

Contents

<i>List of Figures</i>	viii
<i>List of Tables</i>	x
<i>Acknowledgements</i>	xiii
<i>Notes on the Contributors</i>	xiv
<i>List of Abbreviations</i>	xvii
1 Globalization and Poverty in Asia: Can Shared Growth Be Sustained?	1
<i>Machiko Nissanke and Erik Thorbecke</i>	
Background debate in the globalization–poverty nexus	1
Globalization and poverty in Asia	3
Synopsis of the book	12
2 Pro-Poor Growth: The Asian Experience	24
<i>Nanak Kakwani and Hyun H. Son</i>	
Introduction	24
Pro-poor growth classification	26
Additively decomposable poverty measures	29
Poverty equivalent growth rate	30
How to calculate the poverty equivalent growth rate	33
Data sources and concepts used	35
Empirical illustration: the Asian experience	36
Concluding remarks	39
3 How Does Vietnam's Accession to the World Trade Organization Change the Spatial Incidence of Poverty?	47
<i>Tomoki Fujii and David Roland-Holst</i>	
Introduction	47
Trade liberalization and poverty in Vietnam	49
Data and measurement	51
Methodology	53

Results	59
Conclusion	70
4 Trade, Migration and Poverty Reduction in the Globalizing Economy: The Case of the Philippines	90
<i>Yasuyuki Sawada and Jonna P. Estudillo</i>	
Introduction	90
The provincial poverty lines	91
Poverty, international trade and emigration	95
The determinants of transfer income from abroad	106
Concluding remarks	109
5 Threshold Estimation on the Globalization–Poverty Nexus: Evidence from China	115
<i>Zhicheng Liang</i>	
Introduction	115
Threshold effects and non-linearities in the globalization–poverty nexus: a review	116
China’s global integration and poverty reduction	118
Threshold estimations on the globalization–poverty nexus	121
Conclusion	128
6 Economic Development Strategy, Openness and Rural Poverty: A Framework and China’s Experiences	135
<i>Justin Yifu Lin and Peilin Liu</i>	
Introduction	135
Literature review	139
Economic development strategy, openness and poverty: a framework	142
Openness and poverty in China after reform	146
Hypothesis testing	155
Concluding remarks	163
7 Vulnerability to Globalization in India: Relative Rankings of States Using Fuzzy Models	169
<i>K. S. Kavi Kumar and Brinda Viswanathan</i>	
Introduction	169
Vulnerability assessment – developing a conceptual framework	171
Methodology	174
Vulnerability estimation: an application to Indian states	179
Results	184
Conclusions	192

8	Resource-Poor Farmers in South India: On the Margins or Frontiers of Globalization?	196
	<i>Rimjhim M. Aggarwal</i>	
	Introduction	196
	Background	198
	Trade liberalization and market participation of resource-poor farmers	203
	The path from increased market participation to debt trap	206
	The debt burden of cotton farmers versus other farmers: empirical evidence	213
	Summary and conclusions	215
9	Credit Constraints as a Barrier to Technology Adoption by the Poor: Lessons from South Indian Small-Scale Fisheries	221
	<i>Xavier Giné and Stefan Klonner</i>	
	Introduction	221
	Globalization and South India's fishing sector	222
	The study village	225
	Existing literature on technology adoption in low-income countries' primary sectors	227
	Individual wealth and technology adoption	230
	Conclusions	247
10	Trade Liberalization, Environment and Poverty: A Developing Country Perspective	250
	<i>Mahvash Saeed Qureshi</i>	
	Introduction	250
	Economy and the environment in Pakistan	252
	Conceptual framework	260
	Data issues and empirical results	264
	Do environmental regulations matter to trade?	272
	Industrial pollution in Pakistan: implications for poverty	278
	Conclusion	280
	<i>Index</i>	289

1

Globalization and Poverty in Asia: Can Shared Growth Be Sustained?

Machiko Nissanke and Erik Thorbecke

Background debate in the globalization–poverty nexus

The opportunities offered for economic growth through globalization can be large, and the forces of globalization have the potential to provide a major reduction in poverty in the developing world. However, the question is often raised as to whether the actual distribution of gains is fair and, in particular, whether the poor benefit proportionately less from globalization and could under some circumstances in fact be hurt by it. The risks and costs incurred by globalization can be significant for fragile developing economies and the world's poor.¹ The fear that the poor have been bypassed or even hurt by globalization has been highlighted by the findings from a number of recent studies, which point towards a continuing high inequality in world income distribution, and limited (if not a lack of) convergence among participating national economies and across regions as the world economy has become more interdependent and more integrated.² There is much empirical evidence suggesting that openness contributes to more within-country inequality.

The regional trends in income inequality measured by the Gini coefficient show that inequality has increased markedly in all regions except in the group consisting of the advanced, high-income OECD countries since the early 1980s (Milanovic 2005a, 2005b; Birdsall 2006). Within high-income countries too, there are many that have experienced growing inequality. The progress on poverty reduction has also been uneven. The share of the population of the developing countries living below US\$1 per day declined from 40 per cent to 21 per cent between 1981 and 2001, but this was achieved mainly by the substantial reduction of the number of poor in Asia, in particular in China (Chen and Ravallion 2004). Overall in Asia between 1990 and 2001, the number of people living on less than

US\$1 a day declined from 931 million to 679 million, or from 31 per cent to 20 per cent of a growing population (UNESCAP/ADB/UNDP 2005). Furthermore, the total number of people living on less than US\$2 per day actually increased worldwide. More specifically, poverty has increased significantly in Africa in terms of poverty incidence as well as the depth of poverty.³

Though any trend in poverty and income inequality observed so far cannot be attributed exclusively (or even mainly) to the 'globalization' effect, as such, these various estimates, even the most optimistic ones, cannot dismiss the concerns raised that as it has proceeded so far it may have had at least some adverse effects on poverty and income distribution. Indeed, globalization has created winners and losers at numerous levels throughout modern history.⁴ The losers include many of those who have participated actively in the process of globalization. These concerns have generated a passionate debate worldwide as well as a powerful anti-globalization movement. The question of how globalization affects the world's poor is one of the most pressing issues in international political economy and international relations, as many current problems are related to how fair the international economic and political system is perceived *vis-à-vis* the poor in developing countries.

The globalization–poverty relationship is complex and heterogeneous, involving multifaceted channels. It is highly probable that these relationships may be non-linear in many aspects, involving several threshold effects. Indeed, each subset of links embedded in the globalization (openness)–growth–income distribution–poverty nexus can be contentious and controversial. As well as the 'growth' effects of globalization on poverty (that is, the effects of globalization on poverty filtered through economic growth), the process of increased integration within the world economy is known to create winners and losers directly through other channels, affecting both vertical and horizontal inequalities (Ravallion 2004a). Because these multifaceted channels interact dynamically over space and time, the net effects of globalization on the poor can only be judged on the basis of context-specific empirical studies. Cross-country studies requiring precise measurements and definition of the two key concepts – globalization and poverty – tend to fail to give a robust insight into this critical nexus. Both concepts are multidimensional, and not easily captured in a composite index to be used in a meaningful manner in cross-country comparative studies or regressions.

Building on earlier research projects, UNU-WIDER initiated a study on 'The Impact of Globalization on the World's Poor' in 2004. The main objectives of the project were to produce a set of rigorous theoretical and empirical economic analyses, which would: (i) deepen our understanding of how conditions facing the world's poor have been evolving under globalization; and (ii) provide a framework yielding the elements of a strategy for 'pro-poor globalization'. In addition to the methodological and

conceptual conference held in Helsinki in October 2004, the project held three regional conferences, in Tokyo, Johannesburg and Rio de Janeiro during 2005–6.⁵

In Nissanke and Thorbecke (2006a, 2006b), various channels and transmission mechanisms were identified and explored through which the process of globalization affects different aspects and dimensions of poverty in the developing world. The first and most important of these mechanisms is the growth–inequality–poverty channel. Other channels in the globalization–poverty nexus operate, respectively, through changes in relative factor and goods prices, factor movements, the nature of technological change and technological diffusion, the impact of globalization on volatility and vulnerability, the worldwide flow of information, global disinflation, and institutions, respectively.

This volume contains nine further chapters originally presented at the regional conference for the project, ‘The Impact of Globalization on the Poor in Asia’, held in Tokyo in April 2005. The Asia perspective on this critical issue is interesting and important, since Asia is the region widely regarded as having benefited most from the dynamic *growth* effect of the recent wave of globalization. Poverty has been declining steadily since the 1970s in most Asian countries, notably in China and India. The growth pattern achieved through increased trade and foreign direct investment (FDI) in *East Asia* is particularly seen as being highly inclusive, and is often viewed as a model of ‘shared growth’ (World Bank 1993; Campos and Root 1996; Ahuja *et al.* 1997). Yet, there is growing evidence that inequality has been rising through the integration process in many parts of Asia. Hence, detailed examinations of mechanisms at work in the globalization–poverty nexus in Asia are both intellectually exciting for academics as well as highly relevant to policy-makers. Before turning to the synthesis of the nine detailed case studies, in the next section, we shall present some key features characterizing the globalization–poverty relationship typical of Asia as a region.⁶

Globalization and poverty in Asia

In discussing the openness–growth link, several general observations appear to be relevant (Nissanke and Thorbecke 2006b, 2006c). First, openness through trade, foreign direct investment and financial markets can contribute significantly to economic growth through both static and dynamic efficiency gains. However, the direction of causality in this link is still being debated (the consensus view is that the causality is more likely to go from trade to growth rather than the reverse) as well as how trade and capital flows could be interlinked into a virtuous circle. Furthermore, the positive openness–growth link is neither automatically guaranteed nor universally observable. The growth-enhancing effect of trade openness depends critically on the way a country is integrated into the global economy.

Similarly, the transfer of technology, skills and management know-how that is assumed to accompany FDI is not necessarily automatic or guaranteed. Further, the postulated positive effects of portfolio and other capital flows (hot money) on growth have been questioned increasingly in recent years. Rather, it is widely recognized that short-term capital flows contribute to increased vulnerability to external shocks within the recipient developing countries. In turn, the poor in these countries are likely to suffer the most following financial crises without an adequate safety net in place.

In the case of most Asian countries, however, there is very little disagreement over the powerful growth-enhancing effects of openness through trade and FDI. In particular, following an aggressive 'outward-orientated development strategy', most East Asian economies not only accelerated the process of integration into the world economy but also upgraded their linkages in the years of their rapid economic growth. Furthermore, prior to the financial crisis of 1997–8, many of the East Asian economies registered not only 'admirable' growth rate but also accomplished a substantial poverty reduction process with dynamically evolving changes in their socio-economic structures. A number of earlier studies, such as *The East Asian Miracle*, *Everyone's Miracle*, and *Shared Growth* by the World Bank and the Brookings Institution (World Bank 1993; Campos and Root 1996; Ahuja *et al.* 1997) attributed their successful growth performance to an appropriate set of economic policies and institutions well suited to the conditions prevailing in East Asia during that period.⁷ The relatively quick turnaround of many emerging economies in East Asia in the years following the severe crisis of 1997–8 is often attributed to their strong export performance and renewed adaptability and flexibility in responding swiftly to new opportunities offered by globalization.

Any discussion of the impact of growth on poverty reduction needs to define the meaning of pro-poor growth – a concept that is used widely in the literature. At one extreme it can mean that growth is only required to yield a positive reduction of poverty. In this sense, it would be enough for a major increase in GDP per capita to reduce poverty by a single person to satisfy the above definition. Hence any elasticity of poverty reduction with respect to growth algebraically larger than zero would be considered as pro-poor. This is a *weak* definition. Although used widely and part of the conventional wisdom, it has elicited a reaction within the development community leading to an alternative definition of pro-poor growth requiring the poor to benefit more than proportionally from growth than do the non-poor. A corollary of this relative definition of pro-poor growth is that it will bring about a more equal (or less unequal) distribution of income. Since different authors adopt, either explicitly or implicitly, the weak or the strong definition, above the discussion of pro-poorness can be confusing. Since income inequality has increased in most (if not all) Asian countries since the 1980s, as discussed

below, the growth pattern can only be considered to be pro-poor under the weak definition above. At the same time it should be emphasized that the elasticity of poverty reduction with respect to growth under the weak definition can cover a very wide range, from 0 to -1 . If it is close to the latter, a high growth rate can translate into a major, yet less than proportional, reduction in poverty.

Notwithstanding the ongoing urbanization process, the great majority of the poor in Asia continue to be in the rural areas – 63 per cent at a recent count (Cook 2006). The accelerating rural-to-urban migration has contributed to economic growth in urban areas and to the alleviation of poverty in rural areas by reducing surplus labour in agriculture and the remittances from migrant workers that at present account for a significant share of rural household income.

Ozawa (2006) explains the catch-up process and associated growth dynamism in Asia as a whole, in terms of the ‘flying geese paradigm’, wherein a sequence of staggered catch-up growth has taken place successively in the region since the end of the Second World War: the early growth success of Japan was followed first by the NIEs (Hong Kong, Singapore, Taiwan and South Korea), then by ASEAN-4 (Thailand, Malaysia, Indonesia and the Philippines) and more recently by China, India and Vietnam. Importantly, as Ozawa notes, throughout the growth process a very substantial reduction of abject poverty has been achieved in many economies: the headcount ratio of US\$1 a day in China decreased from 53 per cent in 1984 to 13 per cent in 2003; in Indonesia from 38 per cent in 1984 to 7 per cent in 2003; in Thailand from 18 per cent in 1988 to 1 per cent in 2003; and in India from 46 per cent in 1987 to 31 per cent in 2003 (Asian Development Bank 2004, 2005). The most recent estimates by the Asian Development Bank predicts that the incidence of extreme poverty as measured in the headcount ratio below the ‘US\$1 a day’ poverty line further declined to 7.1 per cent in 2005 in China, and it has practically disappeared in Thailand. In Vietnam, it is estimated to have declined from 51 per cent in 1990 to 7 per cent in 2005 (Ali and Zhuang 2007; Asian Development Bank 2007).

These figures illustrate that if the growth rate of GDP per capita is high a major reduction in poverty can be achieved even when the poor do not share the benefits of growth proportionally as much as the non-poor. Ozawa further observes that poverty alleviation has been occurring, in flying-geese style, among these rapidly-catching-up Asian economies. The incidence of extreme poverty is estimated to have declined dramatically from 33 per cent in 1990 to 7 per cent in 2005 in East Asia including China, and from 24 per cent to 7 per cent in South East Asia for the same period, whereas it declined less, from 42 per cent to 32 per cent in South Asia.⁸

In addition to other policy and institutional factors, Ozawa explains this particular pro-poor growth pattern (weak definition) in terms of the flying

geese paradigm of *comparative advantage recycling* in production and export of labour-intensive goods. He argues that the region's economic development is pro-growth as well as pro-poor, because the economies in this region have successfully initiated a succession of growth in spurts based on a strong demand for unskilled labour, driven by exporting labour-intensive goods and pro-trade FDI through effective transfer of technology and knowledge skills. In flying geese style (or the hegemon-led growth model), growth clustering develops, in which a hegemon economy (the lead economy or 'goose') propagates growth stimuli to its closely aligned cohort of countries at various earlier stages of development and structural transformation. The stimuli include dissemination of technology, knowledge, information, skills and demand (via access to the hegemon's home market), and provision of development finance – and, above all, transplantation of growth-inducing institutional arrangements. Ozawa suggests that the region's synergistic interactions result in agglomeration economies, enabling the *entire* hierarchy of countries mutually to gain, grow and prosper.

Yet it is widely acknowledged that globalization and market-driven economic growth tend to increase inequality, as 'global markets are inherently disequalizing' (Birdsall 2006: 18).⁹ With the current wave of globalization, 'within country' income inequality has been steadily rising (Milanovic 2005a).¹⁰ Asia is no exception to this trend. In the early period, the prevailing initial conditions of lower levels of inequality in income and productive assets, as well as public policy and institutional arrangements in many high-performing East Asian economies, were known to be extremely favourable to the generation of a process of relatively *shared* growth (World Bank 1993). However, the growing inequality in East Asia, including China, Thailand and Indonesia, was already evident before the financial crisis of 1997–8, and the rising spatial disparity in growth performance was seen as a characteristic phenomenon (Ahuja *et al.* 1997). The financial crisis undoubtedly exacerbated this trend in the region.

As discussed below, while both China and India have accelerated the catching-up process, resulting in a very fast growth in their mean national incomes, income inequality among provinces and states, as well as interpersonal inequality, has been rising in both countries in recent decades, particularly after a decisive step was taken towards opening the respective economies. Cook (2006) notes that the Gini coefficient of income inequality increased in most Asian developing countries between 1980 and 2002; for example, from about 0.24 to 0.35 in China, and from 0.25 to 0.32 in Bangladesh. Disturbingly, there is growing evidence that 'within-country' inequality has been increasing at an accelerated pace across most developing economies in Asia over a roughly ten-year period from the early 1990s to the first half of 2000s. Among twenty-one developing countries, fifteen countries registered a rise in the Gini coefficient. The sharp increase of 5–10 per cent in the Gini coefficient is observed in five countries, including Nepal and

China (Asian Development Bank 2007; Ali 2007). Growing inequality is observed both in terms of income inequality and non-income inequality, such as in health and education. This rising inequality in most developing Asian countries is the result of 'the rich getting richer faster than the poor' rather than 'the rich getting richer and the poor getting poorer' (Asian Development Bank 2007).

As noted in Nissanke and Thorbecke (2006b), in contrast to the classical approach of viewing income inequality and wealth inequality as a necessary condition for faster capital accumulation and economic growth at the earlier stage of economic development (Kaldor 1956), the new political economic theories argue that growth patterns yielding more inequality in income distribution would, in turn, engender lower future growth paths.¹¹

A number of UNU-WIDER studies (Addison and Cornia 2001; Cornia 2004; Shorrocks and van der Hoeven 2004), argue that the widespread rise in inequality has been detrimental to the objective of poverty reduction, because large rises in inequality have stifled growth, and because poverty, at any given growth rate of GDP, falls less rapidly in the case of a more unequal distribution than in the case of a more equitable one. The obvious policy implication following from these studies is that successful poverty alleviation depends not only on favourable changes in average GDP per capita growth but also on favourable changes in income inequality.

A critical question is whether or not inequality is an impediment to poverty-reducing growth or, in other words, whether high inequality attenuates the growth elasticity of poverty (Ravallion 2002). Ravallion's analysis confirms that the elasticity of poverty with respect to growth is found to decline with the extent of inequality. Taking this line of argument, we argue that while it is most likely that the poor will benefit from growth, the ultimate poverty reduction effects will depend on how the growth pattern affects income distribution. Inequality is the filter between growth and poverty reduction. If growth leads to an increase in income inequality, the poor may benefit only slightly or, in some instances, in fact be hurt by the globalization process.

We argue specifically that the *pattern* of economic growth and development, rather than the rate of growth per se, may have significant effects on a country's income distribution and poverty profile. Indeed, the recent debate on the meaning of pro-poor growth is related to the complex triangular relationships between poverty, growth and inequality. Clearly, significant poverty reduction would require some combination of higher growth and a more pro-poor distribution of the gains from growth. Hence, what is relevant for poverty reduction is a 'distribution corrected' rate of growth, as Ravallion notes (2004b), and in our view, growth is considered to be pro-poor if, in addition to reducing poverty, it also decreases inequality consistent with the strong definition of pro-poor growth discussed above. Economic growth can be considered to be genuinely

pro-poor only if that growth is accompanied by a decline in inequality in such a manner that the poor benefit relatively more than the non-poor (Kakwani and Pernia 2000).

In Asia, it appears that economic growth has so far produced a marked reduction in poverty despite the adverse distributional changes with regard to the poor; that is, growth produced an adverse distribution effect, but the former was so vigorous that it more than compensated for the latter (Asian Development Bank 2004). A number of empirical studies have been carried out to examine the dynamic trajectory of the interrelationships between poverty, growth and inequality in Asia by decomposing the changes in poverty into two components: the growth component, and the distribution component. The results of the earlier decomposition study for five countries in East Asia (Malaysia, Thailand, Indonesia, rural China and the Philippines) generally confirm that growth was sufficiently buoyant to more than compensate for greater income inequality and keep poverty reduction on track (Ahuja *et al.* 1997).

