

Son, Hyun H.

Working Paper

Interrelationship between Growth, Inequality, and Poverty: The Asian Experience

ERD Working Paper Series, No. 96

Provided in Cooperation with:

Asian Development Bank (ADB), Manila

Suggested Citation: Son, Hyun H. (2007) : Interrelationship between Growth, Inequality, and Poverty: The Asian Experience, ERD Working Paper Series, No. 96, Asian Development Bank (ADB), Manila, <https://hdl.handle.net/11540/1855>

This Version is available at:

<https://hdl.handle.net/10419/109297>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<http://creativecommons.org/licenses/by/3.0/igo>

ADB

ERD Working Paper

ECONOMICS AND RESEARCH DEPARTMENT

SERIES

No. 96

Interrelationship between
Growth, Inequality,
and Poverty: The Asian
Experience

Hyun H. Son

June 2007

Asian Development Bank

ERD Working Paper No. 96

INTERRELATIONSHIP BETWEEN GROWTH, INEQUALITY, AND POVERTY: THE ASIAN EXPERIENCE

HYUN H. SON

JUNE 2007

Hyun H. Son is Economist in the Economic Analysis and Operations Support Division, Economics and Research Department, Asian Development Bank. This paper was initially prepared for the study "Inequality in Asia." The author is grateful to Ifzal Ali for encouragement in writing this paper, particularly for valuable comments and suggestions on the first draft.

Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org/economics

©2007 by Asian Development Bank
June 2007
ISSN 1655-5252

The views expressed in this paper
are those of the author(s) and do not
necessarily reflect the views or policies
of the Asian Development Bank.

FOREWORD

The ERD Working Paper Series is a forum for ongoing and recently completed research and policy studies undertaken in the Asian Development Bank or on its behalf. The Series is a quick-disseminating, informal publication meant to stimulate discussion and elicit feedback. Papers published under this Series could subsequently be revised for publication as articles in professional journals or chapters in books.

CONTENTS

Abstract	vii
I. Introduction	1
II. Analyzing Inequality–Growth Trade-Off in Asian Countries	2
A. Overview	2
B. Inequality–Growth Trade-off	2
C. Findings on IGTI for Study Countries	3
III. Poverty Equivalent Growth Rate	8
IV. Pro-Poor Growth in Asia	8
V. Conclusions	12
Appendix: Methodology	13
Appendix: Tables	17
References	23

ABSTRACT

This paper examines the relationships between economic growth, income distribution, and poverty for 17 Asian countries for the period 1981–2001. First, it investigates how much growth is required to offset the adverse effect of an increase in inequality on poverty. This trade-off between inequality and growth is quantified using a tool called the “inequality–growth trade-off index.” The trade-off index measures how much growth in mean income or expenditure will be required to offset a 1% increase in inequality, with poverty remaining unchanged. Second, the paper looks into the issue of pro-poor growth. How to generate pro-poor growth is a critical challenge for policymakers concerned with sustainable poverty reduction in developing countries. Pro-poor growth is defined as growth that benefits the poor proportionally more than the nonpoor. By using a measure called the “poverty equivalent growth rate”, the paper examines both (i) how growth in mean income (or expenditure) has fared in Asia; and (ii) how the benefits of growth are distributed between the poor and the nonpoor.

I. INTRODUCTION

Recent years have seen a renewed emphasis on poverty reduction as the central goal of development policy and development cooperation. The Millennium Development Goals, agreed by world leaders in 2000, have put poverty reduction at the center of the development agenda. The first goal is directly concerned with halving absolute income poverty, but also many of the other goals are essentially about poverty reduction in a wider sense.

While sustained high growth can significantly reduce absolute income poverty, only a few countries—particularly in East Asia, Southeast Asia, and more recently South Asia—have enjoyed such growth levels. In many others, growth has been slow, highly volatile, or even negative for sustained periods of time leading to little progress in poverty reduction. Even in many of the high-growth countries, growth has been associated with rising inequality (which can retard the impact of growth on poverty) so that the poverty impact of growth has been slower than it could have been. As a consequence, the impact of inequality on poverty reduction has received renewed attention given that poverty reduction will be slower in countries that experience rising inequality as well as in countries with high initial inequality. Conversely, reducing inequality would directly abate poverty, increase the poverty impact of growth, and might even increase growth itself (and thus further accelerate poverty reduction; see Klasen 2004).

To accelerate poverty reduction, it is thus crucial to devise strategies of “pro-poor growth.” There is a substantial amount of debate about what exactly constitutes pro-poor growth and how it can be measured (Ravallion and Chen 2003, Kakwani and Pernia 2000, Klasen 2004). This may be achieved by growth that is accompanied by declining inequality thus leading to disproportionate income growth among the poor.

How to generate such pro-poor growth is therefore a critical challenge for policymakers concerned with sustainable poverty reduction in developing countries. This study attempts to address this issue using a cross-country analysis of 17 Asian countries in 59 growth spells for the period 1981–2001. Pro-poor growth is defined as growth that benefits the poor proportionally more than the nonpoor. When there is a negative growth rate, growth is defined as pro-poor if the loss from growth is proportionally less for the poor than for the non-poor. Consistent with this definition, this study identifies whether growth has been pro-poor (or antipoor) for the 17 Asian countries selected for this study. The study includes low- and middle-income Asian countries.

This study is based on a measure of pro-poor growth, which takes into account both the growth rate in mean income and how the benefits of growth are distributed between the poor and the nonpoor. This measure compares the actual growth rate with the growth rate that would have generated the same change in poverty if the Lorenz curve had remained constant. This measure is called the “poverty equivalent growth rate (PEGR).”¹ Growth is classified as pro-poor (antipoor) if the PEGR is greater (less) than a benchmark. For this study, the benchmark is the actual growth rate in the mean income.

¹ A detailed discussion of the PEGR is given in Kakwani and Son (2007).

The study is organized as follows. Section II provides a brief discussion on the trade-off between inequality and growth and discusses empirical results based on the methodology presented in the Appendix. Section III explains the poverty equivalent growth rate, of which the methodology is described in the Appendix. Section IV provides discussion of empirical results. For empirical studies, group data on income distribution, which are available on the website of the World Bank, are used. Section V contains the major findings of the study.

II. ANALYZING INEQUALITY–GROWTH TRADE-OFF IN ASIAN COUNTRIES

A. Overview

The relation between growth and inequality has been dealt with by a number of studies. The growth–inequality debate can be traced back to Kuznets’ hypothesis. In his 1955 article, Simon Kuznets (Kuznets 1955) found an inverted-U pattern between per capita income and inequality across countries: as per capita income rises, inequality first worsens and then improves. This pattern was presumed to be driven mainly by a structural change that shifted labor from a poor and less productive traditional sector, to a more productive and differentiated modern sector. Kuznets’s hypothesis had been supported by a number of studies, but has been challenged by recent development literature on growth and distribution. For instance, Deininger and Squire (1996) conducted a comprehensive test of the hypothesis using higher-quality data containing 682 observations on the Gini index for 108 countries and found that there was no evidence of an inverted-U curve for individual countries.

B. Inequality–Growth Trade-off

How much growth is required to offset the adverse effect of an increase in inequality on poverty? To quantify this trade-off, a tool called the inequality–growth trade-off index (IGTI) proposed by Kakwani (1993) is used. IGTI is defined as minus times the ratio of the poverty elasticity of inequality to the poverty elasticity of growth. While the former captures the impact of changes in Gini on poverty, the latter measures the impact of changes in mean expenditure on poverty. Thus, the trade-off index tells us how much growth in mean income will be required to offset a 1% increase in inequality, with poverty remaining unchanged. For instance, if the IGTI is equal to 3.0, this implies that a 1% increase in the Gini index will require a growth rate of 3% to offset the adverse effect of the inequality increase. Alternatively, if a 1% fall in the Gini index stems from following pro-poor policies, then this strategy is equivalent to achieving an additional 3% in growth rate. Overall, this suggests that the larger the IGTI, the greater will be the benefits of following a pro-poor strategy that would reduce inequality. Hence, the magnitude of the IGTI can be indicative of the growth or development strategy that a country might consider following.² For a country where the trade-off index is small, say less than 1, its policy focus should be on enhancing growth to achieve poverty reduction.

² See Appendix for a detailed discussion on the inequality–growth trade-off index.

C. Findings on IGTI for Study Countries

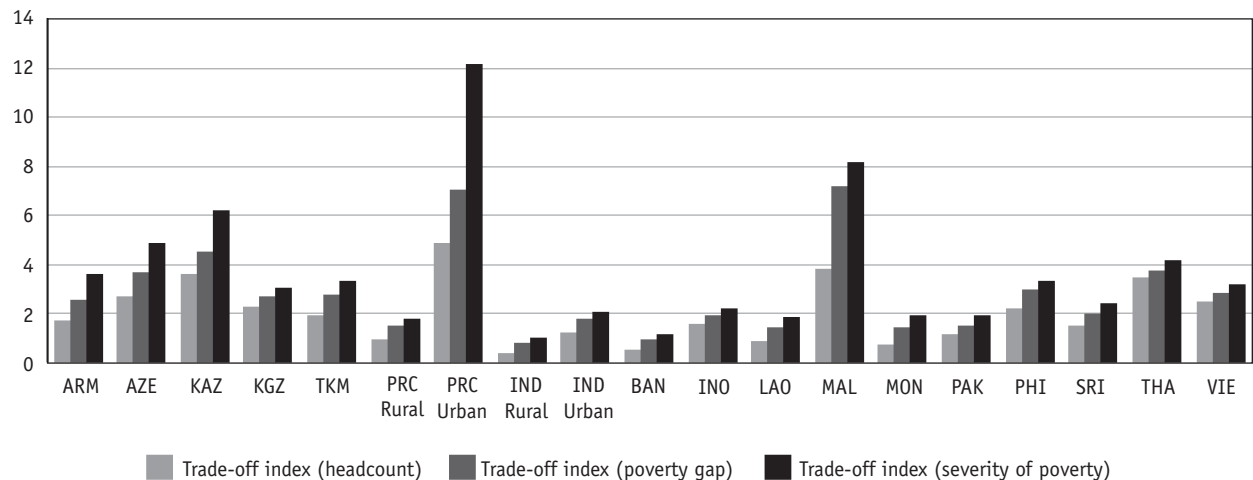
This subsection presents an analysis of the inequality–growth trade-off for 17 Asian countries for the period 1981 to 2001. The empirical estimates of the IGTI for individual countries are presented in Appendix Table 1. There are a few interesting findings that emerge from Appendix Table 1.

First, as depicted in Figure 1, the inequality–growth trade-off index rises monotonically as we move from the headcount ratio to the poverty gap ratio and further to the severity of poverty. For all countries, the trade-off index for the headcount ratio is smaller than the index for the poverty gap ratio, which is in turn smaller than the index for the severity of poverty. These findings thus suggest that the pro-poor policies benefit the ultra-poor much more than the poor living closer to the poverty line.

Second, the IGTI increases monotonically with the level of income. As shown in Figure 2, the trade-off index is greater for a higher level of income. This indicates greater effectiveness of pro-poor policies in countries with higher incomes than in countries with lower incomes. As mean income rises, the poverty elasticity of inequality increases at a faster rate than the poverty elasticity of growth. Thus, poverty reduction is in fact facilitated by pro-poor strategies. At the same time, the results suggest that a relatively smaller growth rate would be required to offset a 1% increase in the Gini coefficient, to achieve the same proportional reduction in poverty, if a country’s mean income were lower rather than higher.

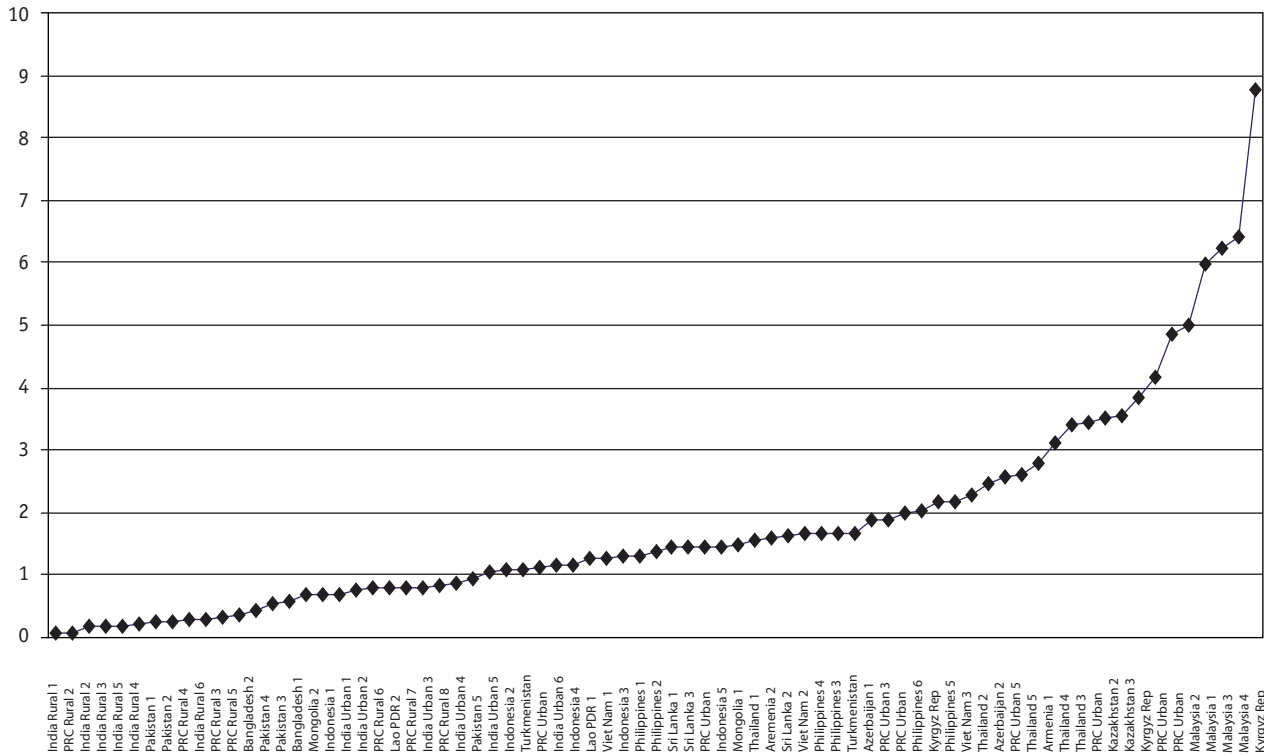
It is interesting further to compare the case of People’s Republic of China (PRC) and India. Table 1 presents the levels of mean expenditure and poverty estimates for the two economies for the period 1984 to 1999. From the table, it is clear that the PRC is far better off than India. In terms of growth, the PRC outpaced India with its per capita mean expenditure jumping by 75.7% from 1984 to 1999, compared to India’s 20.1 percent. Growth was particularly strong in the PRC during

FIGURE 1
TRADE-OFF INDEX BY DIFFERENT POVERTY MEASURE, 1999–2001



Note: This graph was drawn by taking the last growth spell for each country from Appendix Table 1.
 ARM = Armenia, AZE = Azerbaijan, BAN = Bangladesh, IND = India, INO = Indonesia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic (the),
 LAO = Lao People’s Democratic Republic, MAL = Malaysia, MON = Mongolia, PAK = Pakistan, PHI = Philippines,
 PRC = People’s Republic of China, SRI = Sri Lanka, THA = Thailand, TKM = Turkmenistan, VIE = Viet Nam

FIGURE 2
 INEQUALITY-GROWTH TRADE-OFF WITH THE LEVEL OF INCOME



Note: All growth spells in the graph are arranged in ascending order of mean expenditure at 1993 PPP.

1990 to 1993. This could have been largely contributed by the government’s economic reforms that resulted in rapid globalization and privatization of state-owned enterprises (Liu 2006).

A similar story emerges from poverty. Poverty statistics for all three measures are lower in the PRC than in India. More importantly, poverty reduction in the PRC has been much faster than in India. For instance, the headcount ratio fell by 84.7% and 33%, respectively, in the PRC and India over 16 years. Furthermore, ultra-poverty declined even faster for both countries. Over the period, the severity of poverty fell by 127.1% and 79.7% for the PRC and India, respectively.

