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Global Crisis, Remittances, and Poverty in Asia

Asian Development Bank

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6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel +63 2 632 4444
Fax +63 2 636 2444
www.adb.org

For orders, please contact:
Department of External Relations
Fax +63 2 636 2648
adbpub@adb.org

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Foreword

International migration is a global phenomenon affecting nearly all countries in the world. Its role and impact is going to be much more significant in the future given the increasing effects of global economic and demographic imbalances, globalization, and climate change. Not surprisingly, therefore, the dynamics of international migration and remittances have attracted the attention of policy makers around the world. This can partly be gauged from the regular meetings on the issue in international organizations such as the International Monetary Fund, the United Nations, and the World Bank, as well as the notable annual Global Forum on Migration and Development, which is the largest and most comprehensive global platform for dialogue and cooperation on international migration and development. Within this context, developing Asia has been a net exporter of migrant workers and their rapidly growing remittances have become a stable source of foreign exchange incomes, helping maintain the stability and resilience of the Asian economy and improving the welfare of migrant and other households. However, migration can also have negative repercussions for the host and home countries.

Asia has traditionally been the main source of migrant workers for many countries in the world and therefore receives the most remittances. Of the top 10 countries receiving the most remittances in the world, most are in Asia. But Asia has also become host to an increasing number of migrant workers as intra-Asian migration has become more pronounced. Remittances to Asia and the Pacific have been increasing considerably, from only $9 billion in 1988 to about $176 billion in 2010. Countries in South Asia, Southeast Asia, and the Pacific received almost half of remittances in the world in 2011 (World Bank 2011). Overall, international remittances are now the second largest source of external funding for developing countries, next only to foreign direct investment and official development assistance. Their flows are also the most stable in comparison with other financial flows, helping to strengthen the balance of payments position and domestic economic stability (Frankel 2009). Remittances to some Asian countries have been very significant even in terms of gross domestic product (GDP). Remittances to Bangladesh and the Philippines, for instance, have been ranging from 8%–12% of the countries' GDP in the past 10 years. The shares for some smaller countries in Asia and other countries in central Asia are even larger. All refer only to official remittances, but nonofficial remittances could also be considerable, especially for countries where the financial sector is not well developed or where there are significant numbers of undocumented migrants.

Remittances have also been shown to help reduce poverty. Some studies show that a 10% increase in per capita official remittances decreases the poverty head count ratio by 3.5%, and the poverty gap is reduced too (Adams and Page 2005, 2006 and International Monetary Fund 2005). Another study found that a 1 percentage point increase in the remittance-to-GDP ratio lowers moderate poverty by 0.4% and extreme poverty by 0.3% (World Bank 2006).

Following the global financial crisis that started in the last quarter of 2008, migration and remittance flows from and to key migrant-sending countries in Asia have slowed down. This is partly due to economic downturns, increasing unemployment, and tightening of immigration policies in some of the destination countries. The effects differ across countries and sectors, as well as by migrants' occupational status. All, however, may bring negative repercussions to the economic growth and poverty reduction in the sending countries. Against this backdrop, it is therefore very important to examine the impact of the crisis on migration and remittances in developing Asia to better understand the issue and to be able to derive some relevant policy implications in the short and long terms. The study was financed by an ADB regional technical assistance project, *Global Crisis, Remittance and Poverty in Asia* (RETA 7436).

This book summarizes the likely impacts at different levels (global, country, sector and migrant families) by using econometrics, computable general equilibrium modeling, and household surveys. Analysis at the global level is a cross-country study with special attention to some key regions in Asia, followed by country- and sector-level analyses in Bangladesh, Indonesia, Pakistan, the Philippines, and Viet Nam. Assessment of the impacts at the micro level is based on household surveys conducted in Bangladesh, Indonesia, and the Philippines. The countries were selected on the basis of being (i) among the top 10 remittance-receiving countries in the world, (ii) a major labor-exporting country in Asia, and (iii) willing to participate in the study.

The results suggest that the crisis affects countries differently. To some extent, the effects depend on key characteristics of the migrants, such as country of origin, destination, education level, type of job, and occupation. The effects are also influenced by migrants' family attributes such as the educational background of the household heads and the number and composition of their family members. Moreover, the length of the migrants' stay abroad and their gender also contribute to the effects.

Therefore, there are complicated links and impact dynamics across different regions, sectors of the economy, and groups of migrants and their families that must be taken into account. With such strong variations, a "one size fits all" approach will fail to address the issue. Any policy should carefully consider the nature of migration and

remittances as well as the underlying factors driving the impact dynamics. One thing that is surely needed is protection for migrants and their families to enable them to cope during a crisis. This covers many aspects, including training and improving the adverse conditions that have been fueling the push factors of migration. The optimal forward-looking migration policy should be within a "win-win-win" solution framework that benefits the host country, the sending country, and the migrant workers.

The results of this study not only contribute to an enhanced understanding of the issue within the selected countries, they also have relevant policy implications for other countries in Asia. The outcomes provide valuable information and insights useful for designing better policies in the future, including the importance of learning from the current crisis to better prepare for the challenges that the next crisis would bring.

This book is a result of collaborative work among ADB, the International Organization for Migration, migration experts from different countries, and other key stakeholders. The collaboration provided an example of addressing a shared concern for securing the well-being of migrants and their families in the context of promoting social and economic development within the framework of migration for development. The book benefited from useful comments received in a number of national and international workshops and seminars, such as those held in Bangladesh, Indonesia, and the Philippines; ADB Institute in Tokyo; and Global Development Network (GDN) 2011 in Columbia. Some results presented in the book have also been published in the World Bank's 2012 special edition on migration: *Migration and Remittances during the Global Financial Crisis and Beyond.*

Douglas Brooks provided overall leadership in implementing the project and preparing this book. Guntur Sugiyarto, as the project officer, edited the book with the help from Ernie Pernia and country experts, whose names are listed inside the book. Eric Suan has been instrumental in helping the project implementation as well as in preparing the book. ADB's Department of External Relations, Teri Temple, copy edited the book, and Rhommel Rico typeset it.

Changyong Rhee
Chief Economist
Asian Development Bank, Manila
June 2012

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Acronyms and Abbreviations

ADB	–	Asian Development Bank
BEOE	–	Bureau of Emigration and Overseas Employment
BSP	–	Bangko Sentral ng Pilipinas
BNP2TKI	–	National Agency for Placement and Protection of Migrant Workers
CBMS	–	community-based monitoring system
CGE	–	computable general equilibrium
D	–	Vietnamese dong
FAO	–	Food and Agriculture Organization of the United Nations
FDI	–	foreign direct investment
FIES	–	Family Income and Expenditure Survey
FOB	–	free on board
GDP	–	gross domestic product
ICRG	–	International Country Risk Guide
ILO	–	International Labour Organization
IMF	–	International Monetary Fund
ODA	–	official development assistance
OFW	–	overseas Filipino worker
IOM	–	International Organization for Migration
OPF	–	Overseas Pakistanis' Foundation
POEA	–	Philippine Overseas Employment Administration
PPP	–	purchasing power parity
PRs	–	Pakistan rupees
SAM	–	social accounting matrix
SOF	–	Survey of Overseas Filipinos
Susenas	–	National Socioeconomic Survey
UK	–	United Kingdom
US	–	United States
UAE	–	United Arab Emirates
VHLSS	–	Viet Nam Household Living Standard Survey

Note: In this report, "$" refers to US dollars.

Contributors

Vaqar Ahmed, Team Leader (Copyright-based industry) for the World Intellectual Property Organization (WIPO) and Economic Modelling Specialist at the Planning Commission of Pakistan

Alvin Ang, Director, Research Cluster on Culture, Education and Social Issues, University of Santo Tomas, Manila, Philippines

Ahmad Avenzora, Chief Deputy of Statistics Analysis Division, Badan Pusat Statistik (BPS-Statistics Indonesia)

International Organization for Migration, Regional Office, Philippines

Ernesto M. Pernia, Professor of Economics, University of the Philippines, School of Economics, Quezon City, Philippines

Selim Raihan, Associate Professor, Department of Economics, University of Dhaka, Bangladesh

Eric Suan, Associate Analyst, Development Indicators and Policy Research Division, Economics and Research Department, Asian Development Bank, Philippines

Guntur Sugiyarto, Senior Economist, Development Indicators and Policy Research Division, Economics and Research Department, Asian Development Bank, Philippines

Kecuk Suhariyanto, Chief of Statistical Analysis Division, Directorate of Statistical and Development Analysis, Badan Pusat Statistik (BPS-Statistics Indonesia)

Nguyen Duc Thanh, Director and Chief Economist, Vietnam Centre for Economic and Policy Research (VEPR), University of Economics and Business, Vietnam National University, Ha Noi, Viet Nam

Hoang Thi Chinh Thon, Vietnam Centre for Economic and Policy Research, University of Economics and Business, Vietnam National University, Ha Noi, Viet Nam

Carlos Vargas-Silva, Research Officer, International Migration Institute, Department of International Development, University of Oxford, United Kingdom

CHAPTER 1
INTRODUCTION

Guntur Sugiyarto

A. Background

International migration has existed for a very long time. The neoclassical theory suggests that migrant workers move to other countries in response to a series of "push" factors from the domestic economy and "pull" factors from the destination countries (e.g., Todaro 1976). In between, there is always a barrier that adds to the cost of migrating. Finally, as postulated by the new economics of labor migration, migrating can be a household strategy to deal with the limitations in the home country and to improve the family's living standard (Stark and Bloom 1985, for instance).

International migration has become a global phenomenon affecting nearly all countries in the world. In terms of international migration, a country can be a sending country, a receiving country, or both. The role and impact of international migration and its corresponding remittances are going to be much more significant in the future. This is due to, among others, the increasing effects of global economic and demographic imbalances, globalization, and climate change.

Within this context, developing Asia has been a net exporter of migrant workers. Their rapidly growing remittances have become a stable source of foreign exchange income that helps to maintain the stability and resiliency of the Asian economy and improve the welfare of migrant and other households.

As the main source of migrant workers for many countries, Asia receives the most remittances in the world. Most countries listed in the top 10 countries receiving the most remittances in the world are in Asia. But Asia has also increasingly become a host to migrant workers in the context of international migration, as intra-Asian migration has become more pronounced (ADB 2008).

Remittances to Asia and the Pacific have been increasing considerably. As of 2011, countries in South Asia, Southeast Asia, and the Pacific now receive almost half the estimated remittances in the world. In terms of magnitude and scale, international remittances are now the second largest source of external funding for developing countries. Remittance flows are also the most stable among other financial flows, and the altruistic nature of remittance flows makes them more desirable.

Remittances to some Asian countries have been very significant, even in terms of GDP. Remittances to Bangladesh and the Philippines, for instance, have been ranging from 8% to 12% of the countries' GDP in the past 10 years. The shares for some smaller countries in Asia and other countries in central Asia and in the Pacific are even larger. Remittances to Nepal, for instance, are more than 20% of national GDP, while those to Tajikistan are more than 35%. All figures refer only to official remittances, but unofficial remittances also could be considerable.

Remittances have been shown to help reduce poverty. Some studies show that a 10% increase in official per capita remittances decreases the poverty head count ratio by 3.5% and reduces the poverty gap too (Adams and Page 2005, 2006 and International Monetary Fund 2005). Another study found that a 1 percentage point increase in the remittance-to-GDP ratio lowers moderate poverty by 0.4% and extreme poverty by 0.3% (World Bank 2006). However, as with other socioeconomic impacts, there is no clear-cut answer on the positive and negative aspects of international migration and remittance. Both the proponents and opponents of migration and remittance have their own valid reasons.

B. Motivation and the Main Purpose of the Study

Following the global financial crisis that started in the last quarter of 2008, migration and remittance flows from and to key migrant-sending countries in Asia have slowed down. This is partly due to economic downturns, increasing unemployment, and tightened immigration policies in some of the destination countries. Remittances to Asia plunged during the 1997 Asian financial crisis, but the drop was temporary as the flows bounced back after just 1 year. However, the recent global crisis is fundamentally different, given how the economies of the remittance-sending countries have been adversely affected. This raises a key question: Will the impact on remittance flows still be short-term or should developing Asia prepare for a long period of stagnation? The latest forecast of remittance inflows is still positive but much lower than before the crisis. Moreover, the ongoing debt crisis in Europe and the continuing high unemployment rates in high-income Organisation for Economic Co-operation and Development (OECD) countries, which are the main destinations of Asian migrants, can adversely affect employment prospects for Asian migrants, further reducing remittance flows. The volatility and unpredictability of exchange rates as a result of the crisis will also adversely affect the remittance inflows.

The effects of the global crisis would likely differ across countries, sectors, and migrants' occupations. All, however, may have negative repercussions on the economic growth and poverty reduction in the sending countries. Against this backdrop, it is therefore very important to examine the impact of the crisis on migration and remittances in developing Asia to better understand the issue and to be able to derive some relevant policy implications in the short and long terms. In terms of funding, the

study was financed by an ADB regional technical assistance project, *Global Crisis, Remittance and Poverty in Asia* (RDTA 7436).

This book summarizes the likely impacts of the global financial crisis at different levels (global, country, sector, and migrant families) by using econometrics, computable general equilibrium modeling, and household surveys. Analysis at the global level is a cross-country study with a special attention to some key regions in Asia, followed by country- and sector-level analyses in Bangladesh, Indonesia, Viet Nam, Pakistan, and the Philippines. The study at the micro-level is based on household surveys conducted in Bangladesh, Indonesia, and the Philippines conducted in conjunction with the International Organization for Migration (IOM). The countries were selected on the basis of being (i) a major labor-exporting country in Asia, (ii) among the top 10 remittance-receiving countries in the world, (iii) and willing to participate in the study. Some results from the survey were jointly published and launched by ADB and IOM at ADB headquarters in January 2011.

Overall results suggest that the crisis affects countries differently, which in turn brings different ramifications for migration and remittances. To some extent, the effects depend on key characteristics of the migrants, such as their countries of origin, destinations, education levels, gender, types of jobs, occupations, and length of stay abroad. The effects are also likely to be influenced by migrant family attributes such as the household head's educational background and the size and composition of the family, which in turn affect consumption patterns and other factors.

Therefore, there are complicated links and impact dynamics across different regions, sectors of the economy, and groups of migrants and their families. The strong variation in the impacts across different aspects of migration and remittances ensures that a "one size fits all" approach will fail to address the dynamic impacts of the crisis. Any policy to address the issue should carefully consider the nature of migration and remittances as well as the underlying factors driving the impact dynamics. One thing that is surely needed is protection for the migrants and their families to enable them to cope with the crisis. This covers many aspects, including training of retrenched migrants and improving the adverse conditions that have been fueling the push factors of migration. The optimal forward-looking migration policy should be within a "win-win-win" solution framework that benefits the host country, the sending country, and the migrant workers. Results of this study not only contribute to an enhanced understanding of the issue from selected country perspectives, they also have relevant policy implications for other countries in Asia.

This book is a result of collaborative work among ADB, IOM, migration experts from selected countries, and other key stakeholders, including those who participated in seminars, workshops, and focus group discussions. Earlier versions of some materials in this book have been presented in different seminars both within and outside ADB.

The successful collaboration provides an example of addressing a shared concern for securing the well-being of migrants and their families in the context of promoting social and economic development within the framework of migration for development. It is expected that the outcomes of this study will provide valuable information and insights that are useful for designing better policy in the future.[1] Moreover, it is very important that we all learn from the lessons of the current crisis so that we are better prepared to meet the challenges of the next one.

C. Organization of the Book

Chapter 2 provides a synthesis of the study covering all the analyses at the global, country, sector, and migrant household levels. It summarizes the key findings and is intended for those who just want the main results. Chapter 3 examines the impact of the global crisis from a global perspective, followed in Chapter 4 by detailed country analyses of Bangladesh, Indonesia, Pakistan, the Philippines, and Viet Nam. Chapter 5 summarizes the report at the migrant household level based on a series of surveys conducted in Bangladesh, Indonesia, and the Philippines.

[1] Additional analysis of the survey results that incorporates a better gender perspective will be conducted by the Economics and Research Department of ADB in 2012. The result should be available by the third quarter of 2012.

Chapter 2
Effects of Global Crisis on Remittance and Poverty in Asia

Guntur Sugiyarto and Ernesto Pernia

A. Introduction

It is important to remember that human migration has existed for a very long time and the current migration is part of the economic globalization process.[1] Most people migrate to other countries for economic reasons, such as better job opportunities and improved living standards. Migration from less developed to more developed areas is very common, and the increase in international migration reflects the persistent socioeconomic inequalities across nations, increasing globalization, and a shift in demographic structure (increased life span in many parts of the world). Climate change also induces migration to the scale that we can no longer ignore. Finally, some governments in developing countries promote, or at least facilitate, international labor migration as a strategy to address the twin problems of high domestic unemployment and lack of foreign exchange income.

