



ERD Technical Note No. 8

# Testing Savings Product Innovations Using an Experimental Methodology

**Nava Ashraf**  
**Dean S. Karlan**  
**Wesley Yin**

November 2003

*Nava Ashraf is a Ph.D. candidate in the Department of Economics, Harvard University; Dean S. Karlan is Assistant Professor of Economics and International Affairs, Princeton University and President, Innovations for Poverty Action; and Wesley Yin is a Ph.D. candidate in the Department of Economics, Princeton University. The authors wish to thank Brett Coleman, Nimal Fernando, Roger Thomas Moyes, Sununtar Setboonsarng, Vo Van Cuong, and Xianbin Yao from the Asian Development Bank for useful comments and, the Asian Development Bank for funding under RSC-C20817-PHI. Likewise, Dr. Enjiang Cheng of Victoria University, Australia for reviewing the paper, and the Green Bank of Caraga for its collaboration. All views and errors are the authors'.*

Asian Development Bank  
P.O. Box 789  
0980 Manila  
Philippines

©2003 by Asian Development Bank  
November 2003  
ISSN 1655-5236

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

## **Foreword**

The ERD Technical Note Series deals with conceptual, analytical or methodological issues relating to project/program economic analysis or statistical analysis. Papers in the Series are meant to enhance analytical rigor and quality in project/program preparation and economic evaluation, and improve statistical data and development indicators. ERD Technical Notes are prepared mainly, but not exclusively, by staff of the Economics and Research Department, their consultants, or resource persons primarily for internal use, but may be made available to interested external parties.

## Table of Contents

Abstract	ix
I. Introduction	1
II. Before the Evaluation: Product Innovation	2
III. Production Evaluation: Randomized Control Experimental Design	3
A. Internal Controls and Contamination	5
B. Unit of Observation	5
C. Sample Frame	6
D. Timing and Duration of Study	6
IV. Baseline and Follow-up Survey	7
A. Designing a Survey	7
B. Putting the Survey Together	11
C. Testing and Implementing the Survey	12
V. Analysis	13
VI. Policy Recommendations and Conclusion	15
Appendix 1: Steps for New Product Development	16
Appendix 2: Sample Survey Modules for Baseline and Follow up Evaluation	20
Bibliography	33

## **Abstract**

This paper advocates a rigorous, scientific approach to the evaluation of innovations in micro-savings products. Such rigorous, randomized evaluations can help microfinance institutions (MFIs) have a clearer sense of why certain products are successful while others are not, and can help researchers and policymakers investigate the mechanisms and incentives involved with successful savings mobilization. However, randomized evaluation designs are not for all MFIs, as they involve a large degree of planning and resources. Furthermore, although product design matters, many other issues (such as organizational capacity, internal controls, accounting systems and regulatory environment) matter greatly for the success of a savings program. This paper describes what is involved in carrying out a randomized evaluation design once a savings product has been developed, and how to design and implement appropriate survey instruments to analyze accurately the welfare impact of savings innovations. The paper is intended to serve as a technical guide for the use by administrators of MFI's, and by collaborative external agency staff sharing an interest in micro-savings product development.

## Table of Contents

Abstract	ix
I. Introduction	1
II. Before the Evaluation: Product Innovation	2
III. Production Evaluation: Randomized Control Experimental Design	3
A. Internal Controls and Contamination	5
B. Unit of Observation	5
C. Sample Frame	6
D. Timing and Duration of Study	6
IV. Baseline and Follow-up Survey	7
A. Designing a Survey	7
B. Putting the Survey Together	11
C. Testing and Implementing the Survey	12
V. Analysis	13
VI. Policy Recommendations and Conclusion	15
Appendix 1: Steps for New Product Development	16
Appendix 2: Sample Survey Modules for Baseline and Follow up Evaluation	20
Bibliography	33





## **Abstract**

This paper advocates a rigorous, scientific approach to the evaluation of innovations in micro-savings products. Such rigorous, randomized evaluations can help microfinance institutions (MFIs) have a clearer sense of why certain products are successful while others are not, and can help researchers and policymakers investigate the mechanisms and incentives involved with successful savings mobilization. However, randomized evaluation designs are not for all MFIs, as they involve a large degree of planning and resources. Furthermore, although product design matters, many other issues (such as organizational capacity, internal controls, accounting systems and regulatory environment) matter greatly for the success of a savings program. This paper describes what is involved in carrying out a randomized evaluation design once a savings product has been developed, and how to design and implement appropriate survey instruments to analyze accurately the welfare impact of savings innovations. The paper is intended to serve as a technical guide for the use by administrators of MFI's, and by collaborative external agency staff sharing an interest in micro-savings product development.

## I. INTRODUCTION

The pressure to develop viable financial products relevant to target markets has coincided with the rapid trend in the microfinance industry for self-sufficiency. Determining the net benefits of a product requires careful analysis of the institutional costs and benefits. From a policy perspective, the potential benefits of a product are rarely limited to the narrowly defined benefits of increased account balances. A financial product may impact a client in a broad range of economic behavior: it may induce changes to a client's propensity to save, to her investment behavior, and to the intrahousehold allocation of her household's resources. A full analysis of a financial product from a policymaker's perspective considers these broad economic impacts, of which internal benefit to the microfinance institution (MFI) is but one. This paper provides a detailed operational guide to assessing the broader impacts of a new financial product using experimental methodologies.

Although this paper focuses on randomized control evaluations that include extensive household surveys, one should not infer from this that such surveys are necessary for successful research and product innovation. On the contrary, surveys could be considered a luxury of the researcher with the resources, and of the policymaker with the desire to know the full impact of a product on household welfare. A financial institution keen to understand the viability, sustainability, and profitability of a given product need not collect such data, but rather should focus on administrative data (i.e., savings account balances) as the primary outcomes of interest.

To assess broader impacts, however, significant effort must be spent in gathering original data on a new product's effects; existing data are inadequate for assessing the impacts of a financial product that has not existed or been tested before. The approach we advocate in gathering such data and carrying out product evaluation is neither cheap nor fast; it does, however, lead to more accurate evaluations, purged of the biases that plague most evaluations of microfinance products. Much of this guide focuses on how to design and carry out product evaluations so as to avoid such biases through randomization, appropriate survey sampling, questionnaire design, and data collection. The last part of the article addresses data analysis and evaluation.

Randomized control evaluations of new products, whether they include extensive household surveys or not, are not appropriate for each and every microfinance institution. An MFI must be dedicated to the process in order for the research to yield reliable results. There is a clear role both for collaboration with research institutions and for public subsidies to test new product designs, so that other nonsubsidized organizations can then free-ride on the knowledge created through the rigorous, randomized pilot phase evaluation.

Throughout this article, the authors refer to a case study in the Philippines (Box 1). In 2002, the authors began a research project with the Green Bank of Caraga in Mindanao to examine the effectiveness of savings products with built-in commitment features. It is hoped that reference to this project will help clarify the steps for product implementation and assessment. Furthermore, it is hoped that this example may motivate similar endeavors elsewhere that aim to assess the broader impacts of financial products.

### **Box 1: Philippines Savings Project—General Description**

The authors are working with a rural bank in the Philippines to offer market-driven innovative savings devices with commitment features. The project employs a rigorous experimental research design, with random assignment to treatment and control groups, in order to draw robust policy conclusions about the potential implications for expansion of these client-responsive products on overall economic outcomes for poor, rural Filipinos. We will collect a full set of outcome variables so that we can measure not only changes in savings at the rural bank, but also changes in aggregate household savings in both formal and informal vehicles. Furthermore, we will collect consumption and investment data so that we can observe how additional savings were or were not used. Lastly, we will conduct in-depth analysis of who decides to take up the commitment savings products so that we can try to disentangle competing theories of savings behavior.

We will be implementing a combination of two products: a Lock Box Plan and a Set Aside Plan. The Lock Box Plan is a simple idea in which a participant is given a lock box to which the bank has the key. The participant uses the lock box to deposit small amounts of cash on a daily basis, and then every 1-2 weeks deposits the lock box content into the bank. The Set Aside Plan allows the client to define a certain percentage of all deposits to be set aside into a separate account that cannot be withdrawn until predefined events (i.e., planting season, tuition due dates, etc.), once a certain amount has been saved, or even at free will. In its most flexible form, withdrawals at free will, this product becomes a direct test of whether mental accounting heuristics, without any binding commitment, can help people save more.

## **II. BEFORE THE EVALUATION: PRODUCT INNOVATION**

There are four stages to developing and testing an innovative savings product:

- (i) **Idea Generation:** different pieces of information converge and point to client demand for a new savings product.
- (ii) **Development of Product Concept:** an institution studies the market more comprehensively, designs a prototype based on the findings, estimates the cost of providing such a product, and evaluates its institutional capacity for offering such a product (Box 2).
- (iii) **Pilot Test & Evaluation:** the institution and its research collaborators implement a pilot test, which tests the market's acceptance of the prototype, as well as the functioning of the institution's systems in providing it. This trial run includes the elements necessary for evaluating the impact of the product, by randomizing interested clients into three groups: treatment, marketing only, and control. The feedback from these processes allows planners to perfect the product and systems, and to develop a marketing/promotion strategy for launching to a wider audience. Before the product is tested in this stage, a baseline survey of all three groups is carried out to assess baseline indicators of interest. Once the pilot test is complete, a follow-up survey is carried out and progress on the indicators is compared among groups.
- (iv) **Product Launching:** the product is offered on a much wider scale.

Appendix I describes Stages 1 and 2 in more detail, for interested microfinance professionals. These stages involve carrying out focus groups, in-depth interviews, and a market survey to assess demand and supply for a new product. These are the stages at which data is gathered to assess client needs and current habits, in order to develop an appropriate savings product. Once the product is developed, the emphasis turns to gathering data on baseline measures of welfare for those who will be participating in the product trial, in order to evaluate impact.

The rest of the paper is dedicated to this evaluation of impact of a new product, after Stages 1 and 2 have been completed. Such evaluation involves a rigorous research process. MFIs often

implement innovative new products without adequate testing and evaluation (see Matin 2002 for examples), which make it difficult both for the MFI to systematically learn what aspects of the innovation worked and what did not, and for the microfinance industry to further its knowledge about which savings products help increase savings. This paper is focused, in particular, on how to carry out evaluations in a way that can further overall knowledge about how people save and how to increase savings among the poor.

### **Box 2: Philippines Savings Project—Product Development**

Product development was a collaborative process between the authors and several MFIs in the Philippines. The process consisted of several initial consultations between coordinators of MFIs and researchers on up to 10 possible new savings products, based both on implications of economic theory and on anecdotal evidence from the field on what worked in the informal sector. These were narrowed down to four or five possible products, which were then pre-tested among focus groups of clients from several MFIs throughout the country. This focus group work was supplemented with consultations with the MFI staff, in-depth interviews with clients, and, eventually, with market surveys carried out in three main regions. These market surveys had two aspects: the first consisted of understanding *supply* of existing savings products in the market and the second consisted of assessing *demand* for new savings products among potential clients (see Appendix 1 for more details on these market surveys). On the basis of results from all of these sources, the researchers developed the two products described in Box 1, and selected an appropriate MFI to implement the pilot. The evaluation stage was ready to begin.

## **III. PRODUCT EVALUATION: RANDOMIZED CONTROL EXPERIMENTAL DESIGN**

Most evaluations carried out on microfinance products and projects are vulnerable to multiple criticisms: if they only evaluate clients of the project after implementation, they do not have a proper baseline to evaluate changes against. If they evaluate based on a baseline and a follow-up survey of clients, they do not have a proper control group to demonstrate what would have occurred in absence of the project. Even if they have a control group and a project group, and gather data from both groups at the baseline level and again as a follow-up, they are vulnerable to the criticism of selection bias, i.e., any changes observed in the project/treatment group could be due to unobservable attributes (ambition, business acumen), which led people in the treatment group to take part in, or select into, the project in the first place. (See Angrist et al. 2002, Duflo and Saez 2003, Miguel and Kremer 2001, Kremer 2003, and Glewwe et al. 2000 for sample evaluations of social projects using randomized methodologies. Guides on randomized evaluation are also available in Boruch 1996, Meyer 1995, Angrist and Krueger 2001, and MDRC 2001.)

Randomization aims to eliminate this selection problem when carrying out an evaluation. Since we do not observe certain characteristics that may affect our outcome (savings), it is impossible to select a control group of nonparticipants and know that they are indeed a valid control group. Randomization solves this problem. Since people are randomly assigned into treatment or control groups there is no reason to believe that the groups, on average, should have systematically different savings preferences.

Imagine an MFI that wants to evaluate the impact of a time deposit on client savings. If it were just to compare savings of clients with time deposits to those without it, it could not definitively say whether any differences were due to the time deposit itself or to individual character and desire to save: it is very possible that those clients with a higher propensity to save are the ones who use time deposit products and it is this higher propensity to save—and not the product—that is responsible for any higher savings the MFI might see. Now imagine that we randomly select participation into treat-

### Box 3: Randomized Evaluation in Social Science Research

Random assignment is increasingly being used to evaluate social programs, and a growing literature in the social sciences documents and analyzes such “social experiments.” A list of references of rigorous research based on randomized evaluations of social programs carried out in both developed and developing countries, as well as more detailed guides for carrying out such research, are provided in the bibliography of this paper.\* In this box, we highlight two such evaluations that have been published in top-tier economics journals: one based on a housing mobility program in the US and the second based on a school deworming project carried out in Kenya.

#### Paper 1: “Moving to Opportunity in Boston” (Katz et al. 2001)

*Program Evaluated:* The Moving to Opportunity (MTO) program. Eligibility for a housing voucher, which allowed a low-income family to change their residential neighborhood, was determined by random lottery.

*Randomization Scheme:* Applicants in high poverty public housing projects were assigned by lottery to one of three groups: the Experimental group, which offered mobility counseling and a voucher valid only in a low-poverty Census tract; the Section 8 Comparison group, which offered a geographically unrestricted voucher; or the Control group, which offered no new assistance, but continued eligibility for public housing.

