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**PART I
CONTENTS**

	<i>Page</i>
INAUGURAL ADDRESS	
— <i>Syed Naveed Qamar</i>	327
THE PRESIDENTIAL ADDRESS	
Investing in People — <i>Rashid Amjad</i>	331
THE QUAID-I-AZAM LECTURE	
Mohsin S. Khan. The Design and Conduct of Monetary Policy: Lessons for Pakistan	337
COMMENTS — <i>Waqar Masood Khan</i>	351
COMMENTS — <i>Musleh ud Din</i>	355
THE ALLAMA IQBAL LECTURE	
S. Hirashima. Growth-Poverty Linkage and Income-Asset Relation in Regional Disparity: Evidence from Pakistan and India	357
COMMENTS — <i>Abdul Salam</i>	379
COMMENTS — <i>Munir Ahmed</i>	384
THE MAHBUB UL HAQ MEMORIAL LECTURE	
John B. Casterline. Demographic Transition and Unwanted Fertility: A Fresh Assessment	387
COMMENTS — <i>Muhammad Nizamuddin</i>	413
COMMENTS — <i>Zeba A. Sathar</i>	415
COMMENTS — <i>Iqbal Alam</i>	420

Latest Issue

THE PAKISTAN DEVELOPMENT REVIEW
Volume 48, Number 4, Part I (2009)

ABSTRACTS

The Presidential Address

Investing in People

RASHID AMJAD

**The Design and Conduct of Monetary Policy:
Lessons for Pakistan**

MOHSIN S. KHAN

Movements in global capital during the late 1990s and the greater emphasis on price stability led many countries to abandon fixed exchange rate regimes and to design institutions and monetary policies to achieve credibility in the goal of lowering inflation. Such recent developments have brought to the forefront the idea that freely mobile capital, independent monetary policy, and fixed exchange rates form an “impossible trinity”. Inflation-targeting regimes being adopted by many countries provide a way of resolving this dilemma, and it is suggested that such a regime be implemented in Pakistan as well.

JEL classification: E42, E52

Keywords: Monetary Policy, Rules versus Discretion, Inflation Targeting

Growth-Poverty Linkage and Income-Asset Relation in Regional Disparity: Evidence from Pakistan and India

S. HIRASHIMA

The purpose of this paper is to discuss the importance of incorporating asset holding and its distribution into the study of growth-equity relationship in the context of regional disparity. We have tried to discuss this issue by taking the Inclusive Growth Strategy (IGS) introduced by the Union Government of India in 2006.

Although it is too early to assess the impact of IGC at this stage, the followings are some of the important findings of our analysis.

First, the performance of the post-reform period is characterised by the higher economic growth and declining poverty ratio on one hand, and the increasing disparity in terms of consumption, income and asset holding on the other. Second, the magnitude of poverty and disparity is much more evident in asset holding, notably land, as compared with consumption and income, among economically and socially disadvantaged segments of rural communities. Third, if the inherent social inequality were overcome in the growth process, access to asset, notably land, has to be facilitated either by political process or through market transaction. In either case, the prospective is not yet bright.

The paper strongly advocates, among others, the necessity of incorporating income-asset relationship and structural aspects in discussing poverty and disparity issues in development.

Keywords: Growth-Poverty Linkage, Income-Asset Relationship, Inherent Social Inequality, Inclusive Growth Strategy, Land Market, Capital Gain, Land Reform, Rent-land Price Ratio, Gini-coefficient.

Demographic Transition and Unwanted Fertility: A Fresh Assessment

JOHN B. CASTERLINE

The distinction between wanted and unwanted fertility has been crucial in many of the more intense debates in recent decades over the nature of contemporary fertility declines and, in particular, the potential impact of expanded provision of family planning services. In a much-debated article published in 1994, Pritchett argues that decline in desired fertility is overwhelmingly the principal source of fertility decline, with the implication that family planning programmes are of little consequence. I revisit this debate drawing on a far larger body of survey data and, more importantly, an alternative fertility specification which relies on a non-conventional definition of wanted and unwanted fertility rates and which

distinguishes rates and composition. Decompositions of fertility decline in the period from the mid-1970s to the present are carried out for 44 countries. The decomposition results indicate that declines in unwanted fertility rates have been at least as important, if not more important, than declines in wanted fertility rates. Surprisingly, shifts in the proportion of women wanting to stop childbearing—i.e., changes in preference composition—has contributed very little to fertility change in this period. Further, decline in wanted fertility and increases in non-marital exposure (due largely to delayed entry into first marriage) have also made substantial contributions, although on average they fall short of the contribution of declines in unwanted fertility rates. That declines in unwanted fertility have been an essential feature of contemporary fertility decline is the main conclusion from this research. This in turn opens the door to new perspectives on fertility pre-, mid-, and post-transition which recognises the inter-dependencies between fertility demand and unwanted fertility rates in the determination of the overall level of fertility.

JEL classification: J11, J13, R11

Keywords: Demography, Fertility, Family Planning, Regional Economics

PART II

C O N T E N T S

Page

GOVERNANCE, GROWTH AND SOCIAL SECTOR

- Aneel Salman and Atif Abdul Majeed.** Sustainable Incubator Management—A Case Study for Pakistan 425
- M. Irfanullah Arfeen and Nawar Khan.** Public Sector Innovation: Case Study of e-government Projects in Pakistan 439
- Muhammad Khan.** Economic Evaluation of Health Cost of Pesticide Use: Willingness to Pay Method 459

LABOUR AND SKILL DEVELOPMENT

- Muhammad Khan, Fozia Aftab Kiani, Afsheen Ashraf, and M. Iftikhar-ul-Husnain.** Skills, Competitiveness and Productivity 473
- Atiq-ur-Rehman, Hafsa Anis and Saud Ahmed Khan.** Skill Shortage versus Subject Choice: Case of Pakistan 487
- Asma Hyder and Ather Maqsood Ahmed.** The Dynamics of Moonlighting in Pakistan 497
- Zafar Mueen Nasir and Nasir Iqbal.** Employers Size Wage Differential: Does Investment in Human Capital Matter? 509