Furthermore, on a disaggregated level (by urban and rural areas), data for the PRC and India show interesting insights. Table 2 presents poverty elasticities³ of growth (of mean expenditure) and inequality as well as the IGTI. For both the PRC and India, growth in the urban sector had been stronger than that in the rural sector over the period 1984–2001. As pointed out earlier, growth performance is far more impressive in the PRC than in India for both urban and rural sectors.

³ See Appendix for a detailed discussion on poverty elasticities.

TABLE 1
MONTHLY PER CAPITA EXPENDITURE AND POVERTY ESTIMATES
FOR PEOPLE’S REPUBLIC OF CHINA AND INDIA

YEAR	MEAN EXPENDITURE (AT 1993 PPP)		HEADCOUNT RATIO		POVERTY GAP RATIO		SEVERITY OF POVERTY	
	PRC	INDIA	PRC	INDIA	PRC	INDIA	PRC	INDIA
1984	45.71	40.93	41.39	49.49	11.94	14.86	4.78	6.08
1987	57.05	43.59	28.70	45.88	8.24	12.52	3.33	4.68
1990	57.62	44.14	32.55	42.06	8.76	11.09	3.28	4.04
1993	68.60	45.40	27.70	42.13	7.17	10.81	2.62	3.87
1996	86.67	46.86	16.95	41.86	3.72	10.44	1.12	3.61
1999	97.41	50.05	17.75	35.60	4.18	8.45	1.34	2.74

Note: Values are weighted averages of rural and urban areas where weights used are population shares.
Source: Author’s calculations based on information obtained from Povcal database.

TABLE 2
POVERTY ELASTICITIES AND INEQUALITY–GROWTH TRADE-OFF INDEX
FOR PEOPLE’S REPUBLIC OF CHINA AND INDIA

YEAR	ACTUAL GROWTH RATE (PER ANNUM)		POVERTY ELASTICITY OF GROWTH		POVERTY ELASTICITY OF INEQUALITY		GROWTH–INEQUALITY TRADE-OFF	
	PRC	INDIA	PRC	INDIA	PRC	INDIA	PRC	INDIA
Rural								
1984	—	—	–1.56	–1.37	0.14	0.12	0.09	0.09
1987	6.73	2.67	–1.67	–1.63	0.56	0.29	0.33	0.18
1990	–1.47	0.07	–1.75	–1.76	0.49	0.32	0.28	0.18
1993	2.61	0.35	–1.88	–1.81	0.72	0.35	0.38	0.20
1996	8.89	–0.03	–2.37	–1.80	1.90	0.35	0.80	0.19
1999	0.14	2.64	–2.13	–2.01	1.73	0.59	0.81	0.29
2001	1.61	—	–2.12	—	1.85	—	0.87	—
Urban								
1984	—	—	–4.89	–2.45	7.16	1.85	1.46	0.76
1987	6.45	0.61	–3.91	–2.19	7.78	1.73	1.99	0.79
1990	0.56	0.75	–4.03	–2.44	8.23	2.02	2.04	0.83
1993	7.31	1.71	–3.88	–2.56	10.82	2.37	2.79	0.93
1996	5.20	2.53	–3.92	–2.88	13.43	3.10	3.43	1.08
1999	5.07	1.18	–3.43	–2.54	14.26	2.92	4.15	1.15
2001	6.25	—	–3.70	—	17.91	—	4.84	—

Note: Poverty elasticities are estimated for the headcount ratio based on the \$1-a-day poverty line.
Source: Author’s calculations.

The responsiveness of a 1% growth to changes in poverty differs between the two countries. This responsiveness is captured through the poverty elasticity of growth, which, under distribution-neutral growth, provides a magnitude of poverty reduction that would be expected from a 1% growth. This argument is indeed supported by the negative signs for the poverty elasticity of growth in Table 2. For the rural sector in the PRC and India, the poverty reduction in response to a 1% growth had been quite parallel. They differ substantially for the urban sector wherein poverty reduction in urban PRC had been much greater compared to India's urban sector.

Table 2 also shows the proportional changes in poverty with respect to a 1% change in Gini, given by the poverty elasticity of inequality. As would be expected, a 1% increase in Gini leads to an increase in poverty, other factors held constant. This is substantiated by positive signs for the poverty elasticity of inequality in Table 2. For both the PRC and India, the poverty elasticity of inequality is much greater for the urban sector than the rural sector. Comparing the PRC with India, the former experienced a sharper increase in poverty than the latter, with a 1% increase in the Gini coefficient. This is true for both rural and urban sectors. In the urban sector, moreover, the difference in the poverty elasticity of inequality between the two countries is remarkable. Within the PRC, the poverty increase contributed by a 1% increase in inequality escalated from the year 1993. Equivalently, poverty reduction would have been extremely high if there had been a 1% decrease in inequality in the PRC, particularly in the urban sector.

Table 2 indicates further that the IGTI is greater for the PRC than India, irrespective of sectors. For both countries, the rural sector requires smaller growth rates to offset an increase in inequality to reduce a given level of poverty, compared to the urban sector. This suggests that the rural sector may adopt growth-enhancing policies. Such policies appear to be applicable for the Indian economy as a whole. For the PRC, however, a different policy needs to be recommended for the urban sector. As shown in the table, urban PRC has grown extremely faster, especially after 1993 when the economy underwent a rapid transformation to a market economy. The rapid growth has resulted in an equally impressive reduction in poverty. However, that impressive performance in growth would have been enhanced if there had been a reduction in income inequality in urban areas. The findings suggest that the urban sector in the PRC needs to focus on pro-poor policies that reduce inequality.

This section explores further the trade-off between growth and inequality across country groupings. Bivariate tabular analysis (also known as crossbreaks) is used, which is particularly useful in summarizing the intersections of independent and dependent variables and in understanding the relationship (if any) between those variables. Chi-square analysis is used to test the statistical significance of the results. It is well known that chi-square analysis is used more frequently to test the statistical significance of results reported in bivariate tables.

Table 3 tests the strength of the correlation between countries classified into three groups—Central Asia, PRC–India and other Asian countries—and the IGTI greater or less than 2.⁴ The estimated chi-square shows that the relationship is strong: chi-square value is statistically significant at both 0.05 and 0.10 levels. The result suggests that the inequality–growth trade-off index generally exceeds 2 in the growth spells included for Central Asia, whereas the index is mostly less than 2 for the other two groups. This implies that poverty reduction can be facilitated by pro-poor policies in Central Asia, but by growth-enhancing policies in the other two groups. However, this is not true for individual countries within the groups. As discussed earlier, for the PRC–India group, growth

⁴ For this study, countries are grouped into three. The grouping was largely controlled by the number of growth spells available for each group.

spells in the PRC urban sector had an IGTI way above 2. Similarly, for other Asian countries there are a number of countries that show relatively high values for the trade-off between growth and inequality, namely Malaysia and Thailand. For these countries, pro-poor policies that reduce inequality would be more effective in mitigating poverty.

TABLE 3
INEQUALITY–GROWTH TRADE-OFF (PERCENT)

	INDEX		
	LESS THAN 2	GREATER THAN 2	TOTAL
Central Asia	5.1	9.0	14.1
PRC and India	29.5	6.4	35.9
Other Asian Countries	34.6	15.4	50.0
Total	69.2	30.8	100.0
Chi-Square (2) = 7.77			

Note: Although figures presented in the table are in percentage, raw frequencies or number of growth spells have been used to compute chi-square. The degrees of freedom is 2 in this tabular analysis. Critical values of χ^2 with 2 degrees of freedom are 5.99 and 4.61 for 5% and 10% level, respectively.

Source: Author's calculations.

Finally, another interesting finding that emerges from the IGTI is that the index increases steadily with the level of inequality. As seen from Table 4, 81.3% of total growth spells have a Gini index greater than 0.3; on the other hand, 56% of the growth spells have Gini ranging between 0.3 and 0.4, and 25.3% of the spells have Gini greater than 0.4. Statistical tests show that based on the results in Table 4, there is a highly significant positive relationship between the trade-off index and the level of inequality: the higher the inequality, the greater will be the growth rate that is required to compensate for the increase in inequality to achieve a given level of poverty reduction. Hence, it is valid to conclude that inequality-reducing pro-poor policies will be more effective in achieving poverty reduction, when the level of inequality is high.

TABLE 4
INEQUALITY–GROWTH TRADE-OFF BY INEQUALITY (PERCENT)

	INDEX		
	LESS THAN 2	GREATER THAN 2	TOTAL
Gini less than 30	13.3	5.3	18.7
Gini between 30–40	46.7	9.3	56.0
Gini greater than 40	8.0	17.3	25.3
Total	68.0	32.0	100.0
Chi-square (2) = 16.20			

Note: Although figures presented in the table are in percentage, raw frequencies or number of growth spells are used to compute chi-square. The degree of freedom is 2 in this tabular analysis. Critical values of χ^2 with 2 degrees of freedom are 5.99 and 4.61 for 5 and 10% level, respectively.

Source: Author's calculations.

III. POVERTY EQUIVALENT GROWTH RATE

This study is based on a measure of pro-poor growth, which takes into account both the growth rate in mean income and how the benefits of growth are distributed between the poor and the nonpoor. This new measure called the poverty equivalent growth rate (PEGR) was developed by Kakwani and Son (2007). It is the counterfactual growth rate that would have generated the same percentage change in poverty if the Lorenz curve had remained constant. Growth is declared “pro-poor” if the PEGR is greater than a benchmark. In this study, the benchmark is the actual growth rate in the mean income. This implies that there is a gain in the growth rate when growth is pro-poor, which benefits the poor proportionally more than the non-poor.⁵ If the PEGR is less than the actual growth rate, there is a loss of growth rate when growth is antipoor, which benefits the nonpoor proportionally more than the poor.⁶

The PEGR can be calculated for any poverty measure. For the countries in this study, empirical results of PEGR are presented for the three most widely used poverty measures, namely, headcount ratio, poverty gap ratio, and severity of poverty.⁷

As expected, the proportional reduction in poverty is a monotonically increasing function of the PEGR: the larger the PEGR, the greater the proportional reduction in poverty. Thus, maximizing the PEGR implies a maximum reduction in poverty. This basic condition is not always satisfied by many measures of pro-poor growth proposed in the literature, including those of Kakwani and Pernia (2000) and Ravallion and Chen (2003).⁸ Hence, the PEGR provides not only a necessary but also a sufficient condition for poverty reduction.

IV. PRO-POOR GROWTH IN ASIA

This section analyzes the pro-poor growth in 17 low- and middle-income Asian countries. The analysis is based on detailed estimates of pro-poor growth as shown by empirical estimates of the PEGR for individual countries in Appendix Tables 2 and 3. Aggregate results are presented in Tables 5 and 6 below.

Table 5 summarizes the estimates of pro-poor growth based on a \$1-a-day poverty line. The results reveal that out of 59 growth spells, 17 (28.8%) had negative growth rates and 42 (71.2%) had positive growth rates. Of the 42 spells when growth rates were positive, there were an equal number of cases when growth was pro-poor and antipoor, i.e., 21 cases (or 35.6% of the 59 growth spells). In seven out of the 17 growth spells of negative growth rates, the poor proportionally suffered a greater decline in their income compared to the nonpoor. Thus, growth processes in Asia have generally been favorable to the poor. The findings suggest further that poverty reduction in Asia has been generally contributed by positive growth and facilitated by the pro-poor growth pattern. Note that these findings are true for the case where pro-poor growth is defined in terms of the headcount ratio.

⁵ This definition of pro-poor growth is also adopted in Kakwani and Pernia (2000). But the measure of pro-poor growth proposed by them (called the pro-poor index) focuses only on the distribution of benefits of growth between the poor and the nonpoor and, therefore, is not sufficient to determine any change in poverty.

⁶ The difference between the PEGR and the benchmark growth rate (i.e., actual growth rate of mean income) captures gains or losses of the growth rate due to changes in the distribution of income. The gains imply pro-poor growth that will require lower rates of growth to achieve the same level of poverty reduction; the losses imply antipoor growth that will require higher growth rates to achieve the same level of poverty reduction.

⁷ A detailed discussion on the PEGR is provided in the Appendix.

⁸ This paper shows that Ravallion and Chen’s (2003) measure satisfies monotonicity under highly restricted conditions.

The story changes, however, when pro-poor growth is calculated using the poverty gap ratio and severity of poverty measure. Results show that growth processes in Asia have not been favorable to the extremely poor who live far below the \$1-a-day poverty line. On the whole, while growth in Asia has been generally positive, it has benefited mostly the poor clustered around the poverty threshold, but not the very poor. The same conclusion emerges when calculations are based on the \$2-a-day poverty line (see Table 6).

TABLE 5
PRO-POOR GROWTH, SUMMARY RESULTS FOR 17 ASIAN COUNTRIES
(BASED ON THE \$1-A-DAY POVERTY LINE)

	POSITIVE GROWTH	NEGATIVE GROWTH	ALL GROWTH SPELLS
Based on the headcount ratio			
Pro-Poor	21 (35.6%)	10 (16.9%)	31 (52.5%)
Not pro-poor	21 (35.6%)	7 (11.9%)	28 (47.5%)
Total spells	42 (71.2%)	17 (28.8%)	59 (100%)
Based on the poverty gap ratio			
Pro-Poor	13 (22.0%)	13 (22.0%)	26 (44.1%)
Not pro-poor	29 (49.2%)	4 (6.8%)	33 (55.9%)
Total spells	42 (71.2%)	17 (28.8%)	59 (100%)
Based on the severity of poverty			
Pro-Poor	15 (25.4%)	11 (18.6%)	26 (44.1%)
Not pro-poor	27 (45.8%)	6 (10.2%)	33 (55.9%)
Total spells	42 (28.8%)	17 (28.8%)	59 (100%)

Source: Author's calculations based on Appendix Table 2.

TABLE 6
PRO-POOR GROWTH, SUMMARY RESULTS FOR 17 ASIAN COUNTRIES
(BASED ON THE \$2-A-DAY POVERTY LINE)

	POSITIVE GROWTH	NEGATIVE GROWTH	ALL GROWTH SPELLS
Based on the headcount ratio			
Pro-Poor	26 (44.1%)	7 (11.9%)	33 (55.9%)
Not pro-poor	16 (27.1%)	10 (16.9%)	26 (44.1%)
Total spells	42 (71.2%)	17 (28.8%)	59 (100%)
Based on the poverty gap ratio			
Pro-Poor	13 (22.0%)	5 (8.5%)	18 (30.5%)
Not pro-poor	29 (49.2%)	12 (20.3%)	41 (69.5%)
Total spells	42 (71.2%)	17 (28.8%)	59 (100%)
Based on the severity of poverty			
Pro-Poor	13 (22.0%)	8 (13.6%)	21 (35.6%)
Not pro-poor	29 (49.2%)	9 (15.3%)	38 (64.4%)
Total spells	42 (71.2%)	17 (28.8%)	59 (100%)

Source: Author's calculations based on Appendix Table 3.

Based further on the detailed estimates of pro-poor growth in Appendix Tables 2 and 3, countries with extreme losses and gains are identified (see Table 7). Losses and gains of growth rate are those resulting from antipoor and pro-poor growth patterns. A growth spell with extreme loss is one showing a loss of growth rate of more than 5% per annum because of the antipoor growth pattern over the growth spell. Similarly, a spell is defined as having an extreme gain if the gain of growth rate is greater than 5% per annum due to the pro-poor growth pattern between the growth spells.

Table 7 shows two countries in Central Asia (Kazakhstan and Kyrgyz Republic) as having extreme gains in the 1990s.⁹ Although their growth performance was not impressive as they were in the transition period from socialist to market economy, the patterns of growth occurred in a way that benefited the poor proportionally more than the nonpoor. In the case of Armenia, the gains of growth were even much greater for the very poor during 1996–1999: gains of growth rate at 6.41% based on the severity of poverty, is far greater than 2.57% based on the headcount ratio.

The same table shows that three growth spells in the PRC rural sector have been identified as having extreme gains of growth rate that stemmed from the pro-poor growth pattern over the spells. Two growth spells occurred in the 1980s and the other in the mid-1990s. The former spells could have resulted from economic reforms launched since 1978, while the latter spell could have been due mainly to the opening up of the PRC market to the global economy since 1992. More interestingly, the gains of growth rate have fallen over the period. This drop may not be due to the lack of income growth, but due to rising income inequality. The PRC used to be a rather egalitarian society in both the urban and rural sectors before economic reforms (Yao et al. 2004). Since the reforms, inequality increased almost continuously over time.