From a theoretical perspective, the neoclassical theory suggests that migrant workers move to other countries in response to a series of "push" factors from the domestic economy and "pull" factors from the destination countries. In between, there are always barriers that add to the cost of migration. These include distance, different language and culture, skills, and other factors that may prevent workers from moving. Finally, as postulated by the new economics of labor migration, the decision to migrate can be a household or individual strategy to deal with the limitations in the home country. Factors affecting the decision to migrate are no longer only economic, but also include noneconomic factors such as information, insurance, and social capital, which makes a migration network important (Stark and Bloom 1985).

The dynamics of international migration and remittances have attracted the attention of policy makers, academics, and other key stakeholders worldwide,

[1] For example, Asian migration to the United States can be traced all the way back to the Gold Rush era in the 1880s. The United States remains one of the top destinations for Asian migrants, with about 14% of Asian migrants going to this country. In fact, Chinese and Filipino migrants represent the second and third largest immigrant groups in the United States, just behind migrants from Mexico (US Census Bureau 2003).

especially for their possible impacts on the home and host countries. Among other indicators, this interest can be gauged from the regular meetings and discussions conducted by the International Monetary Fund, the United Nations, and the World Bank, as well as the Global Forum on Migration and Development.[2] Currently, the G20 also considers remittance to be a crucial source of funds to strengthen the resilience and growth of the recipient countries.[3] The current discussions suggest that there are some notable features of migration and remittance that should be explored to tap their potential benefits, but that their associated costs should also be taken into account. It is important to keep a balanced view by bearing in mind the positive and negative effects of migration and remittance.

In the context above, developing Asia has been a net exporter of migrant workers, and their rapidly growing remittances have become a stable source of foreign exchange income that helps maintain the stability and resiliency of the Asian economy and improve the welfare of migrant and other households. Asia has been the main source of migrant workers for many countries and is the highest remittance-receiving region in the world. Of the top 10 countries receiving the most remittances in the world, six are in Asia. The top 10 remittance recipients (in US$ billions) in 2010 were India (53.1), the People's Republic of China (51.3), Mexico (22.0), the Philippines (21.4), Bangladesh (10.8), Nigeria (10.0), Pakistan (9.7), Lebanon (8.4), Viet Nam (8.0), and the Arab Republic of Egypt (7.7). But Asia has also increasingly become a host to migrant workers as international migration and intra-Asian migration have become more pronounced (ADB 2008).

Remittances to Asia and the Pacific have increased considerably in the last 2 decades or so, from only $9 billion in 1988 to about $176 billion in 2010. This is nearly a twentyfold increase in 22 years. It is important to note, however, that part of the increase is because of improved data collection systems, since many countries had previously ignored their migration and remittance data. Countries in South Asia, Southeast Asia, and the Pacific now receive almost half the estimated remittances in the world in 2011 (World Bank 2011).

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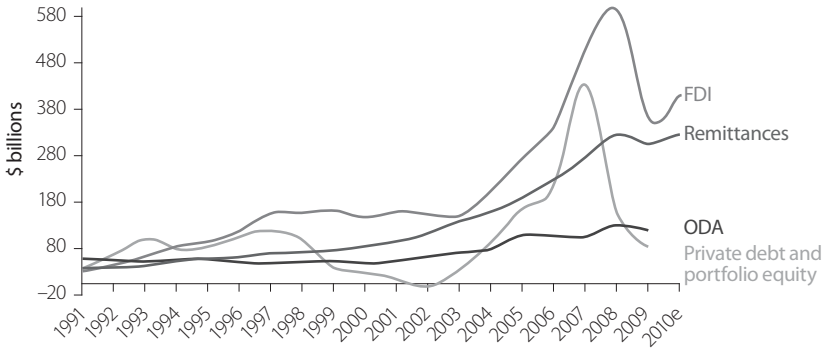
2 In the series of forum in Brussels (2007), Manila (2008), Athens (2009), Puerto Vallarta (2010), and Switzerland (2011), more than 150 governments have taken part in the annual meetings and discussions about how to maximize the development impact of migration and remittance. Underpinning these annual themes is the common understanding that migration is a dynamic phenomenon, and that through dialogue and partnerships, governments and other stakeholders can help and learn from each other in order to maximize migration's developmental benefits while mitigating its negative costs. The Global Forum on Migration and Development is the largest and most comprehensive global platform for dialogue and cooperation on international migration and development.

3 In this context, G20 countries have a very important role to play both as the home and host of migrant workers. For instance, Germany, Italy, the Russian Federation, Saudi Arabia, and the United States are the key country destinations and therefore the main remittance-sending countries, while India, Indonesia, Mexico, and the People's Republic of China are among the top migrant-sending (and hence remittance-receiving) countries in the world. In 2009, global remittance inflows to G20 countries accounted for around 50% of the total remittance inflows, while its outflows amounted to an even higher share at 55%. The role of G20 in the future will be more important given the current global imbalances, demographic changes, and increasing economic integration across countries.

In terms of magnitude and scale, international remittances are now already the second largest source of external funding for developing countries, next only to foreign direct investment (Figure 2.1). Remittance flows are also more stable than others. This is because while other capital flows tend to pour in during good times and disappear during bad times, remittances tend to flow countercyclically with the output of the recipient country, which then helps to strengthen the balance of payments position and maintain economic stability (Frankel 2009). There is also an altruistic element of remittances, for their flows usually increase after a natural disaster affects the migrant sending countries.[4] This makes remittance flows more desirable from the receiving country perspective.

Figure 2.1: Global Remittances and Other Financial Flows, 1991–2010



FDI = foreign direct investment, ODA = official development assistance
Source: World Bank. 2010. *Migration and Development Brief No. 13.* Migration and Remittances Unit. Washington, DC.

Remittances to some Asian countries have been very significant even in terms of their GDP. Remittances to Bangladesh and the Philippines, for instance, have been ranging from 8% to 12% of the countries' GDP in the past 10 years, which must have generated significant impact on their domestic economies. The remittance shares for some smaller countries in Asia and other countries in central Asia and in the Pacific are even larger. Remittances to Nepal, for instance, are more than 20% of GDP, and more than 35% in Tajikistan. All figures refer only to official remittances, but nonofficial remittances could also be considerable, especially for countries where the financial sector is not well developed or where there is a significant number of irregular migrants. We know that lack of financial services and expensive and complicated remitting systems—in the host and home countries—will discourage migrants from sending their remittances through formal channels; instead, they will opt to use a nonformal channel, which is usually cheaper and more practical. Nonformal channels

4 This can be seen in the case of the Philippines after the typhoon and flood (e.g., typhoons Ondoy in 2009 and Sendong in 2011) and in Pakistan after the earthquake and flood.

vary from country to country depending on the development level of the remittance market and the existence of diaspora. Migrants are also known for positively reacting to lower remitting costs, so lowering the remittance fee will attract more remittances.

Remittances have also been shown to help reduce poverty. Some studies show that a 10% increase in per capita official remittances decreases the poverty head count ratio by 3.5% and reduces the poverty gap, too (Adams and Page 2005, 2006, and IMF 2005). Another study found that a 1 percentage point increase in the remittance-to-GDP ratio lowers moderate poverty by 0.4% and extreme poverty by 0.3% (WB 2006). However, as with other socioeconomic impacts, there are both positive and negative aspects of international migration and remittance. Both the proponents and opponents of the migration and remittance issues have their own valid reasons, which are summarized below.

B. The Pros and Cons

Those who support migration and international remittances as part of a development strategy argue that remittances provide the most direct, immediate, and far-reaching benefits to the workers, their families, and their countries of origin.[5] The incoming money generates multiplier effects in the home economy, and the effects can last longer if the remittances are used for expanding human development and productive investments. At the macro level, international remittances are a very important source of foreign exchange income for developing countries. Remittance flows are a more stable source of income than official development assistance, foreign direct investments, and other private inflows (Figure 2.1).[6] This helps in strengthening a country's balance of payments position, maintaining the stability of its domestic economy, and reducing poverty. The regular inflows of billions of dollars could be securitized to promote financial development by increasing aggregate levels of deposits and credit intermediated by local banks.[7] Therefore, the positive contributions of remittances can compensate for any losses due to their adverse effects. Moreover, migrants can also bring home new skills and entrepreneurial knowledge ("social remittance") that can further help the development of the home country.

On the other hand, opponents of migration point to the fact that most remittances are used to finance excessive consumption and not to increase productive capacity of the home country. Therefore, unless the government can come up with policies to induce migrants and their families to invest productively, remittances are unlikely to be transformed into a significant source of capital for development. In addition, the

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5 It is important to note, however, that remittances are personal flows of money from migrants to their families and relatives and therefore should not be taxed or directed to a specific development program. Instead, the stakeholders should make remittance services cheaper and more convenient and indirectly leverage these flows to improve the financial access of migrants, their families, and financial intermediaries in both the host and home countries.

6 Remittances are different from other flows as they tend to move pro-cyclically with the output of the recipient country, whereas other capital flows pour in during good times and disappear during bad times (Frankel 2009).

7 There has been development of diaspora bonds in many parts of the world.

flows of migrants can also create long-lasting negative effects in the country of origin, including perpetuating a culture of dependence on remittance by both the beneficiary families and the country itself. The compensatory nature of remittances creates a moral hazard or dependency syndrome that could impede economic growth as receiving countries reduce their participation in productive activities. The large-scale departure of highly educated workers from developing to developed countries can also create brain drain, taking away some of the best and brightest workers from the sending countries. This can disrupt domestic service delivery and reduce the countries' capacity for long-term growth and human development. This brain drain, or brain gain, debate has been deliberated extensively in the literature (e.g., Chau and Stark 1999). From a fiscal standpoint, the availability of foreign exchange incomes from remittances might postpone a government's needed structural reforms, while at the family level migration can create social disruptions. Table 2.1 summarizes the pros and cons, but is by no means exhaustive.

Table 2.1: Positive and Negative Effects of Remittances

POSITIVE	NEGATIVE
Foster economic growth	**Stifle economic growth**
- Spur entrepreneurial activity *(Amuedo-Dorantes and Pozo 2006b; Brown and Leeves 2007; Woodruff and Zenteno 2001; Yang 2008)*	- Cause Dutch Disease *(Acosta et al. 2007; Acosta et al. 2009; Amuedo-Dorantes and Pozo 2004; Vargas-Silva 2009)*
- Improve labor productivity *(Lucas 1985, 1987; Rozelle, Taylor, and deBrauw 1999)*	- Generate brain drain *(Adams 2003)*
- Stimulate consumption and investment demands *(Adams 1998; Parinduri and Thangavelu 2008)*	- Provide disincentives to work among recipients *(Chami et al. 2005; Bridi 2005)*
- Develop financial sector *(Acosta et al. 2009)*	- Reduce tax contributions *(IOM 2006)*
- Generate multiplier effects *(Adelman and Taylor 1990; Van Doorn 2002; Ravanilla and Robleza 2003)*	- No contribution to economic growth *(Barajas et al. 2009)*
Does not affect competitiveness or hinder growth because remittances decrease when exchange rate is overvalued *(Rajan and Subramanian 2005)*	
Contribute to macro stability of recipient economies	**Increase inflation**
- Support the recipient economy in facing internal and external negative shocks *(Clarke and Wallsten 2004; Kapur 2004; Mishra 2005; Opiniano 2004; Yang 2008)*	- Increasing domestic demand may push prices up *(Balderas and Nath 2008; Olsen 2008)*
- Reduce output volatility *(Chami, Hakura, and Montiel 2009)*	
- Provide foreign exchange for internal and external transactions *(Pernia 2006)*	
- Improve creditworthiness to enable receiving countries to borrow at more favorable terms *(Ratha 2003; World Bank 2006a)*	
Promote human capital development	**Provide disincentives for staying in school**
- Increase child schooling by removing them from labor force *(Adams 2005, 2006; Acosta et al. 2007; Edwards and Ureta 2003; Lopez-Cordova 2004; Tabuga 2007; Yang 2008)*	- Value local education less because of migration prospects *(Grigorian and Melkonyan 2008)*

continued on next page

Table 2.1. continuation

POSITIVE	NEGATIVE
- Increase spending on health and nutrition *(De and Ratha 2005; Parinduri and Thangavelu 2008; Acosta, Fajnzylber, and Humberto Lopez 2007)*	- Lower educational attainment of migrants' children due to parental absence *(McKenzie and Rapoport 2006)*
- Improve health knowledge *(Hildebrant and McKenzie 2005)*	
Stimulate financial sector and other development	**Reduce labor supply**
- Ease credit constraints *(Giuliano and Ruiz-Arranz 2009)*	- Increase time for leisure *(Amuedo-Dorantes and Pozo 2006a; Acosta 2006; Kim 2007; Jadotte 2009)*
- Increase financial resources of banks and other financial institutions *(Brown and Walker 1995; World Bank 2006)*	- Reduce female labor supply in informal and nonpaid work *(Amuedo-Dorantes and Pozo 2006)*
- Create new financial services *(Aggarwal et al. 2006; Gupta, Pattillo, and Wagh 2006)*	- Disrupt work because of migration *(Amuedo-Dorantes and Pozo 2006a)*
- Create small–scale enterprises *(Woodruff and Zenteno 2001)* and provide funds for community's physical infrastructures and services *(Ghosh 2006; Sorensen and Pedersen 2002)*	- Increase reservation wages *(Azam and Gubert 2005; Bussolo and Medvedev 2007; Acosta et al. 2007; Kim 2007; and World Bank 2006b)*
Provide household safety nets and insurance	**Create social problems**
- Smooth consumption *(Parinduri and Thangavelu 2008; Quartey and Blankson 2004)*	- Create dependency behavior *(De Bruyn and Wets 2006; Tabuga 2007)*
- Provide household self-insurance *(Mazzucato 2009; Yang and HwaJung Choi 2007; Amuedo-Dorantes and Pozo 2006b)*	- Cause marital conflicts and family stress *(Markova 2006; Crawford-Brown and Rattray 2002)*
Reduce poverty and income inequality	**Increase income inequality**
- Raise income *(Adams 2006; Adams and Page 2005; Acosta, Fajnzylber, and Humberto Lopez 2007; Brown and Jimenez 2007; Jongwanich 2007; Lopez-Cordova 2004; Taylor et al. 2005; Gustafsson and Makonnen 1993; Ruiz and Vargas-Silva 2009; Sawada and Estudillo 2006)*	- Worsen income inequality by being more beneficial to higher-income groups *(Barham and Boucher 1998; Taylor et al. 2005; Rodriguez 1998; Tullao, Cortes, and See 2007)*

There are strong arguments and evidence on both sides, which makes this issue hard to resolve. Because both sides have valid points, the most pragmatic approach seems to be to maximize the benefits of remittances and minimize their associated costs. Given the amount and nature of remittance flows, their development potential can be very significant. Remittances can be a significant source of financial capital in developing countries (Fajnzylber and Lopéz 2008) and their flows are in general less volatile than other non-trade foreign currency inflows.[8] Government policy reform and intervention are actually not needed, as these flows are incomes sent directly from workers to their families, making them less prone to bureaucratic hitches, including corruption.

8 It is also argued that foreign aid is not just a tool for promoting development but it has other objectives as well, such as being a sign of diplomatic approval or a reward to foreign governments for behavior desired by the donor. See Burnside and Dollar (2000) for more on issues related to foreign aid flows.

Accordingly, migration and its remittances are here to stay[9] and the best strategy is therefore to better manage them in order to maximize their benefits and mitigate their costs. This approach is central in the context of further strengthening Asian resilient growth.

C. The Latest Progress

The recent developments related to this issue show some promising trends. The scope of financial regulation related to remittances has been broadened, prudential regulation and supervision have been strengthened, and there has been good progress in policy coordination. Global governance has also been improved to better consider the needs of developing countries, including in managing remittances.

Moreover, to mobilize resources for development, it is necessary to maximize the flows and development impacts of remittances to improve the living standards of migrants and their families—as well as all citizens—by strengthening economic growth and job creation. The main discussions and policy recommendations proposed so far include (i) a call to further strengthen international cooperation and (ii) improving the facilitation of international remittance flows and enhancing their contribution to growth and poverty reduction. The World Bank and other relevant organizations are working with countries to progress on the implementation of the *General Principles for International Remittance Services* and related international initiatives to reduce the global average cost of transferring remittances. This is in accordance with the "5x5 objective," which is intended to reduce the global cost of sending a remittance from more than 10% to 5% of the amount sent in 5 years (i.e., by 2014). The target is to be achieved through enhanced information, transparency, competition, and cooperation with partners to generate a significant increase for the benefit of migrants and their families in developing countries.[10] Many countries have reformed their international remittance markets, but the inefficiency and cost of remitting are still high, so further reform is needed. The benefits of reform would be enormous, since a 5% reduction in remittance costs will increase the amount of remittances by $15 billion.[11]

D. Distilling Key Lessons from the Study Results

It is important to note that international migration is a global phenomenon that is likely to become more significant in the future, especially given the increasing impact of global economic and demographic imbalances as well as the effects of climate change, which all contribute to international migration. Within this context, Asia has been a net exporter of migrant workers, and its rapidly growing remittances have become a

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9 It is important to note, however, that migration remains very much the exception rather than the rule of human behavior, as a majority of people stay in their home countries. The share of global migrants is still below 10% of the total population.