PRICING MECHANISM

- Adnan Haider and Drissi Ramzi.** Nominal Frictions and Optimal Monetary Policy 525
- Safi Ullah Khan and Syed Tahir Hijazi.** Single Stock Futures Trading and Stock Price Volatility: Empirical Analysis 553
- Attaullah Shah and Shahid Ali Khan.** Empirical Investigation of Debt-Maturity Structure: Evidence from Pakistan 565

**PANEL DISCUSSION – I: EDUCATION SYSTEM IN PAKISTAN:
LESSONS LEARNED AND THE WAY FORWARD**

- Pervez Hoodbhoy.** Pakistan's Higher Education System—What Went Wrong and How to Fix It 581
- Pervez Tahir and Nadia Saleem.** Education: The Need for Consolidation 595

Shaukat Hameed Khan. Making People Employable: Reforming Secondary Education in Pakistan	603
HEALTH AND EDUCATION: UNDERSTANDING DISPARITIES	
Christian Lorenz and Muhammad Khalid. Regional Health Accounts for Pakistan—Provincial and District Health Expenditures and the Degree of Districts Fiscal Autonomy on Health	621
COMMENTS	<i>Naushin Mahmood</i> 634
Aisha Khan. Education Order in Punjab: A District Level Study	635
COMMENTS	<i>Naushin Mahmood</i> 651
Zahid Asghar, Nazia Attique, and Amena Urooj. Measuring Impact of Education and Socio-economic Factors on Health for Pakistan	653
COMMENTS	<i>Naushin Mahmood</i> 673
Nasir Ayat and Mahmood Khalid. Consumer Satisfaction in Social Security Hospital: A Case Study of Punjab Employees Social Security Institution Hospital, Rawalpindi	675
COMMENTS	<i>Naushin Mahmood</i> 698
GROWTH, POVERTY AND INEQUALITY	
Qazi Masood Ahmed and Akhtar Lodhi. Inter-Governmental Funds Flows in Pakistan: Are they Reducing Poverty?	703
COMMENTS	<i>Talat Anwar</i> 714
Muhammad Ali and Muhammad Nishat. Do Foreign Inflows Benefit Pakistani Poor?	715
COMMENTS	<i>Talat Anwar</i> 738
Nasim Shah Shirazi and Md. Fouad Bin Amin. Poverty Elimination Through Potential Zakat Collection in the OIC-member Countries: Revisited	739
COMMENTS	<i>Talat Anwar</i> 754
Rashida Haq and Nabeela Arshid. Inequality and Welfare by Food Expenditure Components	755
COMMENTS	<i>Talat Anwar</i> 768
AGRICULTURE COMPETITIVENESS	
Muhammad Zulfiqar, Dilawar Khan, Anwar F. Chishti, Munir Khan, Wasiullah, Ajmal Waheed, Muhammad Zakir and Robina Karim. Trade Liberalisation Could Improve Producers Profitability in Agriculture: A Case of Basmati Rice	771

Muhammad Ilyas, Tahir Mukhtar, and Muhammad Tariq Javed.		
Competitiveness among Asian Exporters in the World Rice Market		783
Umar Farooq, Munir Ahmad, and Ikram Saeed.		
Enhancing Livestock Productivity in the Desert Ecologies of Pakistan: Setting the Development Priorities		795
Areef Suleman.	Fostering FDI in the Agriculture Sector	821
AID, INVESTMENT AND GROWTH		
Syed Zia Abbas Rizvi and Muhammad Nishat.	The Impact of Foreign Direct Investment on Employment Opportunities: Panel Data Analysis: Empirical Evidence from Pakistan, India and China	841
Nasim Shah Shirazi, Turkhan Ali Abdul Mannap, and Muhammad Ali.	Effectiveness of Foreign Aid and Human Development	853
Nasir Iqbal and Saima Nawaz.	Investment, Inflation and Economic Growth Nexus	863
Somia Iram and Muhammad Nishat.	Sector Level Analysis of FDI-Growth Nexus: A Case Study of Pakistan	875
TRADE, INDUSTRY AND HUMAN CAPITAL		
Muhammad Afzal, A. Rauf Butt, Hafeez ur Rehman, and Ishrat Begum.	A Dynamic Analysis of the Relationship among Human Development, Exports and Economic Growth in Pakistan	885
COMMENTS	<i>M. Mazhar Iqbal</i>	920
Abdul Raheman, Abdul Qayyum, and Talat Afza.	Efficiency Dynamics of Sugar Industry of Pakistan	921
COMMENTS	<i>M. Mazhar Iqbal</i>	938
Tariq Mahmood, Musleh ud Din, and Ejaz Ghani.	An Analysis of Technology Adoption by Export-oriented Manufacturers in Pakistan	939
COMMENTS	<i>M. Mazhar Iqbal</i>	948
FISCAL POLICY		
Zinaz Aisha and Samina Khatoon.	Government Expenditure and Tax Revenue, Causality and Cointegration: The Experience of Pakistan (1972–2007)	951
Ihtsham ul Haq Padda and Naeem Akram.	The Impact of Tax Policies of Economic Growth: Evidence from South-Asian Economies	961
Attiya Yasmin Javid and Umaima Arif.	Dynamic Effects of Changes in Government Spending in Pakistan's Economy	973

**PANEL DISCUSSION – II: CONFLICT, SECURITY AND
DEVELOPMENT**

Kamal Matinuddin. Conflict, Security, and Development	991
Tariq Osman Hyder. Conflicts, Security, and Development	1003
Syed Rifaat Hussain. Resolving the Kashmir Dispute: Blending Realism with Justice	1007
ABSTRACTS	1037
Secretary’s Report	1055

ABSTRACTS

1. **Aneel Salman and Atif Abdul Majeed.** Sustainable Incubator Management—A Case Study for Pakistan. 425–438.

Information technology (IT) is impacting all spheres of human activity at an unprecedented rate. Parallel to this development, there is also an intense debate on the contribution of this technology towards productivity and growth on the one hand, and human welfare on the other, in developed and developing countries.