Has fast growth accompanied more rapid increases in inequality in the PRC? This does not appear to be true. For the PRC rural sector, the periods of falling inequality (1981–1987 and 1993–1996) had the highest growth in average rural household income (Appendix Table 2). Nevertheless, as discussed in Section III, poverty reduction in the PRC would have proceeded much faster if inequality had not increased, given the same level of growth.

In addition, there is an uneven growth between the poor and the very poor in the PRC rural sector. This is based on the observation that while extremely high gains are recorded for the headcount ratio, losses are estimated for both the poverty gap ratio and severity of poverty. This suggests that the very poor in the PRC rural sector may have been left behind in the benefits of economic growth over the period. This can be also observed in the case of Pakistan.

⁹ Armenia (1996–1999) could be also included as having extreme gains if these gains are considered in terms of the poverty gap ratio (6.04) and the severity of poverty ratio (6.41). Armenia was not included here because its gains of growth rate were only 2.57 for the headcount index.

TABLE 7
COUNTRIES WITH EXTREME LOSSES AND GAINS

COUNTRIES	GROWTH SPELLS	GAINS (+)/LOSSES (-) OF GROWTH RATE (PER ANNUM)			CHANGE IN GINI (PERCENTAGE POINTS)
		HEADCOUNT	POVERTY GAP	SEVERITY	
With growth spells (gains > + 5)					
PRC-Rural	1981-84	38.10	-0.57	-0.72	0.02
	1984-87	9.28	-0.60	-1.23	0.03
	1993-96	8.78	-0.51	-1.34	0.02
India-Rural	1984-87	5.83	-0.38	-0.14	0.00
	1996-99	7.38	0.38	0.14	-0.00
Indonesia	1996-99	6.31	4.06	4.39	-0.06
Kazakhstan	1996-99	9.11	6.68	7.92	-0.02
Kyrgyz Republic	1993-99	20.59	19.29	22.67	-0.07
	1999-01	6.18	9.90	13.33	-0.09
Pakistan	1990-93	8.20	-0.73	-0.57	0.01
	1996-99	5.21	-1.34	-1.51	0.02
With growth spells (losses < - 5)					
PRC-Urban	1987-90	-8.85	-7.89	-10.01	0.12
Lao PDR	1993-96	-12.25	-3.24	-4.48	0.07
Malaysia	1993-96	-10.22	-4.15	-4.89	0.01
Sri Lanka	1990-93	-6.29	-3.39	-3.70	0.04

Source: Author's calculations based on Appendix Table 3 using the \$2-a-day poverty line.

Table 7 also presents four growth spells that are identified as having extreme losses. Extreme volatility in losses (or gains) of growth rates can occur due to changes in inequality. This reflects a growth pattern that is not stable. As shown in the table, all four growth spells with extreme losses have shown an increase in the Gini index over the spell. In theory, there is no monotonic relationship between gains (or losses) of growth rate and a fall (or rise) in the Gini index. Yet, the empirical results show that the growth spells with extreme losses coincide with a rise in the Gini coefficient over the growth spell. In particular, the Gini index showed a sharp increase in the PRC urban sector during the 1987-1990 period. At the same time, the benefits of the growth flew to the nonpoor proportionally more than the poor. The same can be said about the other countries with extreme losses, namely, Lao PDR, Malaysia, and Sri Lanka.

V. CONCLUSIONS

There are a number of valuable lessons that can be derived from taking this analytical approach to the current study of the interrelationship between inequality, growth, and poverty in Asia. These are all relevant for analytical as well as policy perspectives.

First, to analyze the trade-off between inequality and growth, this study used an analytical tool called the inequality–growth trade-off index. In addition, a measure of pro-poor growth called the poverty equivalent growth rate proposed by Kakwani and Son (2007) was also employed to study the distributional impact of growth. Although these two analytical tools were applied to cross-country data sets for 17 Asian countries, data quality was often a major concern. Hence, one should be cautious when applying these tools for cross-country analysis. Instead, it would be highly recommendable to use micro unit record household surveys for such analyses.

Corollary to the foregoing, it should be noted that while cross-country analysis is useful and has generated many insights, this approach tends to neglect country heterogeneity in the growth–inequality–poverty relationship and is empirically unable to generate robust determinants of pro-poor growth that are valid across the developing world. Therefore, policy recommendations emerging from cross-country analysis should not be prescribed for individual countries without analysis at a specific country level.

Third, some policy implications that emerge from the empirical analysis are as follows:

- (i) Pro-poor policies and reducing inequality would benefit the ultra-poor much more than the poor living close to the poverty line.
- (ii) The IGTI increases monotonically with the level of income. This indicates greater effectiveness of pro-poor policies in countries with higher incomes than in countries with lower incomes. Equivalently, growth-enhancing policies would be more effective for countries where mean income is low and the trade-off index is very small, say less than 1.
- (iii) When the level of inequality is higher, the trade-off index will be greater. Where high inequality persists, inequality-reducing pro-poor policies would be more effective.

Finally, this study shows that the scope for future research in this area remains vast. It is true that the pro-poor growth debate has successfully stirred public awareness of the importance of redistributing the benefits of growth among the poor and the nonpoor. Until this stage, this debate has largely focused on income dimensions. Nonetheless, there are nonincome dimensions that are material and remain significant for human well-being. Hence, extending and linking the pro-poor growth analysis to nonincome dimensions of human well-being should be pursued as a research and policy agenda.

APPENDIX METHODOLOGY

Inequality–Growth Trade-off Index

The Foster, Greer, and Thorbecke (FGT) (1984) poverty measures are now mostly widely used in the poverty literature. These measures are given by

$$P_{\alpha} = \int_0^z \left(\frac{z-x}{z} \right)^{\alpha} f(x) dx \quad (1)$$

where z is the poverty line, $f(x)$ is the density function individual income x , and α is the parameter of inequality aversion. When $\alpha=0$, $P_{\alpha}=H$, which is the headcount ratio; when $\alpha=1$, $P_{\alpha}=PG$, which is the poverty gap ratio; and when $\alpha=2$, $P_{\alpha}=SP$, which is the severity of poverty measure and also called the gap-squared measure of poverty. This paper focuses only on these three measures because they capture all important aspects of poverty.

The degree of poverty depends on two factors: average income and income inequality. While an increase in average income reduces poverty, an increase in inequality increases poverty. The responsiveness of poverty to changes in mean income when inequality remains fixed can be measured by the poverty elasticity of growth. A poverty measure can always be written as

$$P = P(\mu, L(p))$$

where μ is the mean income of the society and $L(p)$ is the Lorenz curve measuring the relative income distribution. $L(p)$ is the percentage of income that is enjoyed by the bottom $100 \times p$ percent of the population. The poverty elasticity of growth is defined as

$$\eta = \frac{\partial P}{\partial \mu} \frac{\mu}{P}$$

which is the percentage change in poverty in response to a growth rate of 1% provided income inequality measured by the Lorenz curve does not change. This elasticity is always negative.

Kakwani (1993) derived the poverty elasticity of growth for the FGT poverty measures as

$$\begin{aligned} \eta_{\alpha} &= -\frac{zf(z)}{H}, \quad \text{when } \alpha=0 \\ &= -\frac{\alpha [P_{\alpha-1} - P_{\alpha}]}{P_{\alpha}}, \quad \text{when } \alpha \geq 1 \end{aligned} \quad (2)$$

Substituting $\alpha=1$ in (2) gives the poverty elasticity of growth for the poverty gap (PG) ratio as $-\frac{(H-PG)}{PG}$. Similarly, substituting $\alpha=2$ in (2) gives this elasticity for the severity of poverty (SP) as

$$-\frac{2(PG-SP)}{SP}.$$

Measuring the effect of inequality on poverty is a difficult task because inequality in distribution can change in infinite ways. It is not possible to establish a simple formula relating changes in aggregate

measures of inequality such as the Gini index to changes in poverty. To explore the impact of inequality on poverty, a more precise shift in the Lorenz curve needs to be identified.

Kakwani (1993) made a simple assumption that the entire Lorenz curve shifts proportionally over the whole range. This gives the analytically tractable elasticity of poverty measures P_α with respect to the Gini index, denoted by ε_α , which may be called the poverty elasticity of inequality:

$$\begin{aligned}\varepsilon_H &= \frac{\partial P_\alpha}{\partial G} \frac{G}{P_\alpha} = \frac{(\mu - z)f(z)}{F(z)}, \text{ when } \alpha=0 \\ &= \frac{\alpha}{zP_\alpha} [(\mu - z)P_{\alpha-1} + zP_\alpha], \text{ when } \alpha \geq 1\end{aligned}\quad (3)$$

which is the percentage change in poverty when the Gini index increases by 1% while mean income remains constant (when growth rate is zero). This elasticity should always be positive. Substituting $\alpha=1$ in (3) gives the poverty elasticity of inequality for the poverty gap (PG) ratio as $\frac{[(\mu - z)H + zPG]}{zPG}$. And substituting $\alpha=2$ in (3) gives this elasticity for the severity of poverty (SP) as $\frac{2[(\mu - z)PG + zSP]}{zSP}$.

The total proportional change in poverty can be expressed as:

$$\frac{dP_\alpha}{P_\alpha} = \eta_\alpha \frac{d\mu}{\mu} + \varepsilon_\alpha \frac{dG}{G}\quad (4)$$

where the first term in the right hand side measures the impact of growth on poverty and the second term captures the impact of changes in Gini on poverty. Equating the total proportional change in poverty to zero leads to the inequality–growth tradeoff index (IGTI) proposed by Kakwani (1993) as

$$IGTI = \frac{\partial \mu}{\partial G} \frac{G}{\mu} = -\frac{\varepsilon_\alpha}{\eta_\alpha}\quad (5)$$

The IGTI calculates the percentage of growth in mean income that is required to offset the increase in the Gini index by 1 percent. This suggests that with larger value of the growth-inequality tradeoff index, the benefits of adopting pro-poor policies that reduce inequality will be greater.

Poverty Equivalent Growth Rate

Suppose μ is the mean income of the society and γ is the actual growth rate of μ , then we can write $\gamma = d\ln(\mu)$. The total poverty elasticity is defined as the proportional change in poverty (measured by P_α) divided by the growth rate of mean income γ :

$$\delta_\alpha = d\ln(P_\alpha) / \gamma$$

which measures the responsiveness of poverty measure P_α with respect the growth rate of mean income. Following Kakwani and Son (2007), total poverty elasticity can be written as the sum of the two components:

$$\delta_\alpha = \eta_\alpha + \zeta_\alpha$$

where η_α is the poverty elasticity of growth as defined in (2) and ζ_α measures the inequality effect of poverty

reduction. This shows how poverty changes due to changes in inequality that accompany the growth process. Growth is pro-poor (antipoor) if the change in inequality that accompanies growth reduces (increases) total poverty.¹⁰ That is to say, growth is pro-poor (antipoor) if the total elasticity of poverty is greater (less) than the growth elasticity of poverty.

Kakwani and Pernia (2000) developed the idea of a pro-poor growth index defined as the ratio of the total poverty elasticity to the growth elasticity of poverty:

$$\varphi_{\alpha} = \frac{\delta_{\alpha}}{\eta_{\alpha}}$$

From this, a growth process is said to be pro-poor (antipoor) if φ_{α} is greater (less) than 1. In addition, a growth process is defined as distribution-neutral if $\varphi_{\alpha}=1$.

However, this index φ_{α} merely measures how the benefits of growth are distributed across the population. Nevertheless, a change in poverty depends on both growth rate in mean income and distribution of benefits of growth. Thus, Kakwani and Pernia's pro-poor growth index is not sufficient to determine any change in poverty.

To address this issue, Kakwani and Son (2007) introduced the idea of a poverty equivalent growth rate (PEGR). It is the growth rate γ_{α}^* that would result in the same proportional reduction in poverty as the present growth rate γ if the growth process did not accompany any change in inequality (i.e., when everyone in society received the same proportional benefits of growth). The actual proportional reduction in poverty is given by $\delta_{\alpha}\gamma$, where δ_{α} is the total poverty elasticity. If growth were distribution-neutral (i.e., inequality did not change), then the growth rate γ_{α}^* would achieve a proportional reduction in poverty equal to $\eta_{\alpha}\gamma^*$, which should be equivalent to $\delta_{\alpha}\gamma$. Thus, the PEGR denoted for poverty measures P_{α} by γ_{α}^* is given by

$$\gamma_{\alpha}^* = (\delta_{\alpha}/\eta_{\alpha})\gamma = \varphi_{\alpha} \gamma \quad (6)$$

which can also be written as

$$\gamma_{\alpha}^* = \gamma + (\varphi_{\alpha}-1) \gamma$$

The PEGR measured by γ_{α}^* is the effective growth rate of poverty reduction. The second term on the right hand side of this equation gives a gain (loss) in growth rate when growth is pro-poor (antipoor).

The PEGR can be estimated if there is household income or expenditure survey for two periods.

Suppose μ_1 and μ_2 are the mean incomes in the periods 1 and 2, respectively, then the growth rate in mean income between the two periods can be estimated as

$$\hat{\gamma} = Ln(\mu_2) - Ln(\mu_1) \quad (7)$$

The total poverty elasticity can similarly be estimated as

$$\hat{\delta} = (Ln[P_{\alpha 2}] - Ln[P_{\alpha 1}]) / \hat{\gamma} \quad (8)$$

where $P_{\alpha 1}$ and $P_{\alpha 2}$ are the poverty measures estimated for period 1 and 2, respectively.

¹⁰ Many studies measure the pro-poorness of growth by changes in the Gini index. The Gini index is not an appropriate measure of inequality to measure pro-poor growth because there is no monotonic relationship between changes in the Gini index and poverty reduction. With mean income remaining the same, an increase or a decrease in the Gini index can still leave poverty unchanged; similarly, an increase or a decrease in the Gini index can lead to a reduction or an increase in poverty. Thus, a change in the Gini index cannot always say whether or not growth is pro-poor. ζ defined in (10) has a direct relationship with changes in poverty. It is derived from that part of the Lorenz curve that directly affects the poor.