The recent 'decomposition' study for India by Bhanumurphy and Mitra (2006) shows that the growth effect dominates the inequality (distribution) effects in poverty reduction in two periods: (i) 1983 to 1993–94; and (ii) 1993–94 to 1999–2000 (the two periods are taken broadly to represent the pre-reform and post-reform periods, respectively). This is the case for both rural and urban areas of the fifteen major states, as well as for the all-India level. Their analysis suggests that the growth/mean effect dominates the inequality effect in both periods. India's economic growth, increased markedly from the 'Hindu rate of growth' of 4 per cent to the 'Bharat rate of growth' of 6 per cent after the deliberate policy shift towards pro-growth and pro-globalization in the early 1990s. This growth acceleration succeeded in reducing overall poverty, despite the rise in inequality in the second period. As the growth accelerated, there was a marked shift in the composition of GDP, with a sharp decline in the share of agriculture and a corresponding increase in the share of services. However, since no such shift was observed in the employment structure, with the agricultural sector still absorbing a majority of the labour force, the debate continues as to whether the increase in output growth in India is a 'jobless growth' or not.

In this context, Bhanumurphy and Mitra (2006) also examine the net effect of population mobility on poverty, which depends on the rural and urban components of poverty. This effect is seen to capture the changes in the spatial composition of growth, reflected in terms of rural–urban development disparity, which tends to lead to the migration of population from rural to urban areas. The decline in the incidence of poverty (rural–urban combined) depends on whether urban employment opportunities are large enough to absorb the increasing supplies of labour migrating from the rural areas. It is thought that even when the incidence of urban poverty rises as a result of the rural–urban migration, the decline in the combined poverty

ratio may occur as a result of a fall in the rural poverty incidence following out-migration, as rural poverty dominates the poverty profile for all areas combined in the Indian economy. In India, the incidence of poverty declined in both rural and urban areas: rural poverty fell from 46 per cent in 1983 to 37 per cent in 1993–4, and further to 27 per cent in 1999–2000, while urban poverty was cut from 42 per cent in 1983 to 34 per cent in 1993–4, and further to 24 per cent in 1999–2000.

According to their decomposition analysis, there is a small ‘population shift effect’ in poverty reduction in rural areas resulting from the rural–urban migration, in the first period, but that effect was marginal compared to the growth effect. They conclude that, despite some variations across states, overall, the economic growth realized through pro-globalization reforms has produced a large decline in the incidence of poverty in India by raising labour productivity and employment opportunities with the shift in value-added mix towards industry and tertiary activities such as information technology, business process outsourcing services, financial institutions and infrastructure services.

Hayami (2006) also emphasizes the employment-creating impact of globalization benefiting landless labourers as an important conduit for reducing rural poverty. Using the survey data collected over three decades in a rice-cultivating village in East Laguna in the Philippines, he examines the transformation of the village community under the forces of globalization manifested through: (i) population growth resulting from the importation of advanced medical and public health technology; (ii) the Green Revolution that brought the transfer of advanced agricultural technology and the introduction of irrigated double cropping; (iii) land reform programmes, shifting land tenure status from sharecropping tenancy towards leasehold tenancy and owner-farming; and (iv) the expansion of non-farm employment opportunities as well as the greater use of hired labourers who had been affected negatively by the land reforms. The first two channels are considered to be the outcomes of international knowledge transfer under the current wave of globalization. While the Green Revolution reduced real rice prices received by farmers, it also kept the cost of wage goods (and thus also the wage rates in labour-intensive manufactures) from rising. This process allowed this rural community, as elsewhere in East Asia, to gain a competitive edge in producing industrial goods at the lower end of skill requirements, as part of the region’s recycling of comparative advantages under the process of globalization discussed above.

Hayami further suggests that the creation of non-farm employment opportunities associated with rural-based industrialization under globalization is seen as a most significant and direct factor in creating opportunities for rural communities to reduce poverty and inequality in East Asia. In this context, he places a special emphasis on the importance of public investment in transportation and communication infrastructure, industrial extension activities

and school education as well as building market-supporting institutions to protect property rights and enforce contracts.

Indeed, as Ozawa (2006) remarks, the pro-poorness of growth (weak definition) in East Asia as a whole is not purely a manifestation of market-driven growth effects. In addition, pro-active policy interventions and institutional arrangements were in place to lessen the adverse distributional effect and produce shared, pro-poor growth. Ozawa further articulates that because poverty reduction is a public good, pro-poor policy interventions and institutional set-ups can always be justified and required to spawn growth-led poverty reduction. For example, the pro-poor pattern of public expenditure in favour of the rural poor, such as extensive public provision of education, and physical and social infrastructure was a decisive contributing factor sustaining the shared growth in many countries in East Asia.

Despite the impressive achievement in poverty reduction, the growing inequality under globalization has become a particularly pressing concern in China. As Zhang and Wan (2006) explain, since the late 1980s the engine of China's economic take-off has shifted from agricultural growth spurred by the de-collectivization of the rural areas to manufacturing exports fuelled by large FDI inflows. At the same time, progress in poverty reduction has stalled in urban China since the late 1980s (Ravallion and Chen 2004), or has even been reversed (Hussain 2003; Khan *et al.* 1999). This casts doubt on the claim made by Dollar and Kraay (2002) that the poor benefit from globalization as much as the rest of the population.

Through the estimation of the probability density functions for all the provinces, Zhang and Wan (2006) find the following characteristics of *urban* poverty in China: (i) the income of the poor has not grown as fast as average income, and the income shares of the poor have fallen accordingly; (ii) the income growth of the poor has been particularly slow since the mid-1990s and, in several provinces, real income growth of the poor has stagnated; and (iii) the further one moves away from the coast, the less favourable income distribution tends to become for the poor.

Further, they present the results of a number of regression analyses, based on provincial level data, of the impact of globalization measured in openness to foreign trade and foreign investment on *urban* poverty. Their findings indicate that when the globalization is accounted for separately in addition to the income growth measured by per capita income, globalization in general, and trade openness in particular, increases the income shares of the poor.¹² However, their results confirm that the inequality-reducing effect of trade was significantly weakened after 1992. Further, they find that the benefit from globalization accrues to the urban poor in the inland provinces just as much as it does to their counterparts in the coastal region. Hence, they conclude that globalization cannot simply be characterized as a process of pro-rich or pro-coastal provinces in China, as was popularly feared.

Overall, the preceding review suggests strongly that the process of integration of many Asian economies into the global economy has generated such a strong growth impact that the poor have not been omitted from its beneficiary effects. This is particularly so when economic growth was accompanied by increasing employment opportunities for the poor. At the same time, the Asian experience underscores the importance of policy and institutional measures to build up the productive assets of the poor through substantial investment in education, health, extension services and infrastructure as well as through the redistribution of assets in favour of the poor – for example, through land tenure reforms. However, there is also mounting evidence that the distribution-effect engendered by the globalization process generally does not favour the poor, and that growth has been increasingly disequalizing over time in the region. In this sense, the economic growth of the globalizing Asian economies is certainly not ‘pro-poor’ in the sense that the poor benefit proportionately more than the non-poor.

Indeed, despite the sharp reduction in the incidence of extreme poverty measured in the ‘US\$1-a-day’ poverty headcount ratio, poverty remains high in much of developing Asia, if it is measured on the basis of the ‘US\$2-a-day’ poverty incidence. It is estimated that the latter declined from 86 per cent in 1990 to 77 per cent in 2005 in South Asia; from 66 per cent to 43 per cent in South East Asia; and from 72 per cent to 29 per cent in East Asia (dominated by China) over the same period. The reduction in this measure is appreciable, in particular in East Asia, but poverty is still widespread in Asia, and the challenge facing policy-makers in the region in attacking poverty of this magnitude is non-trivial. The ‘inequality-increasing’ effect of globalization should be attenuated by public policy measures to ensure that benefits from globalization-induced growth are shared more equally and equitably. In this context, it is worth remembering that the pattern of *shared* growth from wealth-sharing policy measures provided legitimacy for governments to pursue pro-growth and pro-business economic policy in the early drive for rapid industrialization in many countries in East Asia (see Campos and Root 1996). Sustaining the shared growth is therefore critical to ensure that economic growth continues under this era of globalization. Alternatively, growing inequalities can weaken social cohesion and risk reducing the momentum for economic growth and integration in the region.¹³

As discussed earlier, detailed and specific case studies are required to enhance our understanding of the critical relationships between globalization and poverty, since the globalization–poverty nexus is very complex and context-specific, involving numerous channels, counteracting forces and threshold effects. The following nine chapters examine different aspects of the globalization–poverty nexus from a context-specific perspective in several different Asian settings. Many of the case studies included in this

volume use panel data based on a series of households surveys to scrutinize the globalization–inequality–poverty links.

Synopsis of the book

Chapter 2, by Kakwani and Son, examines the interrelationship between economic growth, inequality and poverty under globalization by defining and measuring the ‘pro-poorness’ of economic growth. After discussing different definitions of pro-poor growth, they advance the concept of ‘poverty equivalent growth rate’ (PEGR), which takes into account not only the magnitude of growth, but also how the benefits of growth are distributed to the poor and the non-poor through changes in inequality. They suggest that, since proportional reduction in poverty is a monotonically increasing function of the PEGR, the larger the PEGR, the greater the proportional reduction in poverty will be. Applying the PEGR to the household survey data, they present an evolution of the extent of the ‘pro-poorness’ in the growth pattern as observed in three Asian countries – Korea, Thailand and Vietnam – in the 1990s. According to their calculations, while Korea and Vietnam experienced a pro-poor growth pattern in the 1990s, the growth pattern in Thailand was on the whole not pro-poor. They argue that, as the Vietnam experience suggests, a ‘growth with redistribution’ strategy (such as land reforms) could be instrumental in ensuring that economic growth under globalization is pro-poor. Further, the episode of the deep financial crises experienced by both Korea and Thailand reaffirms the importance of enacting social safety nets promptly to protect the poor from their extreme vulnerability to economic shocks associated with globalization.

Indeed, Vietnam is often considered as one of low-income countries which has benefited most from integration into the global economy since the late 1980s. Its pro-globalization reform programmes produced impressive growth rates in output and exports, with some substantial poverty reduction. While its growth pattern is described as pro-poor by Kakwani and Son (Chapter 2), trade liberalization has generated winners and losers, and the growing spatial inequality has become an increasing concern. Applying an integrated micro simulation CGE (computable general equilibrium) model to household survey and census data, Fujii and Roland-Holst examine in Chapter 3 the changes in the spatial incidence of poverty in Vietnam in response to its accession to the WTO. They first calibrate a macroeconomic CGE model for Vietnam to the 2000 Vietnam Social Accounting Matrix for a baseline scenario, and then compare three counterfactual scenarios to the baseline: Unilateral Liberalization (UL); Full Liberalization (FL); and Doha Special and Differential Treatment (DSDT). Under each scenario, a poverty map is drawn. Their simulation results show that aggregate poverty falls when Vietnam removes all import tariffs and export subsidies under the UL scenario. The amount of improvement would be even larger if other countries

also remove tariffs against Vietnamese products under the FL scenario. On the other hand, the DSDT scenario leads to a slight increase in poverty. Importantly, impacts of Vietnam's accession to the WTO are spatially heterogeneous. The heterogeneity is particularly large under the FL scenario. The poor provinces in the north-western region may benefit little from trade liberalization. Hence, they advocate the need to develop geographic targeting policies that complement trade liberalization policies, which could conserve public resources and prevent poor areas from lagging further behind.

Chapter 4, by Sawada and Estudillo, investigates how the two channels of globalization – that is, integration through international trade, and emigration – affected poverty reduction in the Philippines. The Philippines has increased its economic openness through trade and FDI substantially during the period 1985–2000, though this trend was interrupted by the Asian financial crisis of 1997–8. The process was facilitated by the creation of the Special Economic Zones for labour-intensive manufactures, which were relocated to four regional zones from the national capital region during this period. The Philippines is also known as a major supplier of international migrants to Saudi Arabia, Japan and other Asian NICs, as well as to the USA. The number of these immigrant workers increased markedly during the period under consideration.

Using Family Income and Expenditure Surveys (disaggregated by province) for selective years between 1985 and 2000, they found the following results:

- (i) Openness per se, measured as the ratio of the value of regional exports to regional GDP, increases poverty. However, when the openness measure is included separately for each year of observation, the results reveal that trade openness reduced the poverty headcount in 1988 and 1994, but not in 2000 because of the debilitating effect of the financial crisis of 1997–8.
- (ii) The growth elasticity of poverty reduction in the Philippines is -0.44 , much smaller compared with other Asian economies as well as other developing countries, including countries in Sub-Saharan Africa. It would require an increase of the annual rate of income growth to 6.5 per cent from the historical trend of 1.3 per cent to halve the poverty incidence by 2015 as targeted in the Millennium Development Goals.
- (iii) Inequality, measured through the inter-provincial standard deviation of household income, increases poverty. The size of the inequality effect is large. Lowering the level of income inequality by one standard deviation can lead to a 30 per cent reduction in poverty.
- (iv) Disaggregating income into non-transfer and transfer income, the study finds that at the provincial level of aggregation, the growth of non-transfer income is a significantly more important driving force behind poverty reduction than transfer income.

The regression analysis at the household level, on the other hand, reveals that both non-transfer and transfer incomes reduced the incidence and depth of poverty significantly, but transfer income had a greater impact on reducing the poverty of poor and non-poor households alike. In the Philippines, about 5 per cent of total household income comes from overseas transfers, and about 4 per cent from domestic transfers. Since overseas job placements require a significant sunk cost for job placement fees and pocket money, credit availability is a key deciding factor for a household to invest in overseas emigration. Their regression results show that the effect of land reform in inducing transfer income from abroad was significant only in the 1990s, when land pawning revenues had become important in paying job placement fees overseas. Yet, as the ultra poor are commonly landless households that were left out as beneficiaries of the land reform, they are also excluded from receiving overseas transfer income because of their disadvantages in obtaining credit. As discussed earlier in reference to the work by Hayami, non-farm employment opportunities are the most important mechanism for reducing the poverty of these landless households.

It was suggested in Nissanke and Thorbecke (2006b) that the globalization–poverty relationship might be non-linear, involving some threshold effect. Chapter 5 by Liang investigates the nonlinearity of the impact of globalization on the poor, applying recent endogenous threshold regression techniques to panel data from *rural* provinces of China over the period 1986–2002. Hence, Liang’s chapter on the effect of globalization on the rural poor complements the paper by Zhang and Wan with its focus on the *urban* poor, reviewed above.

China has experienced a sharp reduction in rural poverty since the market-orientated reforms were initiated in 1978. According to China’s official poverty line, more than 220 million people have been lifted out of absolute poverty in the rural regions over the period, from 250 million in 1978 to 28 million in 2002. Alternatively, using the World Bank’s international standard poverty line of income measure of US\$1 per day (in purchasing power parity), the number of China’s rural poor decreased dramatically from 261 million in 1990 to 88 million in 2002. When estimated with the poverty line of consumption set at US\$1 per day, the number of rural poor experienced an even greater drop, from 358 million in 1990 to 161 million in 2002. There is not much dispute over the fact that the evolving patterns of rural poverty reduction are highly influenced by the country’s reform policies and development strategies. China experienced one of the most impressive rural poverty reductions in history during the period of 1978–85, mainly a result of de-collectivization, with the rural poverty incidence falling dramatically from 30.7 per cent in 1978 to 14.8 per cent in 1985, based on China’s official estimates. While there was a marked slowdown in the rate of poverty reduction for the period of 1986–93, the subsequent concerted efforts in attacking rural poverty meant that the headcount ratio declined further to 3 per cent

in 2002. However, the special concentration of rural poverty in the western inland region poses a serious challenge to the Chinese government.

Against this background, Liang's results with an endogenous threshold regression technique show that the globalization index, as measured by the ratio of the sum of exports and imports to GDP, has a non-linear relationship to rural poverty, as applied to panel data covering twenty-five provinces in China: poverty will increase at low levels of globalization, while high levels of globalization lead to a decline in poverty. While this threshold effect may be a reflection of the strong spatial concentration in both the globalization index and the rural poverty in China, the regression results also confirm the significant influence that both income growth and the specifically-targeted government funds for alleviating rural poverty have had on reducing poverty in rural China. Liang suggests that effective policy measures should be in place for the poor to be given more opportunities in the accelerated process of China's integration into the global economy.

China covers a large territory of heterogeneous regions with different comparative advantages. Chapter 6, by Lin and Liu, advances a framework of juxtaposing two 'mutually exclusive' development strategies as the key to understanding the relationship between openness, growth and poverty: (i) a comparative advantage-defying (CAD) strategy, which attempts to encourage firms to deviate from the economy's existing comparative advantages in their entry into an industry or choice of technology; and (ii) the comparative advantage following (CAF) strategy, which attempts to facilitate the firms' entry into an industry or choice of technology according to the economy's existing comparative advantages. They argue that the accumulation of per capita capital, which will be faster under a CAF strategy than under a CAD strategy, will provide a basis for upgrading the industrial/technological structure of the economy; and that by following CAF strategy, the speed of endowment structure (capital-labour ratio) upgrading and technological progress will be faster than under a CAD strategy. They also suggest that efficiency and equity can be achieved under a CAF strategy, where initial relative endowments would favour the creation of employment opportunities for unskilled workers.

Using this framework, they identify the beginning of economic reforms in 1978 in China as a distinctive switch from a CAD strategy to a CAF strategy. However, they argue that the degrees to which various regions deviated from their comparative advantage differed before reform, and their degrees of shifts to a CAF strategy also vary across regions. They observe that, after reform, all levels of government, especially local government, often use administrative measures to encourage firms to ignore the region's specific comparative advantages in their choice of industries or technologies. They conjecture that the regional divergence in the rate of rural poverty reduction is related to the differences in the development strategy followed across the regions, and test this hypothesis using provisional

panel data. Their econometric results confirm that: (i) the greater the deviation from the CAF strategy in a province, the less open that province will be, and the higher the incidence of rural poverty in that province. Foreseeing a likely increase in the severity of urban poverty and poverty among migrants from rural areas as well as a continued adverse trend in income inequality, they strongly advocate an adoption of a CAF development strategy and a promotion of labour-intensive industries as a strategy for poverty reduction in both urban and rural areas across all regions in China.

The poor in low-income countries are much more vulnerable to large shocks emanating from a deeper integration into the global economy, as witnessed by the impact of the Asian financial crisis (see Chapter 2, by Kakwani and Son). Applying a framework of Fuzzy models to the Indian economy, Chapter 7, by Kumar and Viswanathan, develops regional level indices of vulnerability for two time points: one in 1990–1 and the other in 1999–2000, representing 'pre'- and 'post'-reform periods, to capture the impact of globalization – in particular, trade liberalization – on rural poverty. In their analysis, the vulnerability is conceptualized and measured as a multidimensional function of its exposure, sensitivity and adaptive capacity. Sixteen Indian states are then ranked accordingly in terms of their vulnerability to welfare loss.

Vulnerability (to external shock) of a system is hypothesized to increase with exposure and sensitivity, but decline with adaptive capacity. Exposure is captured through two indicators: instability in cereal production; and share of investment in the manufacturing sector. Sensitivity is assessed through three broad indices: agricultural, demographic and health. In turn, adaptive capacity is measured through three broad indices: economic, human and infrastructure. With a decline in exposure and sensitivity, along with improvement in adaptive capacity, all states reduced their vulnerability in the 'post'-reform period compared with that in the 'pre'-reform period. Further, the changing ranks of states is seen to reflect the dynamic characteristic of vulnerability, and hence the vulnerability index is regarded as more forward-looking compared with other welfare indicators such as HDI and the proportion of the population below the poverty line.