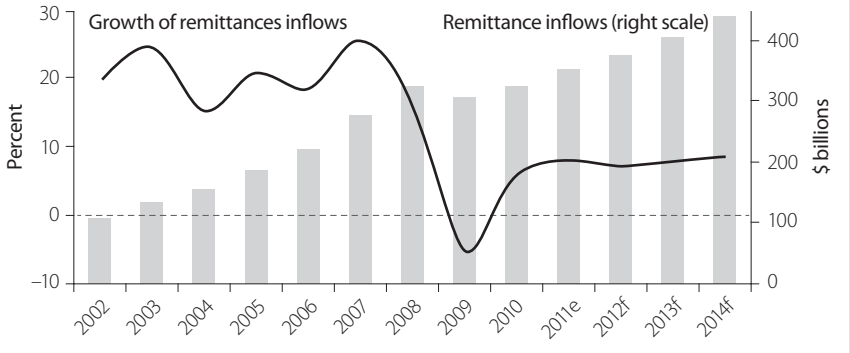
10 The outcomes of this work were reported to the Sixth G20 Leaders' Summit, 3–4 November, 2011, Cannes, France.

11 The G20-Development Working Group, Cape Town 2011.

steady source of foreign exchange income that has helped stabilize the Asian economy and improve the welfare of migrant families. Figures 2.2 give some indication of the scale and magnitude of remittance inflows to Asia and the Pacific in both nominal and relative terms.

Asia is the main source of migrant workers for many countries in the world, and the majority of the 10 countries receiving the most remittances worldwide are in Asia.[12] On the other hand, Asia has also increasingly become a host to migrant workers as intra-Asian migration has become prominent (ADB 2008). Asian migrants traditionally go to Europe, the Middle East, and the United States, but migration to the newly industrialized countries in Asia such as Hong Kong, China; Japan; Republic of Korea; Singapore; and Taipei,China are now common. India, Malaysia, and Thailand have also attracted migrant workers from their neighboring countries, with many of them working in agriculture in rural areas. Therefore, migration in Asia is not just a rural-to-urban or intercity phenomenon; rural destinations receive migrant inflows as well.

Figure 2.2: Trends of Remittance Inflows, 2002–2014



e = estimate; f = forecast
Source: World Bank. 2011. *Migration and Development Brief No. 17.* Migration and Remittances Unit. Washington, DC.

Accordingly, Asia has become the major recipient of remittances and for some countries the remittance inflows have been instrumental in helping stabilize their domestic economies and reduce poverty. Not only are four of the top five remittance-receiving countries in 2010 in Asia, so are four of the top five countries with the highest share of remittances to GDP for 2009 (the latest estimates available): Tajikistan (35% of GDP), Tonga (30.3%), Samoa (26.5%), and Nepal (23.8%). One crucial and desirable feature of remittance flows is that they are the most stable among other financial inflows and therefore countercyclical during the economic downturns in

[12] Six of the top ten remittance-receiving countries in the world are in Asia. The top 10 remittance recipients in 2010 (in US$ billions) were India ($53.1), the People's Republic of China ($51.3), Mexico ($22.0), the Philippines ($21.4), Bangladesh ($10.8), Nigeria ($10.0), Pakistan ($9.7), Lebanon ($8.4), Viet Nam ($8.0), and the Arab Republic of Egypt ($7.7).

the receiving countries. This is partly because migrant workers themselves are very resilient despite the economic crises and other difficulties in the destination countries. They are willing to do the 3D jobs—dirty, dangerous, or demeaning (or demanding or difficult)[13]—that many locals refuse to do. Therefore, even during economic downturns in the host countries, migrant workers manage to keep their jobs despite their foreign status and are less vulnerable to layoffs. They also keep sending part of their income home regardless of their economic situation. This commitment to their family back home further improves the resilient growth of the home country economy.

The latest figures from the World Bank for 2010 show that remittances to developing countries have returned to pre-crisis 2008 levels, with increased growth forecasted over the next few years albeit still lower than in the past decade. This is in contrast to the earlier prediction that the crisis would have resulted in a massive reduction of remittances for a long time due to increasing unemployment and immigration restrictions in the host countries. Total remittance flows to developing countries had already bounced back to $325 billion in 2010—about $100 million more than in 2008—despite the fact the economy of the host countries had not fully recovered yet. The flows to developing countries account for 73% of the total flows worldwide, which reached $440 billion in 2010, slightly lower than the $444 billion in 2008. Therefore, remittance flows to developing countries have recovered quicker, helping those nations to cope and bounce back from the crisis.

Looking at the evidence at the household level, remittances in Asia significantly contribute to financing consumption and human capital investment, such as for health care and education. To the extent that remittances finance education and health and increase investment, they can have a positive effect on economic growth (Ratha et al. 2007). Moreover, households receiving international remittances spend relatively less on consumption goods—like food—and more on investment goods—like education and housing (Adams 2007). One of the reasons behind this is that recipient households often consider remittance to be transitory income, which makes them save a larger proportion of it than of other incomes. In addition, remittances ease liquidity constraint and serve as insurance for many recipient households, inducing them to invest in business and take entrepreneurial risks.[14]

Results from a series of ADB research studies on the role of remittances at the global level and in key Asian countries such as Bangladesh, Indonesia, Pakistan, the Philippines, and Viet Nam confirm this notion by showing that remittances have significantly increased household income and supported consumption, and therefore

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13 The term originated from the Japanese expression 3K: kitanai, kiken, and kitsui. It has subsequently gained widespread use, particularly regarding labor done by migrant workers (J. Connell. 1993. *Kitanai, Kitsui and Kiken: The Rise of Labour Migration to Japan*. Economic & Regional Restructuring Research Unit, University of Sydney, Sydney, Australia).

14 Previous research in rural Pakistan shows that propensity to save remittance income is greater than for other incomes such as agricultural and rent incomes. Moreover, remittances have a greater positive effect on accumulation of rural assets than labor income (see, for instance, Adams 1998 and 2002).

have reduced poverty. Remittances have also played a key role in financing health care and education of family members, which contributes to the improvement of human capital. Furthermore, results from a study at the migrant household level reveals more interesting findings that must be taken into account in understanding the economic impact of international migration and designing better policies.

E. Results Summary

1. Global Asia

Using two different measures of remittances—(i) workers' remittances as reported in the balance of payments and (ii) a combined measure of workers' remittances, compensation of employees, and migrant transfers—the results of cross-country regression analyses suggest that a 10% increase in remittances leads to a 3.0%–4.0% rise in real GDP per capita. The results also show that remittances exert a negative impact on aggregate poverty. These findings are consistent with similar earlier studies. Another finding from this analysis at the global level is that there is a negative relationship between remittances and consumption spending. This seems inconsistent with the findings at the country level in this publication. It should be noted that there are inherent shortcomings and pitfalls in cross-country regressions analyses. Concepts and measurements of remittances and poverty vary across countries, making the data inconsistent. In addition, the relationship between remittances, economic growth, and poverty are highly country-specific, and therefore cross-country regressions cannot substitute for country-specific studies (Pernia 2001).

2. Bangladesh

Remittances play a critical role in Bangladesh. Findings from an earlier ADB study show that 1.7 of the 9 percentage points of poverty reduction in Bangladesh during 2000–2005 was due to the inflows of remittances, and that the probability of a household becoming poor decreased by 5.9% if it received remittances (Reihan et al. 2009). Further detailed results reveal that the remittance flow to Bangladesh is countercyclical. Overall, Bangladeshi international migrants are estimated to earn about six times the Bangladesh per capita GDP. This is the main reason why they keep going abroad despite all the barriers of migrating, including the expense of getting a job contract, which is estimated to be at least 1 month's salary.

Bangladeshi migrants remit about 32% of their average income, which is already nearly twice of the Bangladesh per capita GDP. The study also found that around 18% of migrants still use the informal channel for its practicality and shorter time, taking only 5 days compared with 9 days when using banks.

Furthermore, a negative remittance shock caused by a global economic crisis may lead to a contraction in real GDP. The agriculture sector suffers from falling

demand due to lower household real incomes, and poorer households appear to be major victims. This is despite the export expansion due to a depreciation of the real exchange rate. A global crisis may also reduce export demand and prices of ready-made garments, which would further reduce manufacturing output and real GDP. However, agriculture exhibits some expansion due to falling factor prices. The real consumption and welfare effects on households are negative and poorer households consistently suffer the most from a negative shock. Therefore, a fall in remittances and ready-made garment exports represents a double blow to the poor.

The challenges for Bangladesh are to (i) improve the efficiency of the financial sector and further develop the remittance market to attract more remittances and increase their development impacts, (ii) increase the quality of Bangladeshi migrants since most of them going to India and Middle Eastern countries are low-skilled workers, (iii) develop new labor markets for migrant workers, and (iv) remove existing constraints on migration and remittances. Moreover, government stimulus spending to mitigate the negative shocks of the global crisis should also cover returning migrants, including for retraining them. The government should maximize the benefits and reduce the risks of remitting to improve the welfare of migrant workers and their families. Credit should be facilitated for those wanting to start small businesses, taking advantage of the country's well-established microfinance network.

For export, the government stimulus packages need to include ready-made garments, which is the main export of the country, since a contraction in ready-made garment exports will affect small firms. Moreover, the stimulus measures have been seen as short-term fixes for the survival of export in general rather than for enhancing the productivity and long-term competitiveness of exports, including shrimp and leather products.

3. Indonesia

Due partly to the global crisis, GDP growth in Indonesia slowed to 4.5% in 2009 from 6.0% in 2008 as exports and investment weakened. But the economy quickly bounced back, and growth is expected to return to normal. Moreover, the recorded remittance inflows rose even as the number of migrant workers fell by more than 15% in 2009.

For migrant households, remittances have become one of the main sources of income, contributing around 31.2% of their total income. This share rises as one moves from lower- to higher- income groups, implying that remittances tend to worsen, rather than improve, inequality across households. This is confirmed by the results showing that inequality among households receiving remittances tends to be higher than among those not receiving remittance. The Gini coefficient increased by 5.4% for migrant households, and that impact is more severe in urban than in rural areas. This feature is similar to the Philippine case.

Migrant households spend lower shares of their incomes on food and larger shares on health care, education, housing, and durable goods compared with nonmigrant households. Moreover, remittances are critical in lifting the poor out of poverty. Receiving remittances decreases the probability of households becoming poor by 1.5%, and also reduces the poverty headcount ratio by 4.8%, the poverty gap by 14.6%, a poverty severity by 25.9%.

The majority of migrants from Indonesia come from lower-income groups, but there are also some from middle- and upper-class households. Migrants from Indonesia are mainly female (more than 75%), low educated, and low skilled, and most have jobs as domestic workers or in the service sector in Malaysia and the Middle East. Therefore, they are very vulnerable to abuse, as exemplified by many cases and culminated by a series of moratoriums on sending domestic workers from Indonesia to the Middle Eastern countries. This problem is made worse by the fact that many of the workers are irregular, which makes remitting through informal channels widespread. This shows that the migration and remittance market in Indonesia is not well developed and requires serious attention to improving its management. Policy improvements should cover the key stages of the migration process—from recruitment and training to worker protection—and focus on minimizing remittance costs and facilitating reintegration of returning migrants.

4. Pakistan

Despite the global crisis, remittances to Pakistan amounted to about US$8 billion in 2009, representing nearly 70% of total net current transfers and surpassing the importance of textile exports, which contribute 65%. In 2010, remittances increased by 13% to $9 billion, despite slower labor migration. This resiliency is similar to other Asian countries and may also be attributed to the diversity of migrant worker destinations.

A the macro level, GDP growth fell sharply to 1.2% in 2009 from 6.8% in 2007, before climbing back to 4.1% in 2010. Foreign direct investment dropped significantly to $3.7 billion in 2009 and further to $2.2 billion in 2010, down from $5.1 billion in 2007. The marked slowdown in GDP growth, coupled with low levels of investment and domestic resource mobilization, forced the public sector to borrow more, resulting in external debt of more than $50 billion in 2009–2010, which was up more than 30% from 2007. A major consequence of the limited fiscal space has been a sharp drop in poverty-oriented spending that partly explains the rise in the poverty headcount ratio from 22% in 2006 to 35% in 2009. As the higher remittances and exports could not make up for the ballooning external debt with its associated servicing costs, the domestic currency has been depreciating sharply since 2007, thereby constraining imports.

At the household level, remittances account for 5.3% of rural and 3.5% of urban incomes. Their role in smoothing household consumption has allowed households

to be relatively insulated from exogenous shocks. Remittances to Pakistan also have strong pro-poor effects, contributing to poverty reduction. A computable general equilibrium (CGE) model simulation based on Pakistan's economy reveals that an increase in remittances (as observed during 2008–2010) leads to a rise in investment, improvement in household consumption (particularly in poor households), foreign exchange appreciation, falling consumer prices, increased imported inputs for the industrial sector, and increased returns to capital. A decline in poverty headcount ratio, along with improvements in the poverty gap and severity, are noted as well. It appears that migration has a pro-poor effect and remittances contribute toward improvement in inequality. For example, a 30% increase in the remittance inflows to Pakistan will reduce the poverty head count ratio by 2%.

Pakistan has taken several steps in recent years to further raise the potential contribution of remittances to the country's socioeconomic development. For the returning migrants, self-employment and housing investment schemes have been expanded. For migrants who face physical losses abroad, a small-scale bailout package provides them lump-sum grants. Under the Pakistan Remittances Initiative, the central bank reimburses the marketing expenses of overseas agencies that mobilize large money transfers to Pakistan. This initiative reduces the overall costs of remitting borne by migrant workers abroad. Finally, an investment advisory office has been established to help migrants make wise investment decisions. The government has also supported the development of a special school for the children of overseas Pakistanis to further harness the potential impact of the Pakistani diaspora abroad. This school has adopted a modern education and curriculum system on par with those in developed countries. This is an example of tapping the potential benefits of diaspora for the benefit of the domestic economy. The special school is expanded and equipped with better facilities in line with international best practices.

5. The Philippines

As one of the largest remittance-receiving countries, the Philippines has been showing its resiliency during the global crisis, whereby remittance inflows keep increasing, albeit at a much lower rate than previously. The fact that more than 10% of the Filipino population—with their different occupations and skills—work in more than 200 countries worldwide has certainly helped the country to cushion itself from the negative impacts of the crisis. This resilience can further be traced to a number of other factors. First, the impact of the crisis has been uneven across destination countries but the Filipino diaspora is spread across the world, lessening the overall negative impact. Second, the crisis generally affected jobs in certain sectors (such as finance, construction, and manufacturing), but Filipino workers have a broad distribution of skills and expertise, including health care, domestic services, engineering, and computer hardware and software. Third, the deployment of Filipino migrant workers actually increased during the crisis period, reportedly owing to buoyant demand for Filipino workers given their adaptability to new situations and ability to communicate in English.

Migrant households in the Philippines accounted for around 23% of the total, and some of them have more than one migrant family member. This, to some extent, shows the advanced culture of migration in this country. Migrant households on average have higher incomes, savings, and expenditures in human capital investments compared with nonmigrant households. However, less than 10% of low-income households receive remittances, and the proportion of those receiving remittances increases as one moves to higher-income quintiles. This implies that remittances worsen income inequality in the Philippines. The share of migrant households exceeds 35% for the 5th quintile or top income group. The remittance money has pushed migrant households one decile higher. Moreover, the share of income of the lowest quintile—associated with the poorest households—has improved by 4.8%–7.1% during 2000–2006. This suggests that remittances have also pulled some households out of poverty.

Previous studies also reveal that migrant households have a lower share of employed among the household members compared with nonmigrant households.[15] This also happens in Pakistan and could possibly be ascribed to complacency and other more fundamental factors, such as limited job opportunities in the domestic economy.[16] The latter requires more general policies to improve the overall investment climate and enabling factors so that both the existing and returning workers can have good jobs in the domestic economy.

The migration and remittance market in the Philippines is relatively more developed than in other countries in Asia. This can be seen from the higher share of remittances sent through formal channels and its strong culture of migration, illustrated by the fact that about half of Filipino migrants are permanent residents already. Moreover, the deployment methods and institutional arrangements related to migration and remittance in the Philippines are among the most comprehensive in Asia.

The Philippine government's Economic Resiliency Plan, designed to help protect the most vulnerable during an economic crisis, includes measures for overseas migrant workers as a contraction of remittance inflows might have serious consequences on the economy and migrant households However, by the end of 2009, remittance inflows actually increased by 5.0%.

Migration and remittances, on the whole, have seemed relatively unscathed by the global crisis, and the impact on migrant workers and their families also seemed minor. Only a few households availed themselves of the safety nets extended by the government. It should be noted that overseas Filipino workers and their families typically first approach relatives and friends for help before resorting to government-provided assistance. Nevertheless, it appears that the government's effort to search for

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15 See for instance Chimhowu et al. 2003 for Pakistan and Tullao, et al. 2004 and Pernia, 2008 for the Philippines.

