

## Foreword

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The Asian Development Bank (ADB) formally adopted poverty reduction as its overarching goal in 1999, underlining ADB's systematic approach to poverty reduction by promoting policy reforms, assisting the development of overall physical and institutional capacity, and designing projects and programs to better target poverty. ADB's high level of commitment is also reflected in the increasing number of its pro-poor programs and projects.

In its effort to reduce poverty, ADB also recognizes the importance of remaining accountable to both donors and the public. Development institutions such as ADB should be able to account for how well they are using better project designs to achieve better outcomes, spending resources more efficiently, implementing programs according to plan and learning from their experiences, and examining as well as minimizing any adverse effects of their programs. ADB and other development institutions should be able to answer more specific questions about their programs and projects, such as: whether they produced the intended benefits; whether overall impact, isolated from other possible impacts, was positive; how much of the benefits went to the poor; and what the transmission mechanisms of the effects were.

However, there is still very little known about the actual impact of many programs and projects on the lives of the poor. This knowledge gap exists despite the increasing awareness that good poverty impact analyses (PIAs) will help improve resource allocation—which is especially important for the resource-scarce developing countries. The gap remains partly because it is difficult to conduct a PIA—even if a project specifically targets the poor. Identifying the poor and measuring the actual impact of a project involves technical complexities, and isolating the impact without selection and other biases further add to the difficulty. The overall cost of conducting PIAs can also be seen as anti-poor since the resources needed for them could be used for helping the poor in other ways. Political considerations further complicate the problem and there is also the issue of whether PIA should be done before or after a project. To be effective, however, impact analysis should begin with project design and continue throughout the project cycle.

Regarding methodology, there is an urgent need for better PIA tools. Current methods of measuring poverty impacts by examining the distribution of the net present value of project's benefits that go to the poor, offer only partial impact analysis and ignore the project's economy-wide and other effects. In addition, current practices to derive a baseline and to measure the likely impact on the poor based on household income and expenditure surveys are problematic. Conducting such surveys requires substantial time

and resources. Furthermore, the survey's geographical coverage is often too broad and the surveys' timing and main concerns may also be incompatible with the project's purpose. This makes the survey results less useful; and it makes conducting PIA at the project level in a specific location very difficult. PIAs using the existing household survey data may accordingly suffer from misattributions in terms of timing, topical relevance, and geographical coverage. Moreover, as there is no standard approach to conducting PIAs, each PIA must be tailored to a specific project, country, and institutional context. This calls for specific surveys and tools relevant to specific projects or policy interventions.

In response to the situation highlighted above, the Economics and Research Department (ERD) of ADB has developed PIA frameworks through a series of research studies, generating knowledge useful for designing better poverty-reducing programs. The frameworks cover three critical areas for identifying the poor at the household level, over a specified geographical area, and for PIA in an economy-wide context. This special volume is intended to disseminate part of the research outputs to policy makers, project managers, planners, and the general public.

Given the progress reported in this book, the key challenges ahead are to adopt more comprehensive impact analysis by providing more complete and rigorous macro-micro linkages, giving greater consideration to the dynamic aspects of policy interventions and their impacts on the overall economy and targeted groups, and better integrating long-term and inclusive growth in the modeling approach. The modeling tools should also be able to provide scenario and sensitivity analyses for better and more complete information about the overall likely impacts.

It would also be very useful to make the tools more user-friendly and developed in such a way that they can be applied to address different topics, sectors, and countries. As partly demonstrated in the poverty reduction integrated simulation model (PRISM) described in this book, linking various modeling frameworks at global, national, local, sector, household, and individual levels can be done. Therefore, expanding PRISM to include other countries and to link with global and sectoral models would be desirable. Additionally, in each part of this modeling framework, an independent link to a geographic information system (GIS) application can be established for spatial analysis. With this complete modeling framework in place, wide-ranging impact analyses can be conducted in a systematic and comprehensive manner by considering all important coverage levels—from global to individual.

To better tackle poverty, ADB needs to learn from its experiences, make good use of its knowledge of best practices, and build from its successes. The right information from PIA can be used to redesign, improve, or even eliminate programs which are poorly designed and would not reach their intended beneficiaries—or those that are wasteful. As other researchers, such as Judy Baker (2000) and Martin Ravallion (2005), have likewise pointed out, the knowledge gained from impact evaluation will also provide critical inputs to the appropriate design of future programs and projects. Governments and donor agencies therefore need to learn from PIA to enable them to identify the kinds of policies and projects that are most likely to succeed, including factors that contribute to that success. The research discussed in this book is a small step in this direction.



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## Preface

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Poverty is a deprivation of minimum essentials and opportunities to which every human being is entitled. ADB views poverty as an unacceptable human condition that can and must be eliminated by public policy and action (ADB 1999). Fighting poverty has therefore become the most urgent challenge—it is also a daunting challenge since poverty remains a global problem. Fortunately, various levels of stakeholders are evidently concerned about poverty reduction, making it the ultimate goal of many institutions, including ADB. This concern has also made considerations on pro-poor and inclusive growth, as well as on other poverty-reducing policies, extremely important.