Measured by the vulnerability index developed by Kumar and Viswanathan in Chapter 7, Andhra Pradesh is ranked among the states that are less vulnerable throughout, in both the pre- and post-reform periods. A north-western region (Telangana) in Andhra Pradesh is chosen by Aggarwal in Chapter 8 as the context for her detailed case study examining how globalization affects resource-poor farmers – small and marginal farmers with no access to any assured source of irrigation. These farmers participated aggressively in the new market opportunities that opened up with trade reforms in India, but experienced a worsening in their welfare. Andhra Pradesh is an interesting case for studying the globalization–poverty nexus, as it was at the

forefront of the World Bank-led reforms initiated in the areas of fiscal discipline, decentralized governance, and the encouragement of foreign direct investment, and received a great share of funding from multilateral organizations as well as private investors. Since the mid-1990s, Andhra Pradesh has witnessed higher growth rates than the average for the rest of the country, and has been widely hailed as the 'state that would reform India'. It has become known for a particularly impressive performance in the area of information technology. Yet it experienced an increase in rural poverty and agrarian distress, with a rising trend in the rate of farmers' suicides.

Aggarwal argues that these small and marginal farmers, far from being left behind, were at the frontier of the globalization wave: they increased their participation in export markets (in both absolute and relative terms) and have been highly receptive to international technology transfers in the form of hybrid seeds, fertilizers and pesticides. She illustrates how resource-poor farmers who shifted to cotton production have been led into a debt trap and chronic poverty. As cotton prices increased sharply following the reforms, a number of poor farmers shifted to cotton cultivation, involving higher risks because of rainfall variability and large price fluctuations. Cotton cultivation requires much greater technical expertise, working capital and a larger marketing network than those needed for traditional crops.

In addition to a sharp reduction in public investment in rural infrastructure and services, state support to farmers and agricultural production, including formal bank credits and extension services, declined drastically under the economic reform. At the same time, the network of private traders expanded rapidly to meet not only the marketing needs of the new crops but also to provide working capital, technical expertise and information. She shows how this expanded, and largely unregulated, operation of private traders in multiple markets also provided them with the opportunity to extract greater surplus from the farmers. She argues that while increased participation in external markets exposed farmers to greater price risks and fraudulent dealings by the private traders, the shrinking role of the state reduced the farmers' ability to cope with these risks. The result was a decline in average incomes of the resource-poor farmers and rising levels of indebtedness, as costs of production grew sharply. Thus, as several pro-poor public investments and social programmes were cut back, markets grew fast, but regulation and governance over market activities lagged far behind. The poor suffered disproportionately from these unregulated activities.

She shows, through a regression analysis of a household survey data set collected under the 'Situation Assessment Survey of Farmers' in 2002-3, how resource-poor cotton farmers are likely to suffer from rising indebtedness. She concludes that for the poor to take full advantage of new opportunities presented by their integration into the global economy, there should be complementary measures such as the provision of institutional

credit, targeted safety nets, and technical and marketing support. In the absence of these measures, globalization could lead to higher input costs for poor farmers, rising indebtedness and chronic poverty, as well as environmental degradation.

Chapter 9, by Giné and Klonner, examines the effects of globalization on the livelihoods of fishing communities in Tamil Nadu, South India. Tamil Nadu is one of the least vulnerable states in India according to the vulnerability index developed by Kumar and Viswanathan (see Chapter 7). Giné and Klonner focus their analysis on one facet of globalization effects – the diffusion of a capital-intensive technology (beach-landing fibre-reinforced plastic boats – FRP), and the resulting income and inequality dynamics within a fishing village. Through a carefully conducted case study based on household survey fieldwork, they show that inequality and lack of asset wealth is responsible for a socially inefficient sequence of individual adoptions, whereby the rich and not the most able fishermen adopt first. They suggest that lack of wealth delays technology adoption, mainly through credit constraints and, to a lesser extent, higher risk aversion among poorer households.

During the diffusion process, inequality follows Kuznets' well-known inverted U-shaped curve. Initially, technological innovation widens the gap between rich and poor, but after the entire community has completed the technological shift, inequality drops to a lower level than before, which implies that, in the long run, the innovation studied benefits the poor more than proportionally. Applying simulation analysis, they conclude that redistributive policies favouring the poor result in accelerated economic growth and a shorter duration of sharpened inequality.

Today, the environmental impacts of globalization have increasingly become one of most pressing issues facing the global community. Chapter 10, by Mahvash Qureshi, examines the environmental consequences of trade liberalization in Pakistan. She first places her study in a general context, where the effect of trade liberalization on the environment is debated in terms of: (i) the *scale effect*, whereby trade-induced economic growth causes over-exploitation and misuse of environmental resources; and (ii) the *composition effect*, whereby low-income countries, as a result of lax environmental regulations, treat the environment as a relatively abundant factor of production and specialize in the production of pollution-intensive products as a result of trade liberalization. Environmentalists argue that the scale effect complements the composition effect, exacerbates natural resource degradation, and causes ecological poverty that accentuates economic poverty and gravely limits prospects for growth in these countries. In contrast, the proponents of free trade assert that the lowering of barriers to trade and investment facilitates the cross-border movement of environmentally friendly technologies, management techniques and information. Hence, they argue that trade gives rise to a positive *technique effect*, which has

the potential to outweigh the negative scale effect of increased production. Moreover, they argue that liberalization leads to a *positive* and not *negative* composition effect via income growth: an increase in per capita income induced by greater openness enhances consumers' preference for environmentally friendly products, advances cleaner production techniques and reduces the share of pollution intensive products in the total output.

Specifically, Qureshi examines the pollution haven hypothesis resulting from asymmetries between the environment regulations of developed and developing countries through a systematic analysis of its trade and production patterns. Using bilateral trade statistics from 1975–2003, she tests the hypothesis that Pakistan's net exports of pollution-intensive products to the OECD countries have increased since trade liberalization. She also investigates whether the stringency of environmental governance in the importing countries plays a part in determining Pakistan's exports of pollution-intensive products. The results reveal that there has been a change in the composition of output and exports, towards pollution-intensive manufacturing, that parallels the opening of the economy. Overall, the findings affirm the pollution haven hypothesis and call for an effective environmental policy response for poverty alleviation and sustainable development. In this context, she emphasizes that the poor suffer disproportionately more from environmental degradation as a result of the absence of effective policies and concerted efforts on environmental protection. The poverty rate is very high in Pakistan, where more than 75 per cent of its total population lives on or less than US\$2 a day. The poor are particularly vulnerable to falling into 'ecological poverty', as they are subject to both environment-related health hazards as well as grave threats to their livelihood from severe depletion of natural resources, following the process of pollution-intensive pattern of development over recent decades.

A certain number of conclusions can be drawn from the case studies in this volume. First, the impact of globalization on growth, inequality and ultimately on poverty tends to be highly context-specific. The impact depends crucially on the prevailing initial conditions – particularly in terms of the resource endowment and its distribution among the population – and on the specific development strategy adopted and pursued.

Second, within the broad Asian context there is persuasive evidence that the forces of globalization contributed substantially to the observed decline in poverty. However, globalization also brought about a more unequal income distribution among households, regions and provinces – a process that could become potentially destabilizing and dampen growth prospects and related poverty alleviation. Third, the development strategy followed by most East and South East Asian countries, of integrating their production and export structures to conform to the flying geese paradigm within the region, ensured that they remained faithful to the concept of dynamic comparative advantage and moved up the product-cycle ladder one rung at

a time. Finally, the Asian experience underscores the importance of policy and institutional measures to build up productive assets of the poor through substantial investment in education, health, extension services and infrastructure, as well as through the redistribution of assets in favour of the poor, as observed, for example, through land tenure reforms. Further, special measures, such as the provision of a social safety net, should be in place so that the poor are better protected against and less vulnerable to globalization-induced economic shocks.

Notes

- 1 Birdsall (2002, 2006), for example, argues that it is the poorer countries and the poor who tend to bear the risks and costs of the higher volatility brought about by globalization.
- 2 See Nissanke and Thorbecke (2006b) for a review of the literature and a more detailed discussion of the concepts used for analysing the trends in world inequality and the related empirical evidence. For historical trends towards income divergence, see Pritchett (1997). Quah (1996) also discusses the twin peaks in the world's distribution dynamics, characterized by the tendency for stratification and polarization.
- 3 See Deaton (2001, 2002) and Wade (2002) for critical discussions of the World Bank's estimates of global poverty and inequality used in these studies.
- 4 See Williamson (2002) for winners and losers from globalization in modern history.
- 5 See Nissanke and Thorbecke (2006d, 2006e) for main findings from the papers presented at the conceptual and methodological conferences in Helsinki. Nissanke and Thorbecke (2006c) present a preliminary policy framework for encouraging globalization to be more pro-poor.
- 6 Our discussion draws partly on four papers presented at the Tokyo conference which are to appear in a separate volume devoted to the comparative analysis of the three regions – Asia, Sub-Saharan Africa and Latin America, as part of our UNU-WIDER project publications.
- 7 The eight countries, referred to as the High Performing Asian Economies in the East Asian Miracle Study, are Japan, Hong Kong, the Republic of Korea, Singapore, Taiwan, Indonesia, Malaysia and Thailand. Perkins (1994) groups these eight economies into three quite distinct categories and models: (i) the manufactured-export-led state interventionist models of Japan, Korea and Taiwan; (ii) the free port service commerce dominated model of Singapore and Hong Kong; and (iii) the natural-resource-rich model of Indonesia, Malaysia and Thailand. The East Asian Miracle has subsequently been subjected to several critical evaluations. For a summary of these critical reviews in a comparative perspective, see Nissanke and Aryeetey (2003).
- 8 According to recent estimates (Asian Development Bank 2007), the incidence of extreme poverty is still very high in both Bangladesh and India, where this ratio was estimated at 36 per cent in 2005. The incidence of extreme poverty is still very prevalent in South Asia, where 476 million still live below the US\$1-a-day poverty line at the time of writing. In India, the numbers of the poor increased from 374 million in 1990 to 397 million in 2005, even though the relative share of the poor declined overall.

- 9 Milanovic (2005b) notes that, while the disequalizing force inherent in economic growth is noted by many classical development writers such as Rosenstein-Rodan (1943), Myrdal (1957) and Hirschman (1958), the interesting question remains open whether there are countervailing forces to render growth spatially equalizing in the long-run.
- 10 Strictly speaking, the trends in world (global) income inequality depend on which concept of inequality is used for measurement (Milanovic 2005a; Nissanke and Thorbecke 2006b). Among different estimates, the 'between country' inequality weighted by population but ignoring 'within country' inequality shows a declining trend largely driven by the China factor, while all other estimates show clearly that world inequality has been increasing.
- 11 For a synthesis of this vast literature, see Thorbecke and Charumilind (2002).
- 12 However, they also conclude that the growth in China has not been pro-poor or distribution-neutral, as the negative signs on per capita income in their regression results are interpreted as an adverse effect of average income growth on the income shares of the poor.
- 13 See Asian Development Bank (2007) and Ahuja *et al.* for the concept of 'inclusive growth' and the associated policy strategy advocated for the region.

References

- Addison, T. and Cornia, G. A. (2001) 'Income Distribution Policies for Faster Poverty Reduction', WIDER Discussion Paper 2001/93, UNU-WIDER, Helsinki.
- Ahuja, V., Bidani, B., Ferreira, F. and Walton, M. (1997) *Everyone's Miracle? Revisiting Poverty and Inequality in East Asia* (Washington, DC: World Bank).
- Ali, I. (2007) 'Pro-Poor to Inclusive Growth: Asian Prescription', ERD Policy Brief 48, May, Asian Development Bank, Manila.
- Ali, I. and Zhuang, J. (2007) 'Inclusive Growth Toward a Prosperous Asia: Policy Implications', ERD Working Paper 97, July, Asian Development Bank, Manila.
- Asian Development Bank (2004) *Key Indicators of Developing Asian and Pacific Countries* (Manila: ADB).
- Asian Development Bank (2005) *An Initial Assessment of the Impact of the Earthquake and Tsunami of December 26, 2004 on South and Southeast Asia* (Manila: ADB).
- Asian Development Bank (2007) *Key Indicators 2007: Inequality in Asia* (Manila: ADB).
- Bhanumurthy, N. R. and Mitra, A. (2006) 'Globalization, Growth and Poverty in India', WIDER Research Paper 2006/41, UNU-WIDER, Helsinki.
- Birdsall, N. (2002) 'A Stormy Day on an Open Field: Asymmetry and Convergence in the Global Economy', Paper presented at the conference on Globalization, Living Standards and Inequality, Sydney, 27–28 May.
- Birdsall, N. (2006) 'The World Is Not Flat: Inequality and Injustice in our Global Economy', WIDER Annual Lecture 9, UNU-WIDER, Helsinki.
- Campos, E. and Root, H. L. (eds) (1996) *The Key to the East Asian Miracle* (Washington, DC: Brookings Institution).
- Chen, S. and Ravallion, M. (2004) 'How Have the World's Poorest Fared since the Early 1980s?', World Bank Policy Research Department Working Paper 3341, World Bank; Washington, DC.
- Cook, S. (2006) 'Asian Paths to Poverty Reduction and Inclusive Development', Institute of Development Studies, University of Sussex, and the Overseas Development Institute, London.

- Cornia, G. A. (ed.) (2004) *Inequality, Growth, and Poverty in an Era of Liberalization and Globalization* (Oxford: Oxford University Press for UNU-WIDER).
- Deaton, A. (2001) 'Counting the World's Poor: Problems and Possible Solutions', *World Bank Research Observer*, 16(2): 125–47.
- Deaton, A. (2002) 'Is World Poverty Falling?', *Finance and Development*, 39(2): 4–7.
- Dollar, D. and Kraay, A. (2002) 'Growth Is Good for the Poor', *Journal of Economic Growth*, 7: 195–225. Republished in A. Shorrocks and R. van der Hoeven (eds) (2004), *Growth, Inequality and Poverty* (Oxford: Oxford University Press for UNU-WIDER).
- Hayami, Y. (2006) 'Globalization and Rural Poverty: A Perspective from a Social Observatory in the Philippines', WIDER Research Paper 2006/44, UNU-WIDER, Helsinki.
- Hirschman, A. (1958) *The Strategy of Economic Development* (New Haven, Conn.: Yale University Press).
- Hussain, A. (2003) 'Urban Poverty in China: Measurement, Patterns, and Policies' (Geneva: ILO).
- Kakwani, N. and Pernia, E. (2000) 'What Is Pro-poor Growth?', *Asian Development Review*, 16(1): 1–16.
- Kaldor, N. (1956) 'Alternative Theories of Distribution', *Review of Economic Studies*, 23(2): 83–100.
- Khan, A., Griffin, K. and Riskin, C. (1999) 'Income Distribution in Urban China during the Period of Economic Reform and Globalization', *American Economic Review*, 89(2): 296–300.
- Milanovic, B. (2005a) *World Apart: Measuring International and Global Inequality* (Princeton, NJ and Oxford: Princeton University Press).
- Milanovic, B. (2005b) 'Half a World: Regional Inequality in Five Great Federations', World Bank Policy Research Working Paper 3699, World Bank, Washington, DC.
- Myrdal, G. (1957) *Economic Theory and Underdevelopment Regions* (London: Hutchinson).
- Nissanke, M. and Aryeetey, E. (2003) *Comparative Development Experiences of Sub-Saharan Africa and East Asia: An Institutional Approach* (Aldershot: Ashgate).
- Nissanke, M. and Thorbecke, E. (2006a) 'Overview', in M. Nissanke and E. Thorbecke (eds), *The Impact of Globalization on the World's Poor: Transmission Mechanisms* (Basingstoke: Palgrave Macmillan for UNU-WIDER).
- Nissanke, M. and Thorbecke, E. (2006b) 'Channels and Policy Debate in the Globalization–Inequality–Poverty Nexus', in M. Nissanke and E. Thorbecke (eds), *The Impact of Globalization on the World's Poor: Transmission Mechanisms* (Basingstoke: Palgrave Macmillan for UNU-WIDER). Also published in *World Development*, 34(8), UNU-WIDER special issue.
- Nissanke, M. and Thorbecke, E. (2006c) 'A Quest for Pro-Poor Globalisation', WIDER Research Paper 2006/46; also published in G. Mavrotas and A. Shorrocks (eds) (2007), *Advancing Development: Core Themes in Global Economics* (Basingstoke: Palgrave Macmillan for UNU-WIDER).
- Nissanke, M. and Thorbecke, E. (eds) (2006d) 'The Impact of Globalization on the World's Poor', *World Development*, 34(8), UNU-WIDER special issue.
- Nissanke, M. and Thorbecke, E. (eds) (2006e) *The Impact of Globalization on the World's Poor: Transmission Mechanisms* (Basingstoke: Palgrave Macmillan for UNU-WIDER).
- Ozawa, T. (2006) 'Asia's Labour-driven Economic Development, Flying-Geese Style', WIDER Research Paper 2006/59, UNU-WIDER, Helsinki.

- Perkins, D. H. (1994) 'There Are at Least Three Models of East Asian Development', *World Development*, 22(4): 655–61.
- Pritchett, L. (1997) 'Divergence, Big Time', *Journal of Economic Perspectives*, 11(3): 3–17.
- Quah, D. T. (1996) 'Twin Peaks: Growth and Convergence in Models of Distribution Dynamics', *The Economic Journal*, 106 (July): 1045–55.
- Ravallion, M. (2002) 'Growth, Inequality and Poverty: Looking Beyond Averages', Paper presented at World Bank Annual Bank Conference of Development Economics Europe, June, Oslo.
- Ravallion, M. (2004a) 'Competing Concepts of Inequality in the Globalization Debate', Paper presented at the Brookings Trade Forum on Globalization, Poverty and Inequality, 13–14 May, Washington, DC.
- Ravallion, M. (2004b) 'Pro-poor Growth: A Primer', World Bank Policy Research Working Paper 3242, Washington, DC, World Bank.
- Ravallion, M., and Chen, S. (2004) 'China's (Uneven) Progress Against Poverty', Policy Research Working Paper 3408, Washington, DC, World Bank.
- Rosenstein-Rodan, P. (1943) 'Problems of Industrialisation of Eastern and Southern Europe', *Economic Journal*, 53: 202–11.
- Shorrocks, A. and van der Hoeven, R. (eds) (2004) *Growth, Inequality and Poverty* (Oxford: Oxford University Press for UNU-WIDER).
- Thorbecke, E. and Charumilind, C. (2002) 'Economic Inequality and Its Socio-economic Impact', *World Development*, 30(9): 1477–95.
- UNESCAP/ABD/UNDP (2005) *A Future Within Reach* (New York: UNESCAP/ABD/UNDP).
- Wade, R. H. (2002) 'Globalization, Poverty and Income Distribution: Does Liberal Argument Hold?', Paper presented at the conference on Globalization, Living Standards and Inequality, Sydney, 27–28 May.
- Williamson, J. G. (2002) 'Winners and Losers over Two Centuries of Globalization', WIDER Annual Lecture 6, UNU-WIDER, Helsinki.
- World Bank (1993) *The East Asian Miracle: Economic Growth and Public Policy* (New York: Oxford University Press).
- Zhang, Y. and Wan, G. (2006) 'Globalization and the Urban Poor in China', WIDER Research Paper 2006/42, UNU-WIDER, Helsinki.

Index

Key: **bold** = extended discussion; f = figure; n = endnote/footnote; t = table.