The poverty elasticity of growth can be estimated for any period using equation (2) given above. In order to satisfy the monotonicity of proportional reduction in poverty and the PEGR, the poverty elasticity of growth for each period needs to be utilized. It can be easily shown that the monotonicity requirement will be satisfied if poverty elasticity of growth is estimated as

$$\hat{\eta}_{\alpha} = (\hat{\eta}_{\alpha 1} + \hat{\eta}_{\alpha 2}) / 2 \quad (9)$$

where $\hat{\eta}_{\alpha 1}$ and $\hat{\eta}_{\alpha 2}$ are the estimates of poverty elasticity of growth in periods 1 and 2, respectively. Using (7), (8) and (9) into (6) gives a consistent estimate of the PEGR as

$$\hat{\gamma}_{\alpha}^* = (\hat{\delta}_{\alpha} / \hat{\eta}_{\alpha}) \hat{\gamma}$$

APPENDIX TABLES

APPENDIX TABLE 1
GROWTH–INEQUALITY TRADE-OFF INDEX

COUNTRY	GROWTH SPELL	MEAN EXPENDITURE AT 1993 PPP	GROWTH–INEQUALITY TRADE-OFF INDEX		
			HEADCOUNT RATIO	POVERTY GAP RATIO	SEVERITY OF POVERTY
Central Asia					
Armenia	1996	134.58	3.11	4.26	5.41
	1999	85.78	1.62	2.53	3.53
Azerbaijan	1996	94.41	1.88	2.77	3.67
	1999	118.68	2.62	3.62	4.79
Kazakhstan	1996	147.7	3.51	4.44	5.56
	1999	149.15	3.56	4.45	6.16
Kyrgyz Republic	1993	319.67	8.76	15.51	20.94
	1999	158.84	3.85	5.44	8.70
	2001	104.57	2.19	2.61	2.99
Turkmenistan	1993	69.91	1.14	1.87	2.27
	1996	93.83	1.87	2.71	3.28
People's Republic of China and India					
PRC-Rural	1981	26.28	0.00	0.25	0.48
	1984	35.69	0.09	0.53	0.82
	1987	43.68	0.33	0.87	1.24
	1990	41.8	0.28	0.75	1.04
	1993	45.2	0.38	0.86	1.17
	1996	59.02	0.80	1.31	1.57
	1999	59.27	0.81	1.37	1.65
	2001	61.21	0.87	1.45	1.74
PRC-Urban	1981	70.38	1.15	1.70	3.01
	1984	80.68	1.46	2.18	4.34
	1987	97.89	1.99	3.27	7.97
	1990	99.54	2.04	3.10	6.17
	1993	123.96	2.79	4.17	7.71
	1996	144.9	3.43	5.05	8.74
	1999	168.71	4.15	6.41	13.43
	2001	191.16	4.84	7.03	12.14
India-rural	1984	35.68	0.09	0.58	0.87
	1987	38.66	0.18	0.64	0.92
	1990	38.74	0.18	0.62	0.87
	1993	39.15	0.20	0.62	0.88
	1996	39.11	0.19	0.61	0.84
	1999	42.33	0.29	0.71	0.93
India-urban	1984	57.49	0.76	1.28	1.65
	1987	58.55	0.79	1.33	1.60
	1990	59.89	0.83	1.38	1.76

continued next page

APPENDIX TABLE 1. *continued.*

COUNTRY	GROWTH SPELL	GROWTH-INEQUALITY TRADE-OFF INDEX			
		MEAN EXPENDITURE AT 1993 PPP	HEADCOUNT RATIO	POVERTY GAP RATIO	SEVERITY OF POVERTY
	1993	63.04	0.93	1.45	1.79
	1996	68.01	1.08	1.61	2.00
	1999	70.46	1.15	1.70	1.97
Other Asia					
Bangladesh	1996	54.96	0.68	1.12	1.42
	1999	47.2	0.44	0.86	1.08
Indonesia	1987	55.67	0.70	1.17	1.40
	1993	68.54	1.09	1.48	1.64
	1996	76.07	1.32	1.75	2.01
	1999	74.21	1.27	1.65	2.02
	2001	81.84	1.50	1.84	2.12
Lao PDR	1993	74.44	1.27	1.59	1.96
	1996	59.19	0.81	1.39	1.82
Malaysia	1984	236.9	6.24	8.09	10.13
	1987	228.54	5.98	7.13	8.13
	1990	242.73	6.41	7.80	10.12
	1993	257.04	6.85	7.48	--
	1996	209.8	3.74	7.13	8.15
Mongolia	1996	84.15	1.57	2.24	2.71
	1999	55.57	0.70	1.40	1.88
Pakistan	1987	41.05	0.25	0.79	1.11
	1990	41.66	0.27	0.83	1.17
	1993	51.48	0.57	1.10	1.44
	1996	50.84	0.55	0.99	1.30
	1999	65.21	1.06	1.45	1.87
Philippines	1984	77.72	1.37	2.06	2.39
	1987	79.83	1.44	2.08	2.36
	1990	87.86	1.68	2.41	2.74
	1996	107.45	2.28	3.05	3.40
	1999	104.13	2.18	2.95	3.30
Sri Lanka	1987	80.45	1.46	1.99	2.48
	1990	86.84	1.65	2.22	3.04
	1993	80.65	1.46	1.95	2.35
Thailand	1987	84.55	1.58	2.25	2.53
	1990	116.51	2.56	3.11	3.37
	1996	143.87	3.39	3.69	4.13
	1999	136.81	3.18	3.31	--
	2001	133.86	3.09	3.20	--
Viet Nam	1993	75.4	1.30	1.79	2.09
	1996	86.89	1.65	2.13	2.47
	2001	112.94	2.45	2.75	3.14

Note: -- indicates a zero value for the severity of poverty. \$1-a-day poverty line is used for the calculation.
 Source: Author's calculations.

APPENDIX TABLE 2
PRO-POOR GROWTH ESTIMATES FOR 17 ASIAN COUNTRIES
(BASED ON THE \$1-A-DAY POVERTY LINE)

Country	GROWTH SPELLS	POVERTY EQUIVALENT GROWTH RATE				GAINS(+)/LOSSES(-) OF GROWTH RATES			
		ACTUAL GROWTH RATE (PER ANNUM)	HEADCOUNT	POVERTY GAP	SEVERITY	HEADCOUNT	POVERTY GAP	SEVERITY	
Central Asia									
Armenia	1996								
	1999	-15.01	-9.39	-8.47	-10.36	5.62	6.54	4.65	
Azerbaijan	1996								
	1999	7.63	6.07	7.08	7.64	-1.56	-0.54	0.02	
Kazakhstan	1996								
	1999	0.33	6.16	7.17	7.73	5.84	6.84	7.41	
Kyrgyz Republic	1993								
	1999	-11.66	18.19	21.48	27.81	29.84	33.14	39.46	
Turkmenistan	2001	-20.90	4.78	5.52	15.04	25.68	26.42	35.94	
	1996	9.81	8.06	5.40	4.78	-1.75	-4.41	-5.03	
People's Republic of China and India									
PRC-Rural	1981								
	1984	10.20	15.79	9.41	9.13	5.59	-0.80	-1.07	
	1987	6.73	6.99	4.56	3.69	0.26	-2.17	-3.04	
	1990	-1.47	-1.74	-1.15	-0.10	-0.27	0.32	1.37	
	1993	2.61	3.07	2.00	1.87	0.46	-0.61	-0.74	
	1996	8.89	9.70	6.42	6.63	0.81	-2.47	-2.26	
	1999	0.14	-2.27	-1.50	-1.59	-2.41	-1.64	-1.73	
	2001	1.61	0.30	0.20	0.12	-1.31	-1.41	-1.49	
	PRC-Urban	1981							
		1984	4.55	7.62	10.43	16.52	3.07	5.88	11.97
1987		6.45	5.86	8.90	13.74	-0.59	2.45	7.30	
1990		0.56	-14.31	-21.80	-41.99	-14.86	-22.36	-42.55	
1993		7.31	3.04	4.28	8.40	-4.27	-3.03	1.09	
1996		5.20	6.30	9.00	16.08	1.10	3.79	10.88	
1999		5.07	-2.19	-3.21	-9.73	-7.26	-8.28	-14.80	
2001		6.25	6.19	8.92	21.68	-0.05	2.68	15.43	
India-rural	1984								
	1987	2.67	4.43	2.77	3.12	1.75	0.09	0.45	
	1990	0.07	2.21	1.42	1.52	2.14	1.35	1.45	
	1993	0.35	0.04	0.03	0.12	-0.31	-0.32	-0.23	
	1996	-0.03	0.24	0.15	0.50	0.28	0.19	0.54	
	1999	2.64	3.95	2.51	2.43	1.31	-0.13	-0.21	
India-urban	1984								
	1987	0.61	-1.34	-0.93	-0.12	-1.95	-1.54	-0.73	
	1990	0.75	2.09	1.46	0.53	1.34	0.71	-0.23	
	1993	1.71	2.07	1.49	1.93	0.36	-0.22	0.22	
	1996	2.53	1.98	1.43	1.25	-0.55	-1.10	-1.28	
	1999	1.18	0.68	0.47	1.12	-0.50	-0.71	-0.06	

continued next page

APPENDIX TABLE 2. *continued.*

Country	GROWTH SPELLS	ACTUAL GROWTH RATE (PER ANNUM)	POVERTY EQUIVALENT GROWTH RATE			GAINS(+)/LOSSES(-) OF GROWTH RATES		
			HEADCOUNT	POVERTY GAP	SEVERITY	HEADCOUNT	POVERTY GAP	SEVERITY
Bangladesh	1996							
	1999	-5.07	-3.88	-2.54	-2.05	1.20	2.53	3.03
Indonesia	1987							
	1993	3.47	5.86	3.00	3.08	2.40	-0.47	-0.38
	1996	3.47	2.35	1.37	0.62	-1.13	-2.11	-2.86
	1999	-0.83	5.39	4.29	3.30	6.22	5.11	4.12
Lao PDR	2001	4.89	1.23	1.01	2.61	-3.66	-3.88	-2.29
	1993							
Malaysia	1996	-7.64	-17.54	-15.40	-18.23	-9.90	-7.76	-10.59
	1984							
	1987	-1.20	5.80	5.73	8.18	7.00	6.93	9.37
	1990	2.01	3.60	3.72	1.83	1.59	1.71	-0.18
Mongolia	1993	1.91	4.99	5.62	--	3.08	3.71	--
	1996	-6.77	-16.13	-16.46	--	-9.36	-9.69	--
	1996							
	1999	-13.83	-14.60	-11.65	-12.53	-0.77	2.19	1.30
Pakistan	1987							
	1990	0.49	0.40	0.26	0.00	-0.09	-0.23	-0.49
	1993	7.06	9.90	6.81	7.15	2.85	-0.24	0.10
	1996	-0.42	3.88	2.77	3.18	4.29	3.19	3.60
Philippines	1999	8.30	8.16	6.79	6.61	-0.14	-1.51	-1.69
	1984							
	1987	0.89	2.21	1.29	1.53	1.31	0.39	0.63
	1990	3.19	-0.34	-0.19	-0.33	-3.54	-3.39	-3.53
Sri Lanka	1996	3.35	3.07	1.71	1.57	-0.28	-1.64	-1.78
	1999	-1.05	-1.58	-0.86	-0.76	-0.53	0.18	0.29
	1987							
	1990	2.55	6.06	5.89	5.19	3.51	3.34	2.64
Thailand	1993	-2.46	-6.46	-6.03	-4.46	-4.00	-3.57	-1.99
	1987							
	1990	10.69	12.84	7.29	7.06	2.15	-3.39	-3.63
	1996	3.52	5.53	3.56	4.05	2.02	0.05	0.53
Viet Nam	1999	-1.68	2.82	1.19	--	4.49	2.87	--
	2001	-1.09	0.90	0.26	--	1.99	1.35	--
	1993							
	1996	4.73	4.93	3.86	3.66	0.20	-0.87	-1.06
	2001	5.24	5.11	4.79	5.82	-0.14	-0.45	0.57

Note: -- indicates that the severity of poverty is zero. Gains and losses were calculated from taking the difference between poverty equivalent growth rate and annual growth rate.

Source: Author's calculations.

APPENDIX TABLE 3
PRO-POOR GROWTH ESTIMATES FOR 17 ASIAN COUNTRIES
(BASED ON THE \$2-A-DAY POVERTY LINE)

COUNTRY	GROWTH SPELLS	ACTUAL GROWTHRATE (PER ANNUM)	POVERTY EQUIVALENT GROWTH RATE			GAINS(+)/LOSSES(-) OF GROWTH RATES		
			HEADCOUNT	GAP	SEVERITY	HEADCOUNT	GAP	SEVERITY
Central Asia								
Armenia	1996							
	1999	-15.01	-12.44	-8.98	-8.60	2.57	6.04	6.41
Azerbaijan	1996							
	1999	7.63	6.58	5.24	5.47	-1.04	-2.39	-2.15
Kazakhstan	1990							
	1996	-1.65	-5.14	-3.57	-3.95	-3.49	-1.91	-2.30
	1999	0.33	9.43	7.01	8.24	9.11	6.68	7.92
Kyrgyz Republic	1993							
	1999	-11.66	8.94	7.64	11.01	20.59	19.29	22.67
	2001	-20.90	-14.73	-11.00	-7.57	6.18	9.90	13.33
Turkmenistan	1993							
	1996	9.81	9.36	6.01	5.91	-0.45	-3.80	-3.90
People's Republic of China and India								
PRC-Rural	1981							
	1984	10.20	48.31	9.63	9.48	38.10	-0.57	-0.72
	1987	6.73	16.01	6.13	5.50	9.28	-0.60	-1.23
	1990	-1.47	-6.16	-2.55	-2.02	-4.70	-1.08	-0.56
	1993	2.61	4.77	1.79	1.88	2.17	-0.81	-0.72
	1996	8.89	17.67	8.39	7.55	8.78	-0.51	-1.34
	1999	0.14	-1.51	-0.81	-1.08	-1.65	-0.95	-1.22
	2001	1.61	1.49	0.81	0.56	-0.12	-0.80	-1.05
PRC-Urban	1981							
	1984	4.55	7.36	5.62	6.16	2.81	1.07	1.61
	1987	6.45	7.82	6.82	6.59	1.37	0.38	0.14
	1990	0.56	-8.29	-7.33	-9.45	-8.85	-7.89	-10.01
	1993	7.31	4.43	3.71	3.57	-2.89	-3.61	-3.75
	1996	5.20	5.29	4.59	5.09	0.09	-0.62	-0.11
	1999	5.07	1.27	1.14	0.30	-3.80	-3.93	-4.77
	2001	6.25	2.78	2.55	3.49	-3.47	-3.70	-2.75
India-rural	1984							
	1987	2.67	8.50	2.29	2.53	5.83	-0.38	-0.14
	1990	0.07	3.93	1.11	1.23	3.86	1.04	1.16
	1993	0.35	-0.45	-0.13	-0.08	-0.80	-0.48	-0.43
	1996	-0.03	-0.65	-0.17	0.00	-0.62	-0.14	0.03
	1999	2.64	10.02	3.01	2.78	7.38	0.38	0.14
India-urban	1984							
	1987	0.61	-1.17	-0.62	-0.78	-1.78	-1.23	-1.38
	1990	0.75	3.11	1.67	1.70	2.35	0.92	0.94
	1993	1.71	2.59	1.44	1.46	0.88	-0.26	-0.24
	1996	2.53	1.94	1.09	1.03	-0.59	-1.44	-1.50
	1999	1.18	3.44	2.00	1.60	2.26	0.82	0.42

continued next page

APPENDIX TABLE 3. *continued.*

COUNTRY	GROWTH SPELLS	ACTUAL GROWTHRATE (PER ANNUM)	POVERTY EQUIVALENT GROWTH RATE			GAINS(+)/LOSSES(-) OF GROWTH RATES		
			HEADCOUNT	POVERTY		HEADCOUNT	POVERTY	
				GAP	SEVERITY		GAP	SEVERITY
Bangladesh	1996							
	1999	-5.07	-4.47	-1.78	-2.09	0.61	3.30	2.99
Indonesia	1987							
	1993	3.47	5.66	3.06	3.03	2.19	-0.40	-0.44
	1996	3.47	3.95	2.23	2.16	0.47	-1.25	-1.31
	1999	-0.83	5.48	3.23	3.57	6.31	4.06	4.39
Lao PDR	2001	4.89	1.42	0.85	0.79	-3.48	-4.05	-4.10
	1993							
Malaysia	1996	-7.64	-19.89	-10.88	-12.12	-12.25	-3.24	-4.48
	1984							
Mongolia	1987	-1.20	1.72	1.28	2.10	2.92	2.48	3.30
	1990	2.01	5.31	3.90	4.05	3.31	1.89	2.04
	1993	1.91	-2.02	-1.43	-0.80	-3.93	-3.34	-2.71
	1996	-6.77	-16.99	-10.91	-11.66	-10.22	-4.15	-4.89
Pakistan	1996							
	1999	-13.83	-17.57	-11.62	-11.56	-3.74	2.22	2.27
Philippines	1987							
	1990	0.49	2.31	0.80	0.58	1.82	0.31	0.09
	1993	7.06	15.25	6.32	6.49	8.20	-0.73	-0.57
	1996	-0.42	2.99	1.32	1.90	3.41	1.74	2.32
	1999	8.30	13.51	6.96	6.79	5.21	-1.34	-1.51
Sri Lanka	1984							
	1987	0.89	1.57	0.94	1.01	0.68	0.05	0.12
	1990	3.19	1.12	0.68	0.31	-2.08	-2.52	-2.88
	1996	3.35	3.71	2.32	2.10	0.36	-1.03	-1.25
	1999	-1.05	-1.76	-1.11	-1.05	-0.71	-0.06	0.00
Thailand	1987							
	1990	2.55	6.81	4.58	4.80	4.26	2.03	2.26
	1993	-2.46	-8.76	-5.85	-6.17	-6.29	-3.39	-3.70
Viet Nam	1987							
	1990	10.69	14.62	8.48	8.32	3.93	-2.21	-2.37
	1996	3.52	7.95	4.62	4.57	4.44	1.11	1.06
	1999	-1.68	-3.79	-2.20	-2.18	-2.11	-0.53	-0.50
	2001	-1.09	-0.96	-0.54	-0.35	0.13	0.55	0.74

Note: Gains and losses were calculated by taking the difference between poverty equivalent growth rate and annual growth rate.
Source: Author's calculations.