Fueled by mounting pressures on governments and donor agencies to broaden their development strategies and better monitor development contributions and poverty reduction results, PIA have received considerable attention in recent years. The Development Assistance Committee (DAC) of the OECD has, for instance, developed a guideline for harmonizing PIA among donor agencies. The DAC-PIA is a simplified version of the World Bank's Poverty and Social Impact Analysis (PSIA) tool to examine a project in the context of a national poverty reduction strategy, benefits to stakeholders that includes targeted groups, transmission channels of systemic poverty reduction, and project impact contributions on MDGs and other strategic development goals. PSIA is mandatory for all sovereign sector investments financed by ADB and summaries of PSIA results are part of all ADB public sector loan documents (see the respective sections of the ADB poverty website <http://www.adb.org/poverty/tools-innovations.asp> for more information). Furthermore, ADB also tracks direct and indirect poverty reduction contributions of all its operations through its project classification system.

It is recognized that good PIAs help in better allocating resources that benefit the poor. Many attempts to conduct PIAs have, however, mostly suffered from insufficient analytical rigor, faulty questions, and the use of wrong time frames (Baker 2000). As a result, there is no comprehensive PIA that can be used as an example of how it should be conducted.

Progressing from the current situation, ERD has developed five different tools that can be used for PIA. The developments and application examples of the tools are presented in this book, which covers: (i) poverty predictor modeling for identifying the poor at the household level; (ii) poverty mapping for identifying the poor over geographical areas or developing poverty indicators at lower administrative levels that cannot be produced using household surveys; (iii) computable general equilibrium (CGE) modeling for assessing the economy-wide effects and distributional implications of wide-

ranging issues; (iv) CGE-microsimulation modeling for further assessing the impacts at the household level; and (v) PRISM for integrating CGE-microsimulation modeling and poverty mapping with a GIS application. The first two tools presented in the first part of the book can be used at the project level while the other three tools presented in the second part are more relevant for PIA at the national or sectoral levels.

The book begins by discussing PIA and the three important aspects of identifying the poor, identifying and measuring the program impacts, and conducting PIA in the CGE modeling framework. The succeeding discussions are organized around the five different tools developed in this study.

Part 1 addresses the issue of identification of the poor at the household level and over a geographical area which is conducted through poverty predictor modeling and poverty mapping, respectively. Chapters 1 through 5 discuss poverty predictor modeling in Indonesia, the People's Republic of China (PRC), and Viet Nam; followed by validations of their poverty predictor variables through pilot surveys. The identification was conducted by estimating the poverty predictor variables based on household survey data, transforming the predictor variables into a short questionnaire, and then pilot-testing the questionnaire on household samples consisting of those selected in the previous national survey and the newly selected households. This was done to cross-check and validate the poverty predictor modeling results. Moreover, different ways of classifying the poor based on independent assessments were also carried out to further validate the poverty predictor variables and provide local poverty assessments. This participatory approach can complement the survey results that may contain errors due to respondents' memory recall and other sampling and nonsampling errors. Chapter 6 discusses poverty mapping in Indonesia and a GIS application based on the results. It highlights poverty mapping's usefulness in generating reliable poverty estimates at the district level, which otherwise cannot be estimated from the existing household survey due to its limited sample size and coverage area. The poverty indicators are then presented in dynamic maps using a "traffic-light" classification system and interactively linked with other variables in a GIS application of a poverty-reduction information system for monitoring and analysis (PRISMA). Other poverty-related variables used include access to safe water, education, health, and so on. Accordingly, the interactive and dynamic maps of poverty indicators can be overlaid with the graphs of other poverty-related variables to examine their spatial association.

Part 2 summarizes case studies of developing and applying CGE modeling framework for poverty impact analysis. Chapter 7 and 8 discuss the

developments and applications of individual country CGE models to examine the poverty effects of trade liberalization in Indonesia and infrastructure development in the PRC. The models were developed specifically for each country to represent the main feature of the economy with some important characteristics such as an open economy with foreign trade and international capital transactions, multiple sectors and factors, and relatively disaggregated household groups. Chapter 9 presents a case study of developing and using CGE-microsimulation to assess economic and poverty impacts on trade liberalization in Indonesia. The simulations are consistent with those in the CGE paper discussed in Chapter 7 to highlight the different results between CGE and CGE-microsimulation models. In the latter for instance, poverty impact can be measured at the household level so that the commonly used Foster-Greer-Thorbecke (FGT) poverty indicators can be calculated. Chapter 10 demonstrates how PIA is conducted in the integrated simulation approach by using PRISM. Trade liberalization effects on the Philippine economy are addressed by showing how further trade reform will benefit the economy and the poor.

The final section summarizes the main findings and their policy implications. Key challenges for the future are also highlighted. More detailed suggestions on making a comprehensive PIA an integral part of the evaluation system are provided, including the need to use some sensitivity analyses at the entry, monitoring, and assessment stages.

The book is written for at least four different groups of audiences. Firstly, it is for policy makers and planners, who decide how PIA should be conducted and, more importantly, how public resources should be allocated across competing needs. Secondly, it is intended for project managers or project economists, who can use PIA to critically improve their current and future projects' performance. Thirdly, it is for PIA practitioners, who are directly responsible for the development and applications of poverty impact evaluation tools. Lastly, it can be useful for researchers working in the area of impact analysis and other interested parties that could use the information in their various endeavors to help reduce poverty.