The “Technology Based Industrial Vision and Strategy for Pakistan’s Socio Economic Development” commissioned by the Higher Education Commission (HEC) and the Pakistan Institute of Development Economics (PIDE) lays out guidelines on how to make Pakistan an economically stable and technologically advanced ‘knowledge economy’. Based on recommendations from this document, the Government of Pakistan (GoP) has made investments in infrastructure and human resource development. Sites have been allocated for IT campuses and human resources sent abroad for training. With these trained IT and engineering personnel now returning to the country, plans are underway to develop what USAID¹ calls “centres of excellence, commercial research centres...or to be more concise, incubator centres.” In order to fully utilise the potential of these centres and to establish stronger networking with the universities from where these trained personnel are returning, the concept of “incubator programmes” has been floated to facilitate technology commercialisation.

Although the incubator phenomenon was conceived in the 1950s, it only mushroomed rapidly in North America in the 1980s. Today, even though America has the largest number of incubator facilities in the world, most have failed to produce desired results, primarily due to poor management and lack of clear vision. This paper focuses on the development of a sustainable blue print for incubator programmes in Pakistan through proactive management and enterprise development. This model would integrate faculty, students, laboratory resources, research facilities and strategically align the objectives of these entities with the industry.

Such programmes have the potential to make Pakistani students globally competitive and also diversify the income resources of incubators, hence making them less dependent upon subsidies and acting as true platforms of technological entrepreneurship, small and medium enterprises, which are considered the drivers of knowledge based economies.

JEL classification: O32, H42, L15, I23

Keywords: Innovation, Technology, Public Economics

2. **M. Irfanullah Arfeen and Nawar Khan.** Public Sector Innovation: Case Study of e-government Projects in Pakistan. 439–457.

¹Evaluation of USAID Higher Education Portfolio, November 2008.

This study analyses and examines in detail the impact of public sector innovation to improve public satisfaction level, it is about changing the traditional government into a more integrated and efficient one. Innovation is actually the engine of economic growth. Innovation in the public sector is an under-researched area. It deals with governance, political and human issues which are very difficult to solve. Since much of the topic and studies on innovation are focusing on the private sector, it is the aim of this study to analyse the process of innovation, mainly in Information and Communication Technology (ICT) in the public sector. This study will eventually be able to give e-government model/ guidelines that encapsulates the reality of innovation by the government. Innovation in government is not only about bringing a new breakthrough product to the people, but also to bring in changes to the culture in the organisation, the way a decision is made, and perhaps more importantly, how it can use technology to strengthen its role as the provider of social and economic welfare to the people. This study has also compared the findings of the e-government case study to the literature of innovation mainly in the area of process innovation. There is SWOT analysis with weight rating to judge the e-governance challenges, which Pakistan is facing as a developing nation. The study concludes that the public sector needs to overcome its traditional characteristics of poor agenda setting, unclear objectives, lack of transparency, and bureaucratic layers of decision-making processes.

Keywords: Citizens, e-government Projects, ICT, Public Satisfaction, Public Sector Innovation

3. Muhammad Khan. Economic Evaluation of Health Cost of Pesticide Use: Willingness to Pay Method. 459–470.

This study highlights the results of contingent valuation method to measure health cost of pesticide use from farmer's point of view. Analysis shows that farmers have a positive willingness to pay for avoiding pesticide related health risks. Theoretical validity tests show that relevant indicators such as risk perception, previous experience of pesticide related poisoning, education and income are significant predictors for the positive WTP. From the results it is evident that health effects of pesticide use provided motivation for farmers to pay more for practices like IPM that reduce dependence on pesticide use which in turn a strong motivation for policy-makers to continue research on IPM and its implementation.

Keywords: Health Cost, WTP, Pesticide Use, IPM.

4. Muhammad Khan, Fozia Aftab Kiani, Afsheen Ashraf, and M. Iftikhar-ul-Husnain. Skills, Competitiveness and Productivity. 473–486.

This study reviews selected indicators on skills and productivity for the period 2000-2008 using labour force survey data. The review of the labour market demonstrates the need of enhancement of skills as well as improved access to skills and education which are necessary to enter a virtuous circle of higher productivity, employment, incomes growth, and development. Without a workforce that is continuously acquiring new and improved skills, it will be difficult for Pakistan to be competitive in the

globalising world. The analysis clearly emphasises the need for reforms in the technical and vocational education and training system.

Keywords: Skills, Productivity, Labour Market, Competitiveness

5. **Atiq-ur-Rehman, Hafsa Anis, and Saud Ahmed Khan.** Skill Shortage versus Subject Choice: Case of Pakistan. 487–496.

Higher Education is believed to be a very important determinant of economic growth. The growth can be optimised with a suitable combination of skills in various subjects. A mismatch between required combination of skills and available combination of skills carries heavy costs for developing economies since import of skill from foreign is much more in expensive for such economies. We compare skill shortage in Pakistan with the subjects choice of students recently enrolled in institutes of higher learning. We found that there is a mismatch between skill shortage and the enrolment trend. We propose that the Government should regulate recruitment of students into various subjects in order to create greater harmony between national needs and students enrolment.

JEL classification: J08, J82

Keywords: Subject Choice, Skill Shortage, National Needs

6. **Asma Hyder and Ather Maqsood Ahmed.** The Dynamics of Moonlighting in Pakistan. 497–507.

The study explores the dynamics of moonlighting, demographics, human capital and association of occupations between primary and secondary job. The paper is based on cross-section data *Labour Force Survey 2006-07* and limited to male wage workers residing in urban areas. Among two motives according to theoretical framework of moonlighting; first, constraint on hours worked in first job and second is wage rate is lower than the reservation wage in the primary occupation; within limited information available on different variables our results are skewed toward first motive and earnings from the primary occupation are insignificant in moonlighting decision. The model specification also attempts to correct the endogenous regressor in probit estimation. Among moonlighters 'Professionals' and 'Technicians' are holding their secondary job in same occupational category; apart from these two occupational categories managers and elementary occupations also seems popular for moonlighting.

JEL classification: J22, J24

Keywords: Moonlighting, Labour Mobility, Occupational Association

7. **Zafar Mueen Nasir and Nasir Iqbal.** Employers Size Wage Differential: Does Investment in Human Capital Matter? 509–522.