*Evaluation Outcomes:* Households in both treatment groups experienced improvements in multiple measures of well-being relative to the Control group including increased safety, improved health among household heads, and fewer behavior problems among boys. There were no significant short-run impacts of either MTO treatment on employment, earnings, or welfare receipt. Experimental group children were less likely to be personally victimized by crime, to be injured, or to experience an asthma attack.

#### Paper 2: “Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities” (Miguel and Kremer, forthcoming)

*Program Evaluated:* The Primary School De-worming Project (PSDP), which provided medical treatment for intestinal worms (helminths) and schistosomiasis to 30,000 children in 75 primary schools in rural Busia district, Kenya. The project has been ongoing since January 1998.

*Randomization Scheme:* The program randomly divided the schools into three groups, each group consisting of 25 primary schools. Treatment in the schools was done as follows: 25 Group 1 schools began receiving treatment in 1998; 25 Group 2 schools began receiving treatment in 1999; and 25 Group 3 schools began receiving treatment in 2000.

*Evaluation Outcomes:* The randomized order of de-worming treatment phase-in allowed the authors to isolate the impact of de-worming from other factors that may affect child health and education. By comparing outcomes in the three groups of schools, which were phased into de-worming in different years, the authors find that the de-worming treatment in Group 1 and Group 2 schools in 1998-1999 substantially improved student attendance and health. The program also had significant “spillover” effects, improving health outcomes and attendance among students in neighboring primary schools:

- (i) Pupils that received treatment reported being sick significantly less often, had lower rates of severe anemia, and showed substantial height gains.
- (ii) When younger children (Standards 1-4) were de-wormed, they attended school 15 more days per year, while older children attended approximately 10 more school days per year.
- (iii) The entire community and those living up to 6 kilometers away from the treatment schools benefited from de-worming through a phenomenon known as “spillover”. Spillover effects occur because medical treatment reduces transmission of worm larvae (eggs) to other community members. Spillover effects allowed pupils of neighboring schools to attend school an average of 3-4 additional days per year.

\*There have been several microsavings innovations that have enjoyed in-depth research, including SafeSave, MicroSave, and Bank Rakyat Indonesia’s microbanking system (examined insightfully in Robinson 2002). As our focus here, however, is on using a prospective, randomized design to evaluate innovations, we have not detailed other types of research done on microsavings innovations.

ment and control groups. Randomizing ensures that both the treatment and control groups contain individuals with similar (but unobservable) desires and propensities to save, in theory. Naturally, if few people are in the study, the ability to induce the same distribution of characteristics across treatment and control groups becomes more limited, in practice. To achieve a better randomization, one needs more participants. This increases the cost of the study. See Box 4 for the randomization scheme used in the Philippine savings project.

Quasi-experimental techniques also have risen in popularity. Fundamentally, quasi-experimental techniques try to observe the unobservable mentioned above. This has proven effective in some settings, but not in others. When it is easy to predict who will or will not take up a given service, then quasi-experimental techniques can work. Microcredit and microsavings behavior, unfortunately, are quite difficult to predict. In some cases, quasi-experimental designs can be combined with experimental designs. This requires additional resources (because it requires the creation of a nonrandom control group as well as a random control group) but provides a unique opportunity to assess whether or not the “unobservable” characteristics that drive the take-up decision do in fact lead to biased results. If they do not, then this opens up many possibilities for research designs that are easier to conduct. Microcredit by its very nature, however, relies on entrepreneurial spirit to succeed, and this is indeed a concept difficult to observe.

## **A. Internal Controls and Contamination**

Randomization often requires controlling who is allowed to take up a product. This means that some individuals desire the new product but are prohibited from being offered it due to the research design. Weaker experimental designs, such as “encouragement” designs, do not require this type of restriction. An encouragement design works by “encouraging” some people to take up a service, and not others, but allowing anyone to take up. If the encouragement is very effective, and hence produces a large difference in take up between those “encouraged” and those not, then statistical conclusions can be drawn. Typically, however, such strategies only work if the sample size is quite large and the encouragement is quite powerful.

In some cases, contamination can and should be embraced. If one wants to know how benefits spill over from treatment to control groups, then collecting information on relationships and likely paths of transmission of benefits can shed insight into this. In many cases, this can be thought of as a positive externality, hence any cost-benefit analysis should take this into account. As an example, the deworming project conducted in Kenya (see Box 3) did not pass a cost-benefit analysis until the benefits that accrue to peers of the treated were included in the analysis. This spillover to the control group allowed for a more complete analysis of the benefits, and dramatically changed the final conclusion of the research. The link for savings is less direct, but exists nonetheless. If one person learns to save more, do they teach others about their new approach to finance?

## **B. Unit of Observation**

The unit of randomization is an important decision. If a program is large enough, one could plausibly randomize over villages or counties and measure impact of a program on communities. Randomization at finer levels (at the finest, the randomization is done over individuals) can lead to increasing logistical costs and internal controls. Marketing, management, and information systems (MIS), and monitoring costs may all be more expensive and labor-intensive for, say, individual-level randomization than for a more coarse level of randomization, where, for example, towns, districts or other geographical demarcations are grouped into control and treatment categories.

However, there is a clear tradeoff here: randomizing only across broad groups (such as villag-

#### **Box 4: Philippines Savings Project—Randomization Scheme**

In order to evaluate the savings products highlighted in Box 1 and 2, the researchers have implemented an experimental design consisting of randomization across Philippine barangays (villages), capturing both urban and rural areas, into treatment and control units. Through census data, we identify villages that are poor. We match villages into groups of three by several dimensions, including size, proximity to a main town, and savings and poverty level. Then within each group of three, villages are assigned randomly to one of three groups: the first treatment group (T1) are offered the commitment savings product; the second treatment group (T2) are offered normal savings products, and will capture any change in savings to the mechanism design rather than the solicitation process and prompting inherent in the experiment; and the third group (C) is the control. To test the hyperbolic discounting and mental accounting theories, we will compare the results of the commitment products to the normal savings account. The control villages will not be offered any savings product beyond what they have access to already in their communities. This group is necessary in order to estimate the predicted change in savings from offering a commitment product, where the counterfactual is the current preexisting banking market. Participants will be followed for two years in order to test the effectiveness of the product in raising aggregate savings rates. A complete household asset survey will measure changes not only in the client's savings, but the household savings as well.

Reputation of the bank figured prominently in choosing to randomize across barangay rather than individual clients. It became clear to the authors that for loans, rural banks can be selective with clients. For savings, it is the rural bank that must earn their clients' loyalty. In this environment, it was an explicit concern that excluding individuals assigned to the control group would sour the reputation of the bank. It is believed that by excluding entire barangay, we could better argue that the product was in a promotional and experimental phase, so that individuals would not interpret the rejection as a personal affront. Other considerations involved costs. Marketing to the two treatment groups under individual-level randomization would have been prohibitively costly. Few methods of marketing within existing local norms would allow for gathering individuals from either treatment groups for marketing purposes.

es, towns, or schools), subjects the evaluation to biases from correlated shocks. If certain villages in the treatment group were, for some reason, subject to negative shocks during the evaluation period, then it will be difficult to assess whether subjects in those villages did poorly due to the product or due to the shocks they had received. There would need to be enough villages in the sample in order to ensure that such shocks balance out between treatment and control villages, and are not systematically associated with either.

### **C. Sample Frame**

Who should be included in the study: new clients or existing clients? The response affects the question that can be answered. If only existing clients are included, then one can ask what the impact is of offering an additional product to existing clients, but not what the impact is of offering the savings product to the general public. The latter is a more interesting question to ask, typically. However, there is a tradeoff: marketing to existing clients is much simpler, so if sample size is limited or client trust is important in the take-up decision, working with existing clients is advisable. In our study with the Green Bank of Caraga in the Philippines, we opted for working with existing clients only in order to ensure a high enough take-up rate to conduct the necessary statistical analysis.

### **D. Timing and Duration of Study**

Ideally, the baseline survey will be conducted prior to the implementation (marketing or first offering) of the product. Otherwise, the product already will affect the savings behavior so that no accurate data can be gathered on savings behavior prior to treatment. This is particularly true of attitude questions, such as asking individuals about their satisfaction with their savings plans.

The duration of the study can be defined by the time that elapses between the baseline survey and the follow-up survey. The important consideration here is whether the existence of cyclical, well-defined time-varying behavior of individuals affects the analysis. In most cases, savings, business investment, agricultural investment, leisure expenses, and even intrahousehold allocation, fluctuates according to cyclical patterns. This would not be a problem in either a cross-sectional or a panel analysis if cycles were identical for all individuals. If there exist variations in cyclical behavior across individuals, then problems may arise. Economic impact of the new product may falsely attribute behavioral changes due to variation in cyclical behavior to the effect of the new product. This problem is again solved in theory by randomization: variation in cyclical behavior would not differ for treatment and control groups if chosen randomly. However, the influence of cyclical behavior on economic issues is so great that one would be well advised to insist on precaution beyond randomization. It is suggested that any follow-up survey be done in intervals of a year subsequent to the baseline analysis, so as to observe the individual at the same point within the year.

#### IV. BASELINE AND FOLLOW-UP SURVEY

This section discusses the decision to conduct a baseline survey and the process for designing and implementing it. Much more extensive volumes have been written on this; we merely provide an overview of some of the main issues. As mentioned earlier, a randomized control experimental evaluation does *not require* a household survey. The primary outcome of interest, both to policymakers and to the financial institutions, should be the savings held at that financial institution. A project with limited resources could and should decide to forego the survey instrument and instead focus strictly on the administrative data. Projects with more resources can and should, however, ask the important questions, such as impact on household welfare, which the full survey allows one to answer.

The motivation behind the baseline and follow-up surveys is to assess the broader economic impact of a new product. In theory, the randomization of the treatment should allow the post intervention survey alone to form adequately similar treatment and control groups. However, performing a baseline study is beneficial in many ways. A baseline survey allows the researcher to control for relevant observable characteristics that randomization did not adequately and evenly distribute across experimental group assignment. This is more of a concern when working with a small sample or when there are many dimensions over which one wants to conduct analysis (gender, age, occupation, marital status, etc.).

Furthermore, the baseline survey allows one to examine the characteristics that determine take-up of the product (if in the treatment group). This can provide useful information for marketing purposes and future product innovation. As an example, if only married women want the product, then marketing should be focused on them, or if only salaried employees seem to want the product, then perhaps partnerships should be formed with large employers to promote the product.

---

<sup>1</sup>For more detailed information on designing a household survey on various measures and several sample modules, please see Grosh and Glewwe (2000).



## A. Designing the Survey

There are five main steps to designing a survey<sup>1</sup>: (i) defining the fundamental objective of the survey; (ii) choosing which modules to include in the survey, the objectives of each of these modules, and approximate length of each module; (iii) deciding on each question within each module in light of that module's objective; (iv) integrating the modules into a draft questionnaire and translating it, if needed; and (v) field testing the questionnaire. Designing and testing the survey should be a joint venture between the researchers and the agency implementing the survey, in consultation with local policymakers and MFI staff. Each party brings a unique perspective that needs to be taken into account in order to address the local context and culture, and to make sure the most relevant outcomes are included. A survey design process that includes all parties also minimizes any possible misunderstanding or mismeasurement of each question in the survey.

The fundamental objective of a survey that is going to evaluate a savings product is to provide baseline (pre-treatment) and updated (post-treatment) measures of the economic characteristics (or "outcome variables") that are most likely to be affected by the new product. There is little reason to gather costly data on characteristics that are not likely to change over the duration of the study as a result of the product, unless one wants to analyze the impact of the product on subgroups of clients (e.g., gender will not change, but we care about gender because we want to know whether the product works better for men or women). At the most basic level, we want to use the survey to assess whether a new product increases savings overall (not just in the bank account balances).<sup>2</sup> This requires detailed modules investigating the financial, agricultural, and enterprise assets of each participant. Gathering data on financial assets alone is inadequate because individuals store wealth in physical assets. Such items take the form of household utility or leisure goods, as well as enterprise assets. Indeed, it is plausible that while features of the new financial product are desirable and lead to increased account holdings, overall savings is unchanged as the client liquidates physical assets. For predicting take-up, it is imperative to have accurate measures of income and expenditure flows, demographic characteristics, and measures of savings preferences.

Before discussing the separate modules of the survey, a final general point must be addressed: establishing the unit of observation. If the product is targeted for an individual, then the fundamental unit of observation is the individual. Yet clearly, financial savings and borrowing is rarely an individual enterprise, especially when shared physical assets and financial obligations are considered. It is likely that there exists substantial overlap between the client's activities, and all the activities of the household, even if the interviewee does not have direct control over certain activities, but merely provides for them. A trade-off must be made between gathering data on all activities and holdings that the respondent and their increased savings may influence, and the cost of the survey. A careful selection of which household-level activities are most relevant to the assessment of the product must also be made with cost considerations. For all the modules discussed below, see Appendix 2 for sample modules taken from the Philippines project baseline survey. This survey can and should be modified for other projects, as each project implementation has its own relevant and appropriate variables.<sup>3</sup>

---

<sup>2</sup>As mentioned above, we want to ascertain whether a product has an overall welfare gain for the client, allowing them to save more in general, and has not just served to transfer money from one place to another.

<sup>3</sup>For more detailed and varied modules (including modules on consumption, other forms of income, and various other measures) that can be adapted for specific needs, see Grosh and Glewwe (2000). This publication also highlights the measurement challenges involved with each module.

## 1. Demographic Variables

The purpose of this module is to gather data on basic personal relevant household characteristics. Personal information should include age, sex, education, ethnicity, religion, and employment status and type. Additional information related to the household is also invaluable to assess general family characteristics of the respondent of interest. Basic household-level variables to consider are value of property and landholdings, and estimates of monthly income of all adult household members. Appendix 2, Module I, provides a sample module on demographic variables.