- absolute poverty 13, 121
 'extreme poverty' 5, 11, 20(n8),
 90, 163
 'ultra poor' 37, 38, 107, 108, 109
absolute poverty equivalent growth rate
 (Kakwani and Son) 43(n13)
Acosta-Michlik, L., *et al.* (2004)
 174, 193
 Campe, S. 193
 Klein, R. J. T. 193
 Kumar, K. S. Kavi 193
Adams, R. 91
Addison, T. 7
Adelman, I. 25, 54
Adilabad district (Telangana) 217(n9)
Africa 2, 196
Agénor, P. R. 115, 117, 128, 132(n2)
 research 'limitations' 118
Aggarwal, R. M. **xiv**, 16–18, 209n,
 218(n18)
agrarian distress 197
Agricultural Census (Vietnam, 1994) 54
agricultural growth 10
agricultural index 16
agricultural price volatility 192
agricultural productivity (AGR-PRO)
 160–2
agricultural products: demand
 elasticity 141–2
agricultural protection 140
agricultural sector 39, 146, 152, 155, 201
agricultural sensitivity index 180f, **181**,
 182t, 188f, 189
agriculture 5, 8, 50, 60, 61, 62t, 94,
 113(n7), 166(n16), 170, 171, 175,
 184, 198–200, 202, 207, 213, 215,
 255f, 256t, 279
 adoption of new crop varieties 235
 Pakistan 253t
 rain-fed 203–6, 216
 terms of trade 199, 199f
Ahluwalia, M. S. 25
Ahuja, V., *et al.* (1997) 21(n13), 21
Bidani, B. 21
Ferreira, F. 21
Walton, M. 21
aid
 'international development
 assistance' 223
 urban-biased 50
air 255, 256, 256t, 264, 265, 279, 281,
 283(n1), 284(n18, n31), 285(n32)
albizia (timber) 223, 224
Alwang, J., *et al.* (2001) 172, 194
 Jorgensen, S. L. 194
 Siegel, P. B. 194
An Giang province 71t, 79t
Anand, S. 25
Anderson, E. 42(n3)
Anderson, J. E. 264
Anderson, K. 50
Anderson, K., *et al.* (2004) 140, 166–7
 Huang, J. 166–7
 Ianchovichina, E. 167
Andhra Pradesh (AP) 16–17, 179, 185,
 187t, 188f, 189, 191t, 200–2, 206–7,
 210, 212, 217(n4)
 coastal 203
 distribution of operational holdings
 (1970–96) 201t
 interest charges on agricultural loans
 211t
 north-western region 197, 203
 see also Telangana
Anhui 149–51f, 155, 156–7t, 164t
anonymous referees 42, 132(n2),
 133(n9), 165, 192, 218(n18)
anthropology 172
applied tariff rate 254, 255f
Aquino Administration (1986–92)
 90, 106
Arabian Sea 256
Arroyo Administration (2001–) 90
Aryeetey, E. 20(n7)

- ASEAN 282t
 ASEAN–China Free Trade Agreement 49
 ASEAN–Four 5
 ASEAN Free Trade Area (AFTA) 49
 ASEAN–Japan Free Trade Agreement 49
 Asia 1–2, 3, 8, 11–12, 19, 20, 20(n6),
 61, 284(n31)
 pro-poor growth 24–46
 ‘rich getting richer faster than
 poor’ 7
 Asia and Pacific region 101, 101t
 Asian Development Bank (ADB) xiv, 5,
 20(n8), 21(n13), 155, 163
 Asian financial crisis (1997–8) 6, 12,
 13, 16, 36–7, 38, 40, 54–5, 94, 95,
 98, 99, 101, 104, 109
 Assam 179, 187t, 188f, 191t
 asset accumulation 230, 240
 asset distribution 244
 asset income 52
 asset poverty 239
 ‘delays technology adoption’ 242, 247
 asset redistribution 24, 101
 asset wealth 18, 229, 240, 246
 assets 61, 113(n7), 173, 196, 238
 natural 281
 productive 20
 redistribution 11, 20
 asymptotic distribution theory 124
 asymptotic p -values 238, 239n
 Australia xiv, 270t, 270
 autocorrelation 161
 Autonomous Region of Muslim
 Mindanao 112t
- Bac Giang province 72t, 77t
 Bac Lieu province 71t, 80t
 Bac Ninh province 77t, 79t
 balance of payments 199
 ‘trade balance’ 54–5, 254
 Balaranaia, T. 248
 Balisacan, A. M. 101, 113(n3)
 Ban Ria-Vung Tau province 81t, 83t
 Bandiera, O. 229
 Bangladesh 6, 20(n8), 259f
 banks/banking 146, 147, 200, 209, 210,
 214–15, 226, 279
 prudential norms 217(n6)
 Barbier, E. B. 287
 Bardhan, P. 169, 192(n2)
 Barker, T. 283
- baseline hazard function 235
 Bases Conversion and Development Act
 (Philippines, 1995) 96
 Batangas 95, 110t
 Baulch, B. 26, 28, 42(n6), 45, 89
 Beijing 132(n8), 149–51f,
 156–7t, 164t
 Beine, M., *et al.* (2001) 91, 113
 Docquier, F. 113
 Rapoport, H. 113
 Bell, C. 218(n15)
 below-poverty-line (BPL) population
 16, 190–192
 Ben Tre province 79t
 beneficial brain drain (BBD) 91
 Berg, A. 112(n1)
 Bernhardt, D. 222
 Berry, S. 133
 Besley, T. 97–8, 101, 101n, 228–9, 240
 Bhagwati, J. 43(n9), 47, 217(n1)
 Bhanumurthy, N. R. 8
 Bharat rate of growth 8
 bias 50, 93, 118, 236–7, 264, 272
 Bicol, 94, 95, 110t
 Bidani, B. 21
 Bihar 179, 185, 187t, 188f, 189, 191t,
 193(n10)
 Binh Duong province 72t, 78t, 81t
 Binh Thuan province 75t
 Binswanger, N., *et al.* (1980) 229, 248
 Balaranaia, T. 248
 Dayantha, J. 248
 Sillers, D. 248
 biological oxygen demand (BOD) 256,
 265, 283(n7)
 Birdsall, N. 20(n1)
 Booth, A. 112
 border 276t, 277t, 278
 borrowers/borrowing 200, 213
 Bourguignon, F., *et al.* (2005) 54–5,
 58, 88
 Robilliard, A. 88
 Robinson, S. 88
 brain effect, *ex ante* 91
 Brazil 284(n19)
 Brenkert, A. L. 174
 broad-based growth 25
 see also pro-poor growth
 Bruno, M., *et al.* (1998) 42(n3), 44
 Ravallion, M. 44
 Squire, L. 44

- budget constraints
 - hard 144, 146
 - soft 144
- Bulacan province 94, 110t
- Burgess, R. 97–8, 101, 101n
- business process outsourcing 9
- Cagayan 110t
- CALABARZON group 95
- calorie intake 132(n4), 165(n6), 179, 180f, 181, 182t, 184
- Camiguin 94, 111t
- Campe, S. 193
- Campos, E. 11
- Can Tho province 71–2t
- Canada 269, 270t
- canals 202, 202f, 203, 204t, 255
- capital 15, 51, 60, 138, 155, 160, 241, 283(n12)
 - access to 229
 - opportunity cost 226
 - returns to 145–6
- capital account openness 91
- capital accumulation 7, 143, 144, 145
- capital expenditure 207
- capital flows
 - cross-province (China) 166(n23)
 - indirect 91
 - short-term 4
- capital formation 137n, 199f, 200
- capital goods 117, 254t
- capital inputs: optimum 166(n21)
- capital intensity 155, 159
- capital markets 117, 238
- capital–labour ratio 15, 144, 166(n19)
 - actual 158, 160
 - endowed 158, 160
 - optimum 155–6, 158, 166(n21)
- CAR (Cordillera Autonomous Region) xvii, 95, 112t
- Caraga 112t
- carbon dioxide (CO₂) emissions 256, 256t, 257f, 258, 258t
- carbon monoxide (CO) 266, 266t
- Case, A. 228–9, 240
- caste 214, 214t, 215, 225
- Catanduanes 94, 110t
- Catholicism 225
 - see also* household head/religion
- Cavite 95, 110t
- Cebu 94, 111t
- census data 12, 52, 54, 57, 63
- Census of Manufacturing Industries (CMI) 265, 284(n23)
- census reports (India) 184
- central government funds 171, 190
- Central Luzon 94, 96, 110t, 113(n4)
- central planning 49
- Central Statistical Organization (India) 184
- Central Visayas 94, 96, 111t
- Centre d'Études Prospectives et d'Informations Internationales* 265
- Centre for International Earth Science Information Network 258
- 'centre of gravity' method 178
- cereal production 16, 193(n12)
 - instability 179, 180f, 182t, 184
- cereals 170, 204t, 204
- Cerioli, A. 176
- certificate of land transfer (CLT) 106, 107
- Chan, K. S. 125
- Chang, G. H. 132(n7)
- Charumilind, C. 21(n11)
- Chattisgarh 193(n10)
- Cheli, B. 176
- Chen, N. 283(n14)
- Chen, S. 26–8, 41, 42(n5, n8), 43(n15), 116, 136, 137n, 140–2, 152, 217(n1)
- Chenery, H. 25
- chi squares 161t, 162t, 214t, 238, 284(n28)
- children 71–3t, 79t, 82–3t, 86t, 179–83, 193(n12)
- China xv, 1, 3, 5, 6–7, 11, 14–16, 21(n12), 47, 97, 284(n19, n31)
 - central regions 121, 123f, 132(n3), 147
 - coast–interior dichotomy 132(n3)
 - coastal regions 10, 119, 121, 147, 155
 - coastal provinces (COAST variable) 161, 161t
 - dual nature of economy 163
 - Eastern regions 123f
 - economic development strategy, trade openness, and rural poverty 135–68
 - economic openness 118–20, 132(n3)
 - export and import structure (1980–2003) 148f

China – *continued*

- FDI 137t
- foreign trade dependency ratio 136, 136t
- foreign trade 120f
- inland provinces 10, 119, 161
- openness and poverty after reform 146–55, 166(n15–18)
- poverty (literature) 140–2, 165(n8–10)
- poverty lines (1981–2001) 137t
- poverty reduction (rural) 121, 122t, 123f, 132(n4)
- provinces 6, 10, 115, 125
- provinces, municipalities, regions 132–3(n8)
- provincial data 144
- regional income disparity 132(n3)
- regional specialization 119
- rural 8, 14
- switch from CAD to CAF strategy 15
- terminology 165(n1)
- trade-dependent ratio 147
- transition era (1978–) 14, 15
- urban 42(n2)
- western regions 15, 121, 123f, 147
- WTO accession (2001) 119, 140, 147
- China factor 21(n10)
- China Rural Statistical Yearbook* 125
- China Statistical Yearbook* 125
- Chinese Nutrition Association 132(n4)
- Chongqing 133(n8), 149–51f, 156–7t, 160, 164t
- Christiaensen, L., *et al.* (2002) 43(n3), 44
- Demery, L. 44
- Paternostro, S. 44
- Cirera, X. 195
- cities 35, 51, 76t, 76n, 80–4t, 87t, 119, 155, 254, 255
- ‘Civil Society’ orientation (Kanbur) 49
- Clarke, D. 193(n9)
- climate 81t, 84t, 171, 172, 174, 184, 192, 193(n4)
- ‘weather’ 209, 240
- closed economy 141–2, 165(n12–13)
- CMIE (Centre for Monitoring Indian Economy) 184, 194
- Coase, R. H. 261
- Cole, M. A. 266, 284(n31)
- collateral 107, 213, 226, 238
- collective farming 39, 146
- colonial era 135, 263, 270, 271t, 273t, 274t, 276t, 277t, 278
- Commission for Agricultural Costs and Prices (CACAP, India) 206, 207
- commodity markets 198
- Commodity Trade Statistics Database (COMTRADE, UN) 265
- Common, M. S. 287
- comparative advantage 9, 15, 24, 118, 143–4, 147, 152, 165(n12)
- capital-intensive products 260–1
- ‘competitive advantage’ 280
- dynamic 19
- regional (China) 119
- comparative advantage defying (CAD) strategy 15, 138, 143–6, 158–9, 165–6(n12–14)
- CAD/CAF switch (China) 147, 152
- comparative advantage following (CAF) strategy 15–16, 138, 143–6, 155–6, 158–9, 161–3, 166(n13–14)
- comparative advantage recycling 6
- comparative static models 59, 61
- competition 146, 252
- imperfect 60
- competitiveness 144
- competitiveness index 190, 191t
- comprehensive agrarian reform programme (CARP) 90, 101, 106, 107
- Comprehensive Statistical Data and Materials on Fifty Years of New China* 125
- computable general equilibrium (CGE) models 51
- macroeconomic 12, 58, 63
- macroeconomic (Vietnam) 12
- micro-simulation 12, 48–9, 54, 55, 70, 71
- multi-sector 49
- standard 55
- trade liberalization (Turkey) 48
- confidence intervals 125, 127f, 130, 131–2
- constant baseline hazard 242
- construction 60, 62t, 153f, 154t, 257f
- consumer price index (CPI) 35, 61t, 69, 93
- ‘cost-of-living’ 35, 113(n3)

- consumers 19, 262
 consumption 24, 29, 30, 33, 35,
 43(n10), 50, 93, 121, 121t,
 141, 165(n8), 172–5, 181, 204,
 254t
 heterogeneity 87(n3)
 nominal 87(n3)
 real 60, 61t, 87(n3)
 consumption density function 93
 consumption expenditure 174,
 192(n1)
 consumption poverty 52, 63, 65f
 contract system (China) 146
 Cordillera Autonomous Region (CAR)
 xvii, 95, 112t
 Cornia, G. A. 7
 cotton 17, 197, 199, 201, 204–6
 costs and returns (Warangal district,
 1996–8) 208t
 new variety 228
 price elasticity of supply 205,
 217(n10)
 prices, market supply, market revenue
 (Telangana) 209f
 probability of growing 215,
 218(n23)
 ‘requires greater technical
 expertise’ 216
 susceptibility to pest attack 212
 working capital requirement
 206–7
 Cotton Corporation of India
 (CCI) 206
 cotton growers 198
 debt burden 213–15, 218(n18–23)
 cotton prices 205, 205f, 207–9, 216
 cotton liberalization 205–6,
 217(n10–11)
 cotton yield 206
 Cox, D. 102, 104
 Cox, D. R. 236
 partial likelihood method 236,
 248(n7)
 credit 17, 206, 212, 225–6, 228
 access xiv, 196, 210, 223, 229
 agricultural 198
 formal sources 210
 informal sources 107, 210
 institutional 216
 subsidized 215
 credit availability 14
 determinant of investment in
 emigration (Philippines) 106
 credit constraints as barrier to
 technology adoption by poor:
 lessons from South Indian
 small-scale fisheries 18, 221–49
 assumptions 230, 232, 235, 236, 242,
 244, 245
 causality 222
 channels 229–30, 240, 247
 context 235
 descriptive statistics 227t
 empiricism 222, 229, 231, 237
 equations 230–4, 236, 240, 242
 estimation 231–41, 248(n4–8)
 further research 247–8
 globalization and South India’s fishing
 sector 222–4, 248(n1)
 individual wealth and technology
 adoption: theory 230–1
 literature 222, 227–30
 policy implications 229, 242
 simulation 242–7
 statistical in/significance 238, 241
 study village 225–7, 248(n2–3)
 technology adoption in low-income
 countries’ primary sectors
 227–30
 technology switching: determining
 the timing of adoption 235–9,
 248(n7–8)
 technology switching: estimating
 income change from adoption
 231–5, 248(n4–6)
 technology switching: role of wealth
 240–1
 credit squeeze 200–1
 crisp inputs 185
 crop insurance 175
 crop yields 174, 193(n4), 201–2, 206–9,
 222, 228–9
 cropping patterns 202–4, 206
 cross-country data 117, 144
 cross-country regressions 25, 47,
 165(n10), 281
 cross-country studies 2, 24, 135
 currency convertibility 199
 currency depreciation 104
 customs duties 254

- Da Nang province 81t
- Dac Lac province 79t
- data deficiencies 48, 53, 58, 116, 118, 132(n6), 133(n8), 160, 179, 193(n6), 200, 213, 218(n20), 227, 235n, 236, 237n, 241, 251, 255, 263, 264, 268, 269, 272, 279, 281, 284(n21–3, n26, n29)
- databases 25, 93, 281
- datasets 25, 42(n1), 51, 52, 54, 112, 117, 118, 160
- Datt, G. 43(n14), 94, 101, 195
- Davao 94, 111t
- Dayantha, J. 248
- Deardorff, A. V. 262, 283(n13)
- death 107
water-borne diseases (Pakistan) 256, 283(n8)
- Deaton, A. 20(n3)
- debt 146, 248(n2)
- debt burden 216
cotton farmers versus other farmers 213–15, 218(n18–23)
definition 213
- debt trap 17
path from market participation 206–13, 217–18(n12–17)
- debt-to-assets ratio 213, 218(n20)
- debt-to-income ratio 213, 215
- decomposition analysis 9
- decreasing absolute risk aversion (DARA) 240–1
- de-fuzzification 176, 178, 179f
- Deiningner, K. 25
- demand 59, 165(n12)
- Demery, L. 44
- demographic groups 173
- demographic index 16
demographic sensitivity index 16, 180f, 181, 182t, 188f, 189
- Denmark: Royal Ministry of Foreign Affairs xiii
- dependent variable estimation technique 272
- deprivation 29, 30, 43(n10)
- Dercon, S. 172
- developed countries (DCs) xiii, 140, 144, 159, 165(n7), 170, 260, 280
‘OECD countries’ 1, 19, 268–70, 272, 281, 282t
- developing countries xiii, xv, 1–4, 6, 7, 13, 19, 54, 60, 61, 71, 91, 115, 118, 119, 135, 138, 139, 142, 159, 163, 165(n7), 169–71, 190, 198, 227, 251, 259, 264, 280, 281, 284(n19, n31)
‘least-developed countries’ (LDCs) 143–6
‘low-income countries’ 12, 16, 18, 196, 217(n2), 248, 258, 259f
‘poor countries’ 250
‘poorer countries’ 20(n1)
- development
most important goal 24
rural–urban disparity 8
- development economics xvi, 25, 143
- development finance 6
- development strategies 15, 19, 139, 165(n13), 166(n14, n22)
and growth 143–4
income distribution and poverty 145–6, 166(n14)
and openness 144–5, 165(n13)
proxies 155–6, 158–9, 166(n19–21)
- disaster management 171–2
- disinflation 3, 115
- distance (geographical) 72–3t, 76t, 80–4t, 86–7t, 263, 270, 271t, 273t, 274t, 276t, 277t
- Dixon, R. K. 279
- Docquier, F. 113
- Doha Special and Differential Treatment (DSDT) 12–13, 60, 62t, 63, 65, 68f, 69–70, 72–6t, 78–87t
policy context 87(n6)
- Doi Moi* (Renovation) 39, 49
- Dollar, D. 10, 25, 47, 115, 142, 217(n1)
- Dong Nai province 72t, 79t, 81t, 83t
- Dong Thap province 75t, 78t
- double threshold model 133(n10)
- drain effect 91
- drought 94, 203
- Ducanes, J. 112
- dynamic gains from trade 60
- East Asia 3–6, 8–11, 19, 97, 101, 101t, 135, 145
- East Asian Miracle* 4
critical evaluation 20(n7)