Wage differential due to employer size is one of the key areas of interest in labour market research because a strong positive relationship between employer size and wages has been observed in developed and developing countries. It is, however, relatively neglected area of research in Pakistan. The purpose of present study is to investigate the employer size wage differential by looking at human capital factors. The study is based on standard methodology and estimates earning functions on Labour Force Survey (LFS)

data for year 2007-08. Results clearly show that human capital investment has a bigger role in determining wages in the larger firms as compared to smaller firms. The main policy implications emanating from the analysis are the higher investment in skill which increases opportunities for workers in the labour market for higher wages and for jobs with good characteristics especially in large sized firms. The government policy towards education and skill formation needs serious reforms and better allocation of funds so that people get chance to enhance their skill level hence wages.

JEL classification: J31, J40, J24

Keywords: Wage Differential, Human Capital, Labour Market

8. Adnan Haider and Drissi Ramzi. Nominal Frictions and Optimal Monetary Policy. 525–551.

It is well known in standard economic literature that nominal frictions have significant impact on the transmission mechanism of monetary policy. This paper considers a closed economy version of DSGE model with various nominal frictions *vis-à-vis* monetary-cum-fiscal blocks to seek the basic query that how monetary policy impacts while in the presence of nominal frictions, like price stickiness, staggered wages, etc. Using Bayesian Simulation techniques, we estimate the model for the closed economy. Our simulation results show that despite the apparent similarities of various frictions, their responses to shocks and fit to data are quite different and there is no agreement on their relative performance. As a result, Monetary Authorities cannot afford to rely on a single reference model which contains few nominal frictions of the economy but need to model a large number of alternative ways available when they take their decision of optimal monetary policy.

JEL classification: E32, E37

Keywords: DSGE Models, Nominal Frictions, Monetary Policy

9. Safi Ullah Khan and Syed Tahir Hijzi. Single Stock Futures Trading and Stock Price Volatility: Empirical Analysis. 553–563.

This study examines impact of the introduction of single stock futures contracts on the return volatility of the SSFs-listed underlying stocks. The study documents a significant decrease in return volatility for the SSFs-underlying stocks following the introduction of single stock futures contracts on the Karachi Stock Exchange. The multivariate analysis in which the spot trading volume, the futures trading volume and open interest were partitioned into news and informationless components, the estimated coefficient of expected futures volume component is statistically significant and negatively related to volatility, suggesting that equity volatility is mitigated when the expected level of futures activity is high. The findings of the decreased spot price volatility of the SSFs-underlying stocks associated with large expected futures activity is important to the debate of regarding the role of equity derivatives trading in stock market volatility. These empirical results for the Pakistan's equity market support theories implying that equity derivatives trading improves liquidity provision and depth in the equity markets, and appear to be in contrast to the theories implying that equity derivatives markets provide a medium for destabilising speculation. Finally, the SSFs-listed stocks

were grouped with a sample of non-SSFs stocks to examine cross-sectional data for comparing changes in return volatility. After controlling for the effects of a number of determinants of volatility, sufficient evidence is found to support that, this multivariate test, like the previous analysis, provides no evidence that the volatility of the SSFs-underlying stocks is positively related to the introduction of the single stock futures trading in the Pakistan's stock market.

- 10. Attaullah Shah and Shahid Ali Khan.** Empirical Investigation of Debt-Maturity Structure: Evidence from Pakistan. 565–578.

We examine the empirical determinants of debt-maturity structure of 266 firms listed on the KSE over the period 2000 to 2004 using several variants of dynamic panel data models. We find mixed support for the agency cost hypothesis as our results show that debt-maturity increases with the size of the firm; however, growth options do not have any significant influence on debt-maturity structure. Our results lend unambiguous support to the maturity-matching hypothesis as debt-maturity varies inversely with operating activities and directly with the maturity of long-lived assets. Finally, we find evidence that supports the tax-based hypothesis but no evidence to support the signaling hypothesis. Moreover, the results demonstrate that there is a significant dynamic component in the determination of optimal debt-maturity structure of the sampled firms.

JEL classification: G32

Keywords: Debt Maturity, Capital Structure, Panel Data, GMM, Pakistan.

- 11. Pervez Hoodbhoy.** Pakistan's Higher Education System—What went Wrong and How to Fix it. 581–594.
- 12. Pervez Tahir and Nadia Saleem.** Education System in Pakistan: Lessons Learned and the Way Forward. 595–602.
- 13. Shaukat Hameed Khan.** Making People Employable: Reforming Secondary Education in Pakistan. 603–617.

Pakistan's education system has been the focus of various reforms every few years, and a new exercise has been initiated recently through the National Education Policy, 2009. While the problems are generally well documented and stress on universal primary education fully justified, the role of economic relevance of education and training as a factor discouraging completion is not sufficiently emphasised. Studies from developing and developed countries highlight the strong linkage between education and training and employment, and the economic and social returns of employability of trained workers. It is argued that if one or more career based occupational tracks (vocationalisation of upper-secondary education) is offered at the upper secondary level (Class 8-10) as supplements to general education, dropout can be reduced. This will result in increased employability, productivity and competitiveness in the work environment. Co-financing with the private sector of a Rs 48 billion programme for practical on-the-job training is examined in the light of international experiences.

JEL classification: J24, O33, H52

Keywords: Human Capital, Skill Bias, Labour Productivity, Education Expenditures

- 14. Christian Lorenz and Muhammad Khalid.** Regional Health Accounts for Pakistan—Provincial and District Health Expenditures and the Degree of Districts Fiscal Autonomy on Health. 621–634.

Since May 2009 the first National Health Accounts (NHA) for Pakistan have been finalised and published by Federal Bureau of Statistics (FBS) in cooperation with German Technical Cooperation (GTZ). This paper goes one step ahead the report and analyses in more detail the regional differences in health expenditure structures in Pakistan.

The further analyses can be divided into four parts: health expenditures in provinces (Provincial Health Accounts, PHA),² Punjab provincial and district governments health expenditures and its comparison with ADB figures, all districts of Pakistan and comparison between total district government and provincial government expenditure for each province; the latter calculation is applied as indication for the degree of fiscal autonomy of the districts in each province.