Income estimates provide for a general categorization of household flows (see Box 5). Income tends to come in several forms: wages, pension, agriculture, business enterprise, and rental income. Since the unit of observation is the household, it is useful to ask about income flows of the respondent separate from the other income earners. Depending on the source of income, the respondent may have difficulty estimating monthly income. Poorer, nonwage earning individuals tend to earn daily or weekly wages. Buy/sell enterprise owners likewise tend to earn on shorter time intervals than wage earners. Allowing for a free response for the unit of time does not force the individual or the interviewer to make extrapolations. Appendix 2, Module II, includes a sample module on labor income.

## 2. Physical Assets

The status and characteristics of property and landholding should be included in any module discussing physical assets (Appendix 3, Module III). In particular, renters and sharecroppers frequently choose to buy or contribute payments for land they do not yet own. Note that it is common for the plot on top of which the primary residence is situated to be owned separately from any agricultural land. A change in (status of) the ownership of the housing plot may signal an otherwise unidentifiable change in (a level of) wealth. Likewise, home improvements to roofing, flooring, etc., are also common improvements made when financial situations improve. Questions regarding housing material, for example, offer a multitude of possible responses. If, *a priori*, the researcher is aware of general preference rankings for goods, then spotting a change in roofing materials reveals income-elastic shifts toward investments in the home. Again, it is important to include local researchers and MFI staff in the design of the survey, to understand which home improvements might be more likely, and what are the preferences rankings in a particular region of the survey. This local context is also important for interpreting baseline welfare measures that involve housing characteristics.

As mentioned, gathering a detailed inventory of household physical assets is important to estimating total household savings. Savings can be stored in both liquid and physical assets. Home and agriculture related physical assets represent savings that are commonly shared by all individuals in the household. Therefore, it is recommended that while the individual is the unit of observation, all large household and agriculture related physical assets are included in the survey. Basic questions concerning ownership status and count should form the main components of this module.

Ideally, the researcher would like to ascertain the entire household inventory of physical assets. In reality, this is impossible. The next best strategy is to focus on assets of substantial value. These items can be more realistically regarded as savings instruments because given their value, they are more likely to be liquidated. This module should also establish the flow of physical assets through the household. This allows the researcher to place a currency figure on the total assets owned and on the flow of purchases made by the household. However, unlike land and property assets, asking the present sales value may be difficult as individuals rarely have a good sense of the market for used furniture, electronics, and appliances.

While total assets is a stock, the flow is a rate, which may be difficult to measure due to the infrequent and lumpy nature of their expenditures. To gather information on flow, it may suffice to ask whether an item of a particular type had been purchased in the past year or so.

Agricultural assets can be similarly regarded. Since the investments and returns to agriculture and animals are frequently shared by all members of a household, there is no justification to inquire about individual-specific agricultural activities separate from the larger household. The survey should gather inventory on animal stock, fertilizers, and farm implements at the household level. Note that there may be individuals who do not own land yet, but still engage in agricultural activity; and other individuals who do not engage in agricultural activity yet, but still own agricultural assets traditionally associated with farming (most commonly for animal husbandry). Animals, in particular, are often used as savings devices in many cultures. Finally, land holdings can be more readily valued and quantified (area), and should be asked in any survey investigating assets.

Agricultural activity may be of interest beyond the purchasing of more agricultural implements. Increased capital due to a new product may lead to changes in investment behavior beyond the purchasing of physical assets. Such behavioral changes should be captured in the survey. Investment questions can be broad (topics include number of crops harvested or land utilization). Appendix 2, Module III, includes a sample module on physical assets.

In general, it is important to know the price of such assets to be able to value them, and how the prices for such assets changed over the intervention period. The change in prices of these alternative savings/investments devices—including both physical assets and financial assets relative to that of saving in a commitment savings account—could be a reason behind any changes in these assets we might see. We would thus not be able to attribute changes in these assets to the new savings product. However, if the randomization is done correctly, this need not be a concern. Because subjects across many subregions were randomly assigned to treatment control groups, there is no reason to believe that they would face systematically different changes in relative prices; thus changes in assets we see can be more confidently attributed to the savings product, rather than to changes in the price of those assets. This is a further advantage of randomizing on the individual level, versus on a more regional level where it is possible that relative price ratios would change differentially.

#### **Box 5: Philippines Savings Project—Income and Expenditure Patterns**

**Of particular interest to the authors is the scope for financial planning with the commitment savings product. Individuals may commit to saving cash until it is needed for business investments. In theory, this helps to smooth savings from high net income periods (when sales are high) to high net expenditure periods (when investments are high). We can identify savings behavior through the assets and bank savings data, but the savings behavior needs to be compared to the net income flows of the individual throughout the year.**

**To ascertain this, we include an income and expenditure section within the enterprise module. We ask whether income (and expenditures) is variable from month to month. If so, we ask more detailed questions regarding for which months income (and expenditures) is high and low, and the typical levels for those months. In this way, we can form general cyclical patterns for the income and expenditures of a particular enterprise. With this information, we can better predict take-up of the commitment product, and examine whether increased savings and take-up of the product lead to an enhanced ability to plan for investments.**

### 3. Enterprise Assets

While there is substantial scope for intrahousehold sharing of enterprise assets, the ownership and control of enterprises generally have more clearly defined demarcations. Therefore it is not necessary to survey the assets and activities of all household enterprises, but only those that are directly affected by changes in financial capital due to the new product.

As with the case of agricultural activities, enterprise activities should be investigated with respect to the stock of physical investments, and to the broader shifts in investment behavior. The survey should first identify all relevant household enterprises, ensuring that the fungibility of capital across household enterprises is accounted for. It is helpful to gather all responses for assets and investment behavior for an enterprise before continuing to the next enterprise. Appendix 2, Module IV, provides a sample module for Nonagricultural Enterprise Assets.

### 4. Financial Assets and Liabilities

Of the modules suggested in this article, financial assets and liabilities may be the most difficult for which to gather accurate data relevant to the assessment of the new product. Three main issues characterize this difficulty. First, and most fundamentally relevant to an investigation of financial behavior, is that people pool financial resources. This is of critical importance because the first order effect of a financial product is a change to financial asset level. If sharing of financial assets occurs, then the study may be confounded from the beginning. Randomization can control for unidentifiable sharing of resources. However, if sharing occurs *as a result* of the product (household members using the new product of the client of interest), then bank data will have systematic positive measurement error. As a result, it is important to inquire about the balances of all accounts owned by the client of interest, and the account balances owned by anyone who contributes to the new product of the client.

A second problem involves the reluctance of some individuals to reveal their account balances. Naturally, the researcher already has access to individual bank account data. The researcher can verify the accuracy of the individual's response. However, the main interest in these questions is to determine total financial asset levels. Assets held in a bank with whom the researcher is not affiliated will not be estimated accurately if dishonesty plays a role in response. The most useful tactics the interviewer can employ are to (i) ensure confidentiality (indeed, a common impediment to accurate responses to savings is due to the fear of friends and relatives wanting to borrow money from the client); (ii) explain the motivation of the research to alleviate suspicion; (iii) request that the interview be in private; and (iv) categorize the question in brackets so that the exact figure is not revealed.

A final difficulty is ensuring anonymity of the researcher. This is compromised if the interviewer reveals the collaboration between the MFI and the researcher, as clients may regard such a collaboration with suspicion. Such collaboration may easily be revealed if the survey asks about balances at a particular institution. A useful tactic is to first ask where the client has accounts of a certain type. Then the interviewer is free to ask about account balances at the institutions of interest, inquiring about each of the accounts at the institutions just named by the respondent. Indeed, the interviewer should already expect the name of the bank with whom she is collaborating to be named!

This section should also account for savings held at home and in informal savings and lending groups. Limited markets for microsavings and microfinance have created large markets for informal associations and savings and lending clubs. Individuals with accounts at MFIs or at commercial banks may still participate in savings groups. Such associations may incorporate desirable peer pressure and social commitment devices that formal finance markets may not provide.

Finally, this section should include gifts and transfers that the household has received, as these can often be a large component of household income. Appendix 4, Module V, provides a sample module for financial assets and liabilities.

## **B. Putting the Survey Together**

Once the various modules have been designed, care must be taken when bringing them together into the questionnaire to ensure that there are no overlaps in the individual questions across modules. It is often hard to persuade households to sit for a very long survey, so repeats or extraneous questions should be eliminated at this stage. However, careful attention should be paid to the trade-off between the time costs of repeated questions, and the benefits of consistency checks that only repeated questions can provide (see Box 6).

The questionnaire requires detailed formatting and translation into local languages—two processes whose importance are often underestimated. While the developer of the questionnaire fully understands the nuances of each question and the structure of logic across questions, the same cannot be assumed of the respondent. The logic defining the flow of questions within a survey module may not be immediately apparent to the respondent. Formatting the questionnaire with an apparent flow can facilitate accurate data collection, and minimize both the survey subject's discomfort with particular questions and data entry errors. Other references provide a more detailed discussion of the implications of a well-structured questionnaire.<sup>4</sup> Translation of the questionnaire into local languages is also taken for granted. Fewer mistakes are made when the questionnaire is translated at the time of the interview. It also ensures that the survey testing stage will better be able to discover undesired connotations of questions when asked in the local languages.

## **C. Testing and Implementing the Survey**

Once the survey has been designed, brought together, and translated, it is critical that the survey be field-tested. The goal of a field test is to ensure that the questionnaires collect the information they are intended to collect (Grosh and Glewwe 2000). Every question should be properly tested in the field for clarity of wording, possibility of ambiguous response, and multiple interpretations; all responses to the question must be anticipated and coded. The modules should be reassessed after the field testing to make certain that all major activities, living arrangements, and sources of in-kind and cash income (where applicable, depending on the objectives of the survey) have been accounted for, and to delete any redundant or irrelevant questions. Finally, the questionnaire as a whole should be reassessed to make sure there are no variables that are unintentionally double-counted, and that the full range of required information is collected. The field testing of the survey should be done by the survey designers, the survey research supervisor, and a few experienced surveyors.

After the survey is tested, reassessed and, if necessary, adapted, the survey team should be trained fully. The survey team should consist of a main research supervisor who will be involved in designing and testing the survey and will train the surveyors and supervisors; several field supervisors who will oversee the work of the surveyors; and a team of surveyors who will actually ask the questions. Once the surveyors and field supervisors have become very familiar with the survey and have been trained on surveying skills such as not leading the interviewee when asking a question, probing where necessary, etc., they should do field trials with the survey. Once these field trials are done, and the survey team feels confident in their ability to conduct the questionnaire, the survey implementation

---

<sup>4</sup>See Grosh and Glewwe (2000, chapter 3), for an excellent discussion of these issues.

### **Box 6. Philippines Savings Project—Predicting Take-Up**

The survey for the commitment savings product includes two additional modules devoted to predicting take-up. The first module examines time and risk preference questions, the second ascertains the share of decision-making power within the household.

As is common in the related literature, time and risk orientation will be measured through short questions asking individuals to choose among simple lotteries and among combinations of time and interest rates options on loans and investments (Ben-Zion et al. 1989, Shelley 1993, Tversky and Kahneman 1991, Frederick et al. 2002). It is thought that the commitment product will be most appealing to individuals who both have problems committing to savings (which may be exacerbated by particularly volatile net income streams), and are able to realize this problem. Those who do not recognize the potential for a commitment device to help them will not take up. Likewise, those who do not have difficulty committing to savings do not need devices to maintain desired savings. Naturally, the notion of commitment is a psychological concept, and is therefore not easy to quantify, nor to identify in questions that target one dimension of behavior. For our purposes, a variety of questions that are exclusive along behavioral dimensions, yet share a relevance to the notion of commitment, are included in the survey to better capture a broader view of time discounting.

We ask women questions about decision-making within the household in order to ascertain whether spousal or family control issues might explain a higher propensity to save with a commitment device. We would like to compare the take-up and savings of women with husbands versus comparable women without husbands. Comparing single and married women would not be useful as the two groups would substantially differ in their characteristics. Therefore, we add a question in the demographic module regarding widowhood, and the reasons for husband's death. By comparing the take-up and savings of married women with the take-up and savings of women whose husband died by an unexpected exogenous cause, we can plausibly measure the average degree to which the commitment product is used for money sheltering. Furthermore, by asking these questions in both the baseline and the follow-up, if the commitment product does help individuals save more, we then can observe if having more savings helps women develop financial independence. Appendix 4, Module VI, provides a sample of the module on decision making used in this project. The Module on Time Discounting was not included in the Appendix for the sake of brevity, but is available from the authors.

Additional factors that could affect take-up in this case should also be included in this analysis, including distance from branch and cost of getting there, and various savings needs, like the number of children in school, access to health insurance, etc. In analyzing both take up and impact, one might find that on average there was no significant effect, but for certain groups—such as those who did not have health insurance, or those with several children in school, or those closer to a bank branch—there was a significant effect.

officially begins.<sup>5</sup> At the end of every day, the field supervisors should look over the surveys brought in and clarify anything that remains ambiguous with the surveyor who undertook the survey. The surveys are then ready for data entry.

If the researchers are particularly interested in conducting gender analysis to see if, for example, a certain product affected household decisions about resource allocation or changed intrahousehold conflicts, men and women should ideally be asked the questions separately, and not in each other's presence. It is also important to have enough women on the survey team so that women being surveyed feel comfortable being in a separate room alone with the surveyor.

This survey, as described above, provides baseline measures of welfare for the individual and/or household. Once the product is introduced, the researchers and MFI should jointly decide when the follow-up survey should be implemented. The follow-up survey is essentially the same as the baseline survey, and provides a panel of the same household over the project period. The timing of the follow-up should be determined by when impact can reasonably be expected. For areas in which income

---

<sup>5</sup>See Grosh and Glewwe (2000) for more details on timing and content of the training and testing.

follows clear annual cycles, the period after the intervention is started and before the follow-up should be at least one year. Because the same households are asked about their assets before and after, they should not need to remember how much they had before. This helps avoid memory bias. However, care should be taken to make sure that there is the same interview schedule across all households in both the baseline and the follow-up survey, so that the timing for each is similar.