REFERENCES

- Deininger, K., and L. Squire. 1996. "A New Data Set in Measuring Income Inequality." *The World Bank Economic Review* 10(3):565–91.
- Foster, J., J. Greer, and E. Thorbecke. 1984. "A Class of Decomposable Poverty Measures." *Econometrica* 52(3):761–66.
- Kakwani, N. 1993. "Poverty and Economic Growth with Application to Cote D'Ivoire." *Review of Income and Wealth* 39(2):121–39.
- Kakwani, N., and E. Pernia. 2000. "What is Pro-poor Growth?" *Asian Development Review* 16(1):1–22.
- Kakwani, N., and H. H. Son. 2007. "Poverty Equivalent Growth Rate." *Review of Income and Wealth*. Forthcoming.
- Klasen, S. 2004. "In Search of the Holy Grail: How to Achieve Pro-poor Growth?." In B. Tungodden, N. Stern, and I. Kolstad, eds., *Towards Pro-Poor Policies: Aid, Institutions, and Globalization*. New York: Oxford University Press.
- Kuznets, S. 1955. "Economic Growth and Income Inequality." *American Economic Review* 45:1–28.
- Liu, H. 2006. "Changing Regional Rural Inequality in China 1980-2002." *Area* 38(4):377–89.
- Ravallion, M., and S. Chen. 2003. "Measuring Pro-poor Growth." *Economics Letters* 78:93–9.
- Yao, S., Z. Zhang, and L. Hanmer. 2004. "Growing Inequality and Poverty in China." *China Economic Review* 15:145–63.

PUBLICATIONS FROM THE ECONOMICS AND RESEARCH DEPARTMENT

ERD WORKING PAPER SERIES (WPS)

(Published in-house; Available through ADB Office of External Relations; Free of Charge)

- | | |
|--|--|
| <p>No. 1 Capitalizing on Globalization
—<i>Barry Eichengreen, January 2002</i></p> <p>No. 2 Policy-based Lending and Poverty Reduction: An Overview of Processes, Assessment and Options
—<i>Richard Bolt and Manabu Fujimura, January 2002</i></p> <p>No. 3 The Automotive Supply Chain: Global Trends and Asian Perspectives
—<i>Francisco Veloso and Rajiv Kumar, January 2002</i></p> <p>No. 4 International Competitiveness of Asian Firms: An Analytical Framework
—<i>Rajiv Kumar and Doren Chadee, February 2002</i></p> <p>No. 5 The International Competitiveness of Asian Economies in the Apparel Commodity Chain
—<i>Gary Gereffi, February 2002</i></p> <p>No. 6 Monetary and Financial Cooperation in East Asia—The Chiang Mai Initiative and Beyond
—<i>Pradumna B. Rana, February 2002</i></p> <p>No. 7 Probing Beneath Cross-national Averages: Poverty, Inequality, and Growth in the Philippines
—<i>Arsenio M. Balisacan and Ernesto M. Pernia, March 2002</i></p> <p>No. 8 Poverty, Growth, and Inequality in Thailand
—<i>Anil B. Deolalikar, April 2002</i></p> <p>No. 9 Microfinance in Northeast Thailand: Who Benefits and How Much?
—<i>Brett E. Coleman, April 2002</i></p> <p>No. 10 Poverty Reduction and the Role of Institutions in Developing Asia
—<i>Anil B. Deolalikar, Alex B. Brillantes, Jr., Raghav Gaiha, Ernesto M. Pernia, Mary Racelis with the assistance of Marita Concepcion Castro-Guevara, Liza L. Lim, Pilipinas F. Quising, May 2002</i></p> <p>No. 11 The European Social Model: Lessons for Developing Countries
—<i>Assar Lindbeck, May 2002</i></p> <p>No. 12 Costs and Benefits of a Common Currency for ASEAN
—<i>Srinivasa Madhur, May 2002</i></p> <p>No. 13 Monetary Cooperation in East Asia: A Survey
—<i>Raul Fabella, May 2002</i></p> <p>No. 14 Toward A Political Economy Approach to Policy-based Lending
—<i>George Abonyi, May 2002</i></p> <p>No. 15 A Framework for Establishing Priorities in a Country Poverty Reduction Strategy
—<i>Ron Duncan and Steve Pollard, June 2002</i></p> <p>No. 16 The Role of Infrastructure in Land-use Dynamics and Rice Production in Viet Nam's Mekong River Delta
—<i>Christopher Edmonds, July 2002</i></p> <p>No. 17 Effect of Decentralization Strategy on Macroeconomic Stability in Thailand
—<i>Kanokpan Lao-Araya, August 2002</i></p> <p>No. 18 Poverty and Patterns of Growth
—<i>Rana Hasan and M. G. Quibria, August 2002</i></p> <p>No. 19 Why are Some Countries Richer than Others? A Reassessment of Mankiw-Romer-Weil's Test of</p> | <p>the Neoclassical Growth Model
—<i>Jesus Felipe and John McCombie, August 2002</i></p> <p>No. 20 Modernization and Son Preference in People's Republic of China
—<i>Robin Burgess and Juzhong Zhuang, September 2002</i></p> <p>No. 21 The Doha Agenda and Development: A View from the Uruguay Round
—<i>J. Michael Finger, September 2002</i></p> <p>No. 22 Conceptual Issues in the Role of Education Decentralization in Promoting Effective Schooling in Asian Developing Countries
—<i>Jere R. Behrman, Anil B. Deolalikar, and Lee-Ying Son, September 2002</i></p> <p>No. 23 Promoting Effective Schooling through Education Decentralization in Bangladesh, Indonesia, and Philippines
—<i>Jere R. Behrman, Anil B. Deolalikar, and Lee-Ying Son, September 2002</i></p> <p>No. 24 Financial Opening under the WTO Agreement in Selected Asian Countries: Progress and Issues
—<i>Yun-Hwan Kim, September 2002</i></p> <p>No. 25 Revisiting Growth and Poverty Reduction in Indonesia: What Do Subnational Data Show?
—<i>Arsenio M. Balisacan, Ernesto M. Pernia, and Abuzar Asra, October 2002</i></p> <p>No. 26 Causes of the 1997 Asian Financial Crisis: What Can an Early Warning System Model Tell Us?
—<i>Juzhong Zhuang and J. Malcolm Dowling, October 2002</i></p> <p>No. 27 Digital Divide: Determinants and Policies with Special Reference to Asia
—<i>M. G. Quibria, Shamsun N. Ahmed, Ted Tschang, and Mari-Len Reyes-Macasaquit, October 2002</i></p> <p>No. 28 Regional Cooperation in Asia: Long-term Progress, Recent Retrogression, and the Way Forward
—<i>Ramgopal Agarwala and Brahm Prakash, October 2002</i></p> <p>No. 29 How can Cambodia, Lao PDR, Myanmar, and Viet Nam Cope with Revenue Lost Due to AFTA Tariff Reductions?
—<i>Kanokpan Lao-Araya, November 2002</i></p> <p>No. 30 Asian Regionalism and Its Effects on Trade in the 1980s and 1990s
—<i>Ramon Clarete, Christopher Edmonds, and Jessica Seddon Wallack, November 2002</i></p> <p>No. 31 New Economy and the Effects of Industrial Structures on International Equity Market Correlations
—<i>Cyn-Young Park and Jaejoon Woo, December 2002</i></p> <p>No. 32 Leading Indicators of Business Cycles in Malaysia and the Philippines
—<i>Wenda Zhang and Juzhong Zhuang, December 2002</i></p> <p>No. 33 Technological Spillovers from Foreign Direct Investment—A Survey
—<i>Emma Xiaojin Fan, December 2002</i></p> |
|--|--|

- No. 34 Economic Openness and Regional Development in the Philippines
—*Ernesto M. Pernia and Pilipinas F. Quising, January 2003*
- No. 35 Bond Market Development in East Asia: Issues and Challenges
—*Raul Fabella and Srinivasa Madhur, January 2003*
- No. 36 Environment Statistics in Central Asia: Progress and Prospects
—*Robert Ballance and Bishnu D. Pant, March 2003*
- No. 37 Electricity Demand in the People's Republic of China: Investment Requirement and Environmental Impact
—*Bo Q. Lin, March 2003*
- No. 38 Foreign Direct Investment in Developing Asia: Trends, Effects, and Likely Issues for the Forthcoming WTO Negotiations
—*Douglas H. Brooks, Emma Xiaoqin Fan, and Lea R. Sumulong, April 2003*
- No. 39 The Political Economy of Good Governance for Poverty Alleviation Policies
—*Narayan Lakshman, April 2003*
- No. 40 The Puzzle of Social Capital
A Critical Review
—*M. G. Quibria, May 2003*
- No. 41 Industrial Structure, Technical Change, and the Role of Government in Development of the Electronics and Information Industry in Taipei, China
—*Yeo Lin, May 2003*
- No. 42 Economic Growth and Poverty Reduction in Viet Nam
—*Arsenio M. Balisacan, Ernesto M. Pernia, and Gemma Esther B. Estrada, June 2003*
- No. 43 Why Has Income Inequality in Thailand Increased? An Analysis Using 1975-1998 Surveys
—*Taizo Motonishi, June 2003*
- No. 44 Welfare Impacts of Electricity Generation Sector Reform in the Philippines
—*Natsuko Toba, June 2003*
- No. 45 A Review of Commitment Savings Products in Developing Countries
—*Nava Ashraf, Nathalie Gons, Dean S. Karlan, and Wesley Yin, July 2003*
- No. 46 Local Government Finance, Private Resources, and Local Credit Markets in Asia
—*Roberto de Vera and Yun-Hwan Kim, October 2003*
- No. 47 Excess Investment and Efficiency Loss During Reforms: The Case of Provincial-level Fixed-Asset Investment in People's Republic of China
—*Duo Qin and Haiyan Song, October 2003*
- No. 48 Is Export-led Growth Passe? Implications for Developing Asia
—*Jesus Felipe, December 2003*
- No. 49 Changing Bank Lending Behavior and Corporate Financing in Asia—Some Research Issues
—*Emma Xiaoqin Fan and Akiko Terada-Hagiwara, December 2003*
- No. 50 Is People's Republic of China's Rising Services Sector Leading to Cost Disease?
—*Duo Qin, March 2004*
- No. 51 Poverty Estimates in India: Some Key Issues
—*Savita Sharma, May 2004*
- No. 52 Restructuring and Regulatory Reform in the Power Sector: Review of Experience and Issues
—*Peter Choynowski, May 2004*
- No. 53 Competitiveness, Income Distribution, and Growth in the Philippines: What Does the Long-run Evidence Show?
—*Jesus Felipe and Grace C. Sipin, June 2004*
- No. 54 Practices of Poverty Measurement and Poverty Profile of Bangladesh
—*Faizuddin Ahmed, August 2004*
- No. 55 Experience of Asian Asset Management Companies: Do They Increase Moral Hazard?—Evidence from Thailand
—*Akiko Terada-Hagiwara and Gloria Pasadilla, September 2004*
- No. 56 Viet Nam: Foreign Direct Investment and Postcrisis Regional Integration
—*Vittorio Leproux and Douglas H. Brooks, September 2004*
- No. 57 Practices of Poverty Measurement and Poverty Profile of Nepal
—*Devendra Chhetry, September 2004*
- No. 58 Monetary Poverty Estimates in Sri Lanka: Selected Issues
—*Neranjana Gunetilleke and Dinushka Senanayake, October 2004*
- No. 59 Labor Market Distortions, Rural-Urban Inequality, and the Opening of People's Republic of China's Economy
—*Thomas Hertel and Fan Zhai, November 2004*
- No. 60 Measuring Competitiveness in the World's Smallest Economies: Introducing the SSMECI
—*Ganeshan Wignaraja and David Joiner, November 2004*
- No. 61 Foreign Exchange Reserves, Exchange Rate Regimes, and Monetary Policy: Issues in Asia
—*Akiko Terada-Hagiwara, January 2005*
- No. 62 A Small Macroeconometric Model of the Philippine Economy
—*Geoffrey Ducanes, Marie Anne Cagas, Duo Qin, Pilipinas Quising, and Nedelyn Magtibay-Ramos, January 2005*
- No. 63 Developing the Market for Local Currency Bonds by Foreign Issuers: Lessons from Asia
—*Tobias Hoschka, February 2005*
- No. 64 Empirical Assessment of Sustainability and Feasibility of Government Debt: The Philippines Case
—*Duo Qin, Marie Anne Cagas, Geoffrey Ducanes, Nedelyn Magtibay-Ramos, and Pilipinas Quising, February 2005*
- No. 65 Poverty and Foreign Aid
Evidence from Cross-Country Data
—*Abuzar Asra, Gemma Estrada, Yangseom Kim, and M. G. Quibria, March 2005*
- No. 66 Measuring Efficiency of Macro Systems: An Application to Millennium Development Goal Attainment
—*Ajay Tandon, March 2005*
- No. 67 Banks and Corporate Debt Market Development
—*Paul Dickie and Emma Xiaoqin Fan, April 2005*
- No. 68 Local Currency Financing—The Next Frontier for MDBs?
—*Tobias C. Hoschka, April 2005*
- No. 69 Export or Domestic-Led Growth in Asia?
—*Jesus Felipe and Joseph Lim, May 2005*
- No. 70 Policy Reform in Viet Nam and the Asian Development Bank's State-owned Enterprise Reform and Corporate Governance Program Loan
—*George Abonyi, August 2005*
- No. 71 Policy Reform in Thailand and the Asian Development Bank's Agricultural Sector Program Loan
—*George Abonyi, September 2005*
- No. 72 Can the Poor Benefit from the Doha Agenda? The Case of Indonesia
—*Douglas H. Brooks and Guntur Sugiyarto, October 2005*
- No. 73 Impacts of the Doha Development Agenda on People's Republic of China: The Role of Complementary Education Reforms

- Fan Zhai and Thomas Hertel, October 2005*
- No. 74 Growth and Trade Horizons for Asia: Long-term Forecasts for Regional Integration
—*David Roland-Holst, Jean-Pierre Verbiest, and Fan Zhai, November 2005*
- No. 75 Macroeconomic Impact of HIV/AIDS in the Asian and Pacific Region
—*Ajay Tandon, November 2005*
- No. 76 Policy Reform in Indonesia and the Asian Development Bank's Financial Sector Governance Reforms Program Loan
—*George Abonyi, December 2005*
- No. 77 Dynamics of Manufacturing Competitiveness in South Asia: ANalysis through Export Data
—*Hans-Peter Brunner and Massimiliano Cali, December 2005*
- No. 78 Trade Facilitation
—*Teruo Ujiie, January 2006*
- No. 79 An Assessment of Cross-country Fiscal Consolidation
—*Bruno Carrasco and Seung Mo Choi, February 2006*
- No. 80 Central Asia: Mapping Future Prospects to 2015
—*Malcolm Dowling and Ganeshan Wignaraja, April 2006*
- No. 81 A Small Macroeconometric Model of the People's Republic of China
—*Duo Qin, Marie Anne Cagas, Geoffrey Ducanes, Nedelyn Magtibay-Ramos, Pilipinas Quising, Xinhua He, Rui Liu, and Shi-Guo Liu, June 2006*
- No. 82 Institutions and Policies for Growth and Poverty Reduction: The Role of Private Sector Development
—*Rana Hasan, Devashish Mitra, and Mehmet Ulubasoglu, July 2006*
- No. 83 Preferential Trade Agreements in Asia: Alternative Scenarios of "Hub and Spoke"
—*Fan Zhai, October 2006*
- No. 84 Income Disparity and Economic Growth: Evidence from People's Republic of China
—*Duo Qin, Marie Anne Cagas, Geoffrey Ducanes, Xinhua He, Rui Liu, and Shiguo Liu, October 2006*
- No. 85 Macroeconomic Effects of Fiscal Policies: Empirical Evidence from Bangladesh, People's Republic of China, Indonesia, and Philippines
—*Geoffrey Ducanes, Marie Anne Cagas, Duo Qin, Pilipinas Quising, and Mohammad Abdur Razzaque, November 2006*
- No. 86 Economic Growth, Technological Change, and Patterns of Food and Agricultural Trade in Asia
—*Thomas W. Hertel, Carlos E. Ludena, and Alla Golub, November 2006*
- No. 87 Expanding Access to Basic Services in Asia and the Pacific Region: Public-Private Partnerships for Poverty Reduction
—*Adrian T. P. Panggabean, November 2006*
- No. 88 Income Volatility and Social Protection in Developing Asia
—*Vandana Siphimalani-Rao, November 2006*
- No. 89 Rules of Origin: Conceptual Explorations and Lessons from the Generalized System of Preferences
—*Teruo Ujiie, December 2006*
- No. 90 Asia's Imprint on Global Commodity Markets
—*Cyn-Young Park and Fan Zhai, December 2006*
- No. 91 Infrastructure as a Catalyst for Regional Integration, Growth, and Economic Convergence: Scenario Analysis for Asia
—*David Roland-Holst, December 2006*
- No. 92 Measuring Underemployment: Establishing the Cut-off Point
—*Guntur Sugiyarto, March 2007*
- No. 93 An Analysis of the Philippine Business Process Outsourcing Industry
—*Nedelyn Magtibay-Ramos, Gemma Estrada, and Jesus Felipe, March 2007*
- No. 94 Theory and Practice in the Choice of Social Discount Rate for Cost-Benefit Analysis: A Survey
—*Juzhong Zhuang, Zhihong Liang, Tun Lin, and Franklin De Guzman, May 2007*
- No. 95 Can East Asia Weather a US Slowdown?
—*Cyn-Young Park, June 2007*
- No. 96 Interrelationship between Growth, Inequality, and Poverty: the Asian Experience
—*Hyun H. Son, June 2007*