Consequently we first analyse the provincial health expenditures by Financial Agents and compare them between the provinces which leads to very heterogeneous results (Section 2); the per capita health expenditures differ from 16 to 23 USD. Secondly, we compare NHA results on Punjab district government with available ADB results and present differences in methods as possible reasons for different results (Section 3). Third, we analyse district data of all district governments in all four Pakistani provinces on the level of detailed function codes in Section 4; the aim is to discover regional differences between districts of the same as well as of different provinces. Fourth, we analyse in Section 5 the degree of fiscal autonomy on health of the districts in each province; therefore we review the ordinance description and compare total district government with total provincial government expenditures per province.

Finally we give recommendations for future rounds of NHA in Pakistan regarding formats and necessities of detailed health expenditure data collection to ensure evidence based decision-making not only on federal, but also on provincial and district level.

JEL classification: H51, I1, O18, R1

Keywords: National Health Accounts, Health Expenditures, Regional Comparison, Regional Accounts, Fiscal Autonomy, Pakistan

- 15. Aisha Khan.** Education Order in Punjab: A District Level Study. 635–652.

This paper attempts to evaluate the status of education in the current districts of Punjab and compare this with the status of education attainment in 1998. The tool used for assessment and comparison is the Education Index (EI) for the districts of Punjab. The Education Index is a composite index which is calculated using enrollment at different education levels and literacy rates. The main data sources used are the Population Census 1998, Punjab Development Statistics 1998 and the Multiple Indicator Cluster Survey (MICS) 2008. Using data from these sources, robustness in the results is verified by comparing different weighting simulations of the EI. The EI results are found using the UNDP methodology and the Principal

²In addition to PHA and District Health Accounts (DHA), we understand Health Accounts on provincial and district level including inter-provincial comparisons as Regional Health Accounts (RHA).

Component Analysis (PCA) method. Both methodologies of calculation lead us to ascertain the robustness of the EI calculation using the data. This testing allows an important conclusion to emerge that the different weighting schemes does not largely affect the ranking of districts. Further, by comparing the results for both years, considerable development in education status is observed; however, an unexpected result also appears. The relative pattern of education status across Punjab has hardly altered in the last ten years even with the considerable progress that has been witnessed. This shows that an unchanging relative ranking of districts seems to exist unless significant endorsement of education takes place within the lowest ranked districts.

JEL classification: I2, O1

Keywords: Education, Development, Developing Country

- 16. Zahid Asghar, Nazia Attique, and Amena Urooj.** Measuring Impact of Education and Socio-economic Factors on Health for Pakistan. 653–674.

Education affects health not because of the knowledge and practices one can learn at school, but rather it shapes individuals life and can alter the characteristics of an individual to be healthier. Measurement of health is an abstract concept and health itself is affected by a number of factors. This study aims at exploring whether there is any relation in education, gender, and health for Pakistan. Exploratory data analysis and ordinal logistic regression are used here to assess relationship between health, education and other socio-economic factors. It is evident that individuals with higher education level tend to have better health status than a person with lower levels of education. There is also evidence of gender being an important determinant of health in Pakistan. The variation in health status of individuals is studied with reference to gender, culture, occupations, and social economic status. This study provides a useful piece of information for the policy-makers in health and education sectors. The data used in this study was collected by Pakistan and Medical Research Council under National Health Survey of Pakistan [NHSP (1990-1994)].

JEL classification: L00, L20, C21

Keywords: Education, Self-reported Health, Ordered Logit, Health Conditions, Pseudo R^2

- 17. Nasir Ayat and Mahmood Khalid.** Consumer Satisfaction in Social Security Hospital: A Case Study of Punjab Employees Social Security Institution Hospital, Rawalpindi. 675–699.

In health care, consumer satisfaction is an important evaluation instrument to determine the quality of services. In recent years, the concept has assumed much greater significance particularly in market based health systems. Also, in World Health Organisation's framework for health care assessment, the customer satisfaction is given due consideration. On the contrary, in developing countries particularly, the concept is one of the most ignored elements in evaluation of health care systems. Pakistan is also a case in point. Review of literature and general health

management systems in the country suggests scarcity of information on consumer satisfaction as well as its neglect as a crucial element in health systems. 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 (PESSI) using the Patient Survey Questionnaire technique, the most universal approach used by international studies to evaluate consumer satisfaction with health services. Based on study results, generally, we conclude that consumers have expressed high level of satisfaction for various quality assessment scales. Despite these findings, it has also been noted that significant proportion of patients have also expressed medium as well as low satisfaction for certain scales. It tends to suggest that 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.

JEL classification: I11, I18, I38

Keywords: Customer Satisfaction, Quality, Healthcare, Evaluation

18. Qazi Masood Ahmed and Akhtar Lodhi. Inter-Governmental Funds Flows in Pakistan: Are they Reducing Poverty? 703–714.

The purpose of this paper is to see whether any link can be found between the inter-governmental fiscal transfers and the deprivation index in the districts of Pakistan. The data for the study was collected from 98 districts of four provinces of Pakistan for the year 2003 and 2007. The results of the study shows the transfers have reduced deprivation across the board but unable to solve disparity issue. In fact the results show the extreme inequality (ratio of maximum to minimum) has increased over time but average disparity (coefficient of variation) gives mixed results.

Keywords: Fiscal Federalism, Horizontal Inequity, Vertical Inequity, Inter-governmental Fiscal Transfer.

19. Muhammad Ali and Muhammad Nishat. Do Foreign Inflows Benefit Pakistani Poor? 715–738.

Foreign Inflow plays an important role in country's development. The importance of foreign inflows is not limited to developing countries; developed and emerging economies also attract foreign inflows to supplement their resources to sustain growth. The importance of foreign inflow in Pakistan is very well acknowledged and documented, however the affect of these inflows on poor people of Pakistan remains unanswered. This paper is an attempt to fill this gap by studying the impact of foreign inflows on poverty reduction in Pakistan through the channel of health, education and other indicators related to human development. Our foreign inflow variable consists of Foreign Direct Investment, Remittances and Foreign Assistance. Using ARDL approach to co-integration on time series data for the period 1972 to 2008, we found that foreign inflows as a whole have increased poverty levels in Pakistan. At disaggregated levels, we found that foreign assistance

is the major component of inflows which is responsible for the positive relationship between inflows and poverty. We also found positive relationship between poverty and infant mortality and foreign inflows and female enrolment. The relationship suggests that increase in foreign inflows would not only increase poverty but also would increase infant mortality through indirect channel. The impact of inflow on female enrolment was however found to be positive.