- East Laguna (Philippines) 9
- Easterly, W. 139
- Eastern Europe and Central Asia 101t
- Eastern Samar 95, 111t
- Eastern Visayas 95, 111t
- 'ecological poverty' 19, 250, 283(n2)
- econometrics xiv, xvi, 16, 102, 124, 142, 159, 166(n22, n24), 196, 233
- economic capability index 16, 179, 180f, 182t, 183, 188f
- economic development 139, 141, 251
- degree 117
- long-run 250
- stages 6, 7, 40, 166(n20)
- economic development strategy, openness, and rural poverty 15–16, 135–68
- assumptions 158
- case studies 135, 136
- causality 165(n10), 166(n22)
- dataset for technology choice index (TCI, 1984–99) 164t
- development strategy and growth 143–4
- development strategy, income distribution, and poverty 145–6, 166(n14)
- development strategy and openness 144–5, 165(n13)
- econometric results 161–3
- empiricism 135, 138, 139–42, 163, 159, 166(n14)
- equations 156, 158–9
- framework 142–6, 165–6(n11–14)
- further research 163, 166(n22)
- hypothesis testing 155–6, 158–63, 166(n19–24)
- literature 139–42, 165(n8–10, n13), 165(n12)
- methodology 165(n10)
- openness and poverty in China after reform 146–55, 156–7t, 166(n15–18)
- opposing views 139
- policy implications 139
- policy responses 135
- proxies for openness and development strategy 155–6, 158–9, 166(n19–21)
- specification of functional form 159–60, 166(n22)
- theory 139–42, 163, 165(n12)
- variables and data 160–1, 166(n23–4)
- economic efficiency
- constrained versus unconstrained 237
- economic growth 3, 5–9, 11, 12, 24, 25, 30, 35, 36, 37, 40, 42(n1, 7), 50, 90–1, 98, 101, 112(n1), 116, 117, 119, 121, 126, 128, 130, 139, 142, 146, 165(n13), 196, 199, 254
- accelerated 18
- composition effect on environment 18, 19, 260, 261, 280
- development strategy and 143–4
- dis-equalizing force 21(n9)
- 'distribution-corrected' rate (Ravallion) 7
- 'good for poor' 47
- market-driven 6
- pattern 7
- 'pollute now, clean up later' approach 251, 278
- poverty-reduction relationship 42(n2)
- regional 95
- scale effect on environment 260, 261, 280
- short-run 250
- 'strongly pro-poor', 'anti-poor', 'strongly anti-poor' 27
- sustainability 159
- technological effect on environment 260, 261
- see also* pro-poor growth
- economic reform (China, 1978–) 121, 146–55, 166(n15–18)
- economic reform (India, 1991–) 170, 197, 212, 215, 216
- before and after 8, 16, 169, 184, 185, 187t, 188f, 189, 191t, 192
- macroeconomic scenario 198–201, 217(n5–6)
- economic theory 49
- economics 139, 172, 176
- economies of scale 60, 223
- economists 47
- frustration 142

- Ederington, J. 263
 Ederington, J., *et al.* (2003) 263, 285
 Levinson, A. 285
 Minier, J. 285
 education 7, 10, 11, 20, 91, 107, 109,
 113(n7), 136, 172
 higher 145
 see also household head; households
 educational expenditure: ratio to total
 public expenditure (EE) 176–9,
 180f, 182t, 183
 Edwards, S. 117
 effluents 259, 279, 283(n10)
 Eichengreen, B. 283(n14)
El Niño 94, 104
 Elbers, C., *et al.* (2002) 54, 88
 Lanjouw, J. O. 88
 Lanjouw, P. 88
 Elbers, C., *et al.* (2003) 54, 57, 88
 Lanjouw, J. O. 88
 Lanjouw, P. 88
 elderly people 71t, 77t
 electricity 77t, 80t, 83t, 85t, 92, 257f
 emancipation patent (EP) 106
 embodied environmental factor services
 (EEFS) 268–70
 emigration 13, 91, 109
 investment in 14
 impact on poverty reduction
 (household-level estimates)
 102–6
 impact on poverty reduction
 (provincial-level estimates)
 97–102, 113(n5)
 poverty and international trade
 (Philippines) 95–106,
 113(n5–6)
 emissions 255, 259, 260, 266, 278, 279,
 281, 283(n10–11), 285(n32)
 employment 11, 39, 49–50, 51, 138,
 141, 154n, 279, 280
 agricultural 170
 non-farm 9, 14
 professional 96, 96f
 rural 160
 employment opportunities 9, 15, 24,
 145, 155, 159, 162
 employment status 52, 57, 59
 equations (Vietnam) 71, 79–87t
 employment structure 8, 136
 endogenous threshold regression
 techniques 14, 15, 115–16, 118,
 128
 energy xv, xvi, 119, 256, 257f,
 285(n32)
 environment xiv, 18, 19, 152, 248
 absorptive capacity 255
 trade liberalization and poverty
 250–87
 Environment Protection Agency
 (Pakistan) 256, 282t, 283(n9),
 284(n27)
 environmental damage/degradation
 18, 215, 250, 251 255, 280,
 284(n31)
 environmental Kuznets curve 284(n31)
 environmental policy
 effective 19
 gaps ‘must be filled’ (Pakistan) 281
 environmental protection agencies
 (EPAs) 259, 283(n9)
 environmental regulation 250, 252,
 261, 268, 283(n12), 284(n19)
 enforcement 259, 280
 laxity/stringency 18, 272, 275, 278,
 281, 284(n30)
 relevance to trade 272–8,
 284(n29–30)
 environmental resources 283(n1)
 Environmental Sustainability Index (ESI)
 258, 259f, 275
 Environmental System (‘SYSTEM’) 275,
 276t, 278, 284(n30)
 Epprecht, M. 87, 89
 equity (fairness) 24, 139, 159, 166(n22)
 ‘inequity’ 141
 equity markets 147
 error terms 56, 57, 58, 98, 232, 264
 Estrada Administration (1998–2001) 90
 Estudillo, J. P. xiv, 13–14, 101n
 Estudillo, J. P., *et al.* (2005) 113(n4), 114
 Otsuka, K. 114
 Sawada, Y. 114
 ethnicity 75–7t, 85t
 Europe 270t, 270
Everyone’s Miracle 4
 Evinrude 224
 exchange rate 137t
 over-valued 145, 198
 ‘over-valued currency’ 143

- exogenous sample-splitting approach
121, 124
- expenditure indicator 193(n11)
- expenditure-switching policies 132(n2)
- export base: diversification (Pakistan)
254
- export markets 17, 197
- export processing zones (EPZs) 96
- export promotion 165(n13)
- export subsidies 12, 50, 60
- export–import dependent ratio 15,
155, 159–61, 162t
- exports 6, 49–50, 61t, 95, 117, 124,
136t, 139, 144–5, 147, 162, 252,
254, 254t, 261–5, 268–272, 275,
278, 284(n28)
- China 119, 120f
- China's share of world total 119
- composition (Pakistan) 281
- location of origin in China 150f
- pollution intensity 270, 271t
- provincial China 155
- regional 98
- 'extended entitlements' 173
- extension services 11, 17, 20, 215
- externalities/informational 228–9
- factor content of trade 268–70, 281,
283(n12), 284(n24–6)
- factor endowment 165(n12), 260–1
- factors of production 51, 261, 262,
283(n1)
- family 38, 40, 104, 107, 146, 223, 226,
227t, 238
- Family Income and Expenditure Surveys
(FIES) 13, 35, 94, 98
- family planning 279
- farm size 197, 201t, 217(n7), 229
- farmers 32, 61, 171, 175, 218(n15),
228–9, 235
- incomes 142
- small and marginal 17, 197, 202,
212, 215–16
- small and marginal: definition 203
see also resource-poor farmers
- Feder, G. 228
- Feder, G., *et al.* (1985) 227, 248
- Just, R. E. 248
- Zilberman, D. 248
- Ferreira, F. 21
- fertilizers 17, 113(n7), 197, 198, 200,
207, 208t, 222, 268f, 275, 277n,
282t
- fibre-reinforced plastic (FRP) boats 18,
221, 222, 224–8, 230–5, 235f, 237,
240–1, 247–8, 248(n3)
- FRP dealership 225
- FRP financing 225, 226
- Fields, G. S. 25
- 'Finance Ministry' orientation
(Kanbur) 49
- financial markets 3, 91, 147, 217(n2)
liberalization 252
- Finland *i*, 258, 259f
- Finland: Ministry of Foreign Affairs *xiii*
- firms 15, 143, 144, 146, 252, 255, 261,
285(n32)
- non-viable 138
- small-scale, unregistered 284(n23)
- first-order Taylor expansion 158
- fiscal discipline 17
- fiscal instruments 70
- fish auctioneers 225–6, 227, 230, 231,
241
- fish price fluctuations 231–2
- fisheries/fishing 255f, 279
- adverse effect of pollution (Pakistan)
256
- credit constraints as barrier to
technology adoption (India) 18,
221–49
- 'high-frequency activity' 234
- small-scale 248(n1)
- five-year plans (China) 119
- fixed assets 137t, 147, 160, 166(n23)
- fixed effects 107, 108t, 232, 234, 264,
270, 271t, 273t, 274t, 277n,
284(n17, n28)
- flying geese paradigm 5–6, 19
- food 61, 104, 181, 222, 255f, 267t
- food security/self-sufficiency 50,
170–3, 198
- foreign direct investment (FDI) 3, 4,
13, 91, 118, 119, 132(n3), 136, 137t,
147, 166(n23), 190, 191t, 197
- China (1984–2002) 120f
- 'foreign investment' 10
- pro-trade 6
- regional distribution (China) 149f
- foreign exchange 279

- forests/forestry 73t, 77t, 84t, 255f
 'deforestation' 255
- Foster, A. 228, 240
- Foster, J., *et al.* (1984) 57, 88
- Greer, J. 88
- Thorbecke, E. 88
- Foster-Greer-Thorbecke (FGT) poverty index xvi, 26, 30, 57, 93, 102
- free port service commerce dominated model 20(n7)
- free trade 18
- Friedman, J. 133
- fruit 140, 204
- Fujian 119, 149–51f, 156–7t, 164t
- Fujii, T. xiv, 12–13, 87
- Fujita, M. 112
- Fukase, E. 49
- Full Liberalization (FL) scenario 12–13, 60–3, 65, 67f, 69–70, 72–6t, 78–87t
- Fuwa, N. 101
- fuzzification 176, 177
- fuzzy inference system (FIS) 176–9, 185, 193(n8–9)
- fuzzy inputs 185
- fuzzy models
 vulnerability of Indian states to globalization 16, 169–95
- fuzzy set theory 169
 definition 193(n8)
- Gamper-Rabindran, S. 261, 263
- Gangopadhyay, S. 218(n17)
- Gansu 149–51f, 156–7t, 164t
- Gawadar 279
- Gayathri, V. 49
- geographical targeting 13, 48
- geographical variables 51
- geography 119, 173, 174, 179, 193(n5–6)
 distribution of rural poor (China) 121, 123f
- Ghosh, J. 218(n16)
- Giné, X. xiv, 18, 222, 248(n2)
- Gini index 1, 6–7, 38, 44(n16–17), 132(n6), 182t, 183, 184, 243–5, 247f
- Girma, S. 133
- Girma, S., *et al.* (2003) 117–18, 133
 Henry, M. 133
 Kneller, R. 113
 Milner, C. 133
- Glewwe, P., *et al.* (2002) 50, 88
- Gragnotati, M. 88
- Zaman, H. 88
- globalization 24, 26, 155, 221, 247
 definition 2, 90–1, 135
 environmental impacts 18
 fuzzy models (Indian states) 169–95
 growth effect 3
 hypothesis 91
 impact (India) 16
 'inequality-increasing' effect 11
 inverted J-curve effect on poverty 117
 inverted U-curve relationship with poverty 117, 139
 margins versus frontiers (resource-poor farmers, South India) 196–220
 non-linear relationship with poverty 117, 118, 121, 128, 125, 222
 output effect 117
 paradoxes 197
 possible non-linear relationship with poverty 115–16
 pro-poor strategy 2, 20(n5)
 relative wage effect 117
 risks and costs 1, 20(n1)
 trade, migration, and poverty reduction (Philippines) 90–114
 winners and losers 2, 12, 20(n4), 48, 115, 171
- globalization index 15, 124–31
 squared term 118
- globalization and poverty in Asia:
 sustaining shared growth 1–23
 background debate in
 globalization–poverty nexus 1–3, 20(n1–6)
 case studies 11–12, 16, 18, 19
 causality 3
 channels 2, 3, 11, 13
 concepts 2, 20(n2)
 context 11, 19
 'critical question' 7
 empiricism 1, 2, 8
 globalization and poverty in Asia 3–12, 20–1(n7–13)
 historical trends 20(n2)
 literature 20(n2), 21(n11)
 methodology 2–3
 theory 2, 7

- globalization–poverty nexus 1–3, 11, 12, 16–17, 20(n1–6), 132(n1)
- globalization–poverty nexus (China):
 threshold estimation 14–15, 115–34
- channels 115
- China's global integration and
 poverty reduction 118–21, 122t, 123f, 132(n3–4)
- data 124, 132–3(n8)
- economic openness (China) 118–20, 132(n3)
- empiricism 115, 117–18, 124, 126, 130
- equations 124, 130–2
- estimation results 125–8, 133(n9)
- literature 115–16, 116–18, 121, 128, 132(n1–2, n6–7)
- modelling threshold effects 121, 124–5, 132(n5–7)
- policy implications 130
- poverty reduction (rural China) 121, 122t, 123f, 132(n4)
- regression results 126, 127t
- statistical significance 124, 125, 130, 131
- threshold effects and non-linearities 116–18, 132(n1–2)
- threshold estimations 121, 124–8, 129t, 132–3(n5–9)
- threshold regression techniques 130–2, 133(n10)
- Gomane, K., *et al.* (2003) 124, 133
- Girma, S. 133
- Morrissey, O. 133
- governance 17, 190, 278
- Government of Andhra Pradesh (GoAP) 217(n12)
- Government of India (GoI) 184, 191n
- Government of Japan: Millennium
 PHRD Grant 87
- Government of Pakistan 285–6
- government revenue 47, 50
- governments 95, 119, 128, 139, 140, 143, 144, 147, 165(n12), 200, 206, 254, 259, 275, 279, 280, 283(n10)
- choice of right mixture of policies 48
- legitimacy 11
- provincial China 159
- Gragnotati, M. 88
- grain 9, 106, 170, 197
- gravity model 262–3, 270
- green revolution xiv
- India 228, 229
- 'may immiserize the poor' 32
- Greer, J. 88
- gross domestic product (GDP) 8, 39, 61t, 95, 144, 147, 201, 254–6
- agricultural 179, 180f, 181, 182t
- growth 5, 101, 136, 165(n2), 215, 253t, 255
- per capita 4, 5, 7, 101
- real 60, 101
- gross regional domestic product (GRDP) 98
- Grossman, G. M. 260, 261, 263
- groundnuts 204, 206, 207, 208t
- GTAP (Global Trade Analysis Project) 59–60, 140
- Guangdong 119, 147, 149–51f, 155, 156–7t, 164t, 166(n18)
- Guangxi 149–51f, 156–7t, 164t
- Guizhou, 149–51f, 155, 156–7t, 164t
- Gujarat 179, 185, 187t, 188f, 189, 191t
- Gulati, A., 170, 217(n5, n10)
- Gulf of Bengal 225
- Gumbel distribution 56, 57, 58
- Ha Nam province 78t
- Ha Noi province 72t, 75t
- Ha Tay province, 74t
- Ha Tinh province 77t, 83t
- Hai Duong province 72t, 74t 77t
- Hai Phong province 75t, 76t, 78t, 81t
- Hainan 119, 133(n8), 149–51f, 156–7t, 160, 164t
- Handbook of Economic Growth* 142
- Hansen, B. E. 118, 121, 124–5, 132(n5), 133(n10)
- threshold regression model 124, 130–2
- Harberger, A. C. 142
- Harrison, A. 91, 217(n3)
- Harrison, G. W., *et al.* (2003) 48, 88
- Rutherford, T. F. 88
- Tarr, D. G. 88
- Haryana 179, 185, 187t, 188f, 189, 191t, 207
- Hausman test 284(n28)

- Hayami, Y. 14, 112, 217
hazard, individual 236
health 7, 11, 19, 20, 141, 172,
193(n11), 264, 278–9
 life-cycle measure 181, 182t
health expenditure: share in total
 expenditure 179–83
health and safety 254
health sensitivity index 16, 180f, **181**,
182t, **183**, 188f, 189
heavy industry 143
heavy metals 256
Hebei 149–51f, 156–7t, 164t
Heckman two-step procedure 104
Heckscher–Ohlin (HO) model 261
Heckscher–Ohlin–Vanek (HOV) model
261, 263, 283(n12)
hegemon-led growth model (flying geese
 paradigm) 6
Heil, M. T. 261
Heilongjiang 149–51f, 156–7t, 164t
Henan 149–51f, 156–7t, 164t
Heng, M. T. 49
Henry, M. 133
Hertel, T. W. 54, 87(n6), 132(n1)
Hertel, T. W., *et al.* (2001) 115, 133
 Preckel, P. V. 133
 Reimer, J. J. 133
Hertel, T., *et al.* (2004) 140, 167
 Wang, Z. 167
 Zhai, F. 167
Hertel–Keeney medium-run closure 60
heteroscedasticity 127t, 129t, 161
Hettige, H. 286
higher-order threshold models
133(n10)
High-Performing Asian Economies 6,
20(n7)
high-yield varieties (HYVs) 228, 229
Himachal Pradesh 179, 185, 187t, 188f,
189, 191t
Hindu, The 218(n16)
Hindu rate of growth 8
Hinkel, J. 194
Hirschman, A. 21(n9)
Hisami, Y. 9–10
Ho Chi Minh City 72–3t, 74t, 81t, 83t
Hoa Binh province 78t
home ownership 73t, 84–5t
Hong Kong 5, 20(n7), 96, 143, 165(n1)
Hoogeveen, H. 94, 101
house value 227t, 238, 239t, 242, 244,
245f, 246, 247f, 248(n8)
household asset holdings 51
household characteristics 51, 56,
113(n3)
household composition 33, 35, 65
household dependants 73t, 75–6t, 78t,
80t, 83t, 86t
household expenditure 35
 non-food 92
household head 248(n3)
 age 72t, 74–7t, 80–6t, 227t, 238,
239t, 248(n8)
 age squared 71t, 83–5t, 238, 239t,
248(n8)
 educational attainment 71–3t,
75–80t, 82–5t, 214, 214t, 215, 229
 experience 238, 239
 literacy 227t, 238, 239t
 marital status 71t, 74–5t, 77t, 80t,
82–3t, 85–6t
 number of crew members employed
238
 religion 73t, 75–6t, 79t, 82–3t, 85–6t
 sex 71t, 214, 214t, 215
 spouse of 71–2t, 79–82t, 84–6t
 years as boat owner 227t, 238, 239t
household heterogeneity 13, 48, 55, 65
household income 43(n10), 51, 63, 95,
239t
 annual per capita growth rate 98
 decomposition 98
 distribution 104
 domestic transfers 14
 inequality 106
 inter-provincial standard deviation
13, 98
 non-farm 140
 non-transfer 98
 non-wage 52, 55, 58, 59
 per capita 55–7, 102
 remittances from overseas 14
 rural 5, 124, 126, 127t, 128
 transfers 98, 108t
 wage 56, 58
household responsibility system
 (China) 146
household size 35, 52, 56, 75t, 83t, 86t,
93, 214, 214t, 227t, 238, 239t

- household surveys 12, 17, 18, 29, 35,
54, 57, 213, 221, 225, 227
'household data' 91, 95, 97, 99t, 109
- households 19, 47, 63, 93, 109, 173,
193(n5), 217(n13), 230, 244, 245-6,
248(n3)
asset poor 238
coping mechanisms 40
educational attainment 71-3t, 76-86t
impact of external openness and
emigrants on poverty reduction
102-6
landless 14
non-poor 104, 105, 106
peasant 39
possession of radio 74t, 77t, 80t
possession of television set 77-8t,
85t
rural 140, 210
unit of analysis 172
wealthier 229
- housing 51, 75-80t, 82-6t, 113(n7)
- Huang, J. 166-7
- Hubei 149-51f, 156-7t, 164t
- Hulme, D. 193(n9)
- human capability (HC) 176-8, 179f
- human capability index 16, 178, 179,
180f, 182t, 183, 188f
- human capital 117, 119, 183, 196
life-cycle measure 181, 182t
- human development 90
- Human Development Index (HDI) 16,
190, 191t, 192, 193(n13)
- humidity 71t, 76t, 82t, 84t
- Hunan 149-51f, 156-7t, 164t
- Hyderabad district (Telangana)
217(n9)
- Ianchovichina, E. 167
- Ifugao 95, 112t
- illness 142
- Ilocos 94, 110t
- IMF xv, 198, 199
- immiserizing growth (Bhagwati) 28,
31, 32, 43(n9)
- import liberalization 61
- import restrictions 199
- import substitution 143, 144-5, 146,
165(n13), 198, 252
- import tariffs 12, 50, 60, 252
- imports 50, 61t, 117, 124, 136t, 139,
144, 147, 254t, 261-4, 265, 269,
269f, 284(n28)
China 119, 120f
destination in China 151f
negative list (Pakistan) 254, 283(n4)
pollution intensity 272, 273t, 274t,
281
provincial China 155
- incidence index 180f, 182t, 184-5,
188f
- income 29, 30, 35, 52, 141, 165(n8),
270, 271t, 273t, 274t
agricultural 213
disaggregation 13
initial 65, 139
mean 32, 33, 34
mean (actual and simulated) 242,
243f, 243, 244f
non-transfer 13-14, 99t, 100t, 103t,
105t, 109
non-wage 55, 63, 71, 77-9t
standard deviation 113(n6)
transfer 13-14, 99t, 100t
- income change 237
expectation 239
- income deciles 108t, 108
- income distribution 1, 2, 4, 7, 19,
43(n6-8), 50, 124, 126, 127t, 129t,
138, 139, 142, 145-6,
166(n14, n22)
- income dynamics 18, 247
- income growth 10, 34, 97, 143, 251
- income inequality/disparity 2, 4, 6-7,
8, 16, 32, 101, 138, 146, 174, 223,
242, 243
global trends 21(n9)
urban-rural 124, 132(n6-7)
- income per capita 10, 19, 25, 42(n2),
141, 142, 179, 183, 193(n13), 250-1,
275, 284(n31)
average real 49
real 265
- income poverty 53, 63, 65f,
173, 239
- income quintiles 43(n8)
- income redistribution 24, 101
- income shares of poor 21(n12)
- income transfers 102, 104
- income volatility 209