16 In addition to factors such as limited job opportunity, increasing reservation wage, and a possibility that the migrant is the only breadwinner in the household, there are also some cases where the lower labor force participation among migrant family members is due to an internal arrangement where some productive-age family members stay home to care for the migrants' children and/or other family members.

alternative markets for overseas Filipino workers mitigated what might have been a bigger blow from the global crisis despite the fact that the new markets found were mostly for women in low-skill and basic services jobs.

Some policy implications can be drawn from this study. First, the government's labor migration policy needs to be reviewed in the context of large exogenous shocks, like the 2008–2009 global economic downturn that has lingered, besides unpredictable global market vagaries that occur even during more normal times. At minimum, the government has to ensure that workers who opt to leave are made well aware of the conditions in the country of destination and associated other risks and uncertainties. Second, government assistance to migrant workers, whether in crisis times or not, requires better communication. For instance, many programs for overseas Filipino workers under the Economic Resiliency Plan were actually ongoing programs, but only a few availed themselves of these services due to lack of information. Third, both the national government and local governments should aggressively encourage entrepreneurship to diversify the income sources of households. This would make households less dependent on the government for social safety nets in times of external crises or domestic emergencies. More importantly, having one's own business could become an alternative to overseas migration or a gainful opportunity to engage returning migrants.

6. Viet Nam

As part of its integration into the global economy, Viet Nam has adopted a labor export policy to reduce pressures on its domestic labor market while stepping up its poverty reduction effort. As a result, a large number of Vietnamese migrant workers have been active in many countries over the last 10 years, resulting in remittance inflows rising sharply and becoming an important source of foreign exchange income. There are currently about 3 million Vietnamese living abroad, which is about 3.5% of the total population of Viet Nam. Around 80% of Vietnamese migrants reside in developed countries and they have been remitting regularly with considerable sums of money. Two major sources of the remittances are Vietnamese living permanently abroad (Viet Kieu), especially in the United States for historical reasons, and migrant contract workers, whose numbers have been steadily increasing due to the government's labor export policy.

Remittances amounted to $1.76 billion in 2000 and that amount was tripled in 2006, reaching 8.0% of the country's GDP. Along with foreign direct investment, remittances have become an important source of foreign exchange income that helps the government deal with the current account deficit. Unfortunately, the global crisis has had a negative impact on Vietnamese labor migration and remittance inflows, which can have adverse effects on the economy in general and household welfare in particular. Overall, however, remittances have shown greater stability than foreign direct investment.

About 6% of households in Viet Nam receive remittances and most of them are nonpoor. The share of poor households receiving remittances is only about 3%, compared with more than 10% of rich households (i.e., the top quintile in distribution). This might be due to the relatively high cost of migration for Vietnamese given their main destinations. Most of them went to the United States (51%), followed by France (13%), Australia (9%), Canada (7%), and other countries, including its neighboring countries in Asia. Urban households tend to receive more remittances than their rural counterparts, richer households receive more than poorer households, and female-headed households receive more than those headed by a male. Surprisingly, there seems to be no clear difference between household heads with and without secondary school education insofar as remittance receipts are concerned.

About 73% of remittances in Viet Nam are used for consumption, 14% for house construction, 6% for nonfarm investment, and the remaining 7% for other purposes (Pfau and Long 2006). Average expenditure of households receiving international remittances is about 8% higher than those receiving no remittance, and the number of the poor among households receiving remittances also declines by 2% (Cuong 2008). The probability of a household getting out of poverty rises if the household receives remittances. This implies that a decline in remittances will have an adverse impact on household welfare, especially among the poor.

Indirect effects of a drop in remittances include depreciation of domestic currency. This may benefit the export sector, but the non-tradable sectors will suffer due to higher interest rates. A contraction in the production of non-traded goods will likely lead to a fall in wages, which typically hurts the poor. A policy such as providing a reduction in indirect tax may help compensate for the welfare loss of households, especially for those in rural areas.

The crisis has reduced demand for migrant labor in host countries, so some migrant workers have had to return home. Unfortunately, this coincided with the contraction of the domestic labor market, and this double whammy has been particularly difficult for the poor. As observed in the other labor-exporting countries, the flow of remittances has increased, which may be due to returning workers bringing back their savings.

The key challenge for Viet Nam is how to direct the remittances toward investments in infrastructure, human capital, and entrepreneurial activities that can contribute to the long-term development of the real economy. For these to happen, accelerating the pace of policy reforms toward stabilizing macroeconomic fundamentals and improving the business climate are very important. This would enable the economy to more efficiently absorb remittances—not only from migrant contract workers but also from the Vietnamese overseas (Viet Kieu) who account for the bigger share of the total inflows—and entice more foreign direct investment to the country.

Policy reforms specific to labor migration should include predeparture orientation and training programs to not only sharpen the skills of workers but also to ensure that they honor their contracts and conscientiously observe local laws in their host

countries. Inadequate skills or the violation of contracts and laws, which has happened a number of times in the past, will damage a host country's perception of the quality, reliability, and discipline of Vietnamese workers. Of course, the behavior of host-country employers and their treatment of migrant workers also leave much to be desired. Both sets of problems should be resolved through circumspect, transparent, and fair bilateral negotiations.

7. Overall

There seems little doubt that remittances benefit households and local communities in labor-sending countries both directly and indirectly. The direct effects are higher consumption spending by remittance-recipient households as well as investments in human capital, housing, and even small businesses. At the same time, indirect impacts on nonmigrant households and the wider local community result via multiplier effects from successive rounds of consumption or investment spending.

Moreover, these money transfers from abroad impact the macroeconomy, including improving external current accounts, alleviating debt burdens, appreciating domestic currencies, and moderating inflation. However, though remittances help reduce aggregate poverty and unemployment levels, they appear to worsen rather than improve income inequality over time. This is because higher-income families tend to obtain bigger shares of these money transfers than do poorer households. The adverse inequality effect seems especially pronounced as illustrated by Philippine data.

In general, all five selected countries have thus far been relatively unscathed by the global economic crisis in the sense that the adverse consequences have, by and large, been less damaging than what most developing countries around the world had anticipated. Except for Bangladesh, the five selected countries continued to post positive, albeit markedly lower, GDP growth rates due to either a decrease or a slower growth, not only in remittances but also in exports and foreign or domestic investments.

Across the five selected countries, the consequences have varied in terms not only of the unfavorable effects on the economy but also on poor households. While richer households may have been hit more in relative terms, the absolute negative impact on those below or just above the poverty threshold appears to have been greater, as reflected in higher poverty headcount ratios.

In Bangladesh, the global crisis led to a slight contraction in real GDP that in turn resulted in a double whammy to households, the poor in particular, owing to a decline not only in remittances but also in ready-made garment exports, an industry where most workers are from poor households. Ready-made garment exports suffered despite the depreciation of the Bangladeshi currency with the fall in remittances. Similarly, in Viet Nam, a depreciation of the domestic currency benefited the export sector but at the expense of the non-tradable sectors due to higher interest rates, hurting the poor who work in these sectors.

In Indonesia, Pakistan, and Viet Nam, remittance receipts rose even as labor migration slowed. However, it is not clear if the increase in remittances can be interpreted as a short-term phenomenon, as returning contract workers bring along their savings or those remaining overseas have had to make bigger money transfers to families at home needing greater assistance. The Philippines appears to be the sole country among the five Asian developing countries that saw higher deployment of migrant labor during the crisis period, owing to its wider diversity in both type of workers and destination countries.

More recently, the five selected countries have been experiencing a rebound in labor migration and remittances and, concomitantly, real currency appreciation may suffer from reduced export competitiveness. In the case of the Philippines in particular, which tops the group in the magnitude of remittance receipts, the effect on recipient households has already been keenly felt as the local currency equivalent of the money transfers has significantly dropped. With exporters and other foreign currency earners probably agitating about their plights, the job of the central banks becomes a difficult balancing act of managing the floating exchange rate to maximize the pros and minimize the cons of domestic currency appreciation.

Other drawbacks of labor migration that deserve mention include the brain and skills drain problem and the psychosocial costs to contract workers and their families left behind, besides the adverse effect of remittances on inequality. Another disadvantage is the quasi-Dutch disease (or complacency) effect on governments, for it reduces efforts to pursue key policy reforms to strengthen the domestic economy and reduce the dependence on labor export (i.e., migration and its remittances).

A pivotal challenge to the five selected countries is to marshal remittances wisely, channeling them toward investments in infrastructure, human capital, and entrepreneurial activities that are key to the long-term development of their economies. Improving the investment climate would incentivize nationals living and working overseas to invest in their home countries while attracting as well more foreign direct investments.

Meanwhile, labor export policy reforms should include streamlining the recruitment process, better managing predeparture orientation, and providing some training programs. This is to enhance the competence of workers and to adequately prepare them for the work and lifestyles abroad. Other areas needing reform have to do with minimizing remittance costs and reintegrating returning migrants.

A fundamental disadvantage of labor-sending countries is the stark fact that the global labor market is a lopsided buyer's (demand) market, where the conditions are dictated by the host countries and the suppliers of labor have little say. This explains why violations of contracts and other abuses by employers are not infrequent, and are even more common when migrants enter clandestinely. This could be remedied, perhaps, if labor-exporting countries banded together to obtain fairer treatment. However, such

cooperation among these countries may be very difficult, as they are saddled with excess labor at home and are competitors in the global labor market. Therefore, the goal ought to be economic reform that gradually reduces dependence on overseas labor markets such that working abroad becomes a choice rather than a necessity.

The study across countries described above also shows that direct physical and financial investment using remittance money is still very limited. It is a challenge for governments to develop their financial sectors to facilitate remittance flows and tap the potential benefit of remittance. The banking and financial sector could improve its intermediary role, and attract remitters to formal channels, by reducing remittance costs and developing more attractive financial products for migrants and their families.[17] The government could also help by better managing and protecting the migrants before, during, and after the migration process, as well as by better managing remittance inflows and use. All of these measures are intended to increase the development impacts of migration and remittances. Moreover, the latest evidence from the current global crisis shows that migrants are left alone in facing the shocks, relying only on their friends and relatives for help (ADB and IOM 2010). This calls for social protection for them, since quite often they have been excluded from the existing social protection policies in both the host and home countries. It seems that migrants consider that getting more income is only at the beginning of their migration process. Once they have more experience, they would consider other things such as getting new knowledge and skills, education for their children, savings, and investments. Accordingly, what is considered to be the best achievement of the migrants has become more complex once the migration is well developed.

On the policy side, it is important to note that national and local policies can impact migration and remittance in both positive and negative ways. The positive impacts of the policies are usually expected, but policy makers may not have considered the potential negative effects. The general good intentions to provide more protection to the migrant workers and to give more power to the local authorities, for instance, might actually result in unexpected and potentially undesirable effects. Therefore, understanding the issue and putting it in the right context is really crucial.

8. Migrants and Their Families

To understand the impact at the migrant household level, a series of household surveys were conducted in Bangladesh, Indonesia, and the Philippines to explore the impact of the crisis on migrants and their families at home. Evidence so far clearly indicates that the crisis affects countries differently, which in turn affects their migration and remittances in different ways. To some extent, the effects on migration and remittances depend on key characteristics of the migrants, such as their countries of origin and destinations, their education level, and the types of jobs and occupations that they have. Moreover, the length of stay abroad and gender also contribute to the nature

17 The estimate of inflows through informal channels ranges from 10% to 50% of total inflows.

of the effects. Finally, the effects are also likely to be influenced by migrants' family attributes such as the educational background of the household head and the size and composition of the family, which in turn affect consumption patterns and other factors. Therefore, there are complicated links and impact dynamics across different regions, different sectors of the economy, and different groups of migrants and their families that must be taken into account.

Knowledge and expectations about the crisis. Most migrant households are very knowledgeable about the crisis. They either know it "very well" or "relatively well." Migrant families from the Philippines are the most knowledgeable about the crisis. More that 84% of them understand it relatively well. On the other hand, a significant number of migrant households in Bangladesh and Indonesia actually know very little. About 50% in Bangladesh and 48% in Indonesia know nothing about the crisis. This is really a concern given that their family members working abroad can be the first victims of the crisis as employers lay off workers in response to economic downturns. Moreover, more than one-third of migrant households who know about the crisis think that the crisis will last for 1–2 years while another third thinks that the crisis will last more than 2 years. Migrant households in Indonesia seem to be the most pessimistic, while migrant household from the Philippines are the most optimistic.

Impact on out-migration. The number of family members working as migrant workers abroad has declined by 3% during the crisis. The fall in Bangladesh is the most notable (nearly 7%), in contrast with the Philippines (nearly nil) and Indonesia (less than 2%). The number of those who would like to go abroad but cannot afford to do so has also increased. This is in addition to the reason that they could not find a job they wanted. Therefore, the crisis reduces both existing and potential flows of out-migration.

Impact on household income. Most migrant households felt that their incomes have decreased during the crisis, and this is confirmed by calculations of income before and after the crisis. The big impact of the crisis in reducing migrant household income is due to the fact that most of the migrant households rely heavily on remittances for their income (46% of the total household income). Those affected by the crisis consider that it will also affect job hunting, wages, and overall livelihood of the migrants.

Impact on savings. Four savings indicators were used to measure the impact: savings incidence, scheduled saving, savings frequency, and savings amount. The crisis has reduced savings incidence by 5 percentage points. The frequency of saving has also decreased, with scheduled saving declining by 5 percentage points. As a result, the amount of savings has also dropped by around 5% during the crisis. The dynamic effects on savings are very interesting. Bangladesh experienced the worst drop in saving, followed by the Philippines. In contrast, the negative impacts in Indonesia have been only on the savings incidence and scheduled saving, but the amount of savings actually increased.

Impact on investment. Following the impact on savings, the impact on investment is very similar but the decline is relatively bigger since households need to reprioritize other expenditures including their investments. Despite the decrease, migrant households would like to invest more in the future. Regarding human capital investment, the survey also asked whether the reduction in income, savings, and investment has made the household reduce their human capital investment for their children. The results show that some households in the Philippines have dropped their children from school during the crisis, while those in other countries prefer to cut other educational expenses and cope in different ways.

Impact on remittance dynamics. The crisis impacts remittance dynamics very evidently. The share of migrant households who receive remittances has declined by 4% and the amount of remittance received has decreased by 22%. The frequency of receiving remittances has become less as migrants send their remittances less frequently. On the use of formal channels, banks seem to be less preferred than money transfer institutions during the crisis. The crisis also reduces the use of informal channels, such as *hundi*. Sadly, the crisis has also made migrant households more dependent on the remittance incomes. This is observed in all three countries (Bangladesh, Indonesia, and the Philippines), showing that remittance money has increasingly been used in almost all categories of expenditures. This clearly shows that migrant households have relied more on remittances to finance their expenditures during the crisis despite the fact that the amount of remittances received actually decreased.

Migrant household coping mechanisms. The survey found that there has been no significant change in the types of jobs done by migrant workers. Bangladesh has relatively big shares in service and construction, while Indonesians mostly work as domestic workers or in factories. Philippine migrant workers, on the other hand, are spread across a broader variety of jobs and sectors.

Total income of migrant households in general fell during the crisis. About 81% of migrant households considered their income decreased, with the biggest share in Bangladesh (97%), followed by Indonesia (82%) and the Philippines (64%). The reduction in total household income is mainly due to the reduction in the amount of remittances received, except in the Philippines, where remittances received actually increased. There are also other reasons for the reduction in household income, such as job loss and wage cuts, as the crisis also put pressure on family members' livelihood sources in the home country.

In the Philippines, reduced contributions from other family members, depreciation of the peso, and poor entrepreneur income contributed to the decline in the total income of migrant households. Accordingly, they have to work more jobs, work longer hours, and seek additional jobs to compensate for the lost income. Borrowing money and using savings are the next options used. Despite the decrease in income, there is an indication that household expenses actually increased during the crisis, putting more pressure on migrant households.

Migrant households in the three countries use very different coping mechanisms. To compensate for the reduction in income, most migrant households in Bangladesh (51%) and Indonesia (61%) work more, while this is an uncommon strategy in the Philippines (9%). On the other hand, migrant households in the Philippines are the most willing to borrow money, about 32%, while the shares in the other two countries are only 16% and 17%. This could be due to limited job opportunities in the domestic economy and more reliance on remittance income.

Migrant coping mechanisms. Migrant workers may have more limited choices given their status in the host country. They may have to return home if other options—such as changing jobs, employers, or locations—are not available. The survey asked unemployed workers about the job search methods used, whether they have changed after the crisis, and what coping mechanisms they use in terms of adjusting their expenditure. The percentage of migrants who have returned home during the crisis has increased by 3%. This might be due to the end of a contract, pre-termination by employer, vacation, taking leave, etc. The survey found that the share of those returning home due to pre-termination of contracts by employers increased by 4%. The increase was 15% in Bangladesh, 17% in Indonesia, and no increase at all in the Philippines.