JEL classification: E00, F20, F21, F34, F35, I30

Keywords: Poverty, Economic Growth, Pakistan, Foreign Capital, Foreign Debt, Aid, Remittances, Foreign Direct Investment

- 20. Nasim Shah Shirazi and Md. Fouad Bin Amin.** Poverty Elimination through Potential *Zakat* Collection in OIC-Member Countries: Revisited. 739–754.

This paper is the extended and updated version of Shirazi (2006), which covers 38 OIC-member countries. The paper estimates the resource required and potential zakat collection for poverty elimination. The paper employed the poverty gap index based on US \$ 1.25 a day and US\$ 2.0 a day estimated by the World Bank (2009). Zakat potential has been estimated by employing Kahf (1989) method of estimation with some modifications. The paper finds that half of the sample countries not only meet their resource shortfall by potential zakat collection but also generate surplus funds which are sufficient for the resource deficit countries. The paper suggests pooling of zakat funds from the zakat surplus countries and providing for the resource deficit countries to eliminate the poverty.

Keywords: Poverty Alleviation, Resource Shortfall, *Zakat* Collection. OIC-Member Countries

- 21. Rashida Haq and Nabeela Arshid.** Inequality and Welfare by Food Expenditure Components. 755–768.

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 are unevenly distributed over the total expenditure in favour of rich families. The price elasticity of welfare indicates that rising prices of food components have 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.

JEL classification: D12, D13, D31, I31

Keywords: Food Consumption, Inequality, Welfare, Elasticity

- 22. Muhammad Zulfiqar, Dilawar Khan, Anwar F. Chishti, Munir Khan, Wasiullah, Ajmal Waheed, Muhammad Zakir, and Robina Karim.** Trade Liberalisation Could Improve Producers Profitability in Agriculture: A Case of Basmati Rice. 771–782.

This piece of research has been conducted, as part of PhD research of the first author, with the objectives to (i) identify various protection policies and interventions exercised in Basmati rice economy in Pakistan (ii) estimate welfare effects associated with existing protection policies and (iii) to estimate implications of WTO's trade liberalisation in domestic economy and foreign markets. The quantitative analysis of data reveals that Basmati rice crop hanged about 'price tax-cum-export tax' regime during the study period. Welfare analysis of such policy interventions estimated higher losses to producers (Pak Rs 657.95 million per year) than gains to consumers (Rs 448.76 million per year) during pre-WTO period. The same trend continued during post-WTO period but producers' losses were comparatively smaller i.e., 649.48 million per year. In case of free trade, simulation results demonstrate greater gains to producers than losses to consumers. If world market was liberalised, supplementary gains in the range of Rs 276.65 million to Rs 451.60 million per year during earlier and Rs 333.45 million to Rs 637.40 million per year during the later period would have occurred at domestic level. In light of analytical results, the following recommendations are made. (i) Government needs to curtail interventions in Basmati rice economy. (ii) Besides, improving the pace of trade liberalisation at domestic level, Pakistan should pursue with other members in WTO's negotiations for early implementation of WTO's trade liberalisation on international level. (iii) Government of Pakistan should gear up its efforts as facilitator of trade in accordance with WTO agreements and increase investment in areas of research, development, and out-reach.

JEL classification: Q17, Q18, Q28

Keywords: Basmati Rice, Government Intervention, Welfare Effect, Trade Liberalisation, WTO.

23. Muhammad Ilyas, Tahir Mukhtar, and Muhammad Tariq Javed. Competitiveness among Asian Exporters in the World Rice Market. 783–794.

With the gradual reduction in trade barriers led by the process of globalisation, more emphasis is now being placed on promoting export competitiveness. Asia is the home of many of the world's top rice exporters. The food-price crisis has divided Asia into "rice haves" and "rice have-nots". In order to describe the processes involved in securing and maintaining international competitiveness in rice exports, the present study has used the Balassa and White indices of revealed comparative advantage and revealed competitive advantage respectively. Results have revealed that Pakistan is the most competitive country in rice trade and ranks first in both agricultural product trade and total merchandise exports.

JEL classification: C12, C43, Q17

Keywords: Asian Countries, Competitiveness, Revealed Comparative Advantage, Revealed Competitive Advantage.

24. Umar Farooq, Munir Ahmad and Ikram Saeed. Enhancing Livestock Productivity in the Desert Ecologies of Pakistan: Setting the Development Priorities. 795–820.

Livestock is now sharing by more than 53 percent of total agricultural value added in Pakistan. Identifying and developing the potential areas of livestock production is part of the overall development strategy for this sector while rural poverty alleviation is a major concern of Pakistan's overall development policy. Our major livestock production systems are grazing, stall-fed and grazing-cum-stall-fed based. Grazing based livestock farming is economical and customary system in mountainous, rainfed, deserts and salinity affected areas. The livestock herders of desert areas deserve special attention of the policy-makers because of their most deprived living conditions as majority is living below poverty line by all poverty measuring standards. The present study is aimed to generate an updated synthesis based on empirical knowledge about status of livestock farming in desert ecologies of Pakistan.