## V. ANALYSIS

The baseline survey has the potential to define the characteristics that determine take-up of the product conditional on having been offered it in the randomization. This analysis must be restricted to those individuals who are offered the product. By comparing the characteristics of individuals who take up the product when offered, against those who do not, the researcher can make statements about what characteristics influence the take-up decision of the client.

The impact analysis draws upon three data sources: baseline data, follow-up survey data, and all data gathered by the MFI. The latter includes basic data on balances and transaction history, as well as other savings and loan products that the subjects were using or had available to them.

The effort spent on randomization has immediate returns in the analysis: the sophistication of the experimental research design allows for easier identification of estimated impacts of the new product.

The randomization of assignments should induce statistically similar pre-intervention treatment and control groups so that the post-intervention survey is sufficient for consistent estimation of product impact. Under sufficiently successful randomization, simple averages between outcomes of interest in the post-treatment survey can be compared across the two groups. In theory this alone will deliver consistent estimates on the impact of the new product. However, depending on the sample included in the analysis, the estimated difference has different interpretations.

While treatment assignment is random, take-up within the treatment group is not, as discussed above. Therefore a distinction exists between comparing the average outcomes across all clients in the experimental groups, and comparing the average of the control individuals against those treatment individuals who took up the product. Comparing the outcome for treatment versus control groups can be done through a simple OLS regression of the relevant outcome variable (e.g., for changes over the time period in account balances or asset accumulation) on a dummy variable for treatment status. Such a regression is no different than a simple comparison of means t-test to test whether the mean of two samples (treatment and control) can be distinguished statistically. The coefficient on the treatment dummy variable (whether this person was in the treatment group or not) is considered the Intent to Treat effect (ITT). This is an average of the causal effect of being offered the product. This is because since it is an average of all who were *assigned* to the treatment group and offered the product, it includes both those who took up the product and those who did not. This might result in much lower estimates of treatment effect than otherwise expected if the percentage of people offered the product who actually took it up was low.

It is possible to try to "scale up" this ITT effect by the proportion of people who actually took up the product. This provides an estimate of the effect of the product on those who used it, referred to as the Treatment on the Treated (TOT) effect. Although this is an important estimate, the subtle distinction in the question it asks should be noted for policy purposes: This analysis answers the question "what is the impact of this product on clients who take it up?" and not "what is the impact of this service on clients who are offered this product?" For policy implications, this is very different if those who take up the product are fundamentally different than those who do not, and also in terms of conducting cost-benefit analysis. This estimate is calculated through Two Stage Least Squares by using

assignment to treatment group as an instrument for actual treatment (since assignment to treatment group was random and exogenous to the outcome variable we care about, but the take-up decision is likely correlated with outcomes of interest<sup>6</sup>). The instrumental variables approach is required for one simple reason: the decision to take up a commitment savings product is likely to be highly correlated with overall desire to save more for the future. The key policy question requires understanding what would have happened if the commitment savings product were not offered in the marketplace. Individuals who took up the product, had the product not been offered, likely would have found some other means by which to save. For this reason, there must be some random variation in the access to the product in order to attribute its impact to the product, and not the overwhelming and unstoppable desire of the client to save.

A word should be said about possible biases that may remain, and which can particularly plague a randomized design. Foremost among these is attrition bias, the effect whereby members of the treatment group leave the sample, either by moving or by refusing the follow-up survey, etc. In these cases, the researchers will not have post-treatment data for a certain group of people who were originally in the sample, and thus this group of people will have to be excluded from the analysis. However, it is likely that this attrition was not random. For example, perhaps the least motivated people dropped out or the most economically vulnerable moved. This would bias the results, since the analysis is now based on a nonrandom sample. With random assignment into control and treatment groups, and with analysis being based on assignment to treatment group, rather than actual treatment status, one would hope that there should not be any reason why more or different types of people would drop out in the treatment group than in the control group. In the example of the Philippines, attrition bias would be an issue if members of a certain group were either more likely to move or more likely to refuse a follow-up survey, but since individuals were randomly selected this should not be the case. In other examples of field experiments where treatment was given to certain schools but not others, attrition bias has been a significant problem as pupils actually moved from control schools to treatment schools in order to receive the treatment. Since those pupils were still considered control group subjects, and their averages included in the control group average, this biased the results downward.

Another bias that is not as frequently a problem but should still be considered is the Hawthorne effect where being followed in itself is a treatment. Thus, control households might adapt their behavior differently than they would have otherwise because they know that they will be interviewed and followed. This is likely to be a larger problem for studies that have very regular follow-up, as opposed to only once a year.

## **VI. POLICY RECOMMENDATIONS AND CONCLUSION**

This guide is not for every microfinance organization nor is it for every microfinance product. Rather, it is for the leaders, for the microfinance organizations interested in breaking into new territory to learn more about specific impacts of new product designs that are new, promising, but unproven. A donor funding such early-stage innovations should want generalizable results so that policy recommendations can be drawn and projects replicated and expanded. For this reason, there is a strong argument

---

<sup>6</sup>In order to use treatment assignment as an instrumental variable for treatment—and thus be able to estimate the TOT from the ITT—the following assumptions must be fulfilled: (i) assignment to the treatment by itself would not affect our outcomes directly (and instead only works through the treatment it provides); (ii) assignment to treatment group is truly random; and (iii) control group members are prohibited from using the commitment product. Even with these assumptions, we cannot assume that this effect is homogenous across the population; it may only have the observed effect for precisely the type of people who would voluntarily choose to use it.



to subsidize early-stage innovative work, such as the commitment savings products being tested currently in the Philippines. This approach to testing innovations is true not just for microfinance, but also for development projects across most sectors.

The microfinance industry in particular is rampant with different lending and savings products, and little empirical research has shed insight into the relative merits (see Banerjee 2002), both to the institutions as well as the clients, of one product design relative to another. Comparing product success across organizations, unfortunately, confounds organizational differences. In other words, did Product A at Organization A work better than Product B at Organization B because the product design was better, or because Organization A simply is better managed? There typically is little way to disentangle the difference between the personnel and the difference between the products design. Valid product design testing must be done within organizations. Rigorous, experimental designs can inform microfinance organizations and donors worldwide about what works best (and for whom) and what does not. Such rigorous experimental designs should be carried out in addition to, and not in lieu of, important qualitative research to help define and design innovative solutions.<sup>7</sup> Once the idea is formulated and qualitatively the ideas seem to work, then quantitative experimental designs can draw robust conclusions, including cost-benefit analysis, to decide whether the project should be replicated and scaled.

---

<sup>7</sup>See Microsave Africa (<http://www.microsave-africa.com>) for excellent work establishing norms and procedures for qualitative market and product design research for the microfinance community.

## APPENDIX 1: STEPS FOR NEW PRODUCT DEVELOPMENT<sup>8</sup>

The process for developing a new financial product is described in great detail in many other publications, such as the Microsave Market Research for Microfinance (available: <http://www.microsave.org>), and the Microenterprise Best Practice publications on new product development (available: <http://www.microsave.org>). The bulk of this paper has focused on the proper evaluation of such new financial products. In this appendix, we will review the steps that are involved with developing a new product before it is to be tested.

### *Stage 1. Idea Generation*

Ideas for new products come from many sources. Donors often suggest products that have been used successfully in other contexts. Researchers may provide ideas on new products based on their research. Exchange visits from other microfinance practitioners generate new ideas. Participation in conferences contributes new insights, as does investigation of research provided on the Internet. Staff of an institution can provide ideas. And finally, probably the best source of ideas on new products is an institution's own clients. It is very important to listen to clients, and to the people within the institution who have direct contact with them, such as promoters, loan officers, and cashiers. Institutions can institutionalize a client feedback mechanism by establishing a client committee whose members provide feedback, not only on new product ideas, but also on existing products and their delivery. Another name for this committee might be quality control committee. Feedback from clients also comes from loan officers and promoters in their regular meetings with supervisors.

Data analysis can contribute to generating new ideas for products. These data would include monitoring information as well as evaluation findings. Some indicators that might point to the need for a new product would be loan delinquency, drop out rates, inactive savings accounts, limited demand for a product, and seasonality of demand for savings or loans. This information can be bolstered by a market study, discussed in the next section.

### *Stage 2. Development of a Product Concept ("Prototype")*

Management may decide that a particular idea merits further discussion. Once management makes that decision, the next step is to appoint or deputize a person to act as the coordinator of the effort. This person has often been called the "champion" because s/he is responsible for overseeing the development of the product down to its final launching. This person can appoint a committee of staff (and even nonstaff) to assist in the work. This committee will be referred to in this document as the "product development committee". It is helpful if the committee members represent the different departments of the institution. This is important so that the product development process incorporates different functional aspects like the management of information, human resources, finances, and field staff. Nonstaff could include board members, clients, and/or consultants.

The first task of the committee is to gather more comprehensive information in order to develop a detailed product concept that responds to the market.

### **Market Study—Supply and Demand**

A market study has two sides: supply and demand. A supply study investigates the supply, or offer, for a particular product or service. Institutions that are conducting a supply study should be careful to

---

<sup>8</sup>Adapted from *Commitment Savings Account Guide* (available from the authors upon request).

maintain a broad definition of the concept of "supply." This is not just a study of what the competitors are offering. It is a study of all the options that people have for a particular service or product, which, in the example of a savings product, could include "in kind" savings vehicles, such as animals or land, or informal savings societies, like ROSCAs, as well as savings accounts in more formal institutions.

The basic questions that need to be addressed in a supply study are:

- (i) What mechanisms are available in the market that meet this particular need, which in the case of commitment savings products, would be larger sums of money for events (weddings, schools), assets (land, animals, machinery) or productive activities (planting, labor costs, working capital)?
- (ii) What are the specific market niches? What type of person uses each different service?
- (iii) What are the important features of the mechanism or service?
- (iv) What are the advantages and disadvantages to the user of the service?
- (v) What are the costs and the benefits (returns) of each service or product?

It is useful, before embarking on an activity of this sort, to draw up a scope of work, describing what is to be accomplished and how long it should take. This is especially important if outsiders are involved in the data gathering.

### **Demand Study—Current Clients and Potential Clients**

A demand study is intended to evaluate the demand for a product or service. The first step in this process is to segment, or divide, a population in accordance with its financial needs. An example of a market segment might be rural coffee farmers. It is likely that this segment will have common financial needs that will, at the same, be different from other market segments, for example, urban women traders. By segmenting a population by productive activity, socioeconomic status, household size, and other factors, it becomes easier to determine what a client's financial needs might be.

Once these segments have been defined, the study can use a variety of methodological tools and information sources to answer questions about the needs of a particular segment or niche of a population. These questions include the following:

- (i) What is this person's economic situation?
- (ii) What does this person need money for?
- (iii) When does this person have money to invest or save in his/her business cycle?
- (iv) When does the business owner need money?
- (v) How does this person save money now?
- (vi) Why does s/he put aside capital in these ways?
- (vii) Do women have different needs for savings than men?

Answers to these questions may be different in different areas of the country, at different times of the year, and at different stages in a business' growth, and at different moments in an individual's life. Good methodological tools will take these issues into account.

To gather information in a way that can be analyzed, methodological tools can be used, including focus groups, semistructured interviews, individual interviews, and quantitative surveys. Each tool has advantages and disadvantages, based on its complexity, cost, and time to administer and analyze. It is useful to combine different types of tools, in order to double check ("triangulate") information received from different sources.

## **Focus Groups**

The focus group is one methodological tool that tends to yield good results at low cost. These groups are often used to refine demand, for quality control, and to hear opinions on prototypes. They can yield valuable information on the features of a product that are most important to a client, which are not necessarily the cost. The following steps should be used when undertaking a focus group:

### *Step 1: Team Selection*

The person facilitating the group should have experience in running a focus group, both in facilitating and in analyzing the data that is yielded. The facilitator should speak the language of the participants. The facilitator is a person who understands that the purpose of the group is not to arrive at a consensus but rather to investigate the depth of opinions and the reasons behind them. In addition to the facilitator, there should be a rapporteur, to record the information for later analysis. Both the facilitator and the rapporteur should have a good knowledge of the country or context, and understanding of savings products and client savings behavior. However, both will be careful not to let their preconceived ideas influence the discussion. In other words, they must remain objective and open-minded.

### *Step 2: Group Criteria Selection*

The second step is to select the criteria by which group members will be chosen. Different groups can be chosen using different criteria. In the case of focus groups on new savings products, one group might be composed of rural, poor women. Another might be composed of urban men with small businesses. Notice that the group selection criteria often correspond to the market segmentation criteria that were discussed earlier. In cultures where women are subservient to men, the groups should be divided by gender.

### *Step 3: Fix the Venue*

The place and time of the focus groups is very important. The groups should be held at a neutral location, at a convenient time of day for the participants, which does not interfere with the businesses or home activities. The place should be in a closed area, to avoid outsiders listening in, and quiet. It should be easily accessible to the participants. The discussion should last no more than two hours, and participants should be advised of this before the meeting so that they can arrange their activities.

### *Step 4: Prepare a Discussion Guide*

A discussion guide is a general document for guiding the discussion, rather than a fixed questionnaire. For investigating the need for new savings products, the guide should include questions such as:

- (i) How do you currently save, and why?
- (ii) What has been your success in saving for a particular event or need?
- (iii) What have been the difficulties that you have faced in saving for a particular event or need?

### *Step 5: Conduct the Focus Group*

The facilitator always begins by introducing her/himself as well as the rapporteur. S/he explains the purpose of the interview, and thanks the participants for coming. S/he explains that the facilitating team is a group of independent researchers, and that the discussion is confidential. Only the general opinions will be shared with others; people's names will not be identified. If an institution is doing focus groups with its own clients, then the staff who most frequently interact with the clients in the group should not be facilitators, rapporteurs, or even observers.

After this, the facilitator begins with general questions that are designed to put people at ease. Gradually the discussion becomes more involved and more animated, as the facilitator directs the questions

toward the purpose. Opinions should be solicited from all participants by the facilitator. No one person should dominate. The facilitator should take care not to lead the participants to a particular answer, because it is quite common that the participants will say exactly what they think the facilitator wants to hear.