ERD TECHNICAL NOTE SERIES (TNS)

(Published in-house; Available through ADB Office of External Relations; Free of Charge)

- No. 1 Contingency Calculations for Environmental Impacts with Unknown Monetary Values
—*David Dole, February 2002*
- No. 2 Integrating Risk into ADB's Economic Analysis of Projects
—*Nigel Rayner, Anneli Lagman-Martin, and Keith Ward, June 2002*
- No. 3 Measuring Willingness to Pay for Electricity
—*Peter Choynowski, July 2002*
- No. 4 Economic Issues in the Design and Analysis of a Wastewater Treatment Project
—*David Dole, July 2002*
- No. 5 An Analysis and Case Study of the Role of Environmental Economics at the Asian Development Bank
—*David Dole and Piya Abeygunawardena, September 2002*
- No. 6 Economic Analysis of Health Projects: A Case Study in Cambodia
—*Erik Bloom and Peter Choynowski, May 2003*
- No. 7 Strengthening the Economic Analysis of Natural Resource Management Projects
—*Keith Ward, September 2003*
- No. 8 Testing Savings Product Innovations Using an Experimental Methodology
—*Nava Ashraf, Dean S. Karlan, and Wesley Yin, November 2003*
- No. 9 Setting User Charges for Public Services: Policies and Practice at the Asian Development Bank
—*David Dole, December 2003*
- No. 10 Beyond Cost Recovery: Setting User Charges for Financial, Economic, and Social Goals
—*David Dole and Ian Bartlett, January 2004*
- No. 11 Shadow Exchange Rates for Project Economic Analysis: Toward Improving Practice at the Asian Development Bank
—*Anneli Lagman-Martin, February 2004*
- No. 12 Improving the Relevance and Feasibility of Agriculture and Rural Development Operational Designs: How Economic Analyses Can Help
—*Richard Bolt, September 2005*

- No. 13 Assessing the Use of Project Distribution and Poverty Impact Analyses at the Asian Development Bank
—*Franklin D. De Guzman, October 2005*
- No. 14 Assessing Aid for a Sector Development Plan: Economic Analysis of a Sector Loan
—*David Dole, November 2005*
- No. 15 Debt Management Analysis of Nepal's Public Debt
—*Sungsup Ra, Changyong Rhee, and Joon-Ho Hahn, December 2005*
- No. 16 Evaluating Microfinance Program Innovation with Randomized Control Trials: An Example from Group Versus Individual Lending
—*Xavier Giné, Tomoko Harigaya, Dean Karlan, and Binh T. Nguyen, March 2006*
- No. 17 Setting User Charges for Urban Water Supply: A Case Study of the Metropolitan Cebu Water District in the Philippines
—*David Dole and Edna Balucan, June 2006*
- No. 18 Forecasting Inflation and GDP Growth: Automatic Leading Indicator (ALI) Method versus Macro Econometric Structural Models (MESMs)
—*Marie Anne Cagas, Geoffrey Ducanes, Nedelyn Magtibay-Ramos, Duo Qin and Pilipinas Quising, July 2006*
- No. 19 Willingness-to-Pay and Design of Water Supply and Sanitation Projects: A Case Study
—*Herath Gunatilake, Jui-Chen Yang, Subhrendu Pattanayak, and Caroline van den Berg, December 2006*
- No. 20 Tourism for Pro-Poor and Sustainable Growth: Economic Analysis of ADB Tourism Projects
—*Tun Lin and Franklin D. De Guzman, January 2007*
- No. 21 Critical Issues of Fiscal Decentralization
—*Norio Usui, February 2007*
- No. 22 Pro-Poor Growth: Concepts and Measures
—*Hyun H. Son, June 2007*

ERD POLICY BRIEF SERIES (PBS)

(Published in-house; Available through ADB Office of External Relations; Free of charge)

- No. 1 Is Growth Good Enough for the Poor?
—*Ernesto M. Pernia, October 2001*
- No. 2 India's Economic Reforms
What Has Been Accomplished?
What Remains to Be Done?
—*Arvind Panagariya, November 2001*
- No. 3 Unequal Benefits of Growth in Viet Nam
—*Indu Bhushan, Erik Bloom, and Nguyen Minh Thang, January 2002*
- No. 4 Is Volatility Built into Today's World Economy?
—*J. Malcolm Dowling and J.P. Verbiest, February 2002*
- No. 5 What Else Besides Growth Matters to Poverty Reduction? Philippines
—*Arsenio M. Balisacan and Ernesto M. Pernia, February 2002*
- No. 6 Achieving the Twin Objectives of Efficiency and Equity: Contracting Health Services in Cambodia
—*Indu Bhushan, Sheryl Keller, and Brad Schwartz, March 2002*
- No. 7 Causes of the 1997 Asian Financial Crisis: What Can an Early Warning System Model Tell Us?
—*Juzhong Zhuang and Malcolm Dowling, June 2002*
- No. 8 The Role of Preferential Trading Arrangements in Asia
—*Christopher Edmonds and Jean-Pierre Verbiest, July 2002*
- No. 9 The Doha Round: A Development Perspective
—*Jean-Pierre Verbiest, Jeffrey Liang, and Lea Sumulong, July 2002*
- No. 10 Is Economic Openness Good for Regional Development and Poverty Reduction? The Philippines
—*E. M. Pernia and Pilipinas Quising, October 2002*
- No. 11 Implications of a US Dollar Depreciation for Asian Developing Countries
—*Emma Fan, July 2002*
- No. 12 Dangers of Deflation
—*D. Brooks and Pilipinas Quising, December 2002*
- No. 13 Infrastructure and Poverty Reduction—
What is the Connection?
—*Ifzal Ali and Ernesto Pernia, January 2003*
- No. 14 Infrastructure and Poverty Reduction—
Making Markets Work for the Poor
—*Xianbin Yao, May 2003*
- No. 15 SARS: Economic Impacts and Implications
—*Emma Xiaojin Fan, May 2003*
- No. 16 Emerging Tax Issues: Implications of Globalization and Technology
—*Kanokpan Lao Araya, May 2003*
- No. 17 Pro-Poor Growth: What is It and Why is It Important?
—*Ernesto M. Pernia, May 2003*
- No. 18 Public-Private Partnership for Competitiveness
—*Jesus Felipe, June 2003*
- No. 19 Reviving Asian Economic Growth Requires Further Reforms
—*Ifzal Ali, June 2003*
- No. 20 The Millennium Development Goals and Poverty: Are We Counting the World's Poor Right?
—*M. G. Quibria, July 2003*
- No. 21 Trade and Poverty: What are the Connections?
—*Douglas H. Brooks, July 2003*
- No. 22 Adapting Education to the Global Economy
—*Olivier Dupriez, September 2003*
- No. 23 Avian Flu: An Economic Assessment for Selected Developing Countries in Asia
—*Jean-Pierre Verbiest and Charissa Castillo, March 2004*
- No. 25 Purchasing Power Parities and the International Comparison Program in a Globalized World
—*Bishnu Pant, March 2004*
- No. 26 A Note on Dual/Multiple Exchange Rates
—*Emma Xiaojin Fan, May 2004*
- No. 27 Inclusive Growth for Sustainable Poverty Reduction in Developing Asia: The Enabling Role of Infrastructure Development
—*Ifzal Ali and Xianbin Yao, May 2004*
- No. 28 Higher Oil Prices: Asian Perspectives and Implications for 2004-2005
—*Cyn-Young Park, June 2004*
- No. 29 Accelerating Agriculture and Rural Development for Inclusive Growth: Policy Implications for Developing Asia
—*Richard Bolt, July 2004*
- No. 30 Living with Higher Interest Rates: Is Asia Ready?
—*Cyn-Young Park, August 2004*

- No. 31 Reserve Accumulation, Sterilization, and Policy Dilemma
—*Akiko Terada-Hagiwara, October 2004*
- No. 32 The Primacy of Reforms in the Emergence of People's Republic of China and India
—*Ifzal Ali and Emma Xiaoqin Fan, November 2004*
- No. 33 Population Health and Foreign Direct Investment: Does Poor Health Signal Poor Government Effectiveness?
—*Ajay Tandon, January 2005*
- No. 34 Financing Infrastructure Development: Asian Developing Countries Need to Tap Bond Markets More Rigorously
—*Yun-Hwan Kim, February 2005*
- No. 35 Attaining Millennium Development Goals in Health: Isn't Economic Growth Enough?
—*Ajay Tandon, March 2005*
- No. 36 Instilling Credit Culture in State-owned Banks— Experience from Lao PDR
—*Robert Boumphrey, Paul Dickie, and Samiuela Tukuafu, April 2005*
- No. 37 Coping with Global Imbalances and Asian Currencies
—*Cyn-Young Park, May 2005*
- No. 38 Asia's Long-term Growth and Integration: Reaching beyond Trade Policy Barriers
—*Douglas H. Brooks, David Roland-Holst, and Fan Zhai, September 2005*
- No. 39 Competition Policy and Development
—*Douglas H. Brooks, October 2005*
- No. 40 Highlighting Poverty as Vulnerability: The 2005 Earthquake in Pakistan
—*Rana Hasan and Ajay Tandon, October 2005*
- No. 41 Conceptualizing and Measuring Poverty as Vulnerability: Does It Make a Difference?
—*Ajay Tandon and Rana Hasan, October 2005*
- No. 42 Potential Economic Impact of an Avian Flu Pandemic on Asia
—*Erik Bloom, Vincent de Wit, and Mary Jane Carangal-San Jose, November 2005*
- No. 43 Creating Better and More Jobs in Indonesia: A Blueprint for Policy Action
—*Guntur Sugiyarto, December 2005*
- No. 44 The Challenge of Job Creation in Asia
—*Jesus Felipe and Rana Hasan, April 2006*
- No. 45 International Payments Imbalances
—*Jesus Felipe, Frank Harrigan, and Aashish Mehta, April 2006*
- No. 46 Improving Primary Enrollment Rates among the Poor
—*Ajay Tandon, August 2006*
- No. 47 Inclusiveness of Economic Growth in the People's Republic of China: What Do Population Health Outcomes Tell Us?
—*Ajay Tandon and Juzhong Zhuang, January 2007*
- No. 48 Pro-Poor to Inclusive Growth: Asian Prescriptions
—*Ifzal Ali, May 2007*

SPECIAL STUDIES, COMPLIMENTARY

(Available through ADB Office of External Relations)

1. Improving Domestic Resource Mobilization Through Financial Development: Overview *September 1985*
2. Improving Domestic Resource Mobilization Through Financial Development: Bangladesh *July 1986*
3. Improving Domestic Resource Mobilization Through Financial Development: Sri Lanka *April 1987*
4. Improving Domestic Resource Mobilization Through Financial Development: India *December 1987*
5. Financing Public Sector Development Expenditure in Selected Countries: Overview *January 1988*
6. Study of Selected Industries: A Brief Report *April 1988*
7. Financing Public Sector Development Expenditure in Selected Countries: Bangladesh *June 1988*
8. Financing Public Sector Development Expenditure in Selected Countries: India *June 1988*
9. Financing Public Sector Development Expenditure in Selected Countries: Indonesia *June 1988*
10. Financing Public Sector Development Expenditure in Selected Countries: Nepal *June 1988*
11. Financing Public Sector Development Expenditure in Selected Countries: Pakistan *June 1988*
12. Financing Public Sector Development Expenditure in Selected Countries: Philippines *June 1988*
13. Financing Public Sector Development Expenditure in Selected Countries: Thailand *June 1988*
14. Towards Regional Cooperation in South Asia: ADB/EWC Symposium on Regional Cooperation in South Asia *February 1988*
15. Evaluating Rice Market Intervention Policies: Some Asian Examples *April 1988*
16. Improving Domestic Resource Mobilization Through Financial Development: Nepal *November 1988*
17. Foreign Trade Barriers and Export Growth *September 1988*
18. The Role of Small and Medium-Scale Industries in the Industrial Development of the Philippines *April 1989*
19. The Role of Small and Medium-Scale Manufacturing Industries in Industrial Development: The Experience of Selected Asian Countries *January 1990*
20. National Accounts of Vanuatu, 1983-1987 *January 1990*
21. National Accounts of Western Samoa, 1984-1986 *February 1990*
22. Human Resource Policy and Economic Development: Selected Country Studies *July 1990*
23. Export Finance: Some Asian Examples *September 1990*
24. National Accounts of the Cook Islands, 1982-1986 *September 1990*
25. Framework for the Economic and Financial Appraisal of Urban Development Sector Projects *January 1994*
26. Framework and Criteria for the Appraisal and Socioeconomic Justification of Education Projects *January 1994*
27. Investing in Asia 1997 (Co-published with OECD)
28. The Future of Asia in the World Economy 1998 (Co-published with OECD)
29. Financial Liberalisation in Asia: Analysis and Prospects 1999 (Co-published with OECD)
30. Sustainable Recovery in Asia: Mobilizing Resources for Development 2000 (Co-published with OECD)
31. Technology and Poverty Reduction in Asia and the Pacific 2001 (Co-published with OECD)
32. Asia and Europe 2002 (Co-published with OECD)
33. Economic Analysis: Retrospective 2003
34. Economic Analysis: Retrospective: 2003 Update 2004
35. Development Indicators Reference Manual: Concepts and Definitions 2004
35. Investment Climate and Productivity Studies Philippines: Moving Toward a Better Investment Climate 2005
- The Road to Recovery: Improving the Investment Climate in Indonesia 2005
- Sri Lanka: Improving the Rural and Urban Investment Climate 2005

OLD MONOGRAPH SERIES

(Available through ADB Office of External Relations; Free of charge)

EDRC REPORT SERIES (ER)