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## Table of Contents

---

<i>Foreword</i> .....	<i>iii</i>
<i>Preface</i> .....	<i>vii</i>
<i>Acknowledgments</i> .....	<i>xi</i>
<i>List of Contributors</i> .....	<i>xv</i>
<i>List of Tables</i> .....	<i>xvii</i>
<i>List of Figures</i> .....	<i>xxiv</i>
<i>List of Boxes</i> .....	<i>xxviii</i>
<i>List of Appendixes</i> .....	<i>xxix</i>
<i>Abbreviations and Acronyms</i> .....	<i>xxxiii</i>

<b>INTRODUCTION</b> .....	<b>1</b>
Poverty Impact Analysis: Approaches and Methods <i>Guntur Sugiyarto</i>	

### **PART ONE: Application of Tools to Identify the Poor**

<b>CHAPTER 1</b> .....	<b>50</b>
Predicting Household Consumption Expenditure and Poverty in Indonesia <i>Sudarno Sumarto, Daniel Suryadarma, and Asep Suryahadi</i>	
<b>CHAPTER 2</b> .....	<b>77</b>
Poverty Predictor Modeling in Indonesia: A Validation Survey <i>Bayu Krisnamurthi, Arman Dellis, Lusi Fausia, Yoyoh Indaryanti, Anna Fatchia, and Dewi Setyawati</i>	
<b>CHAPTER 3</b> .....	<b>91</b>
Identifying Poverty Predictors Using the People's Republic of China's Rural Poverty Monitoring Survey <i>Sangui Wang, Pingping Wang, and Heng Wang</i>	
<b>CHAPTER 4</b> .....	<b>117</b>
Poverty Predictor Modeling in the People's Republic of China: A Validation Survey <i>Pingping Wang</i>	
<b>CHAPTER 5</b> .....	<b>127</b>
Identifying Poverty Predictors Using the Household Living Standards Surveys in Viet Nam <i>Linh Nguyen</i>	

<b>CHAPTER 6</b> .....	<b>161</b>
<b>Poverty Mapping and GIS Application in Indonesia</b>	
How Low Can We Go?	
<i>Uzair Suhaimi, Guntur Sugiyarto, Eric B. Suan, and Mary Ann Magtulis</i>	
<b>PART TWO: Applications of the CGE Modeling Framework for Poverty Impact Analysis</b>	
<b>CHAPTER 7</b> .....	<b>203</b>
<b>Computable General Equilibrium Model</b>	
Can the Poor in Indonesia Benefit from Trade Liberalization?	
<i>Guntur Sugiyarto and Douglas H. Brooks</i>	
<b>CHAPTER 8</b> .....	<b>235</b>
<b>Computable General Equilibrium Model</b>	
Infrastructure Development and Poverty Alleviation in the People's Republic of China	
<i>Li Shantong</i>	
<b>CHAPTER 9</b> .....	<b>273</b>
<b>Computable General Equilibrium–Microsimulation Model</b>	
Economic and Poverty Impact of Trade Liberalization in Indonesia	
<i>Guntur Sugiyarto, Erwin Corong, and Douglas H. Brooks</i>	
<b>CHAPTER 10</b> .....	<b>311</b>
<b>Poverty Reduction Integrated Simulation Model</b>	
Trade Liberalization in the Philippines: The Need for Further Reform	
<i>Caesar Cororaton, Erwin Corong, Guntur Sugiyarto, and Eric B. Suan</i>	
<b>FINDINGS AND CONCLUSIONS</b> .....	<b>375</b>
<i>Guntur Sugiyarto</i>	
<b>References</b> .....	<b>393</b>

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## List of Tables

---

### INTRODUCTION

1	Applications of Different Poverty Assessment Approaches .....	31
2	Applications of Poverty Mapping in Some Countries.....	33
3	Applications of Computable General Equilibrium Modeling in Developing Member Countries .....	37
4	Schematic Representation of the Indonesian Social Accounting Matrix .....	47

### CHAPTER 1

1.1	Summary Results of the Ordinary Least Squares Regression Based on Consumption Correlates Model.....	59
1.2	Accuracy of Predicting Expenditure Using the Consumption Correlates Model.....	61
1.3	Accuracy of Predicting Poverty Using the Consumption Correlates Model.....	62
1.4	Accuracy of Predicting Hardcore Poverty Using the Consumption Correlates Model.....	62
1.5	Results of the Poverty Probability Model (Dependent Variable: 1 = Poor, 0 = Otherwise) .....	64
1.6	Results of the Poverty Probability Model (Dependent Variable: 1 = Hardcore Poor, 0 = Otherwise).....	66
1.7	Accuracy of Predicting Poverty Using the Poverty Probability Model.....	68
1.8	Accuracy of Predicting Hardcore Poverty Using the Poverty Probability Model.....	68
1.9	Summary Statistics and Eigen-value (First Principal Component), Urban Area .....	69
1.10	Summary Statistics and Eigen-value (First Principal Component), Rural Area.....	70
1.11	Accuracy of Predicting Per Capita Consumption Expenditure Using the Wealth Index of the Principal Component Analysis .....	71
1.12	Accuracy of Predicting Poverty Using the Wealth Index of the Principal Component Analysis .....	71
1.13	Accuracy of Predicting Hardcore Poverty Using the Wealth Index of the Principal Component Analysis .....	71

