iqbal, and Iftikhar Ahmad (2007) **Environment-Friendly Cotton Production through Implementing Cotton-IPM Approach.** *The Pakistan Development Review* 46:4, 1119–1135.

The study measures the impacts on biodiversity and bio-safety indicators in the context of total pesticide use, toxicity of pesticide use, environmental quotients, health hazards, attitude towards environment, and pest-predator dynamics at Integrated Pest Management (IPM) member and non-member farms in Khairpur District of Sindh. Results show that total doses of pesticide chemicals were largely reduced (43 percent) on IPM- trained farms. Highly toxic class of pesticide use reduction was much higher (54 percent), which resulted in lowering the Environmental Impact Quotient (EIQ). The change in the IPM-trained farmers' attitude and beliefs helped them to change pesticide use behaviour for better environment and health improvements. IPM-trained farmers' attendance score and their age and education status are significantly associated with the pesticide applications, observed biodiversity, and field EIQ. The ratio of predators and pests indicates that less chemical use gives a free hand to predators to flourish, fluctuate, and counter the pest pressure, whereas on farmer practice plots, the pesticide aid reduces natural pest control processes, which enhances pesticide use dependencies. More involvement of plant protection experts, during both IPM-training and post-training follow-ups, is suggested for improved understanding among farmers, extension agents, and researchers.

- Siddiqui, Rizwana (2007) **Dynamic Effects of Agriculture Trade in the Context of Domestic and Global Liberalisation: A CGE Analysis for**

Pakistan. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Papers 2007:38). 21 pages.

This paper studies dynamic effects of agriculture trade in the context of domestic and global liberalisation. Being the largest sector of the economy, the agriculture sector contributes substantially to the growth process. Using a small CGE model for Pakistan and a 2002 Pakistan Social Accounting Matrix as data base, the simulations are conducted to measure the effects of domestic agriculture trade liberalisation in isolation and in conjunction with changes in the world economy. The novelty of this paper is that it introduces dynamics in the Pakistani CGE model through capital accumulation. The results illuminate the greater effectiveness of agriculture trade liberalisation in promoting the overall growth process, given increased market access because of liberalisation in the world economy.

- Kiani, Adiq, Muhammad Iqbal, and Tariq Javed (2008) **Total Factor Productivity and Agricultural Research Relationship: Evidence of Crops Sub-sector of Pakistan's Punjab.** *European Journal of Scientific Research* 23:1.

The study measures total factor productivity in crops sub-sector of Pakistan's Punjab province and analyses the relationship between productivity and agricultural research expenditures during 1970-2004. The Tornqvist-Theil Index (TTI) approach is applied for the measurement of total factor productivity (TFP) using input-output data for 24 field and horticultural crops. Almon distributed lag models involving different lag lengths were estimated taking TFP as a dependent variable. Besides research expenditures, the explanatory variables include factors such as road

kilometers, number of tubewells, improved seeds distributed, and number of tractors, etc. The results indicate that agricultural research, number of tractors, and tubewells have a positive and significant impact on the TFP in crops sub-sector. Empirical evidence shows attractive marginal rates of return to investments in agricultural research in Punjab.

- Mustafa, Usman and A. Qudus (2008) **Globalisation-driven Policies in Agriculture: An Impact Analysis.** *Lahore Journal of Policy Studies* 2:1, 83–100.

World agriculture is changing fast under the new rules of game with the WTO agreement on agriculture. The present study is designed to critically analyse the impact of trade liberalisation on agriculture, food security, and its social/welfare aspects with special references to poverty in Pakistan. Beside macro level implications, micro level effects have also been discussed by comparing the cost of producing wheat before and after globalisation as a case study to find out the consequences of globalisation on small peasants. It is found that the plight of wheat farmers has worsened with the decline in real incomes between 1990-91 and 2005-06. Food as well as inputs prices are getting higher and higher. Government policies are neither farmer-nor consumer-friendly. Globalisation calls for competitiveness and openness. Entering globalisation without competitiveness can expose the society to inflation, poverty, and food insecurity.

- Mustafa, Usman (2009) **Concepts, Forms, Protection, and Implementation of IPR in Pakistan and Pakistan's Agriculture Sector, Agricultural Trade, and Regional Integration.** In Maqbool, *et al.* *Proceeding of the Workshop on WTO Agreements and*

their Impact on Pakistan's Economy. WTO Cell, Faculty of Agricultural Economics and Rural Sociology, University of Agriculture, Faisalabad. pp. 47–78.