- No. 1 ASEAN and the Asian Development Bank
—*Seiji Naya, April 1982*
- No. 2 Development Issues for the Developing East and Southeast Asian Countries and International Cooperation
—*Seiji Naya and Graham Abbott, April 1982*
- No. 3 Aid, Savings, and Growth in the Asian Region
—*J. Malcolm Dowling and Ulrich Hiemenz, April 1982*
- No. 4 Development-oriented Foreign Investment and the Role of ADB
—*Kiyoshi Kojima, April 1982*
- No. 5 The Multilateral Development Banks and the International Economy's Missing Public Sector
—*John Lewis, June 1982*
- No. 6 Notes on External Debt of DMCs
—*Evelyn Go, July 1982*
- No. 7 Grant Element in Bank Loans
—*Dal Hyun Kim, July 1982*
- No. 8 Shadow Exchange Rates and Standard Conversion Factors in Project Evaluation
—*Peter Warr, September 1982*
- No. 9 Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues
—*Mathias Bruch and Ulrich Hiemenz, January 1983*
- No. 10 A Note on the Third Ministerial Meeting of GATT
—*Jungsoo Lee, January 1983*
- No. 11 Macroeconomic Forecasts for the Republic of China, Hong Kong, and Republic of Korea
—*J.M. Dowling, January 1983*
- No. 12 ASEAN: Economic Situation and Prospects
—*Seiji Naya, March 1983*
- No. 13 The Future Prospects for the Developing Countries of Asia
—*Seiji Naya, March 1983*
- No. 14 Energy and Structural Change in the Asia-Pacific Region, Summary of the Thirteenth Pacific Trade and Development Conference
—*Seiji Naya, March 1983*
- No. 15 A Survey of Empirical Studies on Demand for Electricity with Special Emphasis on Price Elasticity of Demand
—*Wisarn Pupphavesa, June 1983*
- No. 16 Determinants of Paddy Production in Indonesia: 1972-1981—A Simultaneous Equation Model Approach
—*T.K. Jayaraman, June 1983*
- No. 17 The Philippine Economy: Economic Forecasts for 1983 and 1984
—*J.M. Dowling, E. Go, and C.N. Castillo, June 1983*
- No. 18 Economic Forecast for Indonesia
—*J.M. Dowling, H.Y. Kim, Y.K. Wang, and C.N. Castillo, June 1983*
- No. 19 Relative External Debt Situation of Asian Developing Countries: An Application of Ranking Method
—*Jungsoo Lee, June 1983*
- No. 20 New Evidence on Yields, Fertilizer Application, and Prices in Asian Rice Production
—*William James and Teresita Ramirez, July 1983*
- No. 21 Inflationary Effects of Exchange Rate Changes in Nine Asian LDCs
—*Pradumna B. Rana and J. Malcolm Dowling, Jr., December 1983*
- No. 22 Effects of External Shocks on the Balance of Payments, Policy Responses, and Debt Problems of Asian Developing Countries
—*Seiji Naya, December 1983*
- No. 23 Changing Trade Patterns and Policy Issues: The Prospects for East and Southeast Asian Developing Countries
—*Seiji Naya and Ulrich Hiemenz, February 1984*
- No. 24 Small-Scale Industries in Asian Economic Development: Problems and Prospects
—*Seiji Naya, February 1984*
- No. 25 A Study on the External Debt Indicators Applying Logit Analysis
—*Jungsoo Lee and Clarita Barretto, February 1984*
- No. 26 Alternatives to Institutional Credit Programs in the Agricultural Sector of Low-Income Countries
—*Jennifer Sour, March 1984*
- No. 27 Economic Scene in Asia and Its Special Features
—*Kedar N. Kohli, November 1984*
- No. 28 The Effect of Terms of Trade Changes on the Balance of Payments and Real National Income of Asian Developing Countries
—*Jungsoo Lee and Lutgarda Labios, January 1985*
- No. 29 Cause and Effect in the World Sugar Market: Some Empirical Findings 1951-1982
—*Yoshihiro Iwasaki, February 1985*
- No. 30 Sources of Balance of Payments Problem in the 1970s: The Asian Experience
—*Pradumna Rana, February 1985*
- No. 31 India's Manufactured Exports: An Analysis of Supply Sectors
—*Ifzal Ali, February 1985*
- No. 32 Meeting Basic Human Needs in Asian Developing Countries
—*Jungsoo Lee and Emma Banaria, March 1985*
- No. 33 The Impact of Foreign Capital Inflow on Investment and Economic Growth in Developing Asia
—*Evelyn Go, May 1985*
- No. 34 The Climate for Energy Development in the Pacific and Asian Region: Priorities and Perspectives
—*V.V. Desai, April 1986*
- No. 35 Impact of Appreciation of the Yen on Developing Member Countries of the Bank
—*Jungsoo Lee, Pradumna Rana, and Ifzal Ali, May 1986*
- No. 36 Smuggling and Domestic Economic Policies in Developing Countries
—*A.H.M.N. Chowdhury, October 1986*
- No. 37 Public Investment Criteria: Economic Internal Rate of Return and Equalizing Discount Rate
—*Ifzal Ali, November 1986*
- No. 38 Review of the Theory of Neoclassical Political Economy: An Application to Trade Policies
—*M.G. Quibria, December 1986*
- No. 39 Factors Influencing the Choice of Location: Local and Foreign Firms in the Philippines
—*E.M. Pernia and A.N. Herrin, February 1987*
- No. 40 A Demographic Perspective on Developing Asia and Its Relevance to the Bank
—*E.M. Pernia, May 1987*

- No. 41 Emerging Issues in Asia and Social Cost Benefit Analysis
—*I. Ali, September 1988*
- No. 42 Shifting Revealed Comparative Advantage: Experiences of Asian and Pacific Developing Countries
—*P.B. Rana, November 1988*
- No. 43 Agricultural Price Policy in Asia: Issues and Areas of Reforms
—*I. Ali, November 1988*
- No. 44 Service Trade and Asian Developing Economies
—*M.G. Quibria, October 1989*
- No. 45 A Review of the Economic Analysis of Power Projects in Asia and Identification of Areas of Improvement
—*I. Ali, November 1989*
- No. 46 Growth Perspective and Challenges for Asia: Areas for Policy Review and Research
—*I. Ali, November 1989*
- No. 47 An Approach to Estimating the Poverty Alleviation Impact of an Agricultural Project
—*I. Ali, January 1990*
- No. 48 Economic Growth Performance of Indonesia, the Philippines, and Thailand: The Human Resource Dimension
—*E.M. Pernia, January 1990*
- No. 49 Foreign Exchange and Fiscal Impact of a Project: A Methodological Framework for Estimation
—*I. Ali, February 1990*
- No. 50 Public Investment Criteria: Financial and Economic Internal Rates of Return
—*I. Ali, April 1990*
- No. 51 Evaluation of Water Supply Projects: An Economic Framework
—*Arlene M. Tadle, June 1990*
- No. 52 Interrelationship Between Shadow Prices, Project Investment, and Policy Reforms: An Analytical Framework
—*I. Ali, November 1990*
- No. 53 Issues in Assessing the Impact of Project and Sector Adjustment Lending
—*I. Ali, December 1990*
- No. 54 Some Aspects of Urbanization and the Environment in Southeast Asia
—*Ernesto M. Pernia, January 1991*
- No. 55 Financial Sector and Economic Development: A Survey
—*Jungsoo Lee, September 1991*
- No. 56 A Framework for Justifying Bank-Assisted Education Projects in Asia: A Review of the Socioeconomic Analysis and Identification of Areas of Improvement
—*Etienne Van De Walle, February 1992*
- No. 57 Medium-term Growth-Stabilization Relationship in Asian Developing Countries and Some Policy Considerations
—*Yun-Hwan Kim, February 1993*
- No. 58 Urbanization, Population Distribution, and Economic Development in Asia
—*Ernesto M. Pernia, February 1993*
- No. 59 The Need for Fiscal Consolidation in Nepal: The Results of a Simulation
—*Filippo di Mauro and Ronald Antonio Butiong, July 1993*
- No. 60 A Computable General Equilibrium Model of Nepal
—*Timothy Buehrer and Filippo di Mauro, October 1993*
- No. 61 The Role of Government in Export Expansion in the Republic of Korea: A Revisit
—*Yun-Hwan Kim, February 1994*
- No. 62 Rural Reforms, Structural Change, and Agricultural Growth in the People's Republic of China
—*Bo Lin, August 1994*
- No. 63 Incentives and Regulation for Pollution Abatement with an Application to Waste Water Treatment
—*Sudipto Mundle, U. Shankar, and Shekhar Mehta, October 1995*
- No. 64 Saving Transitions in Southeast Asia
—*Frank Harrigan, February 1996*
- No. 65 Total Factor Productivity Growth in East Asia: A Critical Survey
—*Jesus Felipe, September 1997*
- No. 66 Foreign Direct Investment in Pakistan: Policy Issues and Operational Implications
—*Ashfaq H. Khan and Yun-Hwan Kim, July 1999*
- No. 67 Fiscal Policy, Income Distribution and Growth
—*Sailesh K. Jha, November 1999*

ECONOMIC STAFF PAPERS (ES)

- No. 1 International Reserves: Factors Determining Needs and Adequacy
—*Evelyn Go, May 1981*
- No. 2 Domestic Savings in Selected Developing Asian Countries
—*Basil Moore, assisted by A.H.M. Nuruddin Chowdhury, September 1981*
- No. 3 Changes in Consumption, Imports and Exports of Oil Since 1973: A Preliminary Survey of the Developing Member Countries of the Asian Development Bank
—*Dal Hyun Kim and Graham Abbott, September 1981*
- No. 4 By-Passed Areas, Regional Inequalities, and Development Policies in Selected Southeast Asian Countries
—*William James, October 1981*
- No. 5 Asian Agriculture and Economic Development
—*William James, March 1982*
- No. 6 Inflation in Developing Member Countries: An Analysis of Recent Trends
—*A.H.M. Nuruddin Chowdhury and J. Malcolm Dowling, March 1982*
- No. 7 Industrial Growth and Employment in Developing Asian Countries: Issues and Perspectives for the Coming Decade
—*Ulrich Hiemenz, March 1982*
- No. 8 Petrodollar Recycling 1973-1980. Part I: Regional Adjustments and the World Economy
—*Burnham Campbell, April 1982*
- No. 9 Developing Asia: The Importance of Domestic Policies
—*Economics Office Staff under the direction of Seiji Naya, May 1982*
- No. 10 Financial Development and Household Savings: Issues in Domestic Resource Mobilization in Asian Developing Countries
—*Wan-Soon Kim, July 1982*
- No. 11 Industrial Development: Role of Specialized Financial Institutions
—*Kedar N. Kohli, August 1982*
- No. 12 Petrodollar Recycling 1973-1980. Part II: Debt Problems and an Evaluation of Suggested Remedies
—*Burnham Campbell, September 1982*
- No. 13 Credit Rationing, Rural Savings, and Financial Policy in Developing Countries
—*William James, September 1982*

- No. 14 Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues
—*Mathias Bruch and Ulrich Hiemenz, March 1983*
- No. 15 Income Distribution and Economic Growth in Developing Asian Countries
—*J. Malcolm Dowling and David Soo, March 1983*
- No. 16 Long-Run Debt-Servicing Capacity of Asian Developing Countries: An Application of Critical Interest Rate Approach
—*Jungsoo Lee, June 1983*
- No. 17 External Shocks, Energy Policy, and Macroeconomic Performance of Asian Developing Countries: A Policy Analysis
—*William James, July 1983*
- No. 18 The Impact of the Current Exchange Rate System on Trade and Inflation of Selected Developing Member Countries
—*Pradumna Rana, September 1983*
- No. 19 Asian Agriculture in Transition: Key Policy Issues
—*William James, September 1983*
- No. 20 The Transition to an Industrial Economy in Monsoon Asia
—*Harry T. Oshima, October 1983*
- No. 21 The Significance of Off-Farm Employment and Incomes in Post-War East Asian Growth
—*Harry T. Oshima, January 1984*
- No. 22 Income Distribution and Poverty in Selected Asian Countries
—*John Malcolm Dowling, Jr., November 1984*
- No. 23 ASEAN Economies and ASEAN Economic Cooperation
—*Narongchai Akrasanee, November 1984*
- No. 24 Economic Analysis of Power Projects
—*Nitin Desai, January 1985*
- No. 25 Exports and Economic Growth in the Asian Region
—*Pradumna Rana, February 1985*
- No. 26 Patterns of External Financing of DMCs
—*E. Go, May 1985*
- No. 27 Industrial Technology Development the Republic of Korea
—*S.Y. Lo, July 1985*
- No. 28 Risk Analysis and Project Selection: A Review of Practical Issues
—*J.K. Johnson, August 1985*
- No. 29 Rice in Indonesia: Price Policy and Comparative Advantage
—*I. Ali, January 1986*
- No. 30 Effects of Foreign Capital Inflows on Developing Countries of Asia
—*Jungsoo Lee, Pradumna B. Rana, and Yoshihiro Iwasaki, April 1986*
- No. 31 Economic Analysis of the Environmental Impacts of Development Projects
—*John A. Dixon et al., EAPI, East-West Center, August 1986*
- No. 32 Science and Technology for Development: Role of the Bank
—*Kedar N. Kohli and Ifzal Ali, November 1986*
- No. 33 Satellite Remote Sensing in the Asian and Pacific Region
—*Mohan Sundara Rajan, December 1986*
- No. 34 Changes in the Export Patterns of Asian and Pacific Developing Countries: An Empirical Overview
—*Pradumna B. Rana, January 1987*
- No. 35 Agricultural Price Policy in Nepal
—*Gerald C. Nelson, March 1987*
- No. 36 Implications of Falling Primary Commodity Prices for Agricultural Strategy in the Philippines
—*Ifzal Ali, September 1987*
- No. 37 Determining Irrigation Charges: A Framework
—*Prabhakar B. Ghatge, October 1987*
- No. 38 The Role of Fertilizer Subsidies in Agricultural Production: A Review of Select Issues
—*M.G. Quibria, October 1987*
- No. 39 Domestic Adjustment to External Shocks in Developing Asia
—*Jungsoo Lee, October 1987*
- No. 40 Improving Domestic Resource Mobilization through Financial Development: Indonesia
—*Philip Erquiaga, November 1987*
- No. 41 Recent Trends and Issues on Foreign Direct Investment in Asian and Pacific Developing Countries
—*P.B. Rana, March 1988*
- No. 42 Manufactured Exports from the Philippines: A Sector Profile and an Agenda for Reform
—*I. Ali, September 1988*
- No. 43 A Framework for Evaluating the Economic Benefits of Power Projects
—*I. Ali, August 1989*
- No. 44 Promotion of Manufactured Exports in Pakistan
—*Jungsoo Lee and Yoshihiro Iwasaki, September 1989*
- No. 45 Education and Labor Markets in Indonesia: A Sector Survey
—*Ernesto M. Pernia and David N. Wilson, September 1989*
- No. 46 Industrial Technology Capabilities and Policies in Selected ADCs
—*Hiroshi Kakazu, June 1990*
- No. 47 Designing Strategies and Policies for Managing Structural Change in Asia
—*Ifzal Ali, June 1990*
- No. 48 The Completion of the Single European Community Market in 1992: A Tentative Assessment of its Impact on Asian Developing Countries
—*J.P. Verbiest and Min Tang, June 1991*
- No. 49 Economic Analysis of Investment in Power Systems
—*Ifzal Ali, June 1991*
- No. 50 External Finance and the Role of Multilateral Financial Institutions in South Asia: Changing Patterns, Prospects, and Challenges
—*Jungsoo Lee, November 1991*
- No. 51 The Gender and Poverty Nexus: Issues and Policies
—*M.G. Quibria, November 1993*
- No. 52 The Role of the State in Economic Development: Theory, the East Asian Experience, and the Malaysian Case
—*Jason Brown, December 1993*
- No. 53 The Economic Benefits of Potable Water Supply Projects to Households in Developing Countries
—*Dale Whittington and Venkateswarlu Swarna, January 1994*
- No. 54 Growth Triangles: Conceptual Issues and Operational Problems
—*Min Tang and Myo Thant, February 1994*
- No. 55 The Emerging Global Trading Environment and Developing Asia
—*Arvind Panagariya, M.G. Quibria, and Narhari Rao, July 1996*
- No. 56 Aspects of Urban Water and Sanitation in the Context of Rapid Urbanization in Developing Asia
—*Ernesto M. Pernia and Stella LF. Alabastro, September 1997*
- No. 57 Challenges for Asia's Trade and Environment
—*Douglas H. Brooks, January 1998*
- No. 58 Economic Analysis of Health Sector Projects—A Review of Issues, Methods, and Approaches
—*Ramesh Adhikari, Paul Gertler, and Anneli Lagman, March 1999*
- No. 59 The Asian Crisis: An Alternate View
—*Rajiv Kumar and Bibek Debroy, July 1999*
- No. 60 Social Consequences of the Financial Crisis in Asia
—*James C. Knowles, Ernesto M. Pernia, and Mary Racelis, November 1999*

OCCASIONAL PAPERS (OP)