The crisis does not seem to be changing the occupations of the migrant workers, but it is affecting their workplaces. In facing job cuts or layoffs, migrant workers move around within the host country to find new workplaces that can use their skills, rather than staying and changing their occupations. About 11% of migrant workers did mange to use this strategy. Migrant workers may also move to other countries to keep their jobs. About 7% of migrant workers did this, most of them from the Philippines. This may be due to the expansive network of Filipino migrant workers that spreads across more than 200 countries.

For those forced to be unemployed, the survey found that the number of months for being unemployed has increased by 0.5 months during the crisis. The most notable effect was in Bangladesh, where the increase was nearly 2 months.

To find a new job, migrant workers may apply directly to companies, register with private employment agencies, and/or ask for help from friends and relatives. The survey found that registering with a private employment agency is the most dominant approach, followed by approaching employers directly. Migrant workers in Bangladesh rely heavily on private employment agencies, while Indonesian migrant workers depend primarily on government employment agencies. Migrant workers in the Philippines tend to approach employers directly. This difference reflects the different level of migration development in the three countries and the relatively low role of the private sector in the migration market in Indonesia.

The survey also found that more than a quarter of migrants have had to lower their day-to-day expenses to cope with the crisis. Migrants across countries have

also used their savings and/or borrowed money from family, relatives, or friends to meet their needs.

Assistance to migrant households. Very few migrant households receive assistance from the government during the crisis. The role of nongovernment organizations is also still small. Therefore, migrant households are generally left alone to deal with the impact of the crisis.

Lessons learned. The survey results contribute to an enhanced understanding about the issue, especially in the three countries studied (Bangladesh, Indonesia, and the Philippines), but the findings have relevant policy implications for other countries in Asia. The outcomes provide valuable information and insights useful for designing better policy in the future. It is also very important that we learn from the current crisis so that we are better prepared for meeting the challenges of the next one.

F. Conclusions and Policy Implications

The empirical evidence clearly shows the important and increasing role of remittances in Asia. The stable and regular inflows of foreign exchange income have helped economies in this region in many ways. The inflows provide hundreds of billion dollars per year that help maintain a healthy balance of payments position and stabilize the domestic economies. The funds may also serve as an alternative source of development financing, especially those transferred through the banking system and other formal channels. Their stable and countercyclical nature will make them even more important in the future given the increasing globalization and fluctuations of other inflows. The experience from the current global financial crisis has further highlighted the key role of remittances, especially in making the Asian economies more resilient. Therefore, the key challenge is finding ways to tap the potential benefits of remittances while mitigating their associated costs.

1. Policy Implications

Some policy implications that can be derived from the study results include the following:

Reduce remitting costs to attract more remitters and more remittance inflows through formal channels. Remitting costs are still too high, reaching up to 20% in some cases. The remittance regulations and procedures also can be too complicated, which drives remitters to informal channels. This complexity is made worse by concerns from developed countries on money laundering and terror financing. All of these call for introducing more efficient regulations, which will improve the formal transfer systems and thereby benefit the economies of the host and home countries as well as the welfare of migrant families. It will be important to increase the use of technology to further speed up the remitting process, which is very important for migrants and their families.

Increase the potential development impact of remittances by better linking remittances with financial access and products, which should be attractive and beneficial to both migrants and their families. Included in this strategy is the development of products that can directly channel remittances to capital markets to benefit the financial sector and the home economy. The latest example of this is the diaspora bond, which is gaining some momentum in labor-exporting countries.[18]

Further improve the resiliency of migrant workers by increasing their skills, facilitating their circular migration, and protecting their welfare. The study reveals that despite having limited choices for their status in a foreign country, migrant workers only consider returning home as the last resort. This has forced them to cope with the adverse effects of economic downturns in the host countries by adopting strategies like reducing daily expenditures, changing jobs, working in different places, or even moving to other countries to get a job. They have also relied very much on their friends, relatives, and families, since available assistance from formal institutions and governments, in both host and home countries, is very limited.[19] This highlights the need to provide social protection for migrants both while they are working abroad and after they return home.

2. Other Key Issues

In line with the policy implications above, other key issues that need to be understood to strengthen the strategic approach to policy include the following:

Characteristics of migrants and migration. It is important to know why and how people migrate and what kinds of jobs they are seeking. This will at least give the governments of migrant-sending countries some guidelines on how to facilitate the migration process and protect the migrants. Other key information on migrants' gender, education, job status, and skill level, for instance, will also help government to better plan the migration process to avoid brain drain and benefit from brain gain.

Role of domestic and international remittances. Domestic and international remittances are very common and the two impact the economy differently. Anecdotal evidence seems to indicate that domestic remittances tend to be more widespread, while international remittances tend to concentrate in some regions. The monetary value of international remittances, however, tends to be higher than for domestic remittances. The possible adverse effects of the two are also quite different, so they have very different policy implications.

Formal and informal channels. Much is still unknown about the actual amount of remittance flows and factors determining the use of formal channels. Increasing

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18 To some extent, the lack of this product is manifested in the remittances being investment in the land, housing, etc.

19 Based on the results of a survey conducted by ADB and IOM in 2010 on the impact of global crisis on remittance in Asia.

the use of formal channels is always desirable but the informal channels have existed for a long time due to their speed, low cost, convenience, versatility, and anonymity. Examining informal channels is, therefore, very challenging given its general lack of transparency. The key is to make the formal channels more efficient and a more desirable alternative than informal channels.

Regulations on remittance procedures and costs. A previous ADB study on remittances in the Philippines concluded that they are affected by legal, banking, and regulatory environments including anti-money-laundering issues, payment systems, taxation, and other concerns in the remitting and receiving countries. Key areas for improvement, therefore, include government systems, community-based financial institutions such as rural banks; cooperatives and microfinance institutions; and nongovernment organizations. Moreover, access to investment programs, savings mobilization, credit, enterprise development, and reintegration programs, for instance, could facilitate reintegration of returning migrants (ADB 2004).

Productive use and poverty impact of remittances. Remittances could contribute to human and economic development if the funds are spent less on conspicuous consumption and more on human development, such as for education, health, and productive investments. Poverty is a crucial push factor for migration, but remittances can help reduce poverty, as shown in the study results. Therefore, the interconnection between migration, remittances, and poverty reduction can always be strengthened to improve the development impact of remittances.

The major challenge for policy makers, the private sector, and the international community is to leverage the growing remittances to provide better access to financial services to millions of poor people and thus contribute to reducing poverty and promoting economic growth. This can be conducted through (i) integrating remittances into the international development agenda; (ii) leveraging remittances in building inclusive financial systems; (iii) supporting the modernization of financial infrastructure such as payment systems and credit information; (iv) promoting a balanced approach to financial integrity and provision of services for the financially underserved; (v) coordinating remittance initiatives among governments, nongovernment organizations, the international development community, and the private sector; and (vi) improving and disseminating data and knowledge on the remittance industry through global and regional studies (Department for International Development and World Bank 2003).

To tap the potential benefit of remittances, coverage of instruments and financial institutions in developing countries need to be developed further as their scope is still very limited. Because most remittance fees are set by financial institutions in the sending countries, financial authorities are constrained in their ability to reduce remittance fees; therefore, sending and recipient countries must cooperate to reduce costs. Moreover, money transfer companies need to be properly supervised to improve

their efficiency and reduce concerns about money laundering and terrorism financing without deterring the development of this financial option.

Finally, most countries need to develop a better way of maximizing the developmental effect of remittances. This can be started by establishing savings and investment instruments for remittance-receiving households to ensure that a significant part of remittances can be used to finance productive investments to foster economic growth. Therefore, the key challenges are to (i) make funds transfer easier and cheaper to attract larger flows, (ii) direct the use of remittances from consumption to productive investment to ensure sustainability and effective use of remittances, and (iii) attract more remittance transfers from informal to formal channels to improve financial sector markets and reduce the risk of money laundering.

Lessons from the current global financial crisis clearly indicate that the crisis has affected migration and remittances in different ways in different countries, and a "one size fits all" policy approach would therefore fail to address the dynamic impacts of the crisis, especially on migrants and their families. To be effective, any policy approach must consider the nature of migration and the associated remittances, as well as the underlying factors driving migration. Migrants and their families also need help in coping with the crisis and emerging from it stronger and better equipped. Such assistance should, ideally, include training and initiatives to address the adverse conditions fueling migration. Therefore, the optimal approach to migration policy development should be to create a "win-win-win" solution that benefits the host country, the sending country, and the migrant workers.

Chapter 3
A Macro View of the Impacts of International Remittances: Changing Measures, Changing Results?

Guntur Sugiyarto and Carlos Vargas-Silva

A. Introduction

Recent increases in official remittance flows have attracted the attention of academics and policy makers around the world, partly owing to the macroeconomic impact of these flows. The results in previous literature have been diverse and there remains a lack of consensus about the impact of migrant workers' transfers. One of the reasons may lie in the different approaches used. For instance, Chami et al. (2008) identify three differences in the studies on the impact of remittances on economic growth: (i) the measure of remittances used; (ii) the sample period; (iii) the variables included in the model; and (iv) the instrument used for remittances to deal with endogeneity. To this list, we could add (v) the selection of countries included in the estimation, given that some studies are regional (e.g., Mundaca 2009 and Vargas-Silva et al. 2010); and (vi) the actual equation estimated, given that it is common to include a square term for remittances or interactions between remittances and other terms (e.g., Giuliano and Ruiz-Arranz 2009). The problem is that extant studies tend to change some or all of these aspects at the same time, making it quite difficult to identify the real reasons why the results differ from one study to another.

In this chapter, we concentrate on the first of these aspects: the measure of remittances. We use different macro level dependent variables to show how the results change depending on the measure of remittances used. We take into account the sample period (as inclusive as possible), the variables included in the model (standard sets of variables), and the instrument for remittances (Chami et al. 2008), and we show the results for different samples of countries (global, global developing, and developing Asia). We present the results using as dependent variables several measures of economic growth and output, several measures of poverty, consumption, investment, and exports. In regard to remittances, we employ two frequently used series: (i) workers' remittances as reported in the balance of payments; and (ii) a combined measure of workers' remittances, compensation of employees, and migrant workers' transfers.

If the differences in results across measures are significant, we may have to revisit the previous studies on the impact of remittances. We would need to make conclusions based on the arguments of either the "broad definition proponents," for which two or three of the components should be used, or the "precise definition proponents," for which remittances are better defined just as the workers' remittances component of the balance of payments. In the next section, we discuss the importance of each of these measures and expand on the potential implications of our results.

B. The Ideal Measure of Remittances

Several studies argue that remittance flows are the best-measured aspect of the international migration process (e.g., Adams and Page 2005). This statement may sound like praise for the measurement of migrants' transfers on the part of central banks around the world, but it is really a denunciation of the lack of adequate measurement of the other aspects of the migration process. Many researchers agree that the aggregate remittances data are largely of relatively poor quality.

There are three key reasons for this deficiency. First, unofficial transfers account for a significant portion of remittance transfers around the globe, making it difficult for the government to record the total actual flows. Second, many transactions are not recorded as "workers' remittances" in the balance of payments even though these transactions should be recorded as such (World Bank 2008). Third, it is common to attribute money transfers channeled through international banks to a country other than the actual source country.

A central bank survey conducted by the World Bank suggests that only 43% of remittance-receiving countries report on remittance flows transferred through informal channels. Furthermore, in the case of remittance-sending countries, only 17% of central banks provide information on informal flows (Irving et al. 2010). The World Bank (2008) also argues that

> [a]though the residence guideline in the manual is clear, this rule is often not followed for various reasons. Many countries compile data based on the citizenship of the migrant worker rather than on their residency status. Further, data are shown entirely as either compensation of employees or as worker remittances, although they should be split between the two categories if the guidelines were correctly followed. The distinction between these two categories appears to be entirely arbitrary, depending on country preference, convenience, and tax laws or data availability.
>
> Migrants' transfers are the net worth of migrants that are transferred from one country to another at the time of migration (for a period of at least one year). As the number of temporary workers increases, the importance of migrants' transfers may increase. Therefore, in order to get a complete picture of the resource flow, one has to consider these three items together.

The three items mentioned are (i) workers' remittances as reported in the balance of payments: (ii) compensation of employees: and (iii) migrants' transfers. This has been the prevailing view in much of the macro level work on remittances and, therefore, many studies combine these three items (workers' remittances, compensation of employees, and migrant transfers).

The actual definitions of these three components, according to the International Monetary Fund's *Balance of Payments Manual* (fifth edition), are as follows:

(i) **Workers' remittances:** Workers' remittances cover current transfers by migrants who work in new economies and are considered residents there. A migrant is a person who comes to a country and stays (or is expected to stay) for a year or more. Persons who work for and stay in new economies for less than a year are nonresidents and their transactions are more appropriate for the *compensation of employees* component.

(ii) **Compensation of employees:** This covers wages, salaries, and other benefits, in cash or in kind, and includes those of border, seasonal, and other nonresident workers.

(iii) **Migrants' transfers:** These transfers are not transactions between two parties but contra entries to flows of goods and changes in financial items that arise from the migration (change of residence for at least a year) of individuals from one country to another. The transfers are equal to the net worth of the migrant workers.

From these definitions, we see, as indicated by the World Bank (2008), that the distinctions are clear. The argument is that the actual implementation for recording purposes is less than perfect. Nonetheless, a recent study by Chami et al. (2008) challenged the perception of the adequacy of this combined measure of remittances. They argue that: "... compilers are more proficient at separating these flows in the balance of payments framework than researchers give them credit for." They also state that these flows are essentially very different things and that they represent different behaviors. Moreover, in the case of compensation of employees and migrants' transfers, such do not relate to what researchers usually mean when they refer to workers' remittances.

The warning from Chami et al. (2008) is that "[r]esearchers who use all three series when compiling a cross-country panel of remittance data may be making a serious error, because the inclusion of employee compensation and migrants' transfers in data on remittances incorporates different behavioural relationships with respect to economic variables of interest and behaviour that appears to be uncorrelated with remittance behaviour."

In an ideal world, all countries would follow these indications and we would have a standard measure of remittances across countries. However, the reality is still a long way from the ideal situation. Accordingly, in this study we explore the possible differences in results from using these alternative measures of remittances.

Table 3.1 lists some of the previous macro level studies on remittances and indicates the measure of remittances used. The summary is by no means exhaustive for the amount of literature in this area has been increasing exponentially during the last decade. As is obvious from the table, there is quite a diversity of approaches to the measure of remittances. Some studies use the workers' remittances series, others add the compensation of employees to this series, while others add the compensation of employees and migrants' transfers. Moreover, the debate about the lack of an adequate measurement of remittances is not only a concern for academics but also for international organizations and policy makers.

Recently, the International Monetary Fund's Committee on Balance of Payments Statistics prepared a document entitled *International Transactions in Remittances: Guide for Compilers and Users* (International Monetary Fund 2009b). This document is the product of a policy makers group called the Luxembourg Group on Remittances, which includes representatives from the International Monetary Fund, the Organisation for Economic Co-operation and Development, the World Bank, and national central banks, among others. The group recognizes that "the quality of statistical remittance data is not high. Remittances are a challenge to measure because of their nature. They are heterogeneous with numerous small transactions conducted by individuals through a wide variety of channels." Hence, if these efforts for better measurement of remittances continue into the future, it would be possible for academics to just use the remittances series from the balance of payments with more confidence. In the meantime, there continues the debate about which measure of remittances to use.

C. Estimation Procedures

As we mentioned above, the literature also differs as to sample period, variables included in the model, instruments used, countries covered, and specification of estimated equations. As regards the sample period we use the longest period for which data are available, 1970 to 2008. We use 5-year period averages of the data to eliminate cyclical fluctuations.

We use the instrument recommended by Chami et al. (2008) in which the remittance variable is specified as the ratio of remittances to gross domestic product (GDP) for all countries in the sample. They argue that this instrument is an improvement over other instruments given that it reflects the global cost of remitting, while it does not relate to the macroeconomic variables of the country given that it excludes the information on remittances from the specific country. The main limitation of the instrument is that it does not capture idiosyncratic changes of the remittance-receiving country. There are many other instruments in the literature, including internal instruments (Catrinescu et

al. 2009) and non-time variant instruments such as distance (Adams and Page 2005). Each of these instruments has pros and cons; however, we feel that if we use different instruments in this study, we may lose the focus of our study, which is to compare results using different measures of remittances.[1] Nonetheless, in order to somewhat differentiate the effect of the selection of an instrument from the distinct impacts of the different measures of remittances, we start the analysis by running an estimation in which we ignore the endogeneity issue (simple fixed effects estimation) and then focus on the instrumental variable estimations.

The variables we include as independent variables change with the dependent variable that we use in the estimation. In all cases, we strive to use a standard set of variables that allows for easy comparison. In the case of the GDP growth/output equation we present estimations with two sets of independent variables: a limited set of variables for which we have more observations and a more comprehensive full set of variables for which we have fewer observations. The full set of variables includes the natural log of remittances as a share of GDP, the natural log of trade as a share of GDP (trade is defined as exports plus imports), the natural log of M2 (a measure of money supply) as a share of GDP, inflation, initial GDP per capita, the natural log of foreign direct investment as a share of GDP, the natural log of the fiscal balance as a share of GDP, population growth rate, and the log of the international country risk guide index (ICRG) for political stability. On the other hand, the limited set of variables only includes the first four variables.