### CHAPTER 2

2.1	Assessing Poverty by Using the Weighted Perception Method.....	79
2.2	Classifying Poor and Nonpoor Households Using the Local Perception Approach .....	82

2.3	Classifying Poor and Nonpoor Households Using the Expenditure Approach of the Pilot Survey.....	83
2.4	Classifying Poor and Nonpoor Households Using the Local Perception and Household Expenditure of the Pilot Survey Approaches .....	83
2.5	Classifying Poor and Nonpoor Households Using SUSENAS Data, Local Perception, and Household Expenditures of the Pilot Survey Approaches.....	84
2.6	Predicting Poor and Nonpoor Using the Logit Model for All Respondents .....	88
2.7	Predicting Poor and Nonpoor Using the Logit Model for Respondent with Consistent Poverty Status Based on Perception-Expenditure Approaches .....	88

### CHAPTER 3

3.1	Transformation Scheme for Independent Variables.....	95
3.2	Summary Results of the Stepwise Ordinary Least Squares Regression .....	96
3.3	Variance Inflation Factor of the Ordinary Least Square Regression Using the Data1 .....	98
3.4	Variance Inflation Factor of the Ordinary Least Square Regression Using the Data2 .....	99
3.5	Accuracy of Predicted Expenditure .....	101
3.6	Accuracy of Predicted Poverty Status Using the Low-Income Poverty Line.....	102
3.7	Accuracy of Predicted Poverty Status Using the Absolute Poverty Line.....	102
3.8	Summary Results of the Stepwise Logit Regression.....	
3.9	Accuracy of Predicted Poverty Status Using Logit Regression and Low-Income Poverty Line with a Probability Cutoff of 0.5 and 0.38 .....	103
3.10	Accuracy of Predicted Poverty Status Using Logit Regression and Official Absolute Poverty Line and Data1 with a Probability Cutoff of 0.5 and 0.16.....	104

### CHAPTER 4

4.1	Statistical Summaries of Per Capita Expenditure .....	119
4.2	Poverty Status Using the CNY700, CNY1000, and CNY1500 Poverty Lines—Actual Versus Predicted .....	119
4.3	Comparing Households Based on Per Capita Expenditure —Actual Versus Predicted.....	120

4.4	Classifying Poor and Nonpoor Using the Per Capita Expenditure –Actual Versus Predicted.....	120
4.5	Accuracy of Predicted Poverty Status Using the Logit Model with CNY1,500 Poverty Line.....	121
4.6	Classification of Poor and Nonpoor Based on Different Assessors.....	121
4.7	Mean of Poverty Predictors and T-Statistics of the Mean Difference.....	123
4.8	Distribution of Households Identified as Poor.....	124

## CHAPTER 5

5.1	Summary Statistics of the 2002 Viet Nam Household Living Standard Survey of Rural Area.....	129
5.2	Example of F-Test for Means Using the Categorical Variables .....	131
5.3	Example of Correlation Coefficient Test for Continuous Variables.....	131
5.4	Transformation of Nonlinear Variables to Minimize Error .....	132
5.5	Transformation of Nonlinear Independent Variables.....	132
5.6	Summary of Goodness of Fit of the Regression Model for the Learning and Validation Data Sets in Urban and Rural Areas .....	136
5.7	Matched Tabulation for the Rural Subsamples.....	137
5.8	Comparison of Mean Values of the Per Capita Expenditure for the Rural Subsample .....	137
5.9	Summary of Goodness of Fit of the 1997/98 VLSS and Thanh Hao and Nghe An for Model Validation .....	138
5.10	Matched Tabulation for the Rural Subsamples Tested on the 1997/98 VLSS Rural Data Set.....	138
5.11	Matched Tabulation for the Urban Subsamples on the 1997/98 VLSS Urban Data Set.....	142
5.12	Comparison of Mean Values of Per Capita Expenditure for the Urban Subsamples .....	142
5.13	Matched Tabulation for Urban Subsamples Tested on the 1997/98 VLSS Urban Data Set.....	142
5.14	Correlation between Different Methods Used for Identifying Poor Households .....	145
5.15	Matched Tabulation Between PPM Results and SA-Based Poverty Classification .....	146
5.16	Matched Tabulation Between PPM Results and EA-Based Poverty Classification.....	146
5.17	Matched Tabulation Between PPM Results and HCA-Based Poverty Classification .....	147
5.18	Matched Tabulation Between PPM Results and Consumption-Based Poverty Classification .....	147

**CHAPTER 6**

6.1	Applications of Poverty Mapping in Some Selected Countries ....	164
6.2	Poverty in Indonesia, 1976–2003 .....	170
6.3	List of Variables Used in the Cluster Model Building.....	173
6.4	Variables Used in Constructing Urban Score .....	173
6.5	Poverty Incidence in Java and Non-Java Provinces .....	177
6.6	Standard Error of Poverty Incidence by Estimation Level.....	177
6.7	Comparison of Headcount Ratio ( $P_o$ ) and Standard Error Between Cluster Estimates and Susenas Results for Urban Area .....	178
6.8	Comparison of Headcount Ratio ( $P_o$ ) and Standard Error Between Cluster Estimates and Susenas Results for Rural Area.....	179
6.9	Diagnostic Tests of Nanggroe Aceh Darussalam–Urban Area.....	181
6.10	Thresholds Used for Classifying Distances from Village to Subdistrict Capital by Province .....	185
6.11	Categorization of Layer Variables in the GIS Application of Poverty Mapping Results .....	186
6.12	Pearson Correlations among Layered Variables and between Layered Variables and Headcount Ratio ( $P_o$ ) .....	186