- | | |
|---|---|
| <p>No. 1 Poverty in the People's Republic of China: Recent Developments and Scope for Bank Assistance
—<i>K.H. Moinuddin, November 1992</i></p> <p>No. 2 The Eastern Islands of Indonesia: An Overview of Development Needs and Potential
—<i>Brien K. Parkinson, January 1993</i></p> <p>No. 3 Rural Institutional Finance in Bangladesh and Nepal: Review and Agenda for Reforms
—<i>A.H.M.N. Chowdhury and Marcelia C. Garcia, November 1993</i></p> <p>No. 4 Fiscal Deficits and Current Account Imbalances of the South Pacific Countries: A Case Study of Vanuatu
—<i>T.K. Jayaraman, December 1993</i></p> <p>No. 5 Reforms in the Transitional Economies of Asia
—<i>Pradumna B. Rana, December 1993</i></p> <p>No. 6 Environmental Challenges in the People's Republic of China and Scope for Bank Assistance
—<i>Elisabetta Capannelli and Omkar L. Shrestha, December 1993</i></p> <p>No. 7 Sustainable Development Environment and Poverty Nexus
—<i>K.F. Jalal, December 1993</i></p> <p>No. 8 Intermediate Services and Economic Development: The Malaysian Example
—<i>Sutanu Behuria and Rahul Khullar, May 1994</i></p> <p>No. 9 Interest Rate Deregulation: A Brief Survey of the Policy Issues and the Asian Experience
—<i>Carlos J. Glower, July 1994</i></p> <p>No. 10 Some Aspects of Land Administration in Indonesia: Implications for Bank Operations
—<i>Sutanu Behuria, July 1994</i></p> <p>No. 11 Demographic and Socioeconomic Determinants of Contraceptive Use among Urban Women in the Melanesian Countries in the South Pacific: A Case Study of Port Vila Town in Vanuatu
—<i>T.K. Jayaraman, February 1995</i></p> | <p>No. 12 Managing Development through Institution Building
— <i>Hilton L. Root, October 1995</i></p> <p>No. 13 Growth, Structural Change, and Optimal Poverty Interventions
—<i>Shiladitya Chatterjee, November 1995</i></p> <p>No. 14 Private Investment and Macroeconomic Environment in the South Pacific Island Countries: A Cross-Country Analysis
—<i>T.K. Jayaraman, October 1996</i></p> <p>No. 15 The Rural-Urban Transition in Viet Nam: Some Selected Issues
—<i>Sudipto Mundle and Brian Van Arkadie, October 1997</i></p> <p>No. 16 A New Approach to Setting the Future Transport Agenda
—<i>Roger Allport, Geoff Key, and Charles Melhuish, June 1998</i></p> <p>No. 17 Adjustment and Distribution: The Indian Experience
—<i>Sudipto Mundle and V.B. Tulasidhar, June 1998</i></p> <p>No. 18 Tax Reforms in Viet Nam: A Selective Analysis
—<i>Sudipto Mundle, December 1998</i></p> <p>No. 19 Surges and Volatility of Private Capital Flows to Asian Developing Countries: Implications for Multilateral Development Banks
—<i>Pradumna B. Rana, December 1998</i></p> <p>No. 20 The Millennium Round and the Asian Economies: An Introduction
—<i>Dilip K. Das, October 1999</i></p> <p>No. 21 Occupational Segregation and the Gender Earnings Gap
—<i>Joseph E. Zveglic, Jr. and Yana van der Meulen Rodgers, December 1999</i></p> <p>No. 22 Information Technology: Next Locomotive of Growth?
—<i>Dilip K. Das, June 2000</i></p> |
|---|---|

STATISTICAL REPORT SERIES (SR)

- | | |
|--|--|
| <p>No. 1 Estimates of the Total External Debt of the Developing Member Countries of ADB: 1981-1983
—<i>I.P. David, September 1984</i></p> <p>No. 2 Multivariate Statistical and Graphical Classification Techniques Applied to the Problem of Grouping Countries
—<i>I.P. David and D.S. Maligalig, March 1985</i></p> <p>No. 3 Gross National Product (GNP) Measurement Issues in South Pacific Developing Member Countries of ADB
—<i>S.G. Tiwari, September 1985</i></p> <p>No. 4 Estimates of Comparable Savings in Selected DMCs
—<i>Hananto Sigit, December 1985</i></p> <p>No. 5 Keeping Sample Survey Design and Analysis Simple
—<i>I.P. David, December 1985</i></p> <p>No. 6 External Debt Situation in Asian Developing Countries
—<i>I.P. David and Jungsoo Lee, March 1986</i></p> <p>No. 7 Study of GNP Measurement Issues in the South Pacific Developing Member Countries. Part I: Existing National Accounts of SPDMCs—Analysis of Methodology and Application of SNA Concepts
—<i>P. Hodgkinson, October 1986</i></p> | <p>No. 8 Study of GNP Measurement Issues in the South Pacific Developing Member Countries. Part II: Factors Affecting Inter-country Comparability of Per Capita GNP
—<i>P. Hodgkinson, October 1986</i></p> <p>No. 9 Survey of the External Debt Situation in Asian Developing Countries, 1985
—<i>Jungsoo Lee and I.P. David, April 1987</i></p> <p>No. 10 A Survey of the External Debt Situation in Asian Developing Countries, 1986
—<i>Jungsoo Lee and I.P. David, April 1988</i></p> <p>No. 11 Changing Pattern of Financial Flows to Asian and Pacific Developing Countries
—<i>Jungsoo Lee and I.P. David, March 1989</i></p> <p>No. 12 The State of Agricultural Statistics in Southeast Asia
—<i>I.P. David, March 1989</i></p> <p>No. 13 A Survey of the External Debt Situation in Asian and Pacific Developing Countries: 1987-1988
—<i>Jungsoo Lee and I.P. David, July 1989</i></p> <p>No. 14 A Survey of the External Debt Situation in Asian and Pacific Developing Countries: 1988-1989
—<i>Jungsoo Lee, May 1990</i></p> <p>No. 15 A Survey of the External Debt Situation in Asian and Pacific Developing Countries: 1989-1992</p> |
|--|--|

- Min Tang, June 1991*
- No. 16 Recent Trends and Prospects of External Debt Situation and Financial Flows to Asian and Pacific Developing Countries
—*Min Tang and Aludia Pardo, June 1992*
- No. 17 Purchasing Power Parity in Asian Developing Countries: A Co-Integration Test

- Min Tang and Ronald Q. Butiong, April 1994*
- No. 18 Capital Flows to Asian and Pacific Developing Countries: Recent Trends and Future Prospects
—*Min Tang and James Villafuerte, October 1995*

SPECIAL STUDIES, CO-PUBLISHED

(Available commercially through Oxford University Press Offices, Edward Elgar Publishing, and Palgrave MacMillan)

FROM OXFORD UNIVERSITY PRESS:

Oxford University Press (China) Ltd
18th Floor, Warwick House East
Taikoo Place, 979 King's Road
Quarry Bay, Hong Kong
Tel (852) 2516 3222
Fax (852) 2565 8491
E-mail: webmaster@oupchina.com.hk
Web: www.oupchina.com.hk

1. Informal Finance: Some Findings from Asia
Prabhu Ghate et. al., 1992
\$15.00 (paperback)
2. Mongolia: A Centrally Planned Economy in Transition
Asian Development Bank, 1992
\$15.00 (paperback)
3. Rural Poverty in Asia, Priority Issues and Policy Options
Edited by M.G. Quibria, 1994
\$25.00 (paperback)
4. Growth Triangles in Asia: A New Approach to Regional Economic Cooperation
Edited by Myo Thant, Min Tang, and Hiroshi Kakazu
1st ed., 1994 \$36.00 (hardbound)
Revised ed., 1998 \$55.00 (hardbound)
5. Urban Poverty in Asia: A Survey of Critical Issues
Edited by Ernesto Pernia, 1994
\$18.00 (paperback)
6. Critical Issues in Asian Development: Theories, Experiences, and Policies
Edited by M.G. Quibria, 1995
\$15.00 (paperback)
\$36.00 (hardbound)
7. Financial Sector Development in Asia
Edited by Shahid N. Zahid, 1995
\$50.00 (hardbound)
8. Financial Sector Development in Asia: Country Studies
Edited by Shahid N. Zahid, 1995
\$55.00 (hardbound)
9. Fiscal Management and Economic Reform in the People's Republic of China
Christine P.W. Wong, Christopher Heady, and Wing T. Woo, 1995
\$15.00 (paperback)
10. From Centrally Planned to Market Economies: The Asian Approach
Edited by Pradumna B. Rana and Naved Hamid, 1995
Vol. 1: Overview
\$36.00 (hardbound)
Vol. 2: People's Republic of China and Mongolia
\$50.00 (hardbound)
Vol. 3: Lao PDR, Myanmar, and Viet Nam
\$50.00 (hardbound)
11. Current Issues in Economic Development: An Asian Perspective

Edited by M.G. Quibria and J. Malcolm Dowling, 1996
\$50.00 (hardbound)

12. The Bangladesh Economy in Transition
Edited by M.G. Quibria, 1997
\$20.00 (hardbound)
13. The Global Trading System and Developing Asia
Edited by Arvind Panagariya, M.G. Quibria, and Narhari Rao, 1997
\$55.00 (hardbound)
14. Social Sector Issues in Transitional Economies of Asia
Edited by Douglas H. Brooks and Myo Thant, 1998
\$25.00 (paperback)
\$55.00 (hardbound)
15. Intergovernmental Fiscal Transfers in Asia: Current Practice and Challenges for the Future
Edited by Yun-Hwan Kim and Paul Smoke, 2003
\$15.00 (paperback)
16. Local Government Finance and Bond Markets
Edited by Yun-Hwan Kim, 2003
\$15.00 (paperback)

FROM EDWARD ELGAR:

Marston Book Services Limited
PO Box 269, Abingdon
Oxon OX14 4YN, United Kingdom
Tel +44 1235 465500
Fax +44 1235 465555
Email: direct.order@marston.co.uk
Web: www.marston.co.uk

1. Reducing Poverty in Asia: Emerging Issues in Growth, Targeting, and Measurement
Edited by Christopher M. Edmonds, 2003

FROM PALGRAVE MACMILLAN:

Palgrave Macmillan Ltd
Houndmills, Basingstoke
Hampshire RG21 6XS, United Kingdom
Tel: +44 (0)1256 329242
Fax: +44 (0)1256 479476
Email: orders@palgrave.com
Web: www.palgrave.com/home/

1. Labor Markets in Asia: Issues and Perspectives
Edited by Jesus Felipe and Rana Hasan, 2006
2. Competition Policy and Development in Asia
Edited by Douglas H. Brooks and Simon Evenett, 2005
3. Managing FDI in a Globalizing Economy
Asian Experiences
Edited by Douglas H. Brooks and Hal Hill, 2004
4. Poverty, Growth, and Institutions in Developing Asia
Edited by Ernesto M. Pernia and Anil B. Deolalikar, 2003

SPECIAL STUDIES, IN-HOUSE

(Available commercially through ADB Office of External Relations)

1. Rural Poverty in Developing Asia
Edited by M.G. Quibria
Vol. 1: Bangladesh, India, and Sri Lanka, 1994
\$35.00 (paperback)
Vol. 2: Indonesia, Republic of Korea, Philippines, and Thailand, 1996
\$35.00 (paperback)
2. Gender Indicators of Developing Asian and Pacific Countries
Asian Development Bank, 1993
\$25.00 (paperback)
3. External Shocks and Policy Adjustments: Lessons from the Gulf Crisis
Edited by Naved Hamid and Shahid N. Zahid, 1995
\$15.00 (paperback)
4. Indonesia-Malaysia-Thailand Growth Triangle: Theory to Practice
Edited by Myo Thant and Min Tang, 1996
\$15.00 (paperback)
5. Emerging Asia: Changes and Challenges
Asian Development Bank, 1997
\$30.00 (paperback)
6. Asian Exports
Edited by Dilip Das, 1999
\$35.00 (paperback)
\$55.00 (hardbound)
7. Development of Environment Statistics in Developing Asian and Pacific Countries
Asian Development Bank, 1999
\$30.00 (paperback)
8. Mortgage-Backed Securities Markets in Asia
Edited by S.Ghon Rhee & Yutaka Shimomoto, 1999
\$35.00 (paperback)
9. Rising to the Challenge in Asia: A Study of Financial Markets
Asian Development Bank
Vol. 1: An Overview, 2000 \$20.00 (paperback)
Vol. 2: Special Issues, 1999 \$15.00 (paperback)
Vol. 3: Sound Practices, 2000 \$25.00 (paperback)
Vol. 4: People's Republic of China, 1999 \$20.00 (paperback)
Vol. 5: India, 1999 \$30.00 (paperback)
Vol. 6: Indonesia, 1999 \$30.00 (paperback)
Vol. 7: Republic of Korea, 1999 \$30.00 (paperback)
Vol. 8: Malaysia, 1999 \$20.00 (paperback)
Vol. 9: Pakistan, 1999 \$30.00 (paperback)
Vol. 10: Philippines, 1999 \$30.00 (paperback)
Vol. 11: Thailand, 1999 \$30.00 (paperback)
Vol. 12: Socialist Republic of Viet Nam, 1999 \$30.00 (paperback)
10. Corporate Governance and Finance in East Asia: A Study of Indonesia, Republic of Korea, Malaysia, Philippines and Thailand
J. Zhuang, David Edwards, D. Webb, & Ma. Virginita Capulong
Vol. 1: A Consolidated Report, 2000 \$10.00 (paperback)
Vol. 2: Country Studies, 2001 \$15.00 (paperback)
11. Financial Management and Governance Issues
Asian Development Bank, 2000
Cambodia \$10.00 (paperback)
People's Republic of China \$10.00 (paperback)
Mongolia \$10.00 (paperback)
Pakistan \$10.00 (paperback)
Papua New Guinea \$10.00 (paperback)
Uzbekistan \$10.00 (paperback)
Viet Nam \$10.00 (paperback)
Selected Developing Member Countries \$10.00 (paperback)
12. Government Bond Market Development in Asia
Edited by Yun-Hwan Kim, 2001
\$25.00 (paperback)
13. Intergovernmental Fiscal Transfers in Asia: Current Practice and Challenges for the Future
Edited by Paul Smoke and Yun-Hwan Kim, 2002
\$15.00 (paperback)
14. Guidelines for the Economic Analysis of Projects
Asian Development Bank, 1997
\$10.00 (paperback)
15. Guidelines for the Economic Analysis of Telecommunications Projects
Asian Development Bank, 1997
\$10.00 (paperback)
16. Handbook for the Economic Analysis of Water Supply Projects
Asian Development Bank, 1999
\$10.00 (hardbound)
17. Handbook for the Economic Analysis of Health Sector Projects
Asian Development Bank, 2000
\$10.00 (paperback)
18. Handbook for Integrating Poverty Impact Assessment in the Economic Analysis of Projects
Asian Development Bank, 2001
\$10.00 (paperback)
19. Handbook for Integrating Risk Analysis in the Economic Analysis of Projects
Asian Development Bank, 2002
\$10.00 (paperback)
20. Handbook on Environment Statistics
Asian Development Bank, 2002
\$10.00 (hardback)
21. Defining an Agenda for Poverty Reduction, Volume 1
Edited by Christopher Edmonds and Sara Medina, 2002
\$15.00 (paperback)
22. Defining an Agenda for Poverty Reduction, Volume 2
Edited by Isabel Ortiz, 2002
\$15.00 (paperback)
23. Economic Analysis of Policy-based Operations: Key Dimensions
Asian Development Bank, 2003
\$10.00 (paperback)

About the Paper

Hyun H. Son examines the relationships between economic growth, income distribution, and poverty for 17 Asian countries for the period 1981-2001. First, it investigates how much growth is required to offset the adverse effect of an increase in inequality on poverty. Second, the paper looks into the issue of pro-poor growth in Asia.

About the Asian Development Bank

The work of the Asian Development Bank (ADB) is aimed at improving the welfare of the people in Asia and the Pacific, particularly the 1.9 billion who live on less than \$2 a day. Despite many success stories, Asia and the Pacific remains home to two thirds of the world's poor. ADB is a multilateral development finance institution owned by 67 members, 48 from the region and 19 from other parts of the globe. ADB's vision is a region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their citizens.

ADB's main instruments for providing help to its developing member countries are policy dialogue, loans, technical assistance, grants, guarantees, and equity investments. ADB's annual lending volume is typically about \$6 billion, with technical assistance usually totaling about \$180 million a year.

ADB's headquarters is in Manila. It has 26 offices around the world and has more than 2,000 employees from over 50 countries.