- incremental labour–output ratio 152, 154t
 indebtedness 17, 18, 212, 213, 215, 226
 index of pro-poor growth 28
 India 3, 5, 9, 16–18, 20(n8), 47, 145, 259f, 284(n31)
 credit constraints as barrier to
 technology adoption 221–49
 ‘decomposition’ study 8
 federal government 224
 post-independence economic policy 198
 pre- and post-reform periods 8, 16, 169, 184, 185, 187t, 188f, 189, 191t, 192
 resource-poor farmers 196–220
 Indian states 6, 8, 16
 governments 197, 212, 224
 vulnerability to globalization (fuzzy models) 169–95
 indicator-based approach 173, 192
 individual characteristics 56, 59, 65, 229
 individual effects 130–1
 individual wealth
 technology adoption (theory) 230–1
 individuals 93, 184
 Indonesia 5, 6, 8, 20(n7), 43(n2), 55
 industrial activity 264
 industrial chemicals 267t, 275, 276t, 282t
 industrial development 280
 industrial extension activities 9–10
 industrial pollution intensities index 252
 Industrial Pollution Projection System (IPPS, World Bank) 264, 265, 266
 industrial sector/s 255, 265, 285(n32)
 industrialization 9, 11, 163
 industry/industries 15, 61, 141, 153f, 271t, 273t, 274t
 capital intensive 138, 145–6
 labour-intensive 16, 155, 159, 163
 pollution-intensive 268, 282t
 inequality xvi, 1, 3, 6, 8, 10, 13, 18, 24–5, 32, 36, 38, 61, 221, 222, 243, 244
 ‘between country’ versus ‘within country’ 21(n10)
 dynamics 18, 245, 247
 interpersonal 6
 inverted-U shape 243, 245, 246, 247
 non-income 7
 relative 27
 rural 197
 ‘tends to increase poverty’ 101
 vertical and horizontal 2
 within-country 6
 world 20(n2)
 inequality measures 21(n10), 50
 index 179, 180f, 182t
 spatial disaggregation 54
 infant mortality 193(n13)
 inflation 39, 199
 informal sector 192
 information 3, 18, 48, 55, 115, 212, 232–3, 250
 information access 227
 information campaigns 229
 information spillovers
 non-monotonicity 229
 information technology 9, 17
 infrastructure 11, 95, 102, 140, 160, 169, 170–1, 181, 190
 physical and social 10
 rural 17, 200
 infrastructure capability index 179, 180, 182t, 183–4, 188f
 infrastructure development index 16, 180f, 181, 182t, 183, 193(n12)
 infrastructure services 9
 infrastructure variables 218(n22)
 Inner Mongolia 149–51f, 155, 156–7t, 164t
 input costs 18, 215
 input requirements 269
 input structure 165(n12)
 input–output 144, 186t, 212, 285(n32)
 agricultural 200
 input–output coefficient matrix 262, 283(n13)
 input–output tables 269, 284(n26)
 inputs 198, 200, 217(n5), 275
 availability 229
 exogenous 173, 174
 intermediate 162
 institutions 3, 6, 10, 11, 101, 135, 146, 169, 170–1, 181, 259, 279
 insurance 176, 217(n13), 228, 241
 integration into global economy 3, 11, 12, 13, 15, 16, 17–18, 47, 118, 130, 147, 169, 170
 interaction terms 263, 272

- interest charges 210, 211t, 225–6
interest rates 143, 147, 213, 231
Intergovernmental Panel on Climate Change 173
interim poverty reduction strategy paper (I-PRSP) 279
International Standard Industrial Classification (ISIC) 255f, 265, 270
interviews 35, 225, 226, 227n, 231, 236, 242
investment 39, 91, 138, 202, 230, 166(n23), 193(n12), 217(n2), 250
 private 102
 pro-poor 198
 public 9, 17
investors 17, 190, 197
Ionescu, C., *et al.* (2005) 173–4, 194
 Hinkel, J. 194
 Kavi Kumar, K. S. 194
 Klein, R. 194
 Klein, R. J. T. 194
IPPS database 281
iron and steel 267t, 275, 277t, 278, 282t
irrigation 16, 175, 198, 200–7, 208t, 210, 217(n10)
 double-cropping 9
irrigation access 214, 214t, 216
Irwin, D. 283(n14)
Islamabad 256
- Jaffe, A. B., *et al.* (1995) 261, 286
 Peterson, S. R. 286
 Portney, P. R. 286
 Stavins, R. N. 286
Jain, J. 217
Janvry, A. de 87
Japan xiv, xvi, 5, 13, 20(n7), 96, 97, 113(n6), 143, 270t, 270
Japan International Cooperation Agency (JICA) 112, 165, 192, 256
Jenkins, R. 49–50
Jensen, H. T. 50
Jha, S. 261, 263
Jharkhand 193(n10)
Jiangxi 149–51f, 155, 156–7t, 164t
Jilin 149–51f, 156–7t, 164t
Jimenez, E. 102, 104
job placement fees 106, 107
jobless growth 8
Johannesburg: UNU-WIDER regional conference 3
- joint ventures 147
Jorgensen, S. L. 194
journals xiv–xv
Just, R. E. 248
Justino, P. 50
- Kakwani, N. xiv, 12, 16, 24, 26, 28, 34, 43(n11, 13–14), 44
Kakwani, N., *et al.* (2004) 43(n12), 44
 Khandker, S. 44
 Son, H. 44
Kalinga 95, 112t
Kanbur, R. 49
Kanbur, S. M. R. 25
Kapit-Bisig Laban sa Kahirapan (KALAHI) 90
Kar, S. 192
Karachi 256, 279
Karimnagar district (Telangana) 217(n9)
Karnataka 179, 185, 187t, 188f, 189, 191t
Kasur 280
Kasur tannery case 283(n8)
kattumaram 223–7, 230–5, 235f, 237, 239, 240–1
Kavi Kumar, K. S. xv, 16, 18, 187n, 191n, 193, 194
Kelley, T. 170, 217(n10)
Kerala 179, 185, 187t, 188f, 189, 190, 191t, 223, 225, 226
Khammam district (Telangana) 217(n9)
Khan, S. R. 283(n5)
Khandker, S. 44
khariif (rainy) season 203, 204t
Kien Giang province, 74t, 79t
Klasen, S. 42(n8)
Klein, R. 194
Klein, R. J. T. 193, 194
Klonner, S. xiv–xv, 18, 248(n2)
Kneller, R. 113
Knight, J. 141
knowledge skills 6
Knudsen, A. J. 279
Korangi 280
Korea, Republic of 5, 12, 20(n7) 35, 37, 38, 39, 40, 54, 97, 143
 PEGR 36–7, 44(n16)
Korea: National Statistical Office 35
Korean Institute for Health and Social Affairs (KIHASA) 35

- Kraay, A. 10, 25, 43(n14), 47, 115, 142, 217(n1)
- Kravis, I. B. 25
- Krueger, A. B. 260, 261, 263
- Krueger, A. O. 47, 112(n1)
- Kumar, A. G. 195
- Kumar, P. 219
- Kurosaki, T. 112, 192
- Kuznets' inverted U-shaped curve 18, 25, 221, 247
- labour 25, 51, 60, 61, 91, 138, 143, 145, 146, 208t, 283(n12)
- agricultural 170
 - casual 171
 - non-family 226
 - rural 155
 - skilled 117
 - unskilled 6, 15, 117, 170
- labour contracts 226
- labour force 8
- adaptability 182t
 - informal sector 192
 - non-farm sector (rural areas) 192
- labour inputs 166(n19)
- optimum 166(n21)
- labour market xvi, 224, 229, 240
- labour mobility 140, 160, 166(n23)
- labour productivity 9, 152, 166(n15)
- agricultural sector (China, 1978–2002) 153f
 - non-agricultural versus agricultural sectors (China, 1978–2002) 153f
- labour segments 52, 55, 58, 63
- labour supply 55, 56
- labourer-fishermen 225, 226
- Laffer-type relationship 118
- Laguna 95, 110t
- Lahore 256t
- Lam Dong province 77t, 79t
- Lancaster, G. 184
- land 60, 61, 71t, 73t, 77t, 80t, 86t, 113(n7), 142, 145, 155, 196, 240, 279
- land area 84t, 263, 265, 270, 271t, 273t, 274t, 276t, 277t
- Land Bank of Philippines 106
- land ownership 106, 203, 214–15, 217(n7), 218(n23)
- land pawning 14, 106–7, 109
- land redistribution 39
- land reform 9, 12, 14, 40, 90, 99t, 101–2, 106–9, 113(n6)
- credit–emigration–transfer nexus 106–8, 109
- land registers 210
- land tenure 9, 11, 20
- Landes, R. 217(n5)
- landlessness 9, 14, 107, 201–2, 210
- landlocked status 263, 270, 271t, 273t, 274t, 275, 276t, 277t
- landlords 106
- language 263, 270, 271t, 273t, 274t, 276t, 277t, 278
- Lanjouw, J. O. 88
- Lanjouw, P. 87, 88
- Laos–Vietnam border areas 69
- Latin America 20(n6), 101t, 145, 196
- law and order 254
- Le, T. H. 50
- learning
- individual versus social 228, 232–3, 233t
 - social 229
- learning-by-doing 232–4, 248(n6)
- leasehold tenancy 9, 107
- least squares 125, 131
- leather 255f, 267t, 280, 282t
- Lemmi, A., 176
- lending
- formal versus non-formal 209–10, 211t, 217(n14)
- Leontief inverse matrix 268, 283(n13)
- Levinsohn, J., *et al.* (2003) 115, 133
- Berry, S. 133
 - Friedman, J. 133
- Levinson, A. 283, 285
- Li, S. 140, 141
- Liang, Z. xv, 14–15, 127n
- Liaoning 149–51f, 156–7t, 164t
- liberalization 19
- life expectancy 136, 165(n4), 193(n13)
- life insurance 176
- light manufacturing 50
- likelihood ratio test statistic 125, 126t, 126, 127f, 128t, 131–2
- Lin, J. Y. xv, 15–16, 143, 152, 155, 165(n11), 166(n14, n22), 167–8
- Linear Acute Human Toxicity Index (LAHTI) 264–5, 266, 266t, 268, 270, 275, 282t, 284(n27)

- Lingap Para sa Mahihirap* ('looking after the poor') 90
- Litchfield, J. 50
- literacy 248(n8)
- literacy rate (LR) 176–8, 179, 180f, 182t, 183
- Liu, A. Y. C. 50
- Liu, M., 160, 164n
- Liu, P. xv, 15–16, 152, 166(n14, n22)
- livestock 61, 279
- living standards 26, 50, 99, 109, 135, 146, 165(n7)
- minimum 29, 35
- surveys 35
- Lloyd-Ellis, H. 222
- loans 141, 146, 207, 210, 230, 241
- agricultural 211t
- foreign 140
- local government 15, 152
- log likelihood 161t, 162t, 239t, 276t, 277t
- Long An province 77t, 79t
- Lorenz curve 33
- Low, P. 261
- low-income groups 138
- LR chi² 271t, 276t, 277t
- Lucas, R. E. B., *et al.* (1992) 261, 286
- Hettige, H. 286
- Wheeler, D. 286
- Macao 165(n1)
- machinery 60, 62t, 96, 148f, 267t
- macroeconomic level 55, 58, 71, 87(n4), 91
- changing environment 54
- cross-country data 91
- policy changes 171
- macroeconomic scenario
- India 198–201, 217(n5–6)
- macroeconomic stability 102
- macroeconomic shocks 55, 99, 109
- Madhya Pradesh 179, 187t, 188f, 189, 191t, 193(n10)
- Maharashtra 179, 185, 187t, 188f, 191t, 217(n11)
- Maharashtra State Co-operative Marketing Federation 217(n11)
- Mahbubnagar district (Telangana) 217(n9)
- maize 204, 206, 208t
- 'corn' 106
- Malaysia 5, 8, 20(n7), 43(n2)
- Malone, E. L. 174
- man-made fibres 275, 282t
- management techniques/know-how 4, 18, 144, 250
- Mani, M. 261
- manufactured goods 147, 148f, 254t
- labour-intensive 13, 139, 162
- manufactured-export-led state interventionist model 20(n7)
- manufacturing 152, 154t, 155–6, 158–60, 166(n21), 170, 193(n12), 252, 256, 256t, 257f, 265, 278, 279, 283(n5)
- combined toxicity index 281
- compositional changes: identification (Pakistan) 266–8, 284(n22–3)
- Pakistan 253t
- pollution intensity 19, 266, 267t, 268f
- terms of trade 199, 199f
- manufacturing exports 10
- manufacturing sector 254
- investment 16, 179, 180f, 182t, 184
- Marcos Administration 106
- marginal productivity of labour 145–6, 152, 154n, 166(n15)
- marginalization 196, 217(n2)
- Marjit, S. 192
- market access 161, 181, 182t, 199, 260
- market opportunities 16, 197, 215, 216
- market participation
- path to debt trap 206–13, 217–18(n12–17)
- market structure 173
- marketing 17, 18, 61, 216, 225–6
- markets 49, 144, 198
- fragmented 212
- global/world 6, 170, 209
- international 119
- multiple 212, 216
- open, competitive 143, 152
- Martin, W. 49
- Martinetti, E. C. 176
- Maruthi boat 224, 225
- Masbate 94, 95, 110t

- maximum likelihood 213, 236
 McCulloch, N. 26, 28, 42(n6), 89, 134, 220
 McCulloch, N., *et al.* (2000) 26, 45
 Baulch, B. 45
 Robson, M. 45
 McCulloch, N., *et al.* (2001) 192(n2), 195
 Cirera, X., 195
 Winters, L. A., 195
 McKay, A. 89, 134, 220
 means test 37
 meat 92, 140
 Medak district (Telangana) 217(n9)
 Mehra, K. L. 217
 Mekong River Delta 53t, 53
 membership functions 185, 186t
 Mexico 284(n19, n25)
 microeconomic level xvi, 49, 51, 52, 54, 71, 171
 Middle East and North Africa (MENA) 101t
 migrants 13, 96, 96f
 migration 61
 rural–urban 5, 8–9, 16, 140, 162, 163
 trade and poverty reduction in
 globalizing economy (Philippines) 90–114
 Milanovic, B. 21(n9), 139
 Millennium Development Goals (MDGs) xiv, 3, 90, 91, 98, 101, 101n
 Millet 204, 206
 Milner, C. 133
 Mindanao 94, 112t
 minerals 255f, 283(n1)
 Minier, J. 263, 285
 minimum support prices (MSPs) 198, 200, 206
 Minot, N. 54
 Minot, N., *et al.* (2003) 54, 63, 89
 Baulch, B. 89
 Epprecht, M. 89
 Misra, V. N. 170
 Mitra, A. 8
 money-lenders 107, 210, 226
 monopolies 143, 144, 212, 217(n11)
 monotonicity 12, 28–9, 30, 33, 34–5, 39, 41, 42(n8), 43(n15), 117, 229
 Monsanto corporation 200
 Monte Carlo simulation 54, 57, 63
 morality 283(n4)
 Morris, C. T. 25
 Morrissey, O. 133
 most-favoured-nation status 49
 Mount Province 95, 112t
 Mozambique 229
 ‘multilateral resistance’ 264
 multinomial logit model 57, 63
 municipal areas 35
 Munshi, K. 229
 Myrdal, G. 21(n9)

 Naidu, N. C., Chief Minister 217(n4)
 Nalgonda district (Telangana) 217(n9)
 Nam Dinh province 72t, 75–6t
 Narasimhan Committee report (1993) 217(n6)
 Narayana, N. S. S. 195
 Narayanan, S. 170
 Nash bargaining framework 218(n15)
 national capital region (NCR, Philippines) 95–6, 110t
 National Conservation Strategy (NCS, Pakistan) 258, 259
 National Council of Applied Economic Research (New Delhi) 217(n14)
 National Environment Action Plan (NEAP) 259
 National Environment Policy (NEP) 259
 National Environmental Quality Standards (NEQS) 258–9
 National Productivity Council (India) 190, 191n
 National Sample Survey Organisation (NSSO, India) 200, 207, 212, 213, 217(n8), 218(n19)
 national security 283(n4)
 National Statistical Bureau (NSB, China) 125, 136, 137n, 160, 165(n4)
 ‘National Bureau of Statistics’ 132(n4)
 National Statistical Co-ordination Board (NSCB) 91, 93, 94t, 113(n3)
 National Statistical Office (NSO, Philippines) 92, 94, 112
 database 93
 natural disasters 142, 172, 210
 natural resource management 18, 258, 259

- natural resources 19, 139, 166(n20), 255, 278, 279, 283(n2)
- natural-resource-rich model 20(n7)
- Nepal 6–7, 259f
- net gains: expected versus realized 236–7
- net state domestic product (NSDP) per capita 180f, 182t, 183
- Neumayer, E. 266, 284(n31)
- Nghe An province 72t, 83t
- NGOs 229
- NICs 13
- NIEs 5
- Niimi, Y., *et al.* (2004), 50, 89
- Vasudeva-Dutta, P. 89
- Winters, L. A. 89
- Ningxia 149–51f, 155, 156–7t, 164t, 166(n18)
- Ninh Binh province 81t
- Ninh Thuan province 78t
- Nissanke, M. ii, xv, 3, 7, 14, 20(n2, n5, n7), 22, 112, 115, 117, 128, 132, 132(n1), 135, 139, 165, 192, 217, 222
- nitrogen oxide (NO_x) 265, 266, 266t
- Nizamabad district (Telangana) 217(n9)
- noise 259
- noisiness 237, 238
- non-ferrous metals 275, 277t, 282t
- non-performing loans 217(n6)
- non-tariff barriers 50
- Northern Mindanao 111t
- Norway 223
- Norway: Royal Ministry of Foreign Affairs xiii
- Nueva Ecija province 94, 110t
- null hypothesis 113(n5), 125, 131–2
- nutrition xvi, 132(n4), 278–9
- O'Brien, K. L., *et al.* (2004) 174, 195
- observations 72–6t, 78–87t 100t, 103t, 105t, 108t, 118, 127t, 129t, 161t, 162t, 214t, 233–4t, 239t, 276t, 277t 'censored' 236, 248(n8) uncensored 248(n8)
- occupation 214, 214t, 248(n3)
- occupational choice 59, 222
- oil seed 199, 204t, 204
- OLS 57, 61, 113(n3), 127t, 129t, 234, 236, 272, 273t, 274t
- O'Mara, G. T. 228
- open door policy (China, 1978–) 116, 118–19, 136
- open economy 252
- Organization of the Islamic Conference (OIC) 282t
- Orissa, 179, 185, 187t, 188f, 189, 191t
- Oshima, H. 25
- Otsuka, K. 106, 112, 114
- outboard motor (OBM) 224, 225, 248(n1)
- output 12, 19, 32, 49, 62t, 281, 283(n13) baseline sectoral (Vietnam, 2000) 62t crisp value 178 industrial 266
- output change 175–6
- output market 213
- overseas placement fees 113(n7)
- owner-farming 9
- Ozawa, T. 5–6, 10
- Ozler, B., *et al.* (1996) 184, 195
- Datt, G. 195
- Ravallion, M. 195
- Page, J. 91
- Pakistan 18–19, 43(n2), 251, 259f
- corporate performance and trade liberalization 252–4, 255f, 283(n4–6)
- direction of trade statistics 282t
- economy and environment 252–9, 283(n4–10)
- environmental profile 255–8, 283(n7–8)
- environmental regulation 258–9, 283(n9–10)
- exports and imports (1960–2002) 253f
- exports and imports (economic classification) 254t
- industrial performance 252
- industrial pollution (implications for poverty) 278–80, 284–5(n31–2)
- liberalization era 268, 270, 273t, 274t, 281
- post-liberalization period (1990–) 264, 266t, 284(n16)
- trade liberalization, environment, and poverty 250–87