The rapporteur does not contribute to the discussion, but may pass small notes to the facilitator about who needs to be drawn out, or if a question is not clear. The group will have been told during the introduction that this might occur, so that the facilitator does not lose their trust. A useful device for recording these discussions is a tape recorder, since it is difficult to write down everything that is being said.

#### *Step 6: Debrief*

After the focus group is concluded, and before beginning another one, it is important to debrief and record impressions. The team sits together and the rapporteur reads the notes taken to see if clarification is necessary. The tape recording can be used to double check. At this time it is valuable to review the guide, to make sure that the questions are adequate for the purpose.

#### *Step 7: Analyze*

After a day's work of focus groups, there should be analysis of the data. The words of the participants are the data. This data can be analyzed by the following factors:

- (i) intensity of opinion
- (ii) frequency of opinion
- (iii) personal experience vs. rumor or vague impression
- (iv) relationships between concepts

The analysis obtained from the focus group interviews can be supplemented by data from the other methodological tools mentioned above.

### **Other Information Sources**

Other sources of information are previously collected government household datasets, government publications, research studies, newspapers, and Internet websites. These can be valuable in providing broader perspectives on macroeconomic and political trends, demographics, population and environmental changes, and other variables that might impact a new product.

### **Product Features**

Once the market study results have been analyzed, and each population segment's needs identified, it becomes possible to design a prototype product for pilot testing. The prototype should specify each of the features of the product, which, for a commitment savings account product, might include:

- (i) the minimum savings balance for opening an account
- (ii) deposit parameters
- (iii) withdrawal parameters (minimum periods, maximum periods)
- (iv) penalties for early withdrawal
- (v) rollover features
- (vi) exceptions to the regular features

Cost and MIS aspects of the product are also major considerations for an institution in new product development.

## APPENDIX 2: SAMPLE SURVEY MODULES FOR BASELINE AND FOLLOW UP EVALUATION

I. Demographic Module

<p>A1a. Sex of Respondent</p>	<p>Male ..... 1 Female ..... 2</p>
<p>A1b. How old were you during your last birthday?</p>	<p>Age last birthday <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/></p>
<p>A1c. Are you single, married/living with partner, separated or widowed?</p>	<p>Single ..... 1 Married/living with partner ..... 2 Separated ..... 3 Widowed ..... 4</p>
<p>A1d. If widowed, how did spouse die?</p>	<p>Spouse died in an accident ..... 1 Spouse died in a natural disaster ..... 2 Spouse died due to medical problems ..... 3 Spouse died by some other cause ..... 4</p>
<p>A2. What is the highest grade you obtained?</p>	<p>None ..... 0 Grade 1 ..... 1 Grade 2 ..... 2 Grade 3 ..... 3 Grade 4 ..... 4 Grade 5 ..... 5 Elementary Graduate ..... 6 HS 1 ..... 7 HS 2 ..... 8 HS 3 ..... 9 High School Graduate ..... 10 Voc/Tech Course Graduate ..... 11 College 1 ..... 12 College 2 ..... 13 College 3 ..... 14 College Graduate ..... 15 Post Graduate Studies ..... 16</p>
<p>A3a. Do you have children?</p>	<p>Yes ..... 1 No (Skip to A4) ..... 2</p>
<p>A3b. How many children do you and your spouse have? Of this number, how many are males? How many are females?</p>	<p>Total number of children <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> Male children <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> Female children <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/></p>
<p>A4. How many people are living in this household? [EXCLUDE GUESTS AND TRANSIENT VISITORS]</p>	<p><input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/></p>

<p>A5. What is your primary occupation?</p>	<p>Professional, technical and related worker ..... 1          Administrative, executive and managerial          worker ..... 2          Clerical worker ..... 3          Sales worker ..... 4          Farmers, fisherman, hunters, lodgers          and related workers ..... 5          Miners, quarrymen and related          workers ..... 6          Workers in transport and communications          occupations ..... 7          Craftsmen and production-process workers          and laborers ..... 8          Service transport and related workers ..... 9          Microentrepreneur Service ..... 10          Buy/Sell ..... 12</p>
<p>A6. What is your secondary occupation?</p>	<p>Professional, technical and related worker ..... 1          Administrative, executive and managerial          worker ..... 2          Clerical worker ..... 3          Sales worker ..... 4          Farmers, fisherman, hunters, lodgers          and related workers ..... 5          Miners, quarrymen and related workers ..... 6          Workers in transport          and communications occupations ..... 7          Craftsmen and production-process          workers and laborers ..... 8          Service transport and related workers ..... 9          Microentrepreneur Service ..... 10          Buy/Sell ..... 12</p>

II. **Labor Income Module**

Please give an estimate of the typical monthly cash income from the following sources, for people within the household:

	Respondent	All Other males	All Other females
Labor wages			
Business Entrepreneur/Self-employed			
Farm Income			
Enterprise Income			
Rental			

III. **Physical Assets Module**

A. **Buildings and Land—Residential**

A1 to A3 should not be asked; observe and encircle the category that best describes the predominant housing material

A1. Main flooring material:	Earth ..... 1 Bamboo ..... 2 Cement ..... 3 Wood ..... 4 Tiles/linoleum tiles ..... 5 Others [SPECIFY] ..... 6
A2. Main materials of wall:	Makeshift/salvaged/ scrap materials ..... 1 Nipa/cogon/other thatch ..... 2 Sawali/bamboo ..... 3 Rough hewn timber/poorly fitted planks ..... 4 Painted and well fitted boards ..... 5 Half concrete/half wood ..... 6 Cement/hollow blocks/other expensive materials ..... 7 Others [SPECIFY] ..... 8
A3. Main materials of roof:	Makeshift/salvaged/scrap materials ..... 1 Nipa/cogon/other thatch ..... 2 Galvanized iron ..... 3 Tiles/clay tiles ..... 4 Others [SPECIFY] ..... 5
A4. Is this house owned by a member of your household ?	Yes ..... 1 (IF YES, SKIP TO A6) No ..... 2
A5. If NO, what is the arrangement?	Rent ..... 1 Stay for free ..... 2 Others[SPECIFY] ..... 3 Don't know ..... 4 Not applicable ..... 5
A6. If you make installment payments for your dwelling, what is the amount of the installment? (WRITE 99 IF THE HOUSEHOLD DOES NOT MAKE INSTALLMENT PAYMENTS)	[WRITE THE AMOUNT IN PESOS AND TIME (MONTHLY, YEARLY, ETC.) PAYMENT IS MADE]
AMOUNT      (UNITS OF CURRENCY) TIME UNIT	
A7. Could you sell this dwelling if you wanted to?	Yes ..... 1 No ..... 2 (IF NO, SKIP TO B: CONSUMER DURABLES)
A8. If you sold this dwelling today, how much would you receive for it?	[WRITE THE AMOUNT IN PESOS] P_____



B. Consumer Durables

	Does your household currently own a _____ ? 1. Yes 2. No (® Next Item)	How many _____ does the household own? [INDICATE ACTUAL NUMBER]
Refrigerator		
Freezer		
Radio		
Sewing machine		
Car		
Motorcycle		
Bicycle		
Telephone		
Television		
Washing machine		
Stove		
Water pump		
Bed		
Karaoke		
Electric Fan		
Other		

C. **Agricultural Assets**

a. **Land**

C1. Does any member of your household use land for agricultural purposes?		Yes ..... 1 No ..... 2 (IF NO, GO TO Part III)					
C2. What is the number of plots used for agricultural purposes by the household?		(AS STATED)					
	C3. What is the primary use of this land (AS OF NOW)?  Annual Crop Land ..... 1 Tree crop land ..... 2 Forest ..... 3 Pasture ..... 4 Water Surface .... 5	C4. Is this land irrigated?  Yes ..... 1 No ..... 2	C5. What is the main crop grown using this plot?	C6. How is the main crop from this plot used?  Own consumption .. 1 Sell produce .... 2 Both ..... 3	C7. What is the type of ownership for this plot?  Own Land ..... 1 Still making payments . 2 Rent ..... 3 Integrated Social Forestry Program ... 4 Free Use ... 5 Other (.....)  (IF ANSWER 1, PROCEED TO C8. OTHERWISE, GO TO NEXT PLOT)	C8. What is the area for this plot of land? (CONVERT ARE TO SQ. METER IF GIVEN IN OTHER UNITS)	C9. How much could you sell this plot for if the household were to sell it? (WRITE VALUE OF PLOTS OWNED BY HOUSEHOLD MEMBER(S))
						Area	Unit
Plot 1							
Plot 2							
Plot 3							
Plot 4							
Plot 5							

D. Agricultural Equipment

	Does your household own any _____ ? 1. Yes 2. No (® Next Item)	How many _____ does your household own?
Machinery		
Small Tractor		
Large Tractor		
Plow		
Harrow		
Hand Water Pump		
Mechanical Water Pump		
Sprinkler		
Motor Thresher		
Hand Thresher		
Rice Winnowing		
Mill		
Motor Insecticide Pump		
Hand Insecticide Pump		
Cart/wheel-barrow		
Livestock		
Cattle (Beef)		
Cows (Milk)		
Horses		
Pigs (Breeding)		
Sows		
Sheep		
Goats		
Chicken		

**E. Agricultural Supplements**

Agricultural Inputs	How much have you spent on _____ in the past 12 months? (WRITE AMOUNT IN PESOS)	In the past 12 months, have you ever needed _____, but was not able to buy enough _____? 1. Yes 2. No
Fertilizer		
Manure		
Pesticide		
Herbicide		
Fungicide		

**IV. Nonagricultural Enterprise Assets**

**A. General Characteristics**

A1. Over the past 12 months, has anyone in your household operated a non-agricultural enterprise which produces goods or services, or owned a shop/trading business?	Yes ..... 1 No ..... 2 (IF NO, SKIP TO SECTION V: HOUSEHOLD FINANCIAL ASSETS AND LIABILITIES)
A2. What kind of enterprise does your household operate?	(AS STATED, IF NONE WRITE 99)
A3. For how long has the enterprise been in operation?	(STATE TIME: MONTH /YEAR)
A4. Where do you operate the enterprise?	Home, inside the residence ..... 01 Home outside the residence ..... 02 Industrial site ..... 03 Traditional market ..... 04 Commercial district shop ..... 05 Roadside ..... 06 Other fixed place ..... 07 Mobile ..... 08 Others (PLEASE SPECIFY)
A5. Who makes decisions regarding operations of the enterprises?	(AS STATED)

**B. Revenue and Expenditure**

The next questions are about your typical revenue and income of your business. For revenues, please include total cash and in-kind value of goods and services that you receive from the sale of goods and services that you would typically expect from your enterprise, before subtracting any business expenditures and any expenses for your household.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Typical Enterprise Revenue in Month _____												
Typical Enterprise Expenditures in Month _____												

**C. Physical Assets**

I would now like to ask you questions about the assets (that is, equipment, buildings, vehicles, tools, etc.) that you use in your business.

	At present, does this enterprise own _____ ? 1 Yes 2 No (® Next Item)	Did you borrow money for purchase of any _____ ? 1 Yes 2 No (® Last Question)	How much do you still owe in loans on _____ ?	If you wanted to sell all _____, how much could you sell it for today?
Enterprise One				
Land				
Buildings				
Equipment/Materials				
Furniture				
Tools (eg. Wrench, pliers, etc.)				
Large Vehicles				
Small Vehicles				
Unfinished Goods				
Stock/Inventory				
Enterprise Two				
Land				
Buildings				
Equipment/Materials				
Furniture				
Tools				
Large Vehicles				
Small Vehicles				
Unfinished Goods				
Stock/Inventory				

V. **Financial Assets and Liabilities Module**

A. **Savings**

The following questions ask you to give general information about your savings accounts at the financial institutions or groups.

	Does any member of your household have savings in a _____ ? 1. Yes 2. No (® next Account type)	Is this account jointly owned? 1. Yes 2. No	What is the current balance in the this _____ ?
Current Account	1. Yes (IF YES) Number of member with current account _____ 2. No (GO TO NON-GREEN BANK ACCOUNT)		
1. 2. 3.			
Savings Account	1. Yes (IF YES) Number of member with savings account _____ 2. No (GO TO NEXT ACCOUNT TYPE)		
1. 2. 3.			
Time Deposits	1. Yes (IF YES) Number of member with current account _____ 2. No (GO TO NEXT ACCOUNT TYPE)		
1. 2. 3.			
Post Office/National Savings Centers	1. Yes (IF YES) Number of member with current account _____ 2. No (GO TO NEXT ACCOUNT TYPE)		
Other			

**B. Loans**

B1. In the past 12 months, have you applied for a loan of any kind (eg. from a Bank, from friend/family, cooperative, etc.)		Yes ..... 1 No ..... 2 (IF YES, GO TO B3)				
B2. Why did you not attempt to borrow money in the past 12 months?		[WRITE UP TO THREE RESPONSES IN ORDER OF IMPORTANCE] No need ..... 1 Believed would be refused ..... 2 Too expensive ..... 3 Inadequate collateral ..... 4 Do not like to be in debt ..... 5 Do not know any lender ..... 6 Other (PLEASE SPECIFY ..... 7  (SKIP TO B9)				
	B3. In the past 12 months, have you applied for a loan from a _____ ?  1. Yes 2. No (IF NO, SKIP TO NEXT INSTITUTION)	B4. Were you approved for the most recent loan?  1. Yes 2. No (IF NO, SKIP TO B8)	B5. Have you paid off this most recent loan?  1. Yes 2. No (IF YES, SKIP TO B7)	B6. How much do you currently owe to _____ ?	B7. What is the interest rate on the loan?  (ANSWER THEN SKIP TO NEXT INSTITUTION)	B8. Why were you rejected? (allow multiple response)  1. Investment activity not accepted 2. Not enough income 3. Bad credit history 4. Inadequate collateral 5. Owe too much 6. Other reason
Bank						
Credit Union/ Coop						
NGO						
ROSCA						
Friends/Family						
Employer						
Money-Lender						
Government Agency						
Other						