We use three independent variables to represent output/growth. First, we use the average growth rate of annual real GDP per capita over the 5-year period. Second, we take the average real GDP per capita over the 5-year period, and then we take the growth rate between the 5-year periods. Finally, we use average real GDP per capita. These three independent variables actually measure related, but different, aspects of the relationship between GDP and remittances, so we explore all three.

We also look at the impact of the different measures of remittances on several poverty indicators. The poverty indicators are the poverty gap at $1.25, poverty gap at $2.00, poverty headcount ratio at $1.25, poverty headcount ratio at $2.00, and the national poverty headcount ratio. The first two measures provide information about the depth of poverty. This variable measures the mean shortfall of the poor from the poverty line, expressed as a percentage of the poverty line. The last three measures are headcount indexes and are useful in estimating the incidence of poverty as they show the share of the population in a country below the poverty line. Finally, the first four measures use international standard measures of poverty, while the last

1 The same argument applies to using different specifications of the empirical model. For instance, some studies argue that the relationship between remittances and growth maybe quadratic (e.g., Chami et al. 2003), others argue that it is nonlinear but not quadratic (e.g., Ruiz et al. 2009), and finally others argue that remittances should be included as an interaction term with other variables (e.g., Catrinescu et al. 2009). All of these arguments are sound, but trying each approach would simply create more confusion about why the results are changing.

one uses the official thresholds set by the national governments. The independent variables we used in the poverty equation are the natural log of remittances as a share of GDP, natural log of annual GDP per capita, natural log of gross capital formation as a share of GDP, natural log of trade as a proportion of GDP, natural log of the ICRG index for political stability, and the natural log of foreign development income as a proportion of GDP.

Finally, we use as dependent variables the natural log of household final consumption expenditure as a proportion of GDP, the natural log of exports as a share of GDP, and the natural log of investment (gross capital formation) as a proportion of GDP. The independent variables in this case are the natural log of annual GDP per capita, the natural log of M2 as a proportion of GDP, population growth rate, and the natural log of the ICRG index for political stability. The combined remittances measure comes from the World Bank *Migration and Remittances Factbook* and all other data are from the World Development Indicators.

We use three sets of countries. First, we have a global estimation in which we include all the countries for which we have data. Second, we have a developing countries set, defined as those countries that the World Bank designates as low-income economies, lower-middle-income economies, and upper-middle-income economies. Third, we limit the developing countries set to Asia, the developing region of the world that receives the largest share of remittances (Jha et al. 2009). The Asian developing countries are the developing member countries of the Asian Development Bank. Using these three samples, we are able to show if our results change due to differences in remittance measures across different groups of countries.

D. Empirical Results

1. Economic Growth

We start the analysis by conducting a simple fixed effects estimation for all the countries for which we have data. Table 3.2 reports the results of this exercise. It seems that trade is consistently positively associated with economic growth, while inflation has a negative effect on economic growth. Other variables such as M2 and initial GDP tend to change signs across different estimations. Concerning remittances, the results suggest that their impact on economic growth is either positive or insignificant. The coefficients in columns (5) and (6) may be interpreted as elasticities. For instance, the last column suggests that a 10.0% increase in remittances (as a share of GDP) leads to a 0.4% increase in real GDP per capita.

Further, if we compare the results across measures of remittances (last row of Table 3.2) we can see that the results are generally consistent in terms of signs and significance, except in just one instance. In column (2), the coefficient is not significant for the combined measure of remittances, but it is significant for the workers' remittances

series from the balance of payments. In terms of the elasticities discussed from column (6), this measure suggests that a 10% increase in remittances leads to a 2% increase in real GDP per capita.

The results reported in Table 3.3 virtually replicate those of Table 3.2, though the estimation is limited to developing countries. As was the case for the full sample, we have some evidence of trade having a positive impact on growth and inflation having a negative impact. For developing countries, we are able to find less evidence of the positive impact of remittances, especially as regards the full set of independent variables. Among other reasons, we note that there is a large reduction in the size of our sample.

Nonetheless, as the above suggests there is the possibility of endogeneity between remittances and economic growth that must be remedied. We do this in Table 3.4 for the global sample for which we carry out an instrumental variable estimation using the instrument described above and include fixed effects. Here, we find evidence of a positive impact of remittances on economic growth for the combined remittances measure. Looking at columns (5) and (6), it appears that a 10% increase in remittances leads to a 3%–4% increase in real GDP per capita. However, for the other measure the impact of remittances is only significant for the limited set of control variables.

One of our objectives in this exercise was to compare the evidence about the impact of remittances in different regions of the world and for different types of countries. In Table 3.5, we first report the coefficient on remittances when we use an instrumental variable estimation for the global sample (same as in Table 3.4), then we report the coefficient for the developing countries sample and for the Asian developing countries sample. The results for the global estimation and for the developing countries sample indicate that the impact of remittances is significant in most cases for the combined measure, but in the case of the other measure, the impact is significant only for the limited set of control variables. As regards the Asian developing countries, the impact is mostly positive but not significant. Only in the case of workers' remittances do we get a significant and positive coefficient, suggesting that a 10% increase in remittances leads to about a 2% increase in real GDP per capita.

2. Poverty

Next, we conduct a similar exercise using different measures of poverty. We report the results for the global estimation in Table 3.6, the results for the developing countries in Table 3.7, and the results for the Asian developing countries in Table 3.8. There is a common pattern in these three tables. First, the coefficients of remittances are mostly negative, albeit not significant in all cases. Second, the coefficient of real GDP per capita is significant and seems to be capturing most of the dynamics of poverty in these countries.

To explore what would happen in the absence of real GDP per capita as an explanatory variable in these estimations, we conduct an alternative analysis (Table 3.9). The results suggest that for the most part remittances exert a negative and significant impact on poverty. The only exception is the case of the Asian developing countries using the national official measures of poverty. The coefficients are mostly negative in both of these cases, though not significant. We have to stress, though, that here we have a very limited number of observations.

3. Consumption, Exports, and Investment

The final group of macro variables used as dependent variables are household aggregate consumption, exports, and investment, all in natural logs and as proportions of GDP. Table 3.10 reports the results for the global sample. Remittances have a notable impact on consumption, but not on the other two variables. It seems that a 10.0% increase in remittances leads to a 1.1% decrease in consumption. It is important to note that this does not imply that remittances lead to less consumption, but rather that remittances lead to less consumption relative to total output. This result is consistent across different measures of remittances. The ICRG index has a positive impact on all three series, while GDP per capita has a negative impact on consumption (in relation to output) and a positive impact on exports and investment.

Table 3.11 reports the results for developing countries, which seem consistent with those for the global sample. The results suggest that a 10% increase in remittances (as a share of GDP) leads to a 1.3% decrease in consumption (as a share of GDP). The ICRG index has a positive and significant impact on consumption and exports, but not significant impact on investment. Meanwhile, Table 3.12 reports the results for the Asian developing countries sample, which do not appear noteworthy. Only in the case of exports do we see that GDP per capita, population growth, and the ICRG index are significant. Also, GDP per capita and the ICRG index have a positive impact on exports relative to output, while population growth has a negative impact (see Table 3.13 for the result comparison). One possible reason for the lack of significance is the limited number of observations for each of the estimations.

E. Conclusion and Implications

Migrant workers' remittances are undoubtedly of great value to their families. These flows support the families in their consumption expenditures as well as in investments in human capital, housing, and perhaps even in starting small enterprises. Moreover, these transfers have important positive effects at the aggregate level. In fact, such macroeconomic impact has been the focus of a good deal of the literature on migration and remittances. Nevertheless, there has been little consensus about the subject, owing in part to the differences in estimation approaches used by the researchers. We have identified six common differences based on the conclusions of previous studies. These are (i) the measure of remittances (i.e., workers' remittances, compensation of employees, and migrants' transfers or some combination thereof); (ii) the sample

period; (iii) the variables included in the model; (iv) the instrument used for remittances to deal with the endogeneity problem; (v) the selection of countries covered in the estimation; (vi) the specification of the equation (e.g., linear, quadratic, interaction between remittances, and other terms).

In this chapter, we concentrate on the first item but we also address some of the other issues. For instance, the sample period is as inclusive as possible and the variables included in the model are the standard ones. Then we estimate equations for different groups of countries, such as global, developing countries, and developing Asia.

It appears that there is evidence of remittances having a positive impact on different measures of economic growth and output. This result is true in the case of all countries and the developing countries in general, but not with respect to the Asian developing countries. The impact also seems clearer in the estimations using a limited set of control variables rather than where the full set of control variables is used. Overall, the results suggest that a 10% increase in remittances leads to 3%–4% increase in real GDP per capita.

Another other interesting result relates to consumption as a share of GDP, which appears to be negatively associated with remittances. While a more rigorous testing is called for, this result implies that remittances may encourage households to raise saving rates. Further, remittances tend to have a negative, if not significant, impact on poverty. Nonetheless, by dropping GDP per capita as an independent variable, the results suggest that remittances do exert a negative and significant impact on poverty.

All told, we find little in the way of critical differences in the results insofar as the use of different measures of remittances is concerned. Accordingly, we have no strong basis to question the findings and conclusions of some or most of the previous studies on the impact of remittances on economic growth or poverty. Still and all, we do hope that in the future national statistical agencies, following the lead of international organizations, get better at tracking and recording remittance flows such that quantitative research becomes more accurate, leading to better policy guidance.

F. Tables

Table 3.1: Measures of Remittances Used by Some Previous Studies

Paper	Measure Used
Amuedo-Dorantes and Pozo (2004)	Remittances from the balance of payments
Amuedo-Dorantes et al. (2010)	Workers' remittance and compensation of employees
Acosta et al. (2009)	Combined measure
Catrinescu et al. (2009)	Workers' remittance and compensation of employees
Chami et al. (2008)	Remittances from the balance of payments
Jongwanich (2007)	Combined measure
Ruiz et al. (2009)	Remittances from the balance of payments

continued on next page

Table 3.1. continuation

Paper	Measure Used
Singer (2010)	Workers' remittance and compensation of employees
Vargas-Silva et al. (2009)	Combined measure

Note: We just make reference to a few of the previous remittances studies to emphasize the tendency of studies to use different measures of remittances. The literature on this type of transfers is extensive.

Table 3.2: Estimation of the Growth/Output Equation: Global Sample

	Dependent Variable					
	Average growth rate of annual GDP per capita		Growth rate of average annual real GDP per capita		Log of average annual GDP per capita (level)	
	(1)	(2)	(3)	(4)	(5)	(6)
Remittances Combined	**0.01 (4.69)[c]**	**0.01 (1.39)**	**0.03 (3.76)[c]**	**0.04 (2.20)[b]**	**–0.01 (–0.88)**	**0.04 (2.30)[b]**
Trade	0.03 (5.48)[c]	0.04 (2.31)[b]	0.10 (3.95)[c]	0.01 (0.17)	0.22 (5.81)[c]	0.13 (1.65)[a]
M2 GDP	–0.01 (–2.45)[c]	0.02 (1.95)[a]	–0.00 (–0.17)	0.30 (4.76)[c]	0.23 (8.46)[c]	0.37 (6.41)[c]
Inflation	–0.00 (–5.88)[c]	0.00 (–1.47)	–0.00 (–5.25)[c]	–0.00 (–1.43)	0.00 (–0.66)	0.00 (0.64)
Initial GDP	0.00 (–3.02)[c]	0.00 (–1.81)[a]	0.00 (–2.33)[b]	0.00 (–0.54)	0.00 (12.59)[c]	0.00 (4.99)[c]
Foreign direct investment		0.01 (1.37)		0.03 (1.26)		0.00 (–0.24)
Fiscal balance		–0.00 (–1.21)		–0.03 (–1.59)		0.01 (0.35)
Population growth		–0.00 (–0.01)		–0.04 (–1.18)		–0.11 (–3.89)[c]
ICRG		–0.33 (–0.00)		–5.35 (–0.01)		0.01 (0.21)
Observations	703	214	691	211	703	214
Countries	140	90	140	90	140	90
F-statistics	25.14	4.97	17.27	9.03	88.54	24.65
Workers' remittances	**0.01 (3.43)[c]**	**0.01 (2.36)[b]**	**0.02 (3.04)[c]**	**0.05 (3.61)[c]**	**0.00 (0.15)**	**0.02 (1.69)[a]**

GDP = gross domestic product, ICRG = international country risk guide index, M2 = money supply, ( ) = t-statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In columns (1) and (2) the dependent variable is the 5-year average real annual GDP per capita growth rate; in columns (3) and (4) the dependent variable is the growth rate of the 5-year average annual real GDP per capita; in columns (5) and (6) the dependent variable is log of average real GDP per capital (constant $2,000). The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects.

Table 3.3: Estimation of the Growth/Output Equation: Developing Countries Sample

	Dependent Variable					
	Average growth rate of annual GDP per capita		Growth rate of average annual real GDP per capita		Log of average annual GDP per capita (level)	
	(1)	(2)	(3)	(4)	(5)	(6)
Remittances Combined	**0.01 (4.03)[c]**	**0.00 (0.34)**	**0.02 (2.95)[c]**	**0.01 (0.35)**	**0.00 (–0.08)**	**0.00 (0.13)**
Trade	0.03 (5.53)[c]	0.03 (1.92)[a]	0.10 (3.39)[c]	–0.01 (–0.11)	0.17 (5.6)[c]	0.08 (1.23)
M2 GDP	–0.01 (–1.77)[a]	0.05 (3.48)[c]	0.01 (0.45)	0.41 (6.1)[c]	0.11 (4.74)[c]	0.35 (6.71)[c]
Inflation	–0.00 (–4.98)[c]	0.00 (–0.58)	–0.00 (–5.03)[c]	0.00 (–0.33)	0.00 (–0.17)	0.00 (1.82)[a]
Initial GDP	0.00 (–3.50)[c]	0.00 (–2.27)[b]	0.00 (–1.12)	0.00 (0.17)	0.00 (20.99)[c]	0.00 (8.38)[c]
Foreign direct investment		0.01 (1.36)		0.05 (2.24)[b]		0.04 (2.43)[b]
Fiscal balance		–1.27 (–3.02)[c]		–0.08 (–3.83)[c]		–0.02 (–1.4)
Population growth		–0.01 (–1.70)[a]		–0.05 (–1.44)		–0.05 (–1.78)[a]
ICRG		–0.02 (–1.29)		–0.12 (–2.07)[b]		0.00 (–0.09)
Observations	587	166	580	165	587	166
Countries	118	71	118	71	118	71
F-statistics	21.05	6.35	13.78	13.60	153.91	38.82
Workers' remittances	**0.01 (3.23)[c]**	**0.00 (1.27)**	**0.02 (1.85)[a]**	**0.02 (1.53)**	**0.01 (1.09)**	**0.00 (0.03)**

GDP = gross domestic product, ICRG = international country risk guide index, M2 = money supply, ( ) = t-statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In columns (1) and (2) the dependent variable is the 5-year average real annual GDP per capita growth rate; in columns (3) and (4) the dependent variable is the growth rate of the 5-year average annual real GDP per capita; in columns (5) and (6) the dependent variable is log of average real GDP per capital (constant $2,000). The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects.