The results show that the average herd sizes maintained by the herders is fairly large to cover losses due to drought, disease and other epidemics. The human and physical capital endowments of the farmers are generally poor. Other common characteristics are: major dependence on natural vegetation with limited supply of fodder, more physical exertion of animals during grazing, poor animal health, practicing natural method of breeding, low milk and meat productivity, highly limited livestock and milk marketing opportunities, etc. The stall feeding is mainly composed of dry stalks and straws of different crops along with a small quantity of food grains. On marketing side, because of location and lack of infrastructure support, milk marketing opportunities are meager, therefore, it is converted into desi ghee—a value added and preserved form which is sold in nearby town markets. In marketing of live animals, the farmers are always exploited by beoparies. On average herd size, the net monthly income in Cholistan desert from cattle (for milk), sheep and goats farming (for meat purpose) was Rs 10128, Rs 990 and Rs 508, respectively; for Thal desert the corresponding estimates were Rs 457, Rs 359 and Rs 552, respectively; and for Tharparkar, the corresponding estimates are Rs 918, Rs 3221 and Rs 331, respectively. There is a strong need of prioritising development efforts for desert ecologies. High priority areas include efforts for increasing availability of rangeland vegetation and green fodder, improvement in the genetic potential of local livestock breeds, provision of more efficient livestock health coverage, and establishment of milk collection centres of milk processing plants. The low priority areas include designing regulatory framework for milk and livestock marketing, programs for human capacity building, facilitating through institutional credit, and different incentives for the veterinary staff posted in such areas.

JEL classification: Q130, Q190, Q200

Keywords: Desert, Tharparkar, Thal, Cholistan, Livestock Farming, Livestock Feeding Patterns, Feed Composition, Livestock Trade Intensity, Priority Setting.

25. Areef Suleman. Fostering FDI in the Agriculture Sector. 821–838.

Given the relative importance of the agriculture sector in many countries including Pakistan, at the core of any sustainable development and poverty reduction strategy is the development of agriculture. The 2008 food crisis triggered renewed interest in the agriculture sector when food security was threatened in several countries, and civil unrest

emerged in others. Although there is potential to exploit underutilised agricultural land, the extent of FDI in the agriculture sector is constrained by many factors. In this regard, development partners have an important catalytic role to play to ensure “win-win” outcomes that will jumpstart inclusive growth in countries that exhibit potential. The paper contends that unless the enabling environment in countries is as good as elsewhere in the world, the opportunity to attract FDI into the agriculture sector will be lost.

- 26. Syed Zia Abbas Rizvi and Mohammad Nishat.** The Impact of Foreign Direct Investment on Employment Opportunities: Panel Data Analysis (Empirical Evidence from Pakistan, India and China). 841–851.

Over the past two decades, the continent of Asia received a large amount of FDI from developed regions. Additionally, in the Asia, India and China received a major chunk of foreign direct investment and FDI flows to Pakistan also increased significantly. Many studies show that the inflow of FDI plays a significant role in generating employment in host countries. The objective of this study is to undertake an empirical study on creation of employment opportunities by FDI during 1985–2008 in the Asian region. In this regard, we have taken the sample of three countries i.e. Pakistan, India and China from the same region. The Im-Pesaran-Shin (IPS) test of unit root is applied to find out the order of integration. The long run relationship is investigated through the Pedroni (1999) test of panel cointegration. At last, the Seemingly Unrelated Regression (SUR) method is used for estimation of the impact of FDI inflows on employment levels in three countries. Implications for FDI policy are spelt out in the light of these empirical results.

JEL classification: F23, E24, C23

Keywords: FDI, Employment, Panel Data

- 27. Muhammad Ali, Nasim Shah Shirazi, and Turkhan Ali Abdul Mannap.** Effectiveness of Foreign Aid and Human Development. 853–862.

Foreign aid has been contributory towards fostering broad-based development and complementing national development initiatives in the recipient countries. This paper analyses the question of aid effectiveness towards the achievement of goals in the special context of a set of social outcomes in Pakistan. More specifically, the paper focuses the core question that ‘how’ and ‘how far’ foreign aid has affected the ‘health’, ‘education’, and overall ‘human development index’ in Pakistan. Our result shows that there is feedback Granger causality between GI and ODA. That is, Economic growth induces ODA and ODA Granger cause economic growth. As far as Education index, Human development index and life expectancy index concerned, there are only unidirectional Granger causality from ODA to Education index, Human development index and life expectancy index. This is consistent with other literature that ODA contribute to human development.

JEL classification: O15, P45

Keywords: Effectiveness, Human Development, Foreign Aids, Granger Causality

- 28. Nasir Iqbal and Saima Nawaz.** Investment, Inflation and Economic Growth Nexus. 863–874.

The paper has twofold objectives. Firstly, 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 and secondly, nonlinear relationship between inflation and investment has been investigated. Inflation and growth models support the existence of a nonlinear 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 and 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 nonlinear relationship between these two variables with only one threshold at 7 percent. 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.

JEL classification: E22, E31, O40

Keywords: Investment, Inflation, Economic Growth, Nonlinear, Pakistan.

- 29. Somia Iram and Muhammad Nishat.** Sector Level Analysis of FDI-Growth Nexus: A Case Study of Pakistan. 875–882.

The main objective of the study is to empirically investigate the differential impact of services and manufacturing Foreign Direct Investment (FDI) on economic growth over the period of 1972 to 2008. The study further examines the role of FDI in presence of macroeconomic instability and privatisation. For the investigation of long run, Autoregressive distributed lag model (ARDL) has been used. For short run results, we used Error correction method (ECM). Our empirical results show that FDI inflow in both, service sector as well as manufacturing is contributing to economic growth positively. But it is apparent from the results that contribution of services FDI to growth is greater than that of manufacturing FDI to growth. Furthermore, the results provide coherent and sound policy recommendations for further policy adaptation regarding sectors.

JEL classification: F23, F36, F43, C32

Keywords: Foreign Direct Investment, Economic Growth, Manufacturing Sector, Service Sector, Co-integration

- 30. Muhammad Afzal, A. Rauf Butt, Hafeez ur Rehman, and Ishrat Begum.** A Dynamic Analysis of the Relationship among Human Development, Exports and Economic Growth in Pakistan. 885–920.