**CHAPTER 7**

7.1	Trade Negotiation Rounds .....	205
7.2	Summary of Trade Liberalization Measures Adopted by the Indonesian Government, 1945–2007 .....	213
7.3	Government Income by Source .....	214
7.4	Government Revenue from Commodity Taxation .....	214
7.5	Structure and Level of Indirect Commodity Taxation in Indonesia in 1985, 1990, and 1993 .....	215
7.6	Structure and Level of Import Tariffs in Indonesia in 1985, 1990, and 1993 .....	217
7.7	Number of Households by Type and Annual Per Capita Income in 1985, 1990, and 1993.....	218
7.8	Welfare Costs of the Existing Commodity Taxation, 1993 .....	222
7.9	Near Marginal–Tax Incidence .....	224
7.10	Economy-Wide Effects of the Doha Development Agenda and Total Trade Liberalization .....	225
7.11	Welfare Effects of the Doha Development Agenda and Total Trade Liberalization on Different Household Groups .....	226

**CHAPTER 8**

8.1	Rural Poverty Rate in the Peoples' Republic of China, 1978–2000 .....	237
8.2	Rural Poverty Rate in the Peoples' Republic of China, 2000–2004.....	238

8.3	Comparison of the Poor and Nonpoor in Rural Areas of the Peoples' Republic of China, by Selected Attributes in 2002.....	238
8.4	Investments in Infrastructure Construction, 1990–2000.....	246
8.5	Indicators of Infrastructure Development, 1990–2003 .....	247
8.6	Summary of Simulations Design .....	264
8.7	Economic Effects of a 10% Increase of Infrastructure Investment.....	265
8.8	Effects of a 10% Increase of Infrastructure Investment on Output and Demand for Nonagricultural Labor.....	265
8.9	Effects of a 10% Increase of Infrastructure Investment on the Welfare of Medium and Low Income Households.....	266
8.10	Long-Term Economic Effects of a 10% Increase of Infrastructure Investment, by Alternative Migration Cost Reductions.....	267
8.11	Income Effects of a 10% Increase of Infrastructure Investment on Medium to Low Incomes Households, by Alternative Migration Costs Reductions .....	268
8.12	Long-Term Overall Economic Effects of a 10% Improvement of Physical Infrastructure, 5% Reduction of Migration Cost, and 1.2% Agricultural Labor Productivity Growth, by Alternative Migration Elasticity .....	269
8.13	Long-Term Income Effects on Medium to Low Income Households of a 10% Improvement of Physical Infrastructure, 5% Reduction of Migration Cost, and a 1.2% Agricultural Labor Productivity Growth, by Alternative Migration Elasticity .....	270

## CHAPTER 9

9.1	Description of Production and Commodity Accounts .....	277
9.2	Description of Factors of Production .....	277
9.3	Summary Description of Representative Households .....	279
9.4	Economic Structure at the Base Period.....	283
9.5	Household Income Sources at the Base Period .....	284
9.6	Poverty Indices at the Base Period .....	285
9.7	Macro Effects of Full Elimination of Tariffs on Agriculture Imports .....	287
9.8	Sectoral Effects of Full Elimination of Tariffs on Agriculture Imports .....	288
9.9	Factor Market Effects of Full Elimination of Tariffs on Agriculture Imports .....	291
9.10	Labor Market Effects of Full Elimination of Tariffs on Agriculture Imports .....	292
9.11	Household Income Effects of Full Elimination of Tariffs on Agriculture Imports.....	293

9.12	Poverty Effects of Full Elimination of Tariffs on Agriculture Imports .....	294
9.13	Macro Effects of Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products .....	295
9.14	Sectoral Effects of Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products .....	297
9.15	Factor Market Effects of Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products.....	298
9.16	Labor Market Effects of Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products.....	299
9.17	Household Income Effects of Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products.....	300
9.18	Poverty Effects of Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products.....	301
9.19	Macro Effects of Full Elimination of All Tariffs on Imported Products.....	302
9.20	Sectoral Effects of Full Elimination of All Tariffs on Imported Products.....	303
9.21	Factor Market Effects of Full Elimination of All Tariffs on Imported Products.....	305
9.22	Labor Market Effects of Full Elimination of All Tariffs on Imported Products.....	306
9.23	Household Income Effects of Full Elimination of All Tariffs on Imported Products.....	307
9.24	Poverty Effects of Full Elimination of All Tariffs on Imported Products.....	308