B9. Can a person like you obtain loan from:	
B9a. State Bank	Yes ..... 1 No ..... 2
B9b. Private Bank	Yes ..... 1 No ..... 2
B9c. Credit Union or Other Cooperative	Yes ..... 1 No ..... 2
B9d. Employer/ Landlord	Yes ..... 1 No ..... 2
B9e. Money Lender	Yes ..... 1 No ..... 2
B9f. Other (SPECIFY)	

**C. Informal Savings**

C1. Are you currently a member of a savings organization with members of your church, neighbors, or friends?	Yes ..... 1 No ..... 2 (IF NO, SKIP TO PART D)
C2. What kind of savings organization is it?	Informal Savings Group (e.g. paluwagan) ..... 1 Others (PLEASE SPECIFY) ..... 2 _____
C3. How many members save in your organization?	(AS STATED)
C4. Is your savings tied to a loan?	Yes ..... 1 No ..... 2
C5. Who are the members of this organization?	Friends ..... 1 Family ..... 2 Neighbors ..... 3 Church ..... 4 Do not know ..... 5 Other (PLEASE SPECIFY) ..... 6 _____
C6. How many times do you contribute savings to this organization?	(AS STATED)
C7. How many times do you withdraw money from this organization?	(AS STATED)
C8. Are there restrictions in the number of times you withdraw money from this organization?	Yes ..... 1 No ..... 2



C. Remittances

D1. In the past 12 months, has your household or any of its members received any money or goods from persons who are not members of your household? For example: for relatives living elsewhere, child support or alimony, or from friends or neighbors?		Yes ..... 1 No ..... 2 (IF NO, SKIP TO SECTION V)			
D2. How many people have given assistance to members of the household in the past 12 months?		<input type="text"/> <input type="text"/>			
	D3. In the past 12 months, how much in total have members of your household received from _____ ?  (Use cash equivalent of in-kind assistance for calculating total assistance)	D4. Is this assistance sent by _____ given to a specific member of the household?  1. Yes 2. No	D5. How many times a year does _____ send this assistance?	D6. What is the main reason why _____ sent this assistance?  1. Child Support 2. Educational Expenses 3. Medical Expenses 4. Wedding 5. Funeral 6. Investment in Household enterprise 7. Purchase of a durable good 8. Other	D7. Must the household repay the assistance sent by _____ ?  1. Yes 2. No
Donor 1					
Donor 2					
Donor 3					

VI. **Decision-Making Module (ONLY FOR FEMALE RESPONDENTS)**  
**Introduction**

A. **Fertility**

A1. At what age did you first marry? (AS STATED) _____
--

B. **Household Decision Making**

C1. Who decides on the following? Is it you? Your husband? Or the two of you? Or other persons?  
 [IF RESPONSE IS BOTH ASK: If you and your husband's decision do not coincide or your decisions are in conflict, whose decision will prevail?]

Who Decides		(IF BOTH) Whose Decision Will Prevail?
	Wife ..... 1 Husband ..... 2 Both ..... 3 Others ..... 4	Wife ..... 1 Husband ..... 2 Both ..... 3 Others ..... 4
a. What to buy in the market or what to cook for the family.		
b. When buying expensive things for the household such as radio, TV, etc.		
c. How many children to have.		
d. What family planning method to use.		
e. Giving of assistance and support to parents, in-laws, siblings etc.		
h. Buying items for personal grooming.		
i. Selling or buying of items for family such as jewellery, car, house, land etc.		
j. Working outside the household.		
k. Hire or obtain the services of a servant.		

## REFERENCES

- Angrist, J., and A. Krueger, 2001. "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments." *Journal of Economic Perspectives* 15(4):69-87.
- Angrist, J., E. Bettinger, E. Bloom, E. King, and M. Kremer, 2002. "Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment." *American Economic Review* 92(5):1535-58.
- Banerjee, A., 2002. The Uses of Economic Theory: Against a Purely Positive Interpretation of Theoretical Results. MIT Department of Economics Working Paper.
- Ben-Zion, U., A. Rapoport, and J. Yagil, 1989. "Discount Rates Inferred from Decisions: An Experimental Study." *Management Science* 35:270-84.
- Boruch, R. F., 1996. *Randomized Experiments for Planning and Evaluation: A Practical Guide*, Volume 44. University of Pennsylvania, Philadelphia, SAGE Publications.
- Boruch, R. F., no year. "Randomized Experiments for Planning and Evaluation: A Practical Guide." In *Applied Social Research Methods Series*, Vol. 44. University of Pennsylvania, Philadelphia, SAGE Publications.
- Duflo, E., and E. Saez, 2003. "The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment." Mimeo.
- Frederick, S., G. Loewenstein, and T. O'Donoghue, 2002. "Time Discounting and Time Preference A Critical Review." *Journal of Economic Literature* XL:351-401.
- Glewwe, P., M. Kremer, S. Moulin, and E. Zitzewitz, 2000. Retrospective vs. Prospective Analyses of School Inputs: The Case of Flip Charts in Kenya. NBER Working Paper 8018, National Bureau of Economic Research, Massachusetts. Forthcoming in *Journal of Development Economics*.
- Grosh, M., and P. Glewwe, eds, 2000. *Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 years of the Living Standards Measurement Study*. International Bank for Reconstruction and Development/the World Bank Group, Washington, D. C.
- Katz, K., and J. Liebman, 2001. "Moving to Opportunity in Boston." *Quarterly Journal of Economics* May.
- Kremer, M., 2003. "Randomized Evaluations of Educational Programs in Developing Countries: Some Lessons." Forthcoming in *American Economic Review Papers and Proceedings*.
- Matin, I., 2002. New Thinking and New Forms of Microfinancial Service Provision in Bangladesh: A Comparative Study of ASA, SafeSave and Gono Bima. Finance and Development Working Paper No. 37.
- MDRC, 2001. "MDRC Working Papers on Research Methodology Extending the Reach of Randomized Social Experiments: New Directions in Evaluations of American Welfare-to-Work." Available: [www.mdrc.org/Reports2001/newdirections-methodologywrkppr/Methodology-NewDirections.pdf](http://www.mdrc.org/Reports2001/newdirections-methodologywrkppr/Methodology-NewDirections.pdf).
- Meyer, B. D., 1995. "Natural and Quasi-experiments in Economics." *Journal of Business and Economic Statistics* 13(2):151-61.
- Miguel, E., and M. Kremer, 2001. Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities. NBER Working Paper 8481, National Bureau of Economic Research, Massachusetts. Forthcoming in *Econometrica*.

- Robinson, M. S, 2002. *The Microfinance Revolution Volume 2: Lessons from Indonesia*. World Bank, Washington, D. C.
- Shelley, M. K., 1993. "Outcome Signs, Question Frames and Discount Rates." *Management Science* 39:806-15.
- Tversky, A., and D. Kahneman, 1991. "Loss Aversion in Riskless Choice: A Reference Dependent Model." *Quarterly Journal of Economics* 106:1039-61.

## PUBLICATIONS FROM THE ECONOMICS AND RESEARCH DEPARTMENT

### ERD WORKING PAPER SERIES (WPS)

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

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

- No. 29 How can Cambodia, Lao PDR, Myanmar, and Viet Nam Cope with Revenue Lost Due to AFTA Tariff Reductions?  
—*Kanokpan Lao-Araya*  
November 2002
- No. 30 Asian Regionalism and Its Effects on Trade in the 1980s and 1990s  
—*Ramon Clarete, Christopher Edmonds, and Jessica Seddon Wallack*  
November 2002
- No. 31 New Economy and the Effects of Industrial Structures on International Equity Market Correlations  
—*Cyn-Young Park and Jaejoon Woo*  
December 2002
- No. 32 Leading Indicators of Business Cycles in Malaysia and the Philippines  
—*Wenda Zhang and Juzhong Zhuang*  
December 2002
- No. 33 Technological Spillovers from Foreign Direct Investment—A Survey  
—*Emma Xiaoqin Fan*  
December 2002
- No. 34 Economic Openness and Regional Development in the Philippines  
—*Ernesto M. Pernia and Pilipinas F. Quising*  
January 2003
- No. 35 Bond Market Development in East Asia: Issues and Challenges  
—*Raul Fabella and Srinivasa Madhur*  
January 2003
- No. 36 Environment Statistics in Central Asia: Progress and Prospects  
—*Robert Ballance and Bishnu D. Pant*  
March 2003
- No. 37 Electricity Demand in the People's Republic of China: Investment Requirement and Environmental Impact  
—*Bo Q. Lin*  
March 2003
- No. 38 Foreign Direct Investment in Developing Asia: Trends, Effects, and Likely Issues for the Forthcoming TWO Negotiations  
—*Douglas H. Brooks, Emma Xiaoqin Fan, and Lea R. Sumulong*  
April 2003
- No. 39 The Political Economy of Good Governance for Poverty Alleviation Policies  
—*Narayan Lakshman*  
April 2003
- No. 40 The Puzzle of Social Capital  
A Critical Review  
—*M. G. Quibria*  
May 2003
- No. 41 Industrial Structure, Technical Change, and the Role of Government in Development of the Electronics and Information Industry in Taipei, China  
—*Yeo Lin*  
May 2003
- No. 42 Economic Growth and Poverty Reduction in Viet Nam  
—*Arsenio M. Balisacan, Ernesto M. Pernia, and Gemma Esther B. Estrada*  
June 2003
- No. 43 Why Has Income Inequality in Thailand Increased? An Analysis Using 1975-1998 Surveys  
—*Taizo Motonishi*  
June 2003
- No. 44 Welfare Impacts of Electricity Generation Sector Reform in the Philippines  
—*Natsuko Toba*  
June 2003
- No. 45 A Review of Commitment Savings Products in Developing Countries  
—*Nava Ashraf, Nathalie Gons, Dean S. Karlan, and Wesley Yin*  
July 2003
- No. 46 Local Government Finance, Private Resources, and Local Credit Markets in Asia  
—*Roberto de Vera and Yun-Hwan Kim*  
October 2003  
July 2003

## ERD TECHNICAL NOTE SERIES (TNS)

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

- No. 1 Contingency Calculations for Environmental Impacts with Unknown Monetary Values  
—*David Dole*  
February 2002
- No. 2 Integrating Risk into ADB's Economic Analysis of Projects  
—*Nigel Rayner, Anneli Lagman-Martin, and Keith Ward*  
June 2002
- No. 3 Measuring Willingness to Pay for Electricity  
—*Peter Choynowski*  
July 2002
- No. 4 Economic Issues in the Design and Analysis of a Wastewater Treatment Project  
—*David Dole*  
July 2002
- No. 5 An Analysis and Case Study of the Role of Environmental Economics at the Asian Development Bank  
—*David Dole and Piya Abeygunawardena*  
September 2002
- No. 6 Economic Analysis of Health Projects: A Case Study in Cambodia  
—*Erik Bloom and Peter Choynowski*  
May 2003
- No. 7 Strengthening the Economic Analysis of Natural Resource Management Projects  
—*Keith Ward*  
September 2003
- No. 8 Testing Savings Product Innovations Using an Experimental Methodology  
—*Nava Ashraf, Dean S. Karlan, and Wesley Yin*  
November 2003

## ERD POLICY BRIEF SERIES (PBS)

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

- |        |   |        |  |
|--------|---|--------|--|
| No. 1  | Is Growth Good Enough for the Poor?<br>— <i>Ernesto M. Pernia, October 2001</i>   | No. 12 | Dangers of Deflation<br>— <i>D. Brooks and P. F. Quising<br/>December 2002</i>   |
| No. 2  | India's Economic Reforms<br>What Has Been Accomplished?<br>What Remains to Be Done?<br>— <i>Arvind Panagariya, November 2001</i>  | No. 13 | Infrastructure and Poverty Reduction—<br>What is the Connection?<br>— <i>I. Ali and E. Pernia<br/>January 2003</i>               |
| No. 3  | Unequal Benefits of Growth in Viet Nam<br>— <i>Indu Bhushan, Erik Bloom, and Nguyen Minh<br/>Thang, January 2002</i>  | No. 14 | Infrastructure and Poverty Reduction—<br>Making Markets Work for the Poor<br>— <i>Xianbin Yao<br/>May 2003</i>                   |
| No. 4  | Is Volatility Built into Today's World Economy?<br>— <i>J. Malcolm Dowling and J.P. Verbiest,<br/>February 2002</i>   | No. 15 | SARS: Economic Impacts and Implications<br>— <i>Emma Xiaoqin Fan<br/>May 2003</i>  |
| No. 5  | What Else Besides Growth Matters to Poverty<br>Reduction? Philippines<br>— <i>Arsenio M. Balisacan and Ernesto M. Pernia,<br/>February 2002</i>                               | No. 16 | Emerging Tax Issues: Implications of Globalization<br>and Technology<br>— <i>Kanokpan Lao Araya<br/>May 2003</i>                 |
| No. 6  | Achieving the Twin Objectives of Efficiency and<br>Equity: Contracting Health Services in Cambodia<br>— <i>Indu Bhushan, Sheryl Keller, and Brad<br/>Schwartz, March 2002</i> | No. 17 | Pro-Poor Growth: What is It and Why is It<br>Important?<br>— <i>Ernesto M. Pernia<br/>May 2003</i>                               |
| No. 7  | Causes of the 1997 Asian Financial Crisis: What<br>Can an Early Warning System Model Tell Us?<br>— <i>Juzhong Zhuang and Malcolm Dowling,<br/>June 2002</i>                   | No. 18 | Public-Private Partnership for Competitiveness<br>— <i>Jesus Felipe<br/>June 2003</i>  |
| No. 8  | The Role of Preferential Trading Arrangements<br>in Asia<br>— <i>Christopher Edmonds and Jean-Pierre Verbiest,<br/>July 2002</i>  | No. 19 | Reviving Asian Economic Growth Requires Further<br>Reforms<br>— <i>Ifzal Ali<br/>June 2003</i>                                   |
| No. 9  | The Doha Round: A Development Perspective<br>— <i>Jean-Pierre Verbiest, Jeffrey Liang, and Lea<br/>Sumulong<br/>July 2002</i>   | No. 20 | The Millennium Development Goals and Poverty:<br>Are We Counting the World's Poor Right?<br>— <i>M. G. Quibria<br/>July 2003</i> |
| No. 10 | Is Economic Openness Good for Regional<br>Development and Poverty Reduction? The<br>Philippines<br>— <i>E. M. Pernia and P. F. Quising<br/>October 2002</i>                   | No. 21 | Trade and Poverty: What are the Connections?<br>— <i>Douglas H. Brooks<br/>July 2003</i>   |
| No. 11 | Implications of a US Dollar Depreciation for Asian<br>Developing Countries<br>— <i>Emma Fan<br/>July 2002</i>   | No. 22 | Adapting Education to the Global Economy<br>— <i>Olivier Dupriez<br/>September 2003</i>  |