- Pakistan Environmental Protection Act (PEPA, 1997) 259
- Pampanga province 94, 110t
- Panay Island 113(n4)
- Panda, M. 195
- panel data 12, 14, 15, 16, 115–16, 125, 130
- provincial 109, 155
- paper 255f, 267t, 268f, 275, 280, 282t
- Parikh, K. S., *et al.* (1997) 170, 195
- Kumar, A. G. 195
- Narayana, N. S. S. 195
- Panda, M. 195
- Park, A. 116
- partial equilibrium model 87(n3)
- partial likelihood 236, 248(n7)
- patent protection 144
- Paternostro, S. 44
- path dependence 135
- Paukert, F. 25
- Penn World Tables 93
- Perkins, D. H. 20(n7)
- permanent income hypothesis 141
- Pernia, E. 26, 28
- Pernia, E. M. 95–6, 98
- Perry, J. A. 279
- pesticides 17, 113(n7), 197, 206–7, 210, 212, 268f, 275, 277n, 282t
- pests 205, 209, 212
- Peterson, S. R. 286
- petroleum 255f, 282t
- Pezzini, S. 217
- Philippine government 91
- Philippine Statistical Yearbook* 98
- Philippines 5, 8, 9, 13–14, 42(n2)
- poverty trends 93–5, 113(n4)
- trade, migration, poverty reduction, globalization 90–114
- Philippines: national capital region 13
- Phu Tho province 77t
- plastic 268f, 275, 276t, 282t
- Platteau, J. P. 226, 247
- polarization 20(n2)
- policy-makers 3, 11, 47, 48, 51, 54, 55, 115
- political economy 2, 7
- political in/stability 254
- political will 251, 259
- pollution 251, 256, 258, 278–9, 283(n8)
- implications for poverty 278–80, 284–5(n31–2)
- industrial 280
- sectoral intensity 264–5
- pollution haven hypothesis (PHH) 19, 260–1, 268, 272
- pollution intensities 260, 264, 265, 270, 275, 281, 284(n19, n21)
- pollution loads 265, 284(n19)
- Pondicherry 224
- poor people 11
- credit constraints as barrier to technology adoption (India) 221–49
- definition 52
- ‘suffered disproportionately’ 198
- population 75t, 86t, 179, 255, 265, 270, 271t, 273t, 274t, 275, 276t, 277t
- Population Census (Vietnam, 1999) 54
- population density 179, 180f, 181, 182t
- population growth 9, 179, 180f, 181, 182t, 193(n12)
- Population and Housing Census (Vietnam, 1999) 51
- population mobility
- effect on poverty 8
- Portney, P. R. 286
- poverty xiv–xvi, 3, 24–5, 33, 112(n1), 165(n7), 181, 185, 196
- baseline map (Vietnam) 63, 64f
- chronic 18, 172, 198, 215
- consumption-based 53
- decomposition study 8
- definition 2, 135
- direction of change 40
- ex post* estimates 63
- growth elasticity 7, 32
- impact of WTO accession (Vietnam) 47–89
- implications of pollution 278–280, 284–5(n31–2)
- international trade and emigration (Philippines) 95–106, 113(n5–6)
- measurement 28
- movement out of 113(n4)
- multiple dimensions 193(n8)
- permanent, temporary, selective 141
- possible non-linear relationship with globalization 115–16
- probability of escaping 50

- poverty – *continued*
- rural 9, 10, 14–17, 169, 171, 192(n2)
 - rural China 116, 121–4, 127t, 129t, 130, 131, 137–8t, 140
 - spatial distribution 48, 53, 55, 61, 70, 87(n3)
 - spatial incidence (Vietnam) 47–89
 - spatial variations 92
 - trade liberalization (India) and 169–71, 192(n1–2)
 - urban 10, 14, 16, 141
 - urban China 116, 137–8t, 163t
 - vagueness 193(n9)
 - see also* absolute poverty; globalization
- poverty bias of growth (PBG) 28, 43(n6)
- poverty decomposition methodology 34, 43(n14)
- poverty depth 102
- poverty determinants 102, 103t
- poverty elasticity of growth 30, 32, 33, 34
- poverty equivalent growth rate (PEGR) 12, 26, 29, 30–3 42, 43(n12–13)
- axioms 33–5, 43(n14)
 - calculation 33–5, 43(n14–15)
 - definition 31
 - ‘full approach’ 28
 - Korea 36–7, 43(n16)
 - Thailand 37–8, 43(n17)
 - Vietnam 38–9
- poverty estimation 53, 58
- poverty gap 42(n2), 94t, 99t
- poverty gap index 137t, 138t
- poverty gap ratio 30, 36t, 37t, 38, 39t, 93, 104–5
- determinants 104, 105t, 106
 - poor households only 103t
- poverty headcount 57, 65
- poverty headcount index 137–8t
- China (2000) 163t
 - provincial 102
- poverty headcount ratio 5, 11, 13, 14–15, 28, 29, 36, 37, 37t, 39t, 40, 42(n2), 93, 99t, 105t
- Philippines (1985–2000) 100t
- poverty incidence 38, 93, 94, 94t, 102
- provincial (Philippines, 1985–2000) 110–12t
- poverty lines 27–30, 33, 36, 43(n10), 48, 52, 53, 57, 141, 142, 157t, 166(n24), 174
- China 116, 121, 122t, 132(n4), 165(n5–6)
 - consumption measure 121, 122t
 - international 91–2
 - Korea-specific 35
 - NSCB 93, 94t, 113(n3)
 - official (PRC) 14
 - per capita household 29
 - provincial (Philippines) 91–5, 113(n2–4)
 - urban 166(n18)
 - US\$1 per day (World Bank) 1–2, 5, 11, 14, 20(n8), 90, 92–3, 94, 99t, 110–12t, 113(n2–3), 121, 122t, 163t, 163
 - US\$2 per day 2, 11, 19, 278
- poverty map 54
- poverty measures 27, 34, 38, 52, 56, 93, 94, 102
- additively decomposable 29–33, 43(n10–11)
 - spatial disaggregation 54
- poverty rates 53, 53t, 63, 65, 69f, 69, 157t, 165(n8)
- DSDT scenario (Vietnam) 68f
 - FL scenario (Vietnam) 67f
 - UL scenario (Vietnam) 66f
- poverty reduction 1, 3, 7, 8, 10, 12, 16, 25, 28, 36–9, 48–50, 69, 121, 126, 215
- elasticity 4–5
 - factors 30
 - growth elasticity 13
 - impact of emigration (provincial-level estimates) 97–102, 113(n5)
 - impact of trade openness (provincial-level estimates) 97–102, 113(n5)
 - impacts of external openness and emigrants (household-level estimates) 102–6
 - inequality effect 34
 - magnitude 40, 41
 - ‘most important goal for developmental effort’ 24
 - new approach advocated 152, 155
 - population shift effect 9
 - rural 15
 - targeted programmes 90
 - trade reform ‘not sufficient’ 216
 - trade, migration, globalization (Philippines) 90–114
- poverty severity 36–7t, 38, 39t, 42(n2)

- power [energy] 138, 256t
 Preckel, P. V. 133
 Presidential Decree 27 (Philippines, 1972) 106
 price changes 87(n3)
 price controls 39
 price deflation 52
 price effects 69
 price fluctuations 17, 174, 184
 price levels 92, 95
 price volatility 170
 prices 9, 47, 59, 61, 62t, 113(n3), 142, 144, 147, 165(n6)
 constant 166(n24)
 current 160, 166(n24), 166(n17)
 exogenous shocks 70
 inter-provincial differences 92
 relative 104, 260, 264
 seasonal and regional variations 52
 primary goods 148f
 primary industry 136, 152, 154t, 165(n9)
 primary sector 254t
 technology adoption 227–30
 printing/publishing 255f, 267t, 268f, 275, 277t, 282t
 priority industries 144, 145, 165(n12)
 Pritchett, L. 20(n2)
 private sector 102, 198, 280
 private traders 17, 216
 extraction of surplus 210, 212–13, 216, 218(n15–17)
 privatization 147
 pro-poor growth xiv, xvi, 7, 11, 21(n12), 42(n6), 222, 279, 281
 definition and measurement 42(n4)
 general definition 26
 measurement problem 25
 partial and full approaches 42(n5)
 ‘poor benefit more than proportionately’ 4
 relative or absolute 26–7
 strong/strict definition 4, 7–8, 26
 ‘super’ 27
 weak definition 4–5, 5–6, 10
 pro-poor growth: Asian experience 12, 16, 24–46
 additively decomposable poverty measures 29–33, 43(n10–11)
 axioms 33–5, 41
 data sources and concepts used 35–6
 empirical illustration: Asian experience 36–9, 40, 44(n16–17)
 empiricism 41
 equations 30–2, 33–4, 40–1
 future research 40
 introduction 24–6, 43(n1–3)
 methodology 39–40, 43(n11)
 monotonicity axiom 12, 28–9, 30, 33, 34–5, 39, 41, 42–3(n6–9), 44(n15),
 policy agenda 24, 40
 poverty equivalent growth rate 30–3, 42–3(n12–13)
 poverty equivalent growth rate: calculation 33–5, 43–4(n14–15)
 pro-poor growth classification 26–9, 43(n4–9)
 theory 40
 ‘Pro-Poor Growth: Concepts and Measurement with Country and Case Studies’ (Kakwani, Khandker and Son, 2004) 42, 44
 pro-poor growth classification 26–9, 42–3(n4–9)
 general versus strict approach 26–7
 monotonicity criterion 28–9, 42–3(n6–9)
 partial or full approach 27–8, 42(n5)
 pro-poor growth index (PPGI) 28, 29, 30–1, 43(n9)
 pro-poor growth rate 42(n8)
 probability density functions 10
 probit model 102, 104
 product-cycle ladder 19–20
 production 19
 baseline levels 60
 pollution-intensive 281, 284(n19)
 production base 95–6
 production costs 17, 206, 207, 280, 285(n32)
 productivity 252, 284(n19)
 agricultural 146, 160, 162, 166(n24)
 productivity gap 152, 155, 163, 166(n16)
 products 115
 capital-intensive 260–1
 environmentally friendly 19, 251
 labour-intensive, 96
 pollution-intensive 18, 19, 250, 251, 252, 260–1, 264, 280

- profitability 217(n6), 228, 235f
 old versus new technology 230–1
- profits 143, 144, 146, 237
- property rights 10, 173
- proportional hazard 235, 236
- protectionism 140, 146
- provinces 53–4, 99t
 impact of trade openness and
 emigration on poverty reduction
 (Philippines) 97–102, 113(n5)
 poverty rates (Vietnam) 66–9f
 Vietnam 63, 65
- pseudo R² 271t, 276t, 277t
- public expenditure 10, 212
 cutbacks 198
 ‘government expenditure’ 15, 124,
 126, 127t, 129t
 state governments (India) 200
 targeted 15
- public health 259, 283(n2, n4)
- public policy 6, 11, 55
- public sector 39, 198, 200, 280
- public works 37
- Pudong 119
- pulses 204t, 204
- Punjab (India) 179, 185, 187t, 188f,
 189, 190, 191t, 201, 207
- Punjab (Pakistan) 256, 283(n8)
- Punjab Environmental Protection
 Department (Pakistan) 256, 283(n7)
- purchasing power parity (PPP) 87(n2),
 91, 93, 113(n2), 121, 163
 province-specific 93
 provincial 92–3
- Qinghai 149–51f, 155, 156–7t, 164t
- Qizilbash, M. 176, 193(n9)
- Quah, D. T. 20(n2)
- Quang Binh province 74t
- Quang Nam province 78t, 81t
- Quang Ngai province 79t, 81t
- Quang Ninh province 77t
- Quang Tri province 72t, 74t, 77t
- quantitative analysis 173, 174
- Quezon 95, 110t
- Quising, P. F. 95–6, 98
- Qureshi, M. S. xv, 18–19, 253n, 257n,
 266n, 268–70n, 282n
- rabi* (post-rainy) season 203, 204t, 206
- railway density 160–3
- rainfall 17, 74t, 77–9t, 82t, 84t, 203,
 205, 206, 214–15, 216
- Rajasthan 179, 185, 187t, 188f, 189, 191t
- Ram, R. 25
- Ramos Administration (1992–98) 90
- Rand, J. 89
- random error terms 236
- random reservation utility 56
- Ranga Reddy district (Telangana)
 217(n9)
- Rao, M. G. 170
- Rao, P. N. 206
- Rapoport, H. 113
- Rasul, I. 229
- Ravallion, M. 7, 26–8, 41, 42(n5, n8),
 43(n14), 43(n14, 15), 115–16, 136,
 137n, 140–2, 152, 195, 217(n1)
 aggregate numbers ‘can be
 misleading’ 47
- Ravi River 283(n7)
- raw materials 119, 254t
- Rawalpindi 256
- Ray, R. 184
- recession, ‘pro-poor’ or ‘anti-poor’ 32–3
 ‘economic downturns’ 37
- Red River Delta (Vietnam) 50, 53t, 53
- redistribution 12, 25, 31, 40
- redistributive policies 18, 244
- regional development 116, 118
- regression-tree methodology 124
- Reimer, J. J. 132(n1), 133
- remittances 5, 91, 97, 97f, 113(n7)
- rent-seeking 144
- Report of Commission on Farmers’ Welfare*
 (Government of Andhra Pradesh,
 2005) 210, 212, 219
- research and development (R&D) 144
- Reserve Bank of India Bulletin* 184
- resource allocation 147, 181, 181t
- resource endowment 19, 135
- resource mobilization 183
- resource-poor farmers
 characterization 203–5
 formal versus non-formal sources of
 lending 209–10, 211t,
 217(n14)
- market participation 203–6,
 217(n10–11)
- supply response to cotton trade
 liberalization 205–6,
 217(n10–11)

- resource-poor farmers in South India:
 margins versus frontiers of
 globalization 16–18, 196–220
 background 198–203, 217(n5–9)
 ‘central puzzle’ 197
 context 196
 ‘critical question’ 213
 data 196
 debt burden of cotton farmers versus
 other farmers 213–15,
 218(n18–23)
 empiricism 213–15, 217(n10),
 218(n18–23)
 literature 196, 197–8, 212, 213,
 217(n1)
 macroeconomic scenario 198–201,
 217(n5–6)
 methodology 218(n19)
 multivariate regression model 213
 path from increased market
 participation to debt trap
 206–13, 217–18(n12–17)
 policy implications 216
 trade liberalization and market-
 participation of resource-poor
 farmers 203–6, 217(n10–11)
 two-equation, full information
 maximum likelihood model 213,
 214t
- rice 9, 106, 140, 200, 201 203–7, 279
 costs and returns (Warangal district,
 1996–8) 208t
 extension and network 204
 HYVs 228, 229
 price elasticity and supply elasticity
 217(n10)
 prices (Telangana) 205f
 support prices 198
 world price 170
- Rio de Janeiro: ‘Earth Summit’
 (1992) 258
- Rio de Janeiro: UNU-WIDER regional
 conference 3
- risk 171–2, 173, 202, 205, 216, 228,
 230, 240
 exposure to 207–9, 217(n12–13)
 price and output 206
- risk-aversion 18, 221, 227, 229, 247
 risk-weighted toxicity index 252
 rivers 75t, 80t, 83t, 255, 256
- road density 160–2, 214, 214t, 215
 roads 71t, 73t, 77t
 SDBR (shortest distance by road) to
 city 81–4t, 87t
- Robilliard, A. 88
 Robinson, S. 25, 54, 88
 Robson, M. 45
 Rodríguez, F., 47
 Rodríguez, E. R., 97
 Rodrik, D. 47, 1, 42
 Roland-Holst, D. xvi, 12–13, 89
 root mean squared errors 240
 Root, H. L. 11
- ROSCA (Rotating Savings and Credit
 Association) xviii, 231
- Rose, A. K. 265
 Rosenstein-Rodan, P. 21(n9)
 Rosenzweig, M. 228, 240
 row vector format 87(n5)
 rubber products 282t
- rural areas 5, 8, 9, 10, 16, 38, 39t, 50,
 51, 55, 63, 83t, 136, 146, 152,
 165(n5–6), 170, 192, 200, 209–10
 rural development expenditure 180f,
 181, 182t, 183
- Rural Financial Access Survey (RFAS)
 210, 217(n13–14)
- rural poverty/trade openness and
 economic development strategy
 (China) 135–68
- Rutherford, T. F. 88
- SAARC (South Asian Association for
 Regional Cooperation) 282t
- Sadoulet, E. 87
 safety nets 12, 18, 20, 37, 38, 40, 198,
 216
 Sainath, P. 218(n16)
 sales 232–3, 234, 238, 240, 244
 sample selection correction terms 105,
 106
 sample size 98, 160, 242
 sampling bias 93
 sampling framework 218(n19)
 Sandven, P. 223
 sanitary districts 35
 Saudi Arabia 13, 96
 savings 141, 143–4, 226, 228
 Sawada, Y. xvi, 13–14, 101n,
 113(n6), 114

- scaling factors 55, 87(n4)
 science and engineering 176
 seasonality 172
 secondary industry 136, 141, 152,
 154t, 165(n3, n9)
 seeds 175, 197, 206, 208t, 210,
 217(n11), 235
 genetically modified 200
 high-yield variety 222
 hybrid 17
 new 32
 Selden, T. M. 261
 self-employment 52, 55, 56, 58, 77–8t
 Sen, A. 43(n11)
 Sengupta, K. 218(n17)
 sensitivity 16, 173, 174–6, 179–89,
 192, 193(n7, n11)
 Seoul 35
 services sector 8, 50, 253t
 severity of poverty index 30
 Shaanxi 149–51f, 156–7t, 164t
 Shandong 149–51f, 156–7t, 164t
 Shanghai 119, 132(n8), 149–51f,
 156–7t, 164t
 Shantou 119
 Shanxi 149–51f, 156–7t, 164t
 Shapiro, A. F. 176
 share tenancy 107
 sharecropping 9
 ‘shared growth’ 3, 4, 6, 11
 Shenzhen 119
 shocks 4, 12, 16, 20, 37, 38, 40, 47, 70,
 146, 171, 172, 179, 182t, 183–4,
 198, 232, 237, 279
 individual 237
 macroeconomic 55, 99, 109
 Shorrocks, A. i, 7, 42, 112, 217(n2)
 Sialkot 280
 Sichuan 133(n8), 149–51f, 156–7t, 160,
 164t
 Siegel, P. B. 194
 Sillers, D. 248
 simulation analysis 18
 Sindzingre, A. 117, 128
 Singapore 5, 20(n7), 96, 143
 Singh, A. 283
 Singh, N. 184, 191n
 Singh, R. B., *et al.* (2002) 203, 219
 Kumar, P. 219
 Woodhead, T. 219
 ‘Situation Assessment Survey of Farmers’
 (NSSO) 17, 213
 skills 4, 9
 slope (of landscape) 83–4t
 slope parameters 130
 small area estimation (SAE) 49, 55, 56,
 57, 63, 70, 87(n3)
 ‘useful but limited’ 54
 small geographical areas 53
 smallholdings 210
 small-scale and household
 manufacturing industries (SSHMI)
 284(n23)
 Soc Trang province 80t, 81t
 Social Accounting Matrix (SAM) 51–2,
 55, 59, 87(n4)
 Social and Institutional Capacity
 275, 276t, 278, 284(n30)
 social cohesiveness 11, 182t, 183
 social exclusion 172
 social networks 145
 social programmes 198
 social protection 146
 social reform agenda (SRA) 90
 social science 172
 social security system 146
 social transfers 146
 social welfare programmes 37, 40
 socialist countries 145
 socio-economic surveys (SES) 35,
 48, 52
 sociology 172
 soil 216, 279, 283(n1, n8)
 Soliven, L. 112
 Solow, R. 165(n10)
 Son, H. H. xvi, 12, 16, 24, 26, 42(n2),
 43(n13), 44
 Son La province 75t
 Song, L. 269
 Sorsogon, 94, 110t
 South Asia 5, 11, 20(n8), 101t, 221
 South-East Asia 5, 11, 19
 South India
 credit constraints as barrier to
 technology adoption
 221–49
 ICRISAT villages 228
 resource-poor farmers 196–220
 Southern Mindanao 111t
 Southern Tagalog 94, 96, 110t