## CHAPTER 10

10.1	Average Nominal Tariffs by Sector.....	315
10.2	Weighted Average Nominal Tariff Rates .....	317
10.3	Sources of National Government Revenue .....	318
10.4	Structure of Production and Factors Used in the Model.....	319
10.5	Shares of Imports and Exports .....	320
10.6	Merchandise Exports.....	320
10.7	Sources of Household Income in the Philippines.....	321
10.8	Structure of Household Consumption in the Philippines .....	322
10.9	Philippine Unemployment Rate.....	322
10.10	Poverty and Income Indicators in the Philippines, 1985–2000 ....	323
10.11	Philippine Poverty Profile, 1994 .....	324
10.12	Macro Effects in the Low Tariff Scenario .....	331
10.13	Effects of Low Tariff Scenario on Prices and Volumes.....	333
10.14	Effects of Low Tariff Scenario on Factor Market.....	334
10.15	Effects of Low Tariff Scenario on Household Factor Income.....	335

10.16	Poverty Incidence in the Low Tariff Scenario.....	337
10.17	Macro Effects in the Actual Tariff Scenario.....	339
10.18	Effects of Actual Tariff Scenario on Prices and Volumes.....	340
10.19	Effects of Actual Tariff Scenario on the Factor Market .....	343
10.20	Effects of Actual Tariff Scenario on Household Factor Income ....	344
10.21	Poverty Incidences in the Actual Tariff Scenario .....	345
10.22	Macro Effects in the Full Tariff Scenario .....	346
10.23	Effects of Full Tariff Scenario on Prices and Volumes .....	347
10.24	Effects of Full Tariff Scenario on Factor Market .....	349
10.25	Effects of Full Tariff Scenario on Household Factor Income .....	350
10.26	Percentage Change of Poverty Incidence in the Full Tariff Scenario.....	351

## List of Figures

---

### INTRODUCTION

1	Operational Cycle of the Asian Development Bank.....	5
2	Simplified Model of Project Monitoring and Evaluation Framework.....	11
3	Sample Impact Analysis Framework .....	12
4	Tools for Poverty Impact Analysis Developed by ADB's Economics and Research Department .....	20
5	Poverty Mapping Technique.....	34
6	Interlinked Nature of the Economy Represented by the Computable General Equilibrium Model.....	44

### CHAPTER 3

3.1	Normality Plot of Residuals of the Ordinary Least Squares Regression for Data1 and Data2.....	96
3.2	Residual Plot of the Ordinary Least Squares Regression for Data1 and Data2.....	96
3.3	Scatter Plot of Actual Per Capita Consumption Against Predicted Values for Data1 and Data2 .....	97
3.4	Sensitivity and Specificity of the Logit Regression .....	103
3.5	Sensitivity and Specificity of the Logit Regression Using the Absolute Poverty Line for Data1 .....	105

### CHAPTER 5

5.1	Example of Variable Plot that Needs Transformation.....	133
5.2	Flow Chart for Building a Poverty Predictor Model .....	134
5.3	Residual Plot of Rural Subsamples .....	136
5.4	Actual Versus Predicted Values of Log Per Capita Expenditure for the Rural Subsamples .....	136
5.5	Residual Plot of Rural Subsamples Tested on 1997/98 VLSS Rural Data Sets .....	138
5.6	Actual Versus Predicted Values of Log Per Capita Expenditure for the Rural Subsamples Tested on 1997/98 VLSS Rural Data Sets .....	139
5.7	Residual Plot of Urban Subsamples.....	141
5.8	Log Per Capita Expenditure for Urban Subsamples–Actual Versus Predicted Values .....	141
5.9	Residual Plot of Urban Area Subsamples Tested on 1997/98 VLSS Urban Data Sets .....	143
5.10	Log Per Capita Expenditure for the Urban Subsamples Tested on 1997/98 VLSS Urban Data Sets–Actual Versus Predicted Values .....	143

**CHAPTER 6**

6.1	A Poverty Map of Pakistan Showing Survey-Based Poverty Incidences .....	166
6.2	A Poverty Map of Pakistan Showing Model-Based Poverty Incidences .....	167
6.3	Administrative Structures in Indonesia.....	169
6.4	Poverty Mapping Modeling.....	171
6.5	Comparisons of Poverty Estimates Between Cluster-Method and Susenas in Rural Areas, 2000 .....	180
6.6	Percentage Distribution of Expenditure in Nanggroe Aceh Darussalam–Urban Area.....	180
6.7	Percentage Distribution of Expenditure in Nanggroe Aceh Darussalam–Rural Area .....	182
6.8	Percentage of Poor Population in Urban Areas by Province.....	183
6.9	Percentage of Poor People in Nanggroe Aceh Darussalam Province with Some Overlaying Variables by District .....	184

**CHAPTER 7**

7.1	Ratios of Income of Different Types of Households .....	218
-----	---	-----

**CHAPTER 8**

8.1	Estimates of Rural Poverty in the Peoples' Republic of China, 1978–2000 .....	237
8.2	Framework for Infrastructure Development and Poverty Reduction .....	242
8.3	Infrastructure Investments, Poverty Rate, and Gross Domestic Product .....	248
8.4	Transportation Infrastructure Development and Poverty Incidence.....	248
8.5	Post and Telecommunications Infrastructure Development and Poverty Rate .....	249

**CHAPTER 9**

9.1	Production Structure.....	278
9.2	Basic Price Relationship in the Model .....	278
9.3	Basic Structure of the Model.....	279
9.4	Development of Poverty Indicators Based on CGE and Household Survey Data.....	280
9.5	Output Share at the Base.....	284
9.6	Output Share after Simulation of Full Elimination of Tariffs on Agriculture Imports.....	288
9.7	Change in Import Volume after Full Elimination of Tariffs on Agriculture Imports.....	289