Table 3.4: Estimation of the Growth/Output Equation: Instrumental Variable Global Sample

	Dependent Variable					
	Average growth rate of annual GDP per capita		Growth rate of average annual real GDP per capita		Log of average annual GDP per capita (level)	
	(1)	(2)	(3)	(4)	(5)	(6)
Remittances Combined	0.02 (3.03)[c]	0.08 (2.09)[b]	0.09 (2.45)[b]	0.33 (2.10)[b]	0.27 (3.54)[c]	0.43 (2.20)[b]
Trade	0.01 (0.97)	–0.02 (–0.36)	0.03 (0.61)	–0.19 (–1.07)	–0.10 (–0.95)	–0.15 (–0.68)
M2 GDP	–0.02 (–3.07)[c]	–0.03 (–0.81)	–0.03 (–1.22)	0.09 (0.60)	0.11 (1.83)[a]	0.08 (0.42)

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Table 3.4. continuation

	Dependent Variable					
	Average growth rate of annual GDP per capita		Growth rate of average annual real GDP per capita		Log of average annual GDP per capita (level)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inflation	–0.00 (–4.61)[c]	0.00 (–0.89)	–0.00 (–4.38)[c]	–0.00 (–1.02)	0.00 (0.28)	0.00 (0.05)
Initial GDP	0.00 (–2.27)[b]	0.00 (0.19)	0.00 (–1.90)[a]	0.00 (0.61)	0.00 (7.92)	0.00 (2.83)[c]
Foreign direct investment		0.01 (0.72)		0.03 (0.88)		0.00 (–0.02)
Fiscal balance		0.00 (0.18)		–0.00 (–0.01)		0.04 (0.86)
Population growth		0.02 (1.10)		0.06 (0.74)		0.01 (0.12)
ICRG		0.03 (0.88)		0.05 (0.45)		0.16 (1.09)
Observations	703	214	691	211	703	214
Countries	140	90	140	90	140	90
x^2	513.65	92.07	469.51	107.78	388,699.84	179,284.65
Workers' remittances	0.03 (3.29)[c]	0.07 (1.56)	0.12 (2.79)[c]	0.23 (1.63)	0.17 (2.94)[c]	0.40 (1.52)

GDP = gross domestic product, ICRG = international country risk guide index, M2 = money supply, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In columns (1) and (2) the dependent variable is the 5-year average real annual GDP per capita growth rate; in columns (3) and (4) the dependent variable is the growth rate of the 5-year average annual real GDP per capita; in columns (5) and (6) the dependent variable is the log of average real GDP per capital (constant $2,000). The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.5: Instrumental Variable Estimation of the Growth/Output Equation: Coefficients for Remittances for All Regions

	Dependent Variable					
	Average growth rate of annual GDP per capita		Growth rate of average annual real GDP per capita		Log of average annual GDP per capita (level)	
	Regular	Full set	Regular	Full set	Regular	Full set
	(1)	(2)	(3)	(4)	(5)	(6)
Global estimation						
Remittances combined	0.02 (3.03)[c]	0.08 (2.09)[b]	0.09 (2.45)[b]	0.33 (2.10)[b]	0.27 (3.54)[c]	0.43 (2.20)[b]
Workers' remittances	0.03 (3.29)[c]	0.07 (1.56)	0.12 (2.79)[c]	0.23 (1.63)	0.17 (2.94)[c]	0.40 (1.52)
Developing countries						
Remittances combined	0.03 (3.35)[c]	0.21 (0.69)	0.12 (2.88)[c]	0.52 (0.67)	0.13 (2.71)[c]	0.77 (0.69)
Workers' remittances	0.03 (3.42)[c]	0.84 (0.12)	0.13 (2.79)[c]	0.77 (0.12)	0.11 (2.42)[b]	0.38 (0.12)

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Table 3.5. continuation

	Dependent Variable					
	Average growth rate of annual GDP per capita		Growth rate of average annual real GDP per capita		Log of average annual GDP per capita (level)	
	Regular	Full set	Regular	Full set	Regular	Full set
	(1)	(2)	(3)	(4)	(5)	(6)
Asian developing countries						
Remittances combined	0.04 (1.07)	0.60 (0.16)	0.11 (0.72)	–0.20 (–0.12)	0.49 (1.18)	0.57 (0.16)
Workers' remittances	0.12 (0.62)	0.02 (1.26)	0.63 (0.62)	0.05 (0.64)	0.47 (0.58)	0.24 (1.82)[a]

GDP = gross domestic product, ( ) = t-statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In columns (1) and (2) the dependent variable is the 5-year average real annual GDP per capita growth rate; in columns (3) and (4) the dependent variable is the growth rate of the 5-year average annual real GDP per capita; in columns (5) and (6) the dependent variable is the log of average real GDP per capital (constant $2,000). The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.6: Instrumental Variable Estimation of the Poverty Equation: Global Sample

	Dependent Variable: Poverty Gap		Dependent Variable: Poverty Headcount Ratio		
	At $1.25	At $2.00	At $1.25	At $2.00	National
	(1)	(2)	(3)	(4)	(5)
Remittances Combined	**–0.20 (–0.63)**	**–0.49 (–1.40)**	**–0.09 (–0.40)**	**–0.43 (–1.51)**	**–2.02 (–0.33)**
GDP per capita	–1.12 (–3.42)[c]	–1.23 (–3.42)[c]	–1.02 (–4.42)[c]	–1.01 (–3.48)[c]	3.21 (0.28)
Investment	–0.04 (–0.14)	0.47 (1.44)	0.10 (0.49)	0.44 (1.63)	2.19 (0.28)
Trade	0.22 (0.46)	0.74 (1.43)	0.06 (0.18)	0.65 (1.54)	0.56 (0.20)
ICRG	–0.12 (–0.54)	0.02 (0.10)	–0.06 (–0.37)	0.13 (0.65)	0.54 (0.33)
Foreign direct investment	0.07 (0.86)	0.09 (1.06)	0.04 (0.76)	0.08 (1.18)	0.29 (0.30)
Observations	257	257	257	257	111
Countries	88	88	88	88	69
x^2	925.79	2,456.69	8,168.73	8,889.87	819.11
Workers' remittances	**–0.08 (–0.42)**	**–0.16 (–0.95)**	**–0.06 (–0.44)**	**–0.14 (–1.03)**	**–0.22 (–1.17)**

GDP = gross domestic product, ICRG = international country risk guide index, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of the poverty gap at $1.25; in column (2) the dependent variable is the log of the poverty gap at $2.00; in column (3) the dependent variable is the log of the poverty headcount ratio at $1.25; in column (4) the dependent variable is the log of the poverty headcount ratio at $2.00; in column (5) the dependent variable is the log of the poverty headcount ratio at the national standard. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.7: Instrumental Variable Estimation of the Poverty Equation: Developing Countries Sample

	Dependent Variable: Poverty Gap		Dependent Variable: Poverty Headcount Ratio		
	At $1.25	At $2.00	At $1.25	At $2.00	National
	(1)	(2)	(3)	(4)	(5)
Remittances Combined	**–0.35 (–0.87)**	**–0.61 (–1.37)**	**–0.18 (–0.66)**	**–0.52 (–1.44)**	**–2.63 (–0.26)**
GDP per capita	–1.01 (–2.50)[b]	–1.12 (–2.52)[b]	–0.96 (–3.46)[c]	–0.94 (–2.61)[c]	4.36 (0.22)
Investment	0.05 (0.13)	0.57 (1.42)	0.16 (0.65)	0.51 (1.58)	2.97 (0.22)
Trade	0.39 (0.69)	0.87 (1.39)	0.17 (0.44)	0.74 (1.47)	0.80 (0.18)
ICRG	–0.07 (–0.27)	0.08 (0.28)	–0.02 (–0.12)	0.17 (0.75)	0.68 (0.26)
Foreign direct investment	0.06 (0.70)	0.08 (0.83)	0.04 (0.59)	0.07 (0.95)	0.38 (0.24)
Observations	242	242	242	242	109
Countries	80	80	80	80	67
x^2	817.92	2,072.99	7,014.13	7,214.48	483.10
Workers' remittances	**–0.13 (–0.68)**	**–0.21 (–1.19)**	**–0.10 (–0.71)**	**–0.18 (–1.28)**	**–0.22 (–1.18)**

GDP = gross domestic product, ICRG = international country risk guide index, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of the poverty gap at $1.25; in column (2) the dependent variable is the log of the poverty gap at $2.00; in column (3) the dependent variable is the log of the poverty headcount ratio at $1.25; in column (4) the dependent variable is the log of the poverty headcount ratio at $2.00; in column (5) the dependent variable is the log of the poverty headcount ratio at the national standard. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.8: Instrumental Variable Estimation of the Poverty Equation: Asian Developing Countries Sample

	Dependent Variable: Poverty Gap		Dependent Variable: Poverty Headcount Ratio		
	At $1.25	At $2.00	At $1.25	At $2.00	National
	(1)	(2)	(3)	(4)	(5)
Remittances Combined	**0.03 (0.11)**	**–0.09 (–0.37)**	**0.11 (0.48)**	**–0.09 (–0.43)**	**–0.28 (–0.79)**
GDP per capita	–1.07 (–2.63)[c]	–1.16 (–3.32)[c]	–0.97 (–2.90)[c]	–0.99 (–3.16)[c]	0.18 (0.25)
Investment	0.14 (0.26)	0.69 (1.42)	0.56 (1.22)	0.48 (1.10)	–1.09 (–1.37)
Trade	–0.44 (–0.86)	–0.11 (–0.24)	–0.61 (–1.43)	0.13 (0.32)	–0.45 (–0.46)
ICRG	0.23 (0.70)	0.10 (0.34)	0.21 (0.77)	0.03 (0.13)	0.04 (0.11)
Foreign direct investment	–0.03 (–0.24)	0.11 (0.99)	0.00 (0.04)	0.14 (1.37)	0.25 (1.43)

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Table 3.8. continuation

	Dependent Variable: Poverty Gap		Dependent Variable: Poverty Headcount Ratio		
	At $1.25	At $2.00	At $1.25	At $2.00	National
	(1)	(2)	(3)	(4)	(5)
Observations	48	48	48	48	27
Countries	14	14	14	14	14
x^2	567.10	2,399.25	3,177.84	6,106.20	6,593.68
Workers' remittances	–0.15 (–0.70)	–0.21 (–0.93)	–0.14 (–0.88)	–0.20 (–0.95)	–0.06 (–0.19)

GDP = gross domestic product, ICRG = international country risk guide index, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of the poverty gap at $1.25; in column (2) the dependent variable is the log of the poverty gap at $2.00; in column (3) the dependent variable is the log of the poverty headcount ratio at $1.25; in column (4) the dependent variable is the log of the poverty headcount ratio at $2.00; in column (5) the dependent variable is the log of the poverty headcount ratio at the national standard. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.9: Instrumental Variable Estimation of the Poverty Equation without GDP per Capita for All Regions: Coefficients for Remittances

	Dependent Variable: Poverty Gap		Dependent Variable: Poverty Headcount Ratio		
	At $1.25	At $2.00	At $1.25	At $2.00	National
	(1)	(2)	(3)	(4)	(5)
Global estimation					
Remittances combined	–0.62 (–1.82)[a]	–0.94 (–2.32)[b]	–0.48 (–1.86)[a]	–0.80 (–2.42)[b]	–0.72 (–1.14)
Workers' remittances	–0.41 (–1.80)[a]	–0.55 (–2.30)[b]	–0.34 (–1.92)[a]	–0.46 (–2.39)[b]	–0.90 (–0.82)
Developing countries					
Remittances combined	–0.79 (–1.80)[a]	–1.10 (–2.16)[b]	–0.60 (–1.82)[a]	–0.93 (–2.23)[b]	–0.80 (–1.02)
Workers' remittances	–0.47 (–1.91)[a]	–0.62 (–2.39)[b]	–0.38 (–2.03)[b]	–0.52 (–2.49)[b]	–0.80 (–0.89)
Asian developing countries					
Remittances combined	–0.27 (–0.95)	–0.42 (–1.58)	–0.16 (–0.69)	–0.38 (–1.64)	–0.23 (–0.91)
Workers' remittances	–0.43 (–1.37)	–0.58 (–1.54)	–0.39 (–1.52)	–0.51 (–1.55)	–0.67 (–0.34)

GDP = gross domestic product, ( ) = t-statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of the poverty gap at $1.25; in column (2) the dependent variable is the log of the poverty gap at $2.00; in column (3) the dependent variable is the log of the poverty headcount ratio at $1.25; in column (4) the dependent variable is the log of the poverty headcount ratio at $2.00; in column (5) the dependent variable is the log of the poverty headcount ratio at the national standard. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. The other two measures are remittances from the balance of payments and remittances plus compensation of employees. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.10: Instrumental Variable Estimation of Consumption, Exports, and Investment Equations: Global Sample

	Dependent Variable		
	Consumption	**Exports**	**Investment**
	(1)	(2)	(3)
Remittances Combined	**–0.11 (–2.66)[c]**	**0.10 (1.52)**	**0.09 (1.42)**
GDP per capita	–0.16 (–3.79)[c]	0.35 (5.31)[c]	0.10 (1.69)[a]
M2 GDP	0.06 (1.50)	0.15 (2.69)[c]	0.02 (0.38)
Population growth	–0.05 (–2.01)[b]	0.03 (0.91)	0.11 (3.10)[c]
ICRG	0.07 (1.87)[a]	0.19 (3.37)[c]	0.10 (1.94)[a]
Observations	497	501	502
Countries	108	110	109
x^2	421,147.02	116,198.29	106,008.48
Workers' remittances	**–0.07 (–1.96)[b]**	**0.04 (0.67)**	**0.08 (1.24)**

GDP = gross domestic product, ICRG = international country risk guide index, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of household consumption as a proportion of GDP; in column (2) the dependent variable is the log of exports as a proportion of GDP; in column (3) the dependent variable is the log of gross capital formation as a proportion of GDP. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.11: Instrumental Variable Estimation of Consumption, Exports, and Investment Equations: Developing Countries Sample

	Dependent Variable		
	Consumption	**Exports**	**Investment**
	(1)	(2)	(3)
Remittances Combined	**–0.13 (–2.08)[b]**	**0.05 (0.55)**	**0.13 (1.41)**
GDP per capita	–0.17 (–3.20)[c]	0.39 (4.97)[c]	0.15 (2.10)[b]
M2 GDP	0.08 (1.36)	0.20 (2.79)[c]	–0.01 (–0.16)
Population growth	–0.06 (–1.70)[a]	0.03 (0.70)	0.13 (2.60)[c]
ICRG	0.08 (1.75)[a]	0.24 (3.27)[c]	0.07 (1.08)
Observations	406	409	411
Countries	87	89	88
x^2	265,853.14	84,285.50	70,789.25

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Table 3.11. continuation

	Dependent Variable		
	Consumption	**Exports**	**Investment**
	(1)	(2)	(3)
Workers' remittances	**–0.08 (–1.71)[a]**	**–0.01 (–0.16)**	**0.14 (1.58)**

GDP = gross domestic product, ICRG = international country risk guide index, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of household consumption as a proportion of GDP; in column (2) the dependent variable is the log of exports as a proportion of GDP; in column (3) the dependent variable is the log of gross capital formation as a proportion of GDP. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.12: Instrumental Variable Estimation of Consumption, Exports, and Investment Equations: Asian Developing Countries Sample

	Dependent Variable		
	Consumption	**Exports**	**Investment**
	(1)	(2)	(3)
Remittances Combined	**–0.30 (–1.13)**	**0.01 (0.02)**	**–0.09 (–0.45)**
GDP per capita	–0.20 (–1.17)	0.27 (2.06)[c]	0.10 (0.85)
M2 GDP	0.18 (0.81)	0.27 (1.47)	0.18 (1.03)
Population growth	–0.06 (–0.44)	–0.18 (–1.69)[a]	0.13 (1.24)
ICRG	0.18 (1.09)	0.26 (2.13)[b]	0.05 (0.44)
Observations	73	77	77
Countries	15	15	15
x^2	25,446.07	30,073.48	31,469.50
Workers' remittances	**–0.22 (–1.48)**	**0.04 (0.31)**	**0.08 (0.65)**

GDP = gross domestic product, ICRG = international country risk guide index, ( ) = t-statistics, x^2 = Chi-square statistics
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: In column (1) the dependent variable is the log of household consumption as a proportion of GDP; in column (2) the dependent variable is the log of exports as a proportion of GDP; in column (3) the dependent variable is the log of gross capital formation as a proportion of GDP. The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008).

Table 3.13: Comparison of Results across Estimations and Measures

	Measure of Remittances	
	Combined	Workers' Remittances
Dependent Variable	(1)	(2)
Global		
Growth rate of average annual GDP per capita	+[c], +[b]	+[c], +
Average annual GDP growth rate	+[b], +[b]	+[c], +
Log of annual GDP per capita (level)	+[c], +[b]	+[c], +
Poverty gap $1.25	–	–
Poverty gap $2.00	–	–
Poverty headcount ratio $1.25	–	–
Poverty headcount ratio $2.00	–	–
Poverty headcount ratio national	–	–
Consumption	–[c]	–[b]
Exports	+	+
Investment	+	+
Developing countries		
Growth rate of average annual GDP per capita	+[c], +	+[c], +
Average annual GDP growth rate	+[c], +	+[c], +
Log of annual GDP per capita (level)	+[c], +	+[b], +
Poverty gap $1.25	–	–
Poverty gap $2.00	–	–
Poverty headcount ratio $1.25	–	–
Poverty headcount ratio $2.00	–	–
Poverty headcount ratio national	–	–
Consumption	–[b]	–[a]
Exports	+	–
Investment	+	+
Asian developing countries		
Growth rate of average annual GDP per capita	+, +	+, +
Average annual GDP growth rate	+, –	+, +
Log of annual GDP per capita (level)	+, +	+, +[a]
Poverty gap $1.25	+	–
Poverty gap $2.00	–	–
Poverty headcount ratio $1.25	+	–
Poverty headcount ratio $2.00	–	–
Poverty headcount ratio national	–	–
Consumption	–	–
Exports	+	+
Investment	–	+

$ = US dollars, GDP = gross domestic product
a Significant at the 10% level
b Significant at the 5% level
c Significant at the 1% level
Notes: The combined measure of workers' remittances includes remittances from the balance of payments, compensation of employees, and migrant transfers. The other measure is workers' remittances from the balance of payments. All estimations include fixed effects. Remittances are instrumented following the suggestions of Chami et al. (2008). A (+) indicates that the coefficient on remittances is positive, while a (–) indicates that the coefficient on remittances is negative. For those cells with two signs, the first sign is for the estimation with the limited set of independent variables, while the second one is for the estimation with the full set of independent variables.