This study investigates the econometrically empirical evidence of both the short-run and long-run interrelationships among human development, exports and economic growth in an ARDL framework for Pakistan. This study also examines causal linkages among the said variables by applying the Augmented Granger

Causality test of Toda-Yamamoto (1995). By using data on Pakistan's real GDP, real exports and Human Development Index (HDI) for the period 1970-71 to 2008-09, three models have been estimated. The results show cointegration between economic growth, physical capital, real exports and human development when human development is taken as dependent variables. Furthermore, unidirectional Granger causality running from real GDP to real exports has been found in Bivariate, Trivariate and Tetrivariate causality framework. The inclusion of HDI as a measure of human development reduces the physical capital share in real GDP whereas it improves the robustness of the regression model. Real GDP seems to provide resources to improve human development in only the long-run while human capital accumulation does not seem to accelerate real GDP both in the short-run and the long-run. The empirical results of the study do not support 'export-led growth hypothesis' and human capital-based endogenous growth theory in case of Pakistan, however, it does support 'growth-driven exports hypothesis' in case of Pakistan.

JEL classification: O11

Keywords: Human Development, Exports, Economic Growth, ARDL, Causality

31. Abdul Raheman, Abdul Qayyum and Talat Afza. Efficiency Dynamics of Sugar Industry of Pakistan. 921–938.

Pakistan is the 15th largest producer of sugar in the world, 5th largest in terms of area under sugar cultivation and 60th in yield. The sugar industry is the 2nd largest agro based industry which comprises of 81 sugar mills. With this scenario, Pakistan has to import sugar which exposes it to the effects of shortage and rising prices in the world. The present sugar crisis has opened up new avenues for researcher to analyse the performance and efficiency of the firms in this sector.

Total factor productivity plays a significant role in measuring the performance of a firm which ultimately affects the shareholder's value. This paper analyses the performance of sugar firms in Pakistan and estimate/calculate the Malmquist total factor productivity growth indices using non-parametric approach. TFP growth is further decomposed into technical, scale and managerial efficiency change using balanced panel data of 20 sugar firms listed on Karachi Stock Exchange for the period 1998 to 2007.

The results reflect a tormenting picture for the sugar industry. Overall sugar industry improved technological progress by 0.8 percent while managerial efficiency change put a negative effect on the productivity by a same percentage; as a result the overall total factor productivity during 1998-2007 remained almost static with a decline of 0.1 percent. The analysis of TFP and its sources in individual year for overall sugar industry also presents divergent trend.

The research suggests that sugar industry is facing serious productivity growth problems where no increase is recorded in total factor productivity during 1998 to 2007. The sugar industry is lacking in terms of managerial efficiency which could be explained by a general reduction in the quality of managerial decision-making among the best practice firms. Regardless of the reason for this decline, it has potentially serious implications for the longer-term financial viability of these sugar firms. The pattern of

TFP growth tends to be driven more by technical change (or technical progress) rather than improvements in technical efficiency.

- 32. Tariq Mahmood, Musleh ud Din, and Ejaz Ghani.** An Analysis of Technology Adoption by Export-oriented Manufacturers in Pakistan. 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 firm's 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 with 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, and up-gradation of physical infrastructure for product testing to facilitate certifications.

JEL classification: C25, L60, O14

Keywords: Manufacturing Industries, Probit Model, Technology Adoption.

- 33. Zinaz Aisha and Samina Khatoon.** Government Expenditure and Tax Revenue, Causality and Cointegration: The Experience of Pakistan (1972–2007). 951–959.

This paper establishes empirically the causal relationship and long run relationship between government expenditures and government revenues for the case of Pakistan from 1972 to 2007. Fiscal policy, a short run issue, but that can have testing macro economic consequences. Fiscal policy is viewed as an instrument to mitigate short run fluctuations. In this paper we examine tax/spend or spend/tax hypothesis. For this purpose, bi-directional Granger causality will be applied for instance flow from government expenditure to revenue or revenue to government expenditure. This issue has been concerned with intretemporal relationship between revenue and expenditure, so to check long run relationship Engel Granger cointegration will be used. For checking data stationary, non stationary unit root, and ADF/DF approaches give the proof for this hypothesis. The results show the presence of co-integration between government expenditure and tax revenue variables implying evidence of a stable long-run relationship between them. The Granger Causality test suggest the unidirectional causality flow from government expenditure to tax revenue.

Keywords: Government Expenditures, Government Revenues, Granger Causality, Stationary, Co-integration

- 34. Ihtsham ul Haq Padda and Naeem Akram.** The Impact of Tax Policies on Economic Growth: Evidence from South-Asian Economies. 961–971.

The public policy instruments, such as tax rate changes, have different implications in exogenous (neoclassical) and endogenous growth theories. The neoclassical theory predicts that changes in a country's tax structure should have only

transitory impact on its long-run economic growth while endogenous growth theory argues that such changes may have an effect impact on the growth. This study tests whether tax policies conducted by Pakistan, India and Sri Lanka have transitory or permanent effect on their economic growth. The study finds transitory and negative effect of tax rate on the growth only for short-term but has no effect in the long-term. The tax rates in all these countries are low as compared to developed countries. Due to low tax rates these countries heavily depend on bond financing and foreign debt. In view of the findings of this study most important policy implication of the study is that to finance the budget and most of their revenue requirements should be financed with tax increases and if necessary bond financing should be contingent providing a guard against transitory shocks to the budget.

JEL classification: H10, E62, O40

Keywords: Neoclassical Growth; Endogenous Growth; Fiscal Policy; Tax Smoothing

- 35. Attiya Yasmin Javid and Umaima Arif.** Dynamic Effects of Changes in Government Spending in Pakistan's Economy. 973–988.

This study analyses the effects of changes in government spending on aggregate economic activity and the way these effects are transmitted in case of Pakistan for the period 1971–2008. To analyse the transmission mechanism of government spending innovations, the Vector Autoregressive Model is estimated for following 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 rise in government spending. This finding is according to the open economy literature and also with the conventional literature.

JEL classification: E21, E62, E63

Keywords: Government Spending, Vector Autoregressive Model, Impulse Response Function, Neoclassical Model

- 36. Kamal Matinuddin.** Conflict, Security, and Development. 991–1001.
- 35. Tariq Osman Hyder.** Conflict, Security, and Development. 1003–1006.
- 35. Syed Rifaat Hussain.** Resolving the Kashmir Dispute: Blending Realism with Justice. 1007–1035.