- Special Economic Zone Act (Philippines, 1995) 96
- special economic zones (SEZs) 13, 96, 119, 147
- squared poverty gap index 137t
- Squire, L. 25, 44
- Sri Lanka 224
- Srinivasan, T. N. 47, 184, 191n, 217(n1)
- stabilization policies 199
- stakeholders 54, 184
- standard deviation 13, 52, 58, 99–100t, 101, 113(n6), 227t, 235, 241t
- intra-province income 99t
- standard errors 53t, 54, 58, 98, 101, 103t, 105t, 108t, 127t, 129t, 161–2n, 214t, 233–4t, 277n
- corrected 104
- maximum, minimum, average 63
- Standard International Trade Classification (SITC, UN) 263, 265
- STATA (software package) 42, 161, 218(n21)
- state-owned enterprises (SOEs) 50, 146, 147–8
- state role 17, 216
- state support 216
- static models 227–8
- Stavins, R. N. 286
- Stern, D. L., *et al.* (1997) 283(n3), 287
- Common, M. S. 287
- Barbier, E. B. 287
- stochastic dominance conditions/
first-order, second-order 27
- stratification 20(n2)
- stress 173, 193(n4)
- stressors 175–6, 184, 185
- structural adjustment programmes 198, 199, 216, 284(n16)
- Sub-Saharan Africa 13, 20(n6), 101t, 135
- subsidies 12, 39, 50, 60, 138, 140, 144, 146–7, 170, 198, 200, 215, 217(n5), 275
- subsistence 61
- sugar 199, 204t, 206
- Sugui, J. S. 112
- suicide 17, 218(n16)
- sulphur dioxide (SO₂) 256, 256t, 265, 256, 266, 266t
- sum of squared errors 131
- summary statistics 52
- supply constraints 240
- Suri, K. C. 206
- suspended particulate matter (SPM) 256
- sustainable development 19
- Suzuki 224
- Swedish International Development
Cooperation Agency (Sida) xiii, 51
- symmetric poverty decomposition
methodology 28
- synthetic resins 268f, 275, 282t
- Taiwan 5, 20(n7), 96, 143, 165(n1)
- Tamil Nadu 18, 179, 185, 187t, 188f, 189, 191t, 221, 223, 224
- tanneries 275, 276t
- tariff rate quotas 50
- tariff-reduction 170, 272
- Tarp, F., *et al.* (2002) 50, 89
- Roland-Holst, D. 89
- Rand, J. 89
- Tarr, D. G. 88
- Tay Ninh province 79t, 81t
- taxation/taxes 50, 55, 70, 152
- technical constraints 251
- technical expertise 17, 216
- technological change 3
- technological choice index (TCI)
155–6, 158–61, 162t, 164t, 166(n20)
- technological improvement 146
- technological innovation 18, 229
- technological progress 143
- technologies 15, 60, 62t, 143, 159, 140, 152, 212, 252, 268, 284(n19)
- technology
absorptive capacity 91
capital-intensive 18, 222
constant returns to scale 262
divisible versus indivisible 228
new (probability of adoption) 229
obsolete 280
upgraded 119, 144
- technology adoption
determinants 221
Indian small-scale fisheries 18, 221–49
individual wealth and 230–1
low-income countries' primary sectors 227–30

- technology switching
 determining the timing of adoption 235–9, 248(n7–8)
 estimating income change from adoption 231–5, 248(n4–6)
 role of wealth 240–1
- technology transfer 4, 6, 17, 91, 197, 251, 260
- Telangana (Andhra Pradesh) 16, 197, 203, 205, 207, 210, 213, 217(n9)
 costs and returns for major crops (1996–8) 208t
 rice and cotton prices 205f
- temporary livelihood protection 37
- tenants 106, 210
- terms of trade 60, 61t, 170, 192
 agriculture–industry 199, 199f
- tertiary industry 136, 141, 152, 153f, 154t, 165(n3, n9), 166(n16)
- textiles 50, 60, 62t, 255f, 267t, 275, 277t, 278, 280, 282t
- Thai Binh province 77t, 81t
- Thai Nguyen province 78t, 81t, 85t
- Thailand 5, 6, 8, 12, 20(n7), 36, 42(n2), 170, 222
 PEGR 37–8, 43(n17)
- Thailand: National Statistical Office 35
- Thanh, V. T. 87(n1)
- Thanh Hoa province 85t
- Thorbecke, E. ii, xvi, 3, 7, 14, 20(n2, n5), 21(n11), 22, 42, 88, 112, 115, 117, 128, 132, 132(n1), 135, 139, 165, 192, 217, 222
- Thorbecke, W. 165
- threshold effects 11, 15, 128t
 modelling 121, 124–5, 132(n5–7)
 number and location 125, 126t
- threshold estimation on
 globalization–poverty nexus (China) 115–34
- threshold regression techniques 121, 130–2, 133(n10)
- threshold values 125, 130, 131
- thresholds 118, 172–3, 174, 176
- Thua Thien-Hue province 73t, 75t, 77t, 81t
- Tianjin 132(n8), 149–51f, 156–7t, 164t
- Tibet 132–3(n8), 149–51f, 155, 156–7t, 160, 164t
- Tien Giang province 72t, 74t, 76–7t, 79t
- time 2, 11, 33, 38, 42(n1), 50, 93, 97, 124, 130, 156, 158–9, 163, 175, 181, 182t, 189–90, 192, 213, 231–4, 236, 243, 255, 262–4, 268–9, 279, 281, 284(n31)
 future 172, 173, 230
- time effects 271t, 273t, 274t
- time-series data 284(n23)
- Tiruchendur (pilgrim centre) 225
- tobacco 204t, 255f
- Tobey, J. 261
- Tobin model 104, 271t, 272, 273t, 274t, 275, 276t–277t
- total factor demand 283(n13)
- Townsend, R. 222
- township and village enterprises (TVEs) 124, 126, 129t, 146
- toxicity 265, 284(n18)
- Tra Vinh province 77t, 80t
- trade 3, 55, 60, 62t, 91, 109, 118, 119, 132(n3), 138, 163, 165(n13)
 annual growth rate 136, 165(n2)
 bilateral 252, 261–4, 268, 272
 China 136, 136t
 composition effect on environment 18, 19, 250
 factor content 261–2, 268–70, 281, 283(n12–13), 284(n24–6)
 GDP ratio 139
 inequality-reducing effect 10
 multilateral 261, 263, 272
 pollution content 269
 poverty and emigration (Philippines) 95–106, 113(n5–6)
 scale effect on environment 18, 19, 250, 252
 technique effect on environment 18–19, 250–1
- trade barriers 18, 250, 264
- trade liberalization 13, 16, 18, 19, 39, 49, 58, 98, 117, 174, 192(n2), 197–9, 224, 281
- agricultural 200
- changes in poverty rates (Vietnam) 61–70
- double-edged sword 251
- 'good for growth' 47
- heterogeneous impacts 55, 87(n3)

- trade liberalization – *continued*
 impact on poor 47–8
 market participation of resource-poor farmers 203–6, 217(n10–11)
 ‘not always pro-poor’ 170
 output effects 132(n2)
 poverty in India 169–71, 192(n1–2)
 regional effects 171
 spatial incidence 55–6
- trade liberalization, environment, and poverty: developing country perspective 18–19, 250–87
 assumptions 261, 268
 compositional changes: identification 266–8, 284(n22–3)
 conceptual framework 260–4, 283–4(n11–17)
 data issues/sources 264–5, 284(n18–21)
 direction of trade statistics 282t
 empiricism 251, 260, 268–72, 281, 284(n24–8)
 environmental regulations (relevance to trade) 272–8, 284(n29–30)
 equations 260, 262–3
 factor content of trade 268–70, 284(n24–6)
 illiteracy 280–1
 literature 251, 252, 260–4, 265, 272, 284(n29)
 Pakistan: economy and environment 252–9, 283(n4–10)
 Pakistan: industrial pollution (implications for poverty) 278–80, 284–5(n31–2)
 statistical significance 270, 272
 theory 270, 275
 trade in goods 261, 262–4, 270–2, 281, 283–4(n14–17, n27–8)
 trade–environment debate (three key concerns) 251–2
- trade, migration, poverty reduction, globalization (Philippines) 13–14, 90–114
 assumptions 102
 channels/transmission mechanisms 91, 109
 descriptive statistics 98, 99t
 determinants of transfer income from abroad 106–8, 113(n7)
 empiricism 91
- equations 92–3, 97–8, 102, 104–5, 107
 findings 109
 literature 91
 poverty, international trade, emigration 95–106, 113(n5–6)
 poverty trends in Philippines 93–5, 113(n4)
 provincial poverty lines 91–5, 113(n2–4)
 provincial PPP and provincial dollar-a-day poverty line 92–3, 113(n2–3)
 reduced-form cross-country regression approach 97
 statistical significance 104
 treatment effect model 104
- trade openness 1, 3, 10, 19, 109, 112(n1), 117–18
 definition 95, 95f, 98
 development strategy and 144–5, 165(n13)
 economic development strategy and rural poverty (China) 135–68
 effects on growth 118
 impact on poverty reduction (provincial-level estimates) 97–102, 113(n5)
 impact on poverty reduction (household-level estimates) 102–6
 proxies 155–6, 158–9, 166(n19–21)
 regional exports to regional GDP ratio 13
 regional-level index 105t
 regional-level index (definition) 100t
- trade openness index 99, 99t, 104
 trade policy 55
 impact of poverty 65
 spatial dimension 51, 65
- trade reform/s 16
 ‘not sufficient for poverty reduction’ 216
- trade statistics 19
 trade taxes 50
 trade theory 165(n12)
 trade volume to GDP ratio 124
 trade-in-goods approach 261, 262–4, 281, 283–4(n14–17)
- trade-related intellectual property rights (TRIPs) 50

- trade-related investment measures (TRIMs) 50
- trading partners 51, 60
- transaction costs 152, 240
- transfer income 103t, 105t, 109
Philippines (1985–2000) 108t
- transfer income from abroad
determinants (Philippines) 106–8,
113(n7)
- transition economy xv, 147
- transport 60, 62t, 153f, 154t, 256t
- transport equipment 96, 148f, 267t
- transportation 9, 160, 240, 257f,
283(n11)
- treatment effect model 104
- treatreg* procedure 218(n21)
- trickle-down 25, 26, 28, 31,
32, 43(n9)
- Turkey/trade liberalization (CGE
model) 48
- Tuyen Quang province 78t
- two-stage least squares 237
- uncertainty 241, 241t
- UNCTAD 275
- UNDP xiv, 51
- UNDP: International Poverty Centre
(Brasilia) 42
- unemployment 37, 140, 170
- Unilateral Liberalization (UL)
12, 60–3, 65, 66f, 69–70, 72–6t,
78–87t
- unit record data 33
- United Kingdom: Department for
International Development xiii
- United Nations (UN) 90, 265
- United Nations Population Fund 51
- United States of America xiv–xvi, 13,
49, 92, 170, 264, 266, 269, 270t,
281, 284(n29)
- UNU-WIDER xiii, xv
Helsinki conference (October 2004)
3, 20(n5)
- ‘Impact of Globalization on Poor in
Asia’ (regional conference, Tokyo,
April 2005) 3, 20(n6), 42, 87,
112, 165, 192, 216, 283
- ‘Impact of Globalization on World’s
Poor’ (research project,
2004–) 2
- publications 7, 20(n6)
- urban areas 8, 9, 10, 16, 35, 39t,
42(n2), 50, 51, 55, 61, 63, 136, 140,
152, 165(n5–6), 192, 200
- urban sector 183
- urbanization 5, 38, 163, 255
- Uruguay Round Agreement on
Agriculture (URAA) 199, 217(n5)
- usufruct 106–7
- Uttar Pradesh 179, 187t, 188f, 191t,
193(n10)
- Uttaranchal 193(n10)
- value-added 119, 160, 166(n16), 171
- value judgement 28
- van Beers, C. 263, 275
- van den Bergh, J. 263, 275
- van der Hoeven, R. 7
- van Wincoop, E. 264
- Vanek, J. 261
- variance–covariance matrix 57
- Vasudeva-Dutta, P. 89
- vegetables 140, 204
- Venugopal, P. 212
- Vietnam 5, 12–13, 35–6, 40, 170
bilateral trade agreement with USA
(2000) 49, 50
macroeconomic CGE 59–61, 87(n6)
PEGR 38–9
poor provinces 70
- Vietnam: General Statistical Office
(GSO) 51
- Vietnam: North-Central coast region
74t
- Vietnam: North-West 13, 69, 70
- Vietnam: South-East 50
- Vietnam: spatial incidence of poverty
(impact of WTO accession) 12–13,
47–89
assumptions 56, 58, 60, 70
changes in poverty rates after trade
liberalization 61–70
data and measurement 51–3, 87(n2)
empiricism 47–8
employment status equations 71,
79–87t
equations 55–9
geographical targeting 48, 51, 54, 55,
69, 70–1
literature 47–51, 54, 63
macroeconomic CGE 59–61, 87(n6)
maps 49, 63, 64f, 66–8f

- Vietnam: spatial incidence of poverty
 (impact of WTO accession) –
continued
 methodology 47, 53–9, 87(n3–5)
 non-wage income equations 71, 77–9t
 policy application (caution required)
 70
 probit model 54
 results 59–70, 87(n6)
 scenarios (counter-factual) 60
 summary statistics 52, 53t
 theory 49
 trade liberalization and poverty in
 Vietnam 49–51, 87(n1)
 wage equations 71, 71–6t
- Vietnamese Living Standard Surveys
 (VLSS) 35, 50, 51, 52, 54, 61
- village shops 212
- villagers 283(n8)
- villages 35, 107, 113(n4), 228, 231,
 233, 241, 243, 246
 South India 225–7, 248(n2–3)
- Vincent, J. 283(n3)
- Vinh Phuc province 77t
- Viswanathan, B. xvi, 16, 18
- vulnerability 16
 conceptualization 173–4
 definition 171–2
 determinants 174
 ‘forward-looking measure’ 172
 indicators 175–6, 193(n6)
 quantification 174
 regional level indices 16
 usage 184
- vulnerability assessment 171–4,
 192–3(n3–5)
- vulnerability to globalization in India:
 relative ranks of states using fuzzy
 models 16, 18, 169–95
 adaptive capacity 16, 173, 174–6,
 179–89, 192, 193(n4, n7, n11)
 assessment (conceptual framework)
 171–4, 192–3(n3–5)
 causality 172
 context 169
 data sources 184, 193(n12)
 empiricism 169, 172, 173, 174, 176,
 178, 192
 estimation (application to Indian
 states) 179–84, 193(n10–12)
 exposure 16, 173, 174, 179, 180f,
 182t, 183–90, 192
 exposure (determinants) 175,
 193(n6)
 literature 171–4, 185, 192,
 192–3(n3–5)
 membership functions 185, 186t
 methodology 169, 173, 174–9, 192,
 193(n6–9)
 policy-making 171
 refinement required 192
 results 184–91, 193(n13)
 sensitivity 16, 173, 174–6, 179–89,
 192, 193(n7, n11)
 trade liberalization and poverty in
 India 169–71, 192(n1–2)
- vulnerability index (Kumar and
 Viswanathan) 16, 18, 169,
 193(n13)
- vulnerable groups 37
- Wade, R. H. 20(n3)
- wage equations (Vietnam) 71, 71–6t
- wage income 52, 55, 57, 59, 63
- wage-earning
 ‘utility’ 56
- wages 9, 55, 71, 71–6t, 140, 145,
 146, 223
 real 170
 skilled–unskilled differential 117
- Wald tests 102, 103t, 214t, 238
- Walton, M. 21
- Wan, G. 10, 14
- Wang, S. 116
- Wang, Z., 167
- Warangal district (Telangana) 207,
 208t, 212, 217(n9)
- water xiv, 73–4t, 79t, 82t, 84t, 255,
 256, 264, 265, 279–80, 283(n1, n8),
 284(n18)
- Watts measure of poverty 41
- wealth 138, 222, 241t
- wealth distribution 242, 244, 245f
- wealth gap/inequality 7, 221
- Wei, Z. 140–1
- welfare 169, 171, 174, 184, 192,
 192(n1), 197–8
 consumption expenditure per capita
 36
- wells 74t, 79t, 84t, 202, 202f, 204t

- West Bengal 179, 185, 187t, 188f, 189, 191t
- Western Mindanao 111t
- Western Visayas 111t
- wheat 193(n4), 200, 207
HYVs 228, 229
support prices 198
- Wheeler, D. 261, 286
- White heteroscedasticity-corrected
standard error 127t, 127n, 129t, 129n
- White, H. 42(n3)
- wholesale, retail trade and catering
services 153f, 154t
- Williamson, J. G. 20(n4)
- Winters, L. A. 47, 54, 87(n6), 89, 132(n1), 195
- Winters, L. A., *et al.* (2004) 47–8, 89, 115, 132(n1), 134, 217(n1), 220
McCulloch, N. 89, 134, 220
McKay, A. 89, 134, 220
- Winters, P. 50
- women 71–2t, 81t, 83t, 96, 214, 214t, 215
- Woodhead, T. 219
- working capital 17, 216, 218(n23), 226
cotton cultivation 206–7, 208t
interest on 208t
- World Bank xiv, 14, 17, 20(n3), 197–9, 202, 217(n14), 255, 257n, 264, 281
author/data source 42(n3), 53, 91, 93, 113(n2), 115, 116, 132(n7), 165(n4), 192(n2), 265
definition of pro-poor growth 26
estimates of global poverty 20(n3)
poverty line 121, 122t
- World Development Indicators*
87(n2), 265
- World Development Report* 25
- World Health Organization (WHO)
256, 283(n7)
- World Trade Organization (WTO)
12–13, 147, 169, 170
Chinese accession 119
Vietnamese accession (impact on
spatial incidence of poverty)
47–89
Vietnamese accession agreement
(2006) 50
- Xiamen 119
- Xinjiang 149–51f, 156–7t, 164t
- Xu, X. 269
- Xue, J. 140–1
- Yamaha 224
- Yao, S. 132(n7)
- Yeats, A. 261
- Yen Bai province 75t, 78t
- Yunnan 149–51f, 155, 156–7t, 164t
- Zaman, H. 88
- Zani, S. 176
- Zhai, F. 167
- Zhang, Q. 160, 164n
- Zhang, Y. 10, 14
- Zhejiang 149–51f, 156–7t, 164t
- Zhu, L. 132(n7)
- Zhuhai 119
- Zilberman, D. 248