Ideas and knowledge are an increasing part of trade. Most of the value of new technologies and products lies in the amount of invention, innovation, research, design and testing involved. The paper describes the TRIPS agreement and its implication, Intellectual Property Rights, structure of Intellectual Property Organisation (IPO) in Pakistan and their impacts on agriculture. Incentive provides for registering patent in Pakistan Plant breeder's rights, act, etc were also highlighted. The paper also presents a schematic model showing WTO (Doha) and Regional Trade Agreements, the opportunities and different choices facing Pakistan's agriculture. Some policy recommendations are also given.

- Mustafa, Usman, Mirajul Haq, and Iftikhar Ahmad (2009) **World Trade Organisation (Post-Doha) and Regional Trade Agreements Opportunities and Perils for Pakistan's Agriculture**. In the Proceedings of the Conference "Agriculture: Challenges, Opportunities, and Options under Free Trade Regime". May 28-29, 2008. WTO Cell, Faculty of Agricultural Economics and Rural Sociology, University of Agriculture, Faisalabad. pp. 1–30.

Globalisation of world agriculture brings new challenges as well as opportunities to Pakistan's agriculture. World agriculture is changing quickly with new rules of game under the WTO agreements. The Doha WTO round of negotiations mainly focused on agriculture. Despite having comparative advantage in agricultural products, the economies of this region are unable to realise their agricultural export potential mainly due to heavy subsidies provided to their own agriculture by rich countries including Japan,

European Union, and the United States. Although there is a substantial increase in the overall trade in the world, yet it goes in favour of developed countries. The open and free economies promised by the WTO have not materialised. There are a number of international constraints/agreements imposed by the WTO (SPS, AOA, TRIPS, TBT, etc.) and environment-related agreements and protocols, i.e., Kyoto, Basel, WSSD, CBD, etc. These are not favourable to developing countries because they lack the capacity to fulfil their requirements. Thus they are lagging behind. A number of countries are trying to sign bilateral/multilateral and regional trade agreement (RTA). Pakistan is a member of ECO, SAFTA, and of bilateral agreements under the RTA. Agriculture is the mainstay of the economy and the majority of the country people's livelihoods directly and indirectly depend on it. Under the new scenario of globalisation, the role of Pakistan's agriculture in international trade is quite marginal except in some crops where we have comparative advantages. Pakistan is a net food-importing country. Therefore, even a small change in agricultural employment opportunities, or prices, can have major socioeconomic effects in the country. It is imperative to measure the impact on overall economy and, finally, on land distribution, cropping pattern and intensity, tenure system, income and employment distribution, crop diversification, migration, etc., and to make policy recommendations to cope with the challenges and reap the benefits from the emerging opportunities. This study, therefore, develops a "Schematic Diagram" and a mathematical model to measure different impacts with special reference to agriculture. Pakistan's current agricultural policy is also reviewed.

- Ahmad, Munir, Cacsar Cororation, Abdul Qayyum, Muhammad Iqbal, and Paul Dorosh (2010) **Impact of Domestic Agricultural Trade Liberalisation**

and Market Reforms Policies on Food Security in Pakistan. In A. Ganesh-Kumar, Devesh Roy, and Ashok Gulati (ed.) *Liberalising Food Grain Markets: Experiences, Impacts, and Lessons from South Asia*. New Delhi: Oxford University Press.

The government of Pakistan has a long history of actively pursuing interventionist policies in the markets for both agricultural inputs and outputs, as a way of ensuring food security. Most of these interventions have now been abolished. However, some market distortions still continue—specifically, interventions in fixing of wheat price and public involvement in its trade. A distortion-free and competitive private food marketing system remains a distant goal.

The comparison between domestic prices and parity prices for different crops shows that *basmati* rice growers—followed by wheat growers—are the group most adversely affected by policy disincentives. IRRI rice and cotton growers are relatively better off, as are sugarcane growers. The net result of the interventions has been an immense resource transfer from the agriculture sector to non-agriculture sectors. The major beneficiaries have been processors and consumers, at the expense of producers and the government exchequer.

The analysis of the impact of interventions within the CGE framework reveals that as the distortions are removed, there is a clear reallocation effect towards the wheat sector. Prices for other commodities increase, but this increase is offset by the improvement in income. Thus overall welfare improves. The general price increase is not very sensitive to large changes in the trade elasticities in the wheat sector.