9.8	Change in Consumer Prices after Full Elimination of Tariffs on Agriculture Imports.....	290
9.9	Change in Wage per Labor Category after Full Elimination of Tariffs on Agriculture Imports .....	293
9.10	Change in Disposable Income of Households after Full Elimination of Tariffs on Agriculture Imports .....	294
9.11	Change in the Poverty Headcount after Full Elimination of Tariffs on Agriculture Imports .....	295
9.12	Change in Wage per Labor Category after Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products.....	300
9.13	Change in Disposable Income of Households after Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products .....	301
9.14	Change in the Cost of the Household Commodity Basket after Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products .....	302
9.15	Change in the Poverty Headcount after Full Elimination of Tariffs and Indirect Taxes on Agriculture Imports and Agriculture Products.....	302
9.16	Change in Disposable Income of Households after Full Elimination of All Tariffs on Imported Products.....	307
9.17	Change in the Cost of the Household Commodity Basket after Full Elimination of All Tariffs on Imported Products .....	307
9.18	Change in the Poverty Headcount after Full Elimination of All Tariffs on Imported Products.....	308

## CHAPTER 10

10.1	Basic Price Relationship in the Model .....	326
10.2	Schematic Representation of CGE-Microsimulation Analysis.....	328
10.3	Percentage Change in the Volume of Output of the Low Tariff Scenario .....	331
10.4	Percentage Change in the Volume of Imports and Exports of the Low Tariff Scenario .....	332
10.5	Percentage Change in Average Wage Rates of the Low Tariff Scenario .....	334
10.6	Percentage Change in Household Factor Income of the Low Tariff Scenario .....	336
10.7	Percentage Change in the Headcount Index of the Low Tariff Scenario .....	338
10.8	Distribution of Poverty Incidence of the Low Tariff Scenario.....	338
10.9	Percentage Change in Volume of Output of the Actual Tariff Scenario .....	341

10.10	Percentage Change in the Volume of Imports and Exports of the Actual Tariff Scenario .....	341
10.11	Percentage Change in Average Wage Rates of the Actual Tariff Scenario .....	342
10.12	Percentage Change in Household Factor Income of the Actual Tariff Scenario .....	343
10.13	Distribution of Poverty Incidence of the Actual Tariff Scenario ...	344
10.14	Effects in the Price and Volume of Output of the Full Tariff Elimination Scenario .....	345
10.15	Percentage Change in the Volume of Imports and Exports of the Full Tariff Elimination Scenario .....	346
10.16	Percentage Change in Value Added of the Full Tariff Elimination Scenario .....	348
10.17	Percentage Change in Average Wages of the Full Tariff Elimination Scenario .....	348
10.18	Percentage Change in Household Factor Income of the Full Tariff Elimination Scenario .....	349
10.19	Distribution of Poverty Incidence of the Full Tariff Elimination Scenario .....	350
10.20	Poverty Reduction of the Full Tariff Elimination Scenario .....	352

## List of Boxes

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### INTRODUCTION

1	Propoor Checks for Asian Development Bank Projects .....	4
2	Benchmark Criteria for Preparing Effective Pro-Poor Projects .....	6
3	Variety of Projects and Difficulties in Conducting Poverty Impact Analysis .....	9
4	Coverage of Poverty Analysis.....	9
5	Steps to Conduct a Distributional Analysis of a Project and Calculating the Poverty Impact Ratio .....	13
6	Implementing Experimental Designs—Some Challenges .....	14
7	Minimizing Selection and Other Biases in Poverty Impact Analysis .....	16
8	Poverty Impact Analysis for Pro-Poor Projects in the Asian Development Bank.....	19
9	Problems in Using Computable General Equilibrium Models for Poverty Impact Analysis .....	42
10	Social Accounting Matrix.....	46

### CHAPTER 6

6.1	Benefits from Mapping Poverty Indicators.....	162
6.2	Some Recent Concerns on Poverty Mapping.....	163
6.3	Poverty Mapping in Pakistan.....	165
6.4	Welfare Classification System in Indonesia.....	168

## List of Tables in the Appendices

---

### CHAPTER 1

1.1	List of Variables Used to Estimate Expenditure and Poverty Predictors .....	73
1.2	Poverty Lines in February 1999.....	74
1.3	Ordinary Least Square Regression Results of the Consumption Correlates Model.....	75

### CHAPTER 2

2.1	Results of Logit Model Using Susenas Data (Dependent Variable: 1 = Poor, 0 = Otherwise) .....	89
2.2	Logit Model Results with Consistent Poverty Status Based on Perception and Expenditure Approaches (Dependent Variable: 1 = Poor, 0 = Otherwise) .....	90

### CHAPTER 3

3.1	Candidate Variables Selected .....	107
3.2	Results of Stepwise Ordinary Least Square Regression Using Data1 (Dependent Variable: Log Per Capita Expenditure) .....	108
3.3	Results of Stepwise Ordinary Least Square Regression Using Data2 (Dependent Variable: Log Per Capita Expenditure) .....	110
3.4	Results of Stepwise Logit Regression Using Data1 (Dependent Variable: Poor = 1, Nonpoor= 0).....	112
3.5	Results of Stepwise Logit Regression Using Data2 (Dependent Variable: Poor = 1; Nonpoor = 0) .....	113
3.6	Results of Stepwise Logit Regression Using the Absolute Poverty Line and Dataset1 (Dependent Variable: Poor = 1, Nonpoor = 0) .....	114
3.7	Identified Poverty Predictors.....	115