## SERIALS

(Co-published with Oxford University Press; Available commercially through Oxford University Press Offices, Associated Companies, and Agents)

1. Asian Development Outlook (ADO; annual)  
\$36.00 (paperback)
2. Key Indicators of Developing Asian and Pacific Countries (KI; annual)  
\$35.00 (paperback)

## JOURNAL

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

1. Asian Development Review (ADR; semiannual)  
\$5.00 per issue; \$8.00 per year (2 issues)

## MONOGRAPH SERIES

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

## EDRC REPORT SERIES (ER)

- No. 1 ASEAN and the Asian Development Bank  
—*Seiji Naya, April 1982*
- No. 2 Development Issues for the Developing East and Southeast Asian Countries and International Cooperation  
—*Seiji Naya and Graham Abbott, April 1982*
- No. 3 Aid, Savings, and Growth in the Asian Region  
—*J. Malcolm Dowling and Ulrich Hiemenz, April 1982*
- No. 4 Development-oriented Foreign Investment and the Role of ADB  
—*Kiyoshi Kojima, April 1982*
- No. 5 The Multilateral Development Banks and the International Economy's Missing Public Sector  
—*John Lewis, June 1982*
- No. 6 Notes on External Debt of DMCs  
—*Evelyn Go, July 1982*
- No. 7 Grant Element in Bank Loans  
—*Dal Hyun Kim, July 1982*
- No. 8 Shadow Exchange Rates and Standard Conversion Factors in Project Evaluation  
—*Peter Warr, September 1982*
- No. 9 Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues  
—*Mathias Bruch and Ulrich Hiemenz, January 1983*
- No. 10 A Note on the Third Ministerial Meeting of GATT  
—*Jungsoo Lee, January 1983*
- No. 11 Macroeconomic Forecasts for the Republic of China, Hong Kong, and Republic of Korea  
—*J.M. Dowling, January 1983*
- No. 12 ASEAN: Economic Situation and Prospects  
—*Seiji Naya, March 1983*
- No. 13 The Future Prospects for the Developing Countries of Asia  
—*Seiji Naya, March 1983*
- No. 14 Energy and Structural Change in the Asia-Pacific Region, Summary of the Thirteenth Pacific Trade and Development Conference  
—*Seiji Naya, March 1983*
- No. 15 A Survey of Empirical Studies on Demand for Electricity with Special Emphasis on Price Elasticity of Demand  
—*Wisarn Puppavesa, June 1983*
- No. 16 Determinants of Paddy Production in Indonesia: 1972-1981—A Simultaneous Equation Model Approach  
—*T.K. Jayaraman, June 1983*
- No. 17 The Philippine Economy: Economic Forecasts for 1983 and 1984  
—*J.M. Dowling, E. Go, and C.N. Castillo, June 1983*
- No. 18 Economic Forecast for Indonesia  
—*J.M. Dowling, H.Y. Kim, Y.K. Wang, and C.N. Castillo, June 1983*
- No. 19 Relative External Debt Situation of Asian Developing Countries: An Application of Ranking Method  
—*Jungsoo Lee, June 1983*
- No. 20 New Evidence on Yields, Fertilizer Application, and Prices in Asian Rice Production  
—*William James and Teresita Ramirez, July 1983*
- No. 21 Inflationary Effects of Exchange Rate Changes in Nine Asian LDCs  
—*Pradumna B. Rana and J. Malcolm Dowling, Jr., December 1983*
- No. 22 Effects of External Shocks on the Balance of Payments, Policy Responses, and Debt Problems of Asian Developing Countries  
—*Seiji Naya, December 1983*
- No. 23 Changing Trade Patterns and Policy Issues: The Prospects for East and Southeast Asian Developing Countries  
—*Seiji Naya and Ulrich Hiemenz, February 1984*
- No. 24 Small-Scale Industries in Asian Economic Development: Problems and Prospects  
—*Seiji Naya, February 1984*
- No. 25 A Study on the External Debt Indicators Applying Logit Analysis  
—*Jungsoo Lee and Clarita Barretto, February 1984*
- No. 26 Alternatives to Institutional Credit Programs in the Agricultural Sector of Low-Income Countries  
—*Jennifer Sour, March 1984*
- No. 27 Economic Scene in Asia and Its Special Features  
—*Kedar N. Kohli, November 1984*
- No. 28 The Effect of Terms of Trade Changes on the Balance of Payments and Real National Income of Asian Developing Countries  
—*Jungsoo Lee and Lutgarda Labios, January 1985*
- No. 29 Cause and Effect in the World Sugar Market: Some Empirical Findings 1951-1982  
—*Yoshihiro Iwasaki, February 1985*
- No. 30 Sources of Balance of Payments Problem in the 1970s: The Asian Experience  
—*Pradumna Rana, February 1985*
- No. 31 India's Manufactured Exports: An Analysis of Supply Sectors  
—*Ifzal Ali, February 1985*
- No. 32 Meeting Basic Human Needs in Asian Developing Countries  
—*Jungsoo Lee and Emma Banaria, March 1985*
- No. 33 The Impact of Foreign Capital Inflow on Investment and Economic Growth in Developing Asia  
—*Evelyn Go, May 1985*
- No. 34 The Climate for Energy Development in the Pacific and Asian Region: Priorities and Perspectives  
—*V.V. Desai, April 1986*
- No. 35 Impact of Appreciation of the Yen on Developing Member Countries of the Bank  
—*Jungsoo Lee, Pradumna Rana, and Ifzal Ali, May 1986*
- No. 36 Smuggling and Domestic Economic Policies in Developing Countries  
—*A.H.M.N. Chowdhury, October 1986*
- No. 37 Public Investment Criteria: Economic Internal Rate of Return and Equalizing Discount Rate  
—*Ifzal Ali, November 1986*
- No. 38 Review of the Theory of Neoclassical Political Economy: An Application to Trade Policies  
—*M.G. Quibria, December 1986*
- No. 39 Factors Influencing the Choice of Location: Local and Foreign Firms in the Philippines  
—*E.M. Pernia and A.N. Herrin, February 1987*
- No. 40 A Demographic Perspective on Developing Asia and Its Relevance to the Bank  
—*E.M. Pernia, May 1987*
- No. 41 Emerging Issues in Asia and Social Cost Benefit Analysis  
—*I. Ali, September 1988*



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

## ECONOMIC STAFF PAPERS (ES)

- |   |  |
|---|--|
| <p>No. 1 International Reserves: Factors Determining Needs and Adequacy<br/>—<i>Evelyn Go, May 1981</i></p> <p>No. 2 Domestic Savings in Selected Developing Asian Countries<br/>—<i>Basil Moore, assisted by A.H.M. Nuruddin Chowdhury, September 1981</i></p> <p>No. 3 Changes in Consumption, Imports and Exports of Oil Since 1973: A Preliminary Survey of the Developing Member Countries of the Asian Development Bank<br/>—<i>Dal Hyun Kim and Graham Abbott, September 1981</i></p> <p>No. 4 By-Passed Areas, Regional Inequalities, and Development Policies in Selected Southeast Asian Countries<br/>—<i>William James, October 1981</i></p> <p>No. 5 Asian Agriculture and Economic Development<br/>—<i>William James, March 1982</i></p> <p>No. 6 Inflation in Developing Member Countries: An Analysis of Recent Trends<br/>—<i>A.H.M. Nuruddin Chowdhury and J. Malcolm Dowling, March 1982</i></p> <p>No. 7 Industrial Growth and Employment in Developing Asian Countries: Issues and Perspectives for the Coming Decade<br/>—<i>Ulrich Hiemenz, March 1982</i></p> <p>No. 8 Petrodollar Recycling 1973-1980. Part 1: Regional Adjustments and the World Economy<br/>—<i>Burnham Campbell, April 1982</i></p> <p>No. 9 Developing Asia: The Importance of Domestic Policies<br/>—<i>Economics Office Staff under the direction of Seiji Naya, May 1982</i></p> <p>No. 10 Financial Development and Household Savings: Issues in Domestic Resource Mobilization in Asian Developing Countries<br/>—<i>Wan-Soon Kim, July 1982</i></p> <p>No. 11 Industrial Development: Role of Specialized Financial Institutions<br/>—<i>Kedar N. Kohli, August 1982</i></p> <p>No. 12 Petrodollar Recycling 1973-1980. Part II: Debt Problems and an Evaluation of Suggested Remedies<br/>—<i>Burnham Campbell, September 1982</i></p> <p>No. 13 Credit Rationing, Rural Savings, and Financial Policy in Developing Countries<br/>—<i>William James, September 1982</i></p> <p>No. 14 Small and Medium-Scale Manufacturing Establishments in ASEAN Countries: Perspectives and Policy Issues<br/>—<i>Mathias Bruch and Ulrich Hiemenz, March 1983</i></p> <p>No. 15 Income Distribution and Economic Growth in Developing Asian Countries<br/>—<i>J. Malcolm Dowling and David Soo, March 1983</i></p> <p>No. 16 Long-Run Debt-Servicing Capacity of Asian Developing Countries: An Application of Critical Interest Rate Approach<br/>—<i>Jungsoo Lee, June 1983</i></p> <p>No. 17 External Shocks, Energy Policy, and Macroeconomic Performance of Asian Developing Countries: A Policy Analysis<br/>—<i>William James, July 1983</i></p> <p>No. 18 The Impact of the Current Exchange Rate System on Trade and Inflation of Selected Developing Member Countries<br/>—<i>Pradumna Rana, September 1983</i></p> <p>No. 19 Asian Agriculture in Transition: Key Policy Issues<br/>—<i>William James, September 1983</i></p> <p>No. 20 The Transition to an Industrial Economy</p> | <p>in Monsoon Asia<br/>—<i>Harry T. Oshima, October 1983</i></p> <p>No. 21 The Significance of Off-Farm Employment and Incomes in Post-War East Asian Growth<br/>—<i>Harry T. Oshima, January 1984</i></p> <p>No. 22 Income Distribution and Poverty in Selected Asian Countries<br/>—<i>John Malcolm Dowling, Jr., November 1984</i></p> <p>No. 23 ASEAN Economies and ASEAN Economic Cooperation<br/>—<i>Narongchai Akrasanee, November 1984</i></p> <p>No. 24 Economic Analysis of Power Projects<br/>—<i>Nitin Desai, January 1985</i></p> <p>No. 25 Exports and Economic Growth in the Asian Region<br/>—<i>Pradumna Rana, February 1985</i></p> <p>No. 26 Patterns of External Financing of DMCs<br/>—<i>E. Go, May 1985</i></p> <p>No. 27 Industrial Technology Development the Republic of Korea<br/>—<i>S.Y. Lo, July 1985</i></p> <p>No. 28 Risk Analysis and Project Selection: A Review of Practical Issues<br/>—<i>J.K. Johnson, August 1985</i></p> <p>No. 29 Rice in Indonesia: Price Policy and Comparative Advantage<br/>—<i>I. Ali, January 1986</i></p> <p>No. 30 Effects of Foreign Capital Inflows on Developing Countries of Asia<br/>—<i>Jungsoo Lee, Pradumna B. Rana, and Yoshihiro Iwasaki, April 1986</i></p> <p>No. 31 Economic Analysis of the Environmental Impacts of Development Projects<br/>—<i>John A. Dixon et al., EAPI, East-West Center, August 1986</i></p> <p>No. 32 Science and Technology for Development: Role of the Bank<br/>—<i>Kedar N. Kohli and Ifzal Ali, November 1986</i></p> <p>No. 33 Satellite Remote Sensing in the Asian and Pacific Region<br/>—<i>Mohan Sundara Rajan, December 1986</i></p> <p>No. 34 Changes in the Export Patterns of Asian and Pacific Developing Countries: An Empirical Overview<br/>—<i>Pradumna B. Rana, January 1987</i></p> <p>No. 35 Agricultural Price Policy in Nepal<br/>—<i>Gerald C. Nelson, March 1987</i></p> <p>No. 36 Implications of Falling Primary Commodity Prices for Agricultural Strategy in the Philippines<br/>—<i>Ifzal Ali, September 1987</i></p> <p>No. 37 Determining Irrigation Charges: A Framework<br/>—<i>Prabhakar B. Ghate, October 1987</i></p> <p>No. 38 The Role of Fertilizer Subsidies in Agricultural Production: A Review of Select Issues<br/>—<i>M.G. Quibria, October 1987</i></p> <p>No. 39 Domestic Adjustment to External Shocks in Developing Asia<br/>—<i>Jungsoo Lee, October 1987</i></p> <p>No. 40 Improving Domestic Resource Mobilization through Financial Development: Indonesia<br/>—<i>Philip Erquiaga, November 1987</i></p> <p>No. 41 Recent Trends and Issues on Foreign Direct Investment in Asian and Pacific Developing Countries<br/>—<i>P.B. Rana, March 1988</i></p> <p>No. 42 Manufactured Exports from the Philippines: A Sector Profile and an Agenda for Reform<br/>—<i>I. Ali, September 1988</i></p> <p>No. 43 A Framework for Evaluating the Economic Benefits of Power Projects<br/>—<i>I. Ali, August 1989</i></p> <p>No. 44 Promotion of Manufactured Exports in Pakistan</p> |
|---|--|