- Husain, Anwar, Naeem-ur-Rehman Khattak, and Niaz Muhammad (2010) **Impact of Major Farm Inputs**

on Tobacco Productivity in Pakistan: An Econometric Analysis (1960-2006). *Sarhad Journal of Agriculture* 26:1.

The 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 are that one-hectare increase in area under tobacco cultivation brings a 2.47 tonnes increase in total tobacco production. A 1 percent increase in the fertiliser off-take leads to increased tobacco production by 0.05 tonnes. The coefficients of the explanatory variables are statistically significant at both 5 percent and 1 percent level of significance. Due to the 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. Distribution of the fertiliser should be properly managed.

- Iqbal, Muhammad and Rashid Amjad (2010) **Food Security in South Asia: Strategies and Programmes for Regional Collaboration.** Research Report sponsored by Asian Development Bank. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper (forthcoming)).

This study identifies factors influencing food security in the SAARC region during the past two decades and suggests strategies and programmes for regional cooperation to address the issue of food insecurity. The results show that food production and availability in the region exhibit wide fluctuations and food production growth has been mainly offset by high population growth. The process of urbanisation, resulting from accelerated migration from rural to urban areas, is a potential threat to food security in the region as it inflates the population of

net buyers and diverts productive agricultural land and water resources to residential and industrial use. The recent financial crisis has slowed down the growth of income in the SAARC region and high food prices have reduced the real incomes of the poor, causing a decline in their consumption. Although most of the indicators of food utilisation show some improvement over time in all the countries of the region, yet a lot remains to be achieved. The prevalence of under-nourishment and malnutrition is still quite high. The lowest public expenditures being allocated to health sector, especially in India and Pakistan, have serious implications for food utilisation aspect of food security in these countries. The food security index (FSI) for the SAARC region shows little improvement over the past two decades. The marginal improvement in FSI coupled with increasing income inequalities in most of the countries of regions is a situation of serious concern with regard to food security in these countries. Moreover, the public procurement and distribution schemes and safety net programmes are mostly marred by inefficiencies and adverse selection. The growing concerns about food insecurity in the region are resulting in enhanced realisation of the need for undertaking collaborated efforts to address the issue at the SAARC level. However, there is a need to build trust among nations of the region and to extend greater political will to implement such undertakings. The recommendations of the study for regional collaboration include liberalisation of regional trade including trade in food items, development of the SAARC Food Security Bank, agricultural research collaboration, and consultation on agricultural pricing policy.

- Mustafa, Usman, and A. Qudus (2010) **Globalisations and Its Impact on Agriculture, Food Security, and Wellbeing of the People in Pakistan**. In S. S. Gill,

Lakhwinder Singh, and Reena Marwah (eds.) *Economic and Environmental Sustainability of the Asian Region*. New Delhi: Routledge India member of the Taylor and Francis Group.

Many changes have happened in agricultural production and marketing which have had a profound impact on individuals and their wellbeing after the globalisation process. The present study critically analyses the impact of trade liberalisation on agriculture, food security, and social wellbeing of households in Pakistan. Both macro-level implications and micro-level effects have been analysed by comparing the cost of producing wheat before and after liberalisation as a case study to find out the consequences of globalisation on small farmers. It shows that the plight of wheat farmers has worsened, with a decline in real incomes between 1990-91 and 2005-06. Government policies are neither farmer- nor consumer-friendly. Globalisation calls for competitiveness and openness. Entering globalisation without competitiveness exposes the society to inflation, poverty, and food insecurity. The way biofuels and speculation have taken food out of the mouths of starving people shows how globalisation has already made national agriculture exposed to foreign interests.

- Sattar, Abdus, Azkar Ahmed, and Jafar Hussain (2010) **Milk Production in Pakistan: An Exploratory Study**. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper (forthcoming)).

Livestock is an important sector of Pakistan's economy. Within the livestock sector, milk is the largest single commodity. A simple multiple regression model has been used to capture the impact of some selected key

explanatory variables (i.e., number of milk animals, milk pricing, fodder production, and credit to the dairy sector) on milk production in Pakistan. Keeping in view the simplicity of the specified model, the Ordinary Least Squares (OLS) estimation technique is applied. The empirical analysis suggests that the number of milk animals (buffaloes and cows), milk pricing, and fodder production are the major contributors to milk production in Pakistan.