Chapter 4
Effects of Global Crisis on Remittances and Poverty: Country Case Studies

A. Bangladesh

Selim Raihan and Guntur Sugiyarto

1. Introduction

Labor migration overseas has become an important facet of Bangladesh's economy. Along with exports (particularly exports of ready-made garments, which have been rapid over the past 2 decades), remittances have contributed significantly to macroeconomic stability, growth, and poverty reduction. However, as the economy has become more open, there is growing apprehension that Bangladesh is increasingly vulnerable to global financial and economic crises, such as the one that deepened in 2008–2009 (and appears to persist), with adverse effects on households and communities.

The computable general equilibrium (CGE) model simulation results suggest that a reduction in remittances, besides lower export earnings, would sharply impact GDP. As would be expected, poor households would be the major victims of such negative shocks to both of their key income sources. Accordingly, appropriate and proactive policies are called for to minimize, if not avoid, the impacts of those possible shocks.

In recent years, international trade has been around 45% of the country's GDP, and remittances about 10%. Exports include ready-made garments, shrimp, leather, and other products that are heavily dependent on western consumer demand. Hence, falling employment and incomes among European and United States consumers due to an economic crisis could adversely impact exports and remittances. A similar downturn in the Middle East, which is a major destination of Bangladeshi low-skilled workers engaged in infrastructure projects, would result in serious hardships for the poor.

With migrant remittances of about $5 million, Bangladesh is the fifth highest remittance-receiving country in the world. Remittances have grown at a staggering

19% per year over the last 3 decades, exceeding other types of foreign exchange inflows such as official development assistance and net exports. The very high growth of remittances in recent years (averaging 27% annually in 2006–2008) has kept the external current account in the black despite the increasing trade deficit over the years. In fact, the country's international reserves had been on the rise. Nevertheless, reserves have been declining since the start of the recent crisis in August 2008 despite the steady inflow of remittances even as the number of workers going abroad was falling.

The crisis has also brought about a sharp contraction in international trade activities, especially during 2008–2009. The value and volume of exports have experienced negative growth rates during the period. In 2009, while the ready-made garment export subsector managed to maintain positive growth quantity-wise, its export earnings declined. Because the total export sector's structure has become concentrated in ready-made garments, it has become more vulnerable to a crisis.

2. Effects of the Global Crisis

To assess the effects of the negative shocks from the 2008–2009 global crisis on remittances, an economy-wide general equilibrium analysis was carried out. The CGE model was developed using the social accounting matrix (SAM) of 2005. The SAM identifies the economic relationships among several accounts: total domestic supply of 23 commodities; activity accounts for 23 sectors (here commodities and activities are synonymous); six factors of production (four labor types and two capital categories); current account transactions between three institutional agents (households, government, and the rest of the world); household accounts including seven representative groups (five rural and two urban); and one consolidated capital account. A description of the accounts in the SAM is summarized in Table 4A.1 while its main structure is presented in Table 4A.2.

The sector composition data show that the Other Textile category has the highest import penetration ratio (42.7%), followed by Other Industry (39.9%). The highest share in total imports is also Other Industry (65.9%), followed by Other Textile (17.6%). The sector export orientation ratio is the highest for knit ready-made garments (99.3%) followed by woven (80.3%). Together, woven and knit ready-made garment exports account for 76.2% of total exports. In the case of added value, all the service and construction sectors together account for 61.7% of total value added in the economy. The agricultural sector contributes 20.4% and the manufacturing sectors contribute 17.9%.

The income composition of households derived from the SAM presented in Table 4 A.3 show that households in all seven categories derive most of their incomes from their factors of production. For the poor households, such as the landless, marginal farmers, and urban lower-educated households, income from unskilled labor appears to be the primary source. By contrast, rural nonfarm and urban higher-educated

households obtain most of their incomes from nonagricultural capital and skilled labor. For the large farmers, principal earnings are from agricultural capital.

Table 4 A.3 also shows that, on average, remittances constitute more than 6.0% of household incomes. For landless households, however, overseas remittances represent a higher share (6.5%) of their total income, with domestic remittances making up possibly a bigger portion of the total, as is typically the case in other developing countries. In urban areas, the contribution of international remittances to total incomes is higher for the lower-educated households than for the higher-educated ones. These considerable differences in the household income sources are expected to generate varying income and welfare effects when different policy and other exogenous shocks are introduced into the economy.

The CGE model captures the detailed accounts of the circular flows of receipts and outlays in the economy and is thus useful in analyzing associations between various agents of the economy. The model is solved in comparative static mode and provides an instrument for controlled policy simulations and experiments. Solution of each simulation presents a complete set of socioeconomic indicators at the meso and macro levels, such as activity/commodity prices, household incomes and expenditures, factor demands and supplies, gross domestic products, exports and imports, and household poverty situation. To check the validity of the model, it has also been calibrated to the SAM to exactly reproduce the base year or base case results.[1]

On the production side, it is assumed that in each sector there is a representative firm that generates added value by combining labor and capital. A nested structure for production is adopted. Sectoral output is a Leontief function of value-added and total intermediate consumption. Added value in turn is represented by a constant elasticity of substitution function of different factors. Factors are assumed to be fully mobile in the model. Households earn their income from production factors. They also receive intra-household transfers, government transfers, and remittances. They pay direct income tax to the government. Household savings are a fixed proportion of total disposable income. Household demand is derived from a Cobb-Douglas utility function.

It is assumed that foreign and domestic goods are imperfect substitutes, and the geographical differentiation is introduced by the standard Armington assumption with a constant elasticity of substitution function between imports and domestic goods. On the supply side, producers make an optimal distribution of their production between exports and domestic sales according to a constant elasticity of transformation function. Furthermore, a finite elasticity export demand function is used by assuming that foreign demand for Bangladeshi exports is less than infinite. In order to increase their exports, local producers must decrease their free on board (FOB) prices. The government in turn receives direct tax revenue from households and indirect tax

[1] In the calibration procedure, most of the model parameters are estimated endogenously while keeping the various elasticity values fixed.

revenue from domestic and imported goods. Its expenditure is allocated among consumption of goods and services, public wages, and transfers.

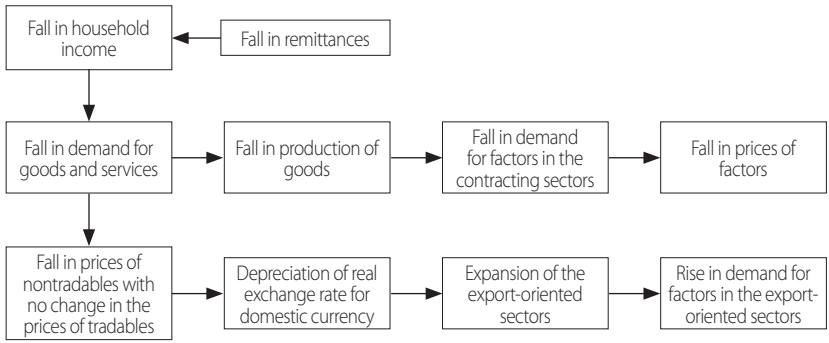
There are four constraints in the system. The real constraint refers to domestic commodities and factor markets, while the nominal constraint has to do with two macro balances: the current account balance with the rest of the world and the savings–investment balance. Sectoral supply is a composite of imports and output sold in the domestic market. Composite demand, on the other hand, includes final demands (i.e., private and public consumption expenditures and investments) and intermediate input demands. Variations in prices assure equilibrium between supply and demand. In the case of factor markets, it is assumed that total quantities of factors are fixed. The specification also implies full mobility of labor across producing activities, and variations in their returns (e.g., wages) assure equilibrium in the factor markets.

The inflows (transfers to and from domestic institutions) are fixed but imports and exports are determined endogenously in the model. Foreign savings is fixed in the model and the exchange rate serves as the numeraire. Finally, for the savings–investment equilibrium, the model treats the investment decision as given and, hence, savings has to adjust to ensure equality with the fixed value of investment. Likewise, the model allows the saving propensity of one of the domestic institutions to vary.

3. Remittances

In the context of the 2008–2009 global crisis, a scenario of a fall in remittances by 20% is simulated. From Table 4A.3, it is clear that remittances constitute a significant share of household incomes. Therefore, a negative shock is likely to have adverse implications for the economy in general and household welfare in particular. It is also clear from Table 4A.3 that poor households are more dependent on remittances than nonpoor households. Figure 4A.1 shows the channels through which a remittance shock can directly impact household incomes and expenditures and, in turn, sectoral outputs and prices, with a feedback loop to household incomes and spending.

Figure 4A.1: Effects of Remittance Shock on Various Aspects of the Economy



The aggregate negative impact in terms of real GDP is estimated to be a 0.1% drop (Table 4A.4). Agricultural and services sectors would both contract and, despite the fall in the consumer price index, aggregate consumption would decline owing to decreases in nominal returns to all factors of production. Aggregate imports also would fall while exports rise. Moreover, it appears that wage rates of agricultural labor would decline more than those of nonagricultural workers. Likewise, the returns to agricultural capital would fall more than returns to nonagricultural capital.

The adverse effects on sectoral prices and outputs (Table 4A.5 and 4A.6) stem from the fall in household incomes, which leads to lower demand for most of the goods and services in the economy and, hence, lower domestic prices of all goods and services. Because of the drop in factor prices, FOB prices would fall for all export-oriented activities in both the agricultural and manufacturing sectors. With the resulting depreciation in the real exchange rate, the export sector would expand while production in all other sectors would decline. Also, there would be a fall in demand for imports except for the "other textiles" category, which would have increased demand due to some expansion of the export market for woven and knit ready-made garments.

Nominal incomes of all household categories fall, with poorer households in both rural and urban areas experiencing steeper drops (Table 4A.7). Because the decline in nominal incomes is much larger than the fall in consumer prices, there is a welfare loss in terms of lower real consumption for all categories of households. However, given the bigger importance of remittances in their total incomes, poorer households in both rural and urban areas are hit harder than nonpoor households.

Accordingly, average headcount poverty incidence would rise by 0.64 percentage point relative to the base run (Table 4A.8). More importantly, lower-educated urban households, rural nonfarm households, and rural marginal farmers would experience even higher poverty rates. Similar observations can be made as regards poverty depth and severity.

4. Ready-Made Garment Exports

The sharp contraction in international trade due to the global crisis also has negative implications for exports. Both value and volume of some major export categories contracted in 2008 and 2009. Though the ready-made garment subsector maintained positive growth in terms of volume, it nonetheless posted a decline in earnings. Consequently, since this subsector accounts for as much as three-fourths of Bangladesh's total export earnings, the export sector as such is highly vulnerable to external shocks. Any negative shock to ready-made garment exports will have a deep impact on the economy and household welfare.

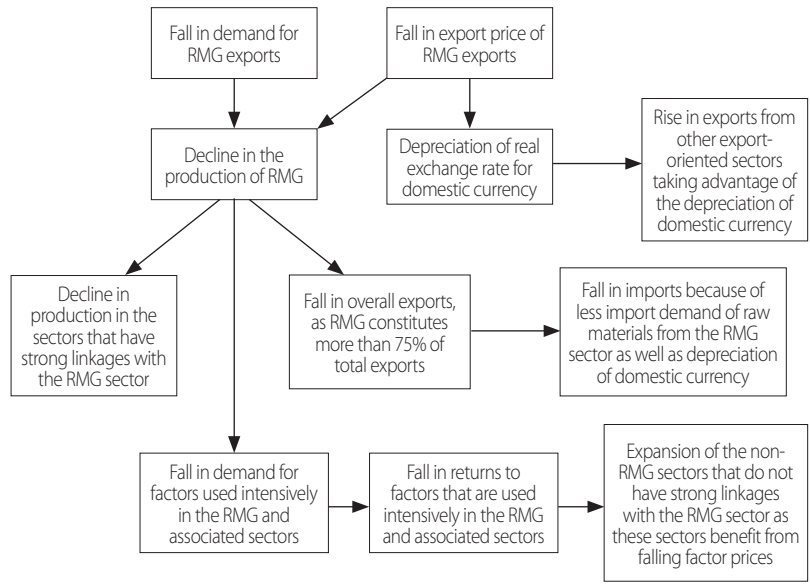
The global crisis and the resultant economic downturn in the developed countries have raised concerns about the drop in ready-made garment exports from Bangladesh. Against such a background, a scenario is simulated of a 20% fall in export volume

coupled with a 10% drop in export prices of woven and knit ready-made garments. Figure 4A.2 depicts the channels of the series of impacts.

The macroeconomic impacts are reported in Table 4A.9, which shows that overall there is a loss in real GDP. Because of the reduction in woven and knit ready-made garment exports, the manufacturing sector as a whole experiences negative growth. In contrast, agricultural and services sectors register some small positive growth. The overall CPI rises and aggregate consumption falls. Real exchange rate depreciates and imports and exports fall. The wages of agricultural labor rise while those of nonagricultural workers fall. As a result, returns to nonagricultural capital and agriculture decline.

The effects on sectoral prices and outputs show that the fall in demand for woven and knit ready-made garment exports explains the decline in their production by similar margins (Table 4A.10 and 4A.11). This leads to a decline in production in other subsectors, such as mill cloth and other textiles, which have strong linkages with ready-made garments. As the real exchange rate depreciates, import prices dampen imports. The contractions of the woven and knit ready-made garment subsectors also reduce demand for imported raw materials, contributing to a reduction in total imports. The FOB export prices for ready-made garments increase, eroding their competitiveness in the global markets.

Figure 4A.2: Effects of a Reduction in Ready-Made Garment Exports on Sectoral Outputs and Prices



RMG = ready-made garment

Nevertheless, taking advantage of the depreciation of the currency, exports from the other industries rise but such increase is too little to boost overall exports, given their very low shares of the country's total exports. Moreover, it also appears that there is a contraction in domestic demand for manufacturing products and services, leading to a fall in household incomes. Such a situation appears to raise the demand for agricultural and food products, resulting in greater production in these sectors.

Meanwhile, the consumer price index for all household categories increases while nominal household incomes fall (Table 4A.12). This results in lower real consumption and welfare of all households but, as expected, poorer households suffer more than the richer ones.

Household poverty headcount on the average rises by 0.5 percentage point, slightly less compared with the reduction in remittances (Table 4A.13). Also, as in the remittance shock, low-educated and rural nonfarm households experience higher increases in poverty headcount, as well as in poverty depth and severity.

5. Conclusion and Policy Implications

Remittances play a critical role in the Bangladeshi economy and society. Results of the analysis using household survey data indicate that even poor households who receive remittances experience higher levels of consumption than the non-recipient households. Further, the results of the CGE model simulations suggest that a negative remittance shock brings about a fall in real GDP. The agriculture sector also suffers due to falling demand for agricultural commodities resulting from a reduction in household incomes. The export sector, however, experiences some expansion owing to a depreciation of real exchange rate and lower export prices. Poorer households appear to be the major victims of the reduction in remittance flows.

The results also indicate that a fall in ready-made garment exports reduces manufacturing sector output and real GDP through a drop in demand and export prices. However, agriculture exhibits some expansion due to falling factor prices. The real consumption and welfare effects on households are negative and poorer households consistently suffer the most from the negative shock. Therefore, a fall in remittances and ready-made garment exports represents a double whammy to the poor, calling for appropriate policies to cushion the blows.

On the migration and remittance issue, a serious search for new labor markets for migrant workers coupled with a removal of existing problems and constraints are very important. Government stimulus packages to mitigate the negative shocks of global crises should also cover returning migrants, including temporary unemployment support, retraining for those intending go back abroad later, and perhaps credit for those wanting to start small enterprises. Government should also consider providing incentives to the remitters by introducing a program to maximize the benefits and minimize the risks of remittances toward sustained improvement in the welfare of

migrant workers and their families. Examples include institutional support for the promotion of formal and semiformal remittance services and other support services by taking advantage of Bangladesh's well-established microfinance network. The potential services of such programs may include (i) encouragement for increased remittance inflows through formal and semiformal channels by providing low-cost but reliable services; (ii) enhanced knowledge, awareness, and use of formal and semiformal remittances and other financial and non-financial services among the migrant workers and their families; and (iii) promotion of better investment opportunities for sustainable and productive use of remittance incomes via investment opportunities and support for microenterprises.

On the export front, the government has announced several stimulus packages for the export sector, but the package has had some problems. In particular, the ready-made garment subsector complained about being completely excluded. Moreover, most of the stimulus measures were essentially short-term fixes aimed at the survival of these sectors rather than at enhancing their long-term competitiveness and productivity. It should also be noted that reduced orders for ready-made garments render smaller firms and subcontracting enterprises, in particular, the most severely affected. And yet these subsectors have not been identified for more focused government assistance.

6. Tables

Table 4A.1: Description of the 2005 Social Accounting Matrix