- Jungsoo Lee and Yoshihiro Iwasaki, September 1989*
- No. 45 Education and Labor Markets in Indonesia: A Sector Survey  
—*Ernesto M. Pernia and David N. Wilson, September 1989*
- No. 46 Industrial Technology Capabilities and Policies in Selected ADCs  
—*Hiroshi Kakazu, June 1990*
- No. 47 Designing Strategies and Policies for Managing Structural Change in Asia  
—*Ifzal Ali, June 1990*
- No. 48 The Completion of the Single European Community Market in 1992: A Tentative Assessment of its Impact on Asian Developing Countries  
—*J.P. Verbiest and Min Tang, June 1991*
- No. 49 Economic Analysis of Investment in Power Systems  
—*Ifzal Ali, June 1991*
- No. 50 External Finance and the Role of Multilateral Financial Institutions in South Asia: Changing Patterns, Prospects, and Challenges  
—*Jungsoo Lee, November 1991*
- No. 51 The Gender and Poverty Nexus: Issues and Policies  
—*M.G. Quibria, November 1993*
- No. 52 The Role of the State in Economic Development: Theory, the East Asian Experience, and the Malaysian Case  
—*Jason Brown, December 1993*
- No. 53 The Economic Benefits of Potable Water Supply Projects to Households in Developing Countries  
—*Dale Whittington and Venkateswarlu Swarna, January 1994*
- No. 54 Growth Triangles: Conceptual Issues and Operational Problems  
—*Min Tang and Myo Thant, February 1994*
- No. 55 The Emerging Global Trading Environment and Developing Asia  
—*Arvind Panagariya, M.G. Quibria, and Narhari Rao, July 1996*
- No. 56 Aspects of Urban Water and Sanitation in the Context of Rapid Urbanization in Developing Asia  
—*Ernesto M. Pernia and Stella LF. Alabastro, September 1997*
- No. 57 Challenges for Asia's Trade and Environment  
—*Douglas H. Brooks, January 1998*
- No. 58 Economic Analysis of Health Sector Projects: A Review of Issues, Methods, and Approaches  
—*Ramesh Adhikari, Paul Gertler, and Anneli Lagman, March 1999*
- No. 59 The Asian Crisis: An Alternate View  
—*Rajiv Kumar and Bibek Debroy, July 1999*
- No. 60 Social Consequences of the Financial Crisis in Asia  
—*James C. Knowles, Ernesto M. Pernia, and Mary Racelis, November 1999*

#### OCCASIONAL PAPERS (OP)

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

## STATISTICAL REPORT SERIES (SR)

- |   |   |
|---|---|
| <p>No. 1 Estimates of the Total External Debt of the Developing Member Countries of ADB: 1981-1983<br/>—<i>I.P. David, September 1984</i></p> <p>No. 2 Multivariate Statistical and Graphical Classification Techniques Applied to the Problem of Grouping Countries<br/>—<i>I.P. David and D.S. Maligalig, March 1985</i></p> <p>No. 3 Gross National Product (GNP) Measurement Issues in South Pacific Developing Member Countries of ADB<br/>—<i>S.G. Tiwari, September 1985</i></p> <p>No. 4 Estimates of Comparable Savings in Selected DMCs<br/>—<i>Hananto Sigit, December 1985</i></p> <p>No. 5 Keeping Sample Survey Design and Analysis Simple<br/>—<i>I.P. David, December 1985</i></p> <p>No. 6 External Debt Situation in Asian Developing Countries<br/>—<i>I.P. David and Jungsoo Lee, March 1986</i></p> <p>No. 7 Study of GNP Measurement Issues in the South Pacific Developing Member Countries. Part I: Existing National Accounts of SPDMCs—Analysis of Methodology and Application of SNA Concepts<br/>—<i>P. Hodgkinson, October 1986</i></p> <p>No. 8 Study of GNP Measurement Issues in the South Pacific Developing Member Countries. Part II: Factors Affecting Inter-country Comparability of Per Capita GNP<br/>—<i>P. Hodgkinson, October 1986</i></p> <p>No. 9 Survey of the External Debt Situation</p> | <p>in Asian Developing Countries, 1985<br/>—<i>Jungsoo Lee and I.P. David, April 1987</i></p> <p>No. 10 A Survey of the External Debt Situation in Asian Developing Countries, 1986<br/>—<i>Jungsoo Lee and I.P. David, April 1988</i></p> <p>No. 11 Changing Pattern of Financial Flows to Asian and Pacific Developing Countries<br/>—<i>Jungsoo Lee and I.P. David, March 1989</i></p> <p>No. 12 The State of Agricultural Statistics in Southeast Asia<br/>—<i>I.P. David, March 1989</i></p> <p>No. 13 A Survey of the External Debt Situation in Asian and Pacific Developing Countries: 1987-1988<br/>—<i>Jungsoo Lee and I.P. David, July 1989</i></p> <p>No. 14 A Survey of the External Debt Situation in Asian and Pacific Developing Countries: 1988-1989<br/>—<i>Jungsoo Lee, May 1990</i></p> <p>No. 15 A Survey of the External Debt Situation in Asian and Pacific Developing Countries: 1989-1992<br/>—<i>Min Tang, June 1991</i></p> <p>No. 16 Recent Trends and Prospects of External Debt Situation and Financial Flows to Asian and Pacific Developing Countries<br/>—<i>Min Tang and Aludia Pardo, June 1992</i></p> <p>No. 17 Purchasing Power Parity in Asian Developing Countries: A Co-Integration Test<br/>—<i>Min Tang and Ronald Q. Butiong, April 1994</i></p> <p>No. 18 Capital Flows to Asian and Pacific Developing Countries: Recent Trends and Future Prospects<br/>—<i>Min Tang and James Villafuerte, October 1995</i></p> |
|---|---|

## SPECIAL STUDIES, OUP (SS,OUP)

(Co-published with Oxford University Press; Available commercially through Oxford University Press Offices, Associated Companies, and Agents)

- |  |   |
|--|---|
| <p>1. Informal Finance: Some Findings from Asia<br/><i>Prabhu Ghate et. al., 1992</i><br/>\$15.00 (paperback)</p> <p>2. Mongolia: A Centrally Planned Economy in Transition<br/><i>Asian Development Bank, 1992</i><br/>\$15.00 (paperback)</p> <p>3. Rural Poverty in Asia, Priority Issues and Policy Options<br/><i>Edited by M.G. Quibria, 1994</i><br/>\$25.00 (paperback)</p> <p>4. Growth Triangles in Asia: A New Approach to Regional Economic Cooperation<br/><i>Edited by Myo Thant, Min Tang, and Hiroshi Kakazu</i><br/><i>1st ed., 1994</i> \$36.00 (hardbound)<br/><i>Revised ed., 1998</i> \$55.00 (hardbound)</p> <p>5. Urban Poverty in Asia: A Survey of Critical Issues<br/><i>Edited by Ernesto Pernia, 1994</i><br/>\$18.00 (paperback)</p> <p>6. Critical Issues in Asian Development: Theories, Experiences, and Policies<br/><i>Edited by M.G. Quibria, 1995</i><br/>\$15.00 (paperback)<br/>\$36.00 (hardbound)</p> <p>7. Financial Sector Development in Asia<br/><i>Edited by Shahid N. Zahid, 1995</i><br/>\$50.00 (hardbound)</p> <p>8. Financial Sector Development in Asia: Country Studies<br/><i>Edited by Shahid N. Zahid, 1995</i><br/>\$55.00 (hardbound)</p> | <p>9. Fiscal Management and Economic Reform in the People's Republic of China<br/><i>Christine P.W. Wong, Christopher Heady, and Wing T. Woo, 1995</i><br/>\$15.00 (paperback)</p> <p>10. From Centrally Planned to Market Economies: The Asian Approach<br/><i>Edited by Pradumna B. Rana and Naved Hamid, 1995</i><br/>Vol. 1: Overview<br/>\$36.00 (hardbound)<br/>Vol. 2: People's Republic of China and Mongolia<br/>\$50.00 (hardbound)<br/>Vol. 3: Lao PDR, Myanmar, and Viet Nam<br/>\$50.00 (hardbound)</p> <p>11. Current Issues in Economic Development: An Asian Perspective<br/><i>Edited by M.G. Quibria and J. Malcolm Dowling, 1996</i><br/>\$50.00 (hardbound)</p> <p>12. The Bangladesh Economy in Transition<br/><i>Edited by M.G. Quibria, 1997</i><br/>\$20.00 (hardbound)</p> <p>13. The Global Trading System and Developing Asia<br/><i>Edited by Arvind Panagariya, M.G. Quibria, and Narhari Rao, 1997</i><br/>\$55.00 (hardbound)</p> <p>14. Social Sector Issues in Transitional Economies of Asia<br/><i>Edited by Douglas H. Brooks and Myo Thant, 1998</i><br/>\$25.00 (paperback)<br/>\$55.00 (hardbound)</p> |
|--|---|

## SPECIAL STUDIES, COMPLIMENTARY (SSC)

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

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

## SPECIAL STUDIES, ADB (SS, ADB)

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

1. Rural Poverty in Developing Asia  
*Edited by M.G. Quibria*  
Vol. 1: Bangladesh, India, and Sri Lanka, 1994  
\$35.00 (paperback)  
Vol. 2: Indonesia, Republic of Korea, Philippines, and Thailand, 1996  
\$35.00 (paperback)
2. Gender Indicators of Developing Asian and Pacific Countries  
*Asian Development Bank, 1993*  
\$25.00 (paperback)
3. External Shocks and Policy Adjustments: Lessons from the Gulf Crisis  
*Edited by Naved Hamid and Shahid N. Zahid, 1995*  
\$15.00 (paperback)
4. Indonesia-Malaysia-Thailand Growth Triangle: Theory to Practice  
*Edited by Myo Thant and Min Tang, 1996*  
\$15.00 (paperback)
5. Emerging Asia: Changes and Challenges  
*Asian Development Bank, 1997*  
\$30.00 (paperback)
6. Asian Exports  
*Edited by Dilip Das, 1999*  
\$35.00 (paperback)  
\$55.00 (hardbound)
7. Development of Environment Statistics in Developing Asian and Pacific Countries  
*Asian Development Bank, 1999*  
\$30.00 (paperback)
8. Mortgage-Backed Securities Markets in Asia  
*Edited by S.Ghon Rhee & Yutaka Shimomoto, 1999*  
\$35.00 (paperback)
9. Rising to the Challenge in Asia: A Study of Financial Markets  
*Asian Development Bank*  
Vol. 1: An Overview, 2000 \$20.00 (paperback)

- Vol. 2: Special Issues, 1999 \$15.00 (*paperback*)  
 Vol 3: Sound Practices, 2000 \$25.00 (*paperback*)  
 Vol. 4: People's Republic of China, 1999 \$20.00 (*paperback*)  
 Vol. 5: India, 1999 \$30.00 (*paperback*)  
 Vol. 6: Indonesia, 1999 \$30.00 (*paperback*)  
 Vol. 7: Republic of Korea, 1999 \$30.00 (*paperback*)  
 Vol. 8: Malaysia, 1999 \$20.00 (*paperback*)  
 Vol. 9: Pakistan, 1999 \$30.00 (*paperback*)  
 Vol. 10: Philippines, 1999 \$30.00 (*paperback*)  
 Vol. 11: Thailand, 1999 \$30.00 (*paperback*)  
 Vol. 12: Socialist Republic of Viet Nam, 1999 \$30.00 (*paperback*)
10. Corporate Governance and Finance in East Asia:  
 A Study of Indonesia, Republic of Korea, Malaysia,  
 Philippines and Thailand  
*J. Zhuang, David Edwards, D. Webb,  
 & Ma. Virginita Capulong*  
 Vol. 1: A Consolidated Report, 2000 \$10.00 (*paperback*)  
 Vol. 2: Country Studies, 2001 \$15.00 (*paperback*)
11. Financial Management and Governance Issues  
*Asian Development Bank, 2000*  
 Cambodia \$10.00 (*paperback*)  
 People's Republic of China \$10.00 (*paperback*)  
 Mongolia \$10.00 (*paperback*)  
 Pakistan \$10.00 (*paperback*)  
 Papua New Guinea \$10.00 (*paperback*)  
 Uzbekistan \$10.00 (*paperback*)  
 Viet Nam \$10.00 (*paperback*)  
 Selected Developing Member Countries \$10.00 (*paperback*)
12. Government Bond Market Development in Asia  
*Edited by Yun-Hwan Kim, 2001*  
 \$25.00 (*paperback*)
13. Intergovernmental Fiscal Transfers in Asia: Current Practice  
 and Challenges for the Future  
*Edited by Paul Smoke and Yun-Hwan Kim, 2002*  
 \$15.00 (*paperback*)
14. Guidelines for the Economic Analysis of Projects  
*Asian Development Bank, 1997*  
 \$10.00 (*paperback*)
15. Handbook for the Economic Analysis of Water Supply Projects  
*Asian Development Bank, 1999*  
 \$10.00 (*hardbound*)
16. Handbook for the Economic Analysis of Health Sector Projects  
*Asian Development Bank, 2000*  
 \$10.00 (*paperback*)
17. Handbook for Integrating Risk Analysis in the Economic  
 Analysis of Projects  
*Asian Development Bank, 2002*  
 \$10.00 (*paperback*)
18. Handbook for Integrating Poverty Impact Assessment in  
 the Economic Analysis of Projects  
*Asian Development Bank, 2001*  
 \$10.00 (*paperback*)
19. Guidelines for the Financial Governance and  
 Management of Investment Projects Financed by the  
 Asian Development Bank  
*Asian Development Bank, 2002*  
 \$10.00 (*paperback*)
20. Handbook on Environment Statistics  
*Asian Development Bank, 2002, Forthcoming*
21. Economic Analysis of Policy-based Operations: Key  
 Dimensions  
*Asian Development Bank, 2003*