### CHAPTER 5

5.1	List of Primary Variables Identified from 2002 VLSS .....	149
5.2	List of Candidate Variables for Rural Subsamples .....	150
5.3	Regression Model for Learning Data Set of Rural Subsamples ....	151
5.4	Regression Model for Validation Data Set of Rural Subsamples ..	152
5.5	Regression Model of 2002 VLSS for Rural Areas Tested on 1997/98 VLSS Rural Subsamples.....	153
5.6	List of Candidate Variables for Urban Subsamples.....	154
5.7	Regression Results for Learning Data Set of Urban Subsamples..	155
5.8	Regression Results for Validation Data Set of Urban Subsamples.....	156

5.9	Regression Results of 2002 VLSS for Urban Areas Tested on 1997/98 VLSS Urban Subsamples.....	157
5.10	Regression Results for Learning Data Set for Thanh Hao and Nghe An.....	158
5.11	Regression Results for Validation Data Set for Thanh Hao and Nghe An.....	159

## List of Figures in the Appendices

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### CHAPTER 6

6.1	Introductory Screen of PRISMA.....	191
6.2	Menu Bars for Population, Household, and Characteristics .....	192
6.3	Poverty Indicators Based on the Traffic-Light Classification System Overlaid with Bar Charts of Other Important Variables.....	194
6.4	Default Classification of the Poverty Incidence.....	195
6.5	Modified Classifications of the Poverty Incidence .....	195
6.6	Displaying Related Statistical Tables and Graphs Using the Information Window .....	197
6.7	Example of Zooming-in a Map of Southeast Sulawesi to Enlarge a Picture .....	198
6.8	Guidelines and Options to Make a Print Out .....	198
6.9	Exportation of a Map from PRISMA to MicroSoft Powerpoint.....	200
6.10	Exportation of a Map from PRISMA to MicroSoft Word.....	200
6.11	Exportation of the Information Charts from PRISMA to MicroSoft Excel.....	201

### CHAPTER 7

7.2.1	Schematic Representation of Final Demand .....	234
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### CHAPTER 10

10.1.1	Registration and Introduction Page.....	357
10.1.2	Example of the Content of Introductory Page .....	358
10.1.3	Intro Page to Preset Scenarios .....	359
10.1.4	Macro Effects of the Preset Scenario .....	359
10.1.5a	Sectoral Effects of the Preset Scenario.....	360
10.1.5b	Output and Prices Effects of the Preset Scenario .....	360
10.1.5c	Imports and Exports Effects of the Preset Scenario .....	361
10.1.5d	Factor Market Effects of the Preset Scenario .....	361
10.1.5e	Income Effects of the Preset Scenario .....	362
10.1.5f	Poverty Effects of the Preset Scenario .....	362
10.1.6	Selecting a Country of Interest.....	362
10.1.7	Starting a Simulation.....	363
10.1.8	Describing Simulation.....	364
10.1.9	Introducing Policy and/or Economic Changes.....	364
10.1.10	Running a Simulation .....	365
10.1.11	Example of a Notice for Completed Simulation.....	366
10.1.12	Viewing Results of Previous Simulations.....	366
10.1.13	List of Results of Previous Simulations.....	367
10.1.14	Comparing Two Selected Simulation Results.....	367
10.1.15	Viewing and Customizing a Poverty Map .....	368
10.1.16	Magnifying a Poverty Map.....	369

10.2.1 The Interlinked Nature of the Economy .....	371
10.2.2 Total Production in the Domestic Economy .....	372
10.2.3 Input-Output (Leontief) Function of Intermediate Inputs and Value Added .....	372

## Abbreviations

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ADB	– Asian Development Bank
BPS	– Central Board of Statistics ( <i>Badan Pusat Statistik</i> )
CGE	– computable general equilibrium
DDA	– Doha Development Agenda
ERD	– Economics and Research Department
FGT	– Foster-Greer-Thorbecke
GDP	– gross domestic product
GIS	– geographic information system
HCR	– headcount ratio
NBS	– National Bureau of Statistics
NCR	– National Capital Region
PIA	– poverty impact analysis (or assessment)
PCA	– principle components analysis
Podes	– village census ( <i>Potensi Desa</i> )
PPM	– poverty predictor modeling
PRC	– People’s Republic of China
PRISM	– poverty reduction integrated simulation model
PRISMA	– poverty-related information system for monitoring and analysis
RETA	– regional technical assistance
RHG	– representative household group
ROW	– rest of the world
RSO	– Rural Survey Organization
SAM	– social accounting matrix
SP	– population census ( <i>Sensus Penduduk</i> )
SMERU	– Social Monitoring and Early Response Unit
SUSENAS	– National Socioeconomic Survey ( <i>Survey Sosial Ekonomi Nasional</i> )
TRP	– tariff reform program
VIF	– variance inflation factor
VHLSS	– Vietnam Household Living Standard Survey
VLSS	– Vietnam Living Standard Survey
WTO	– World Trade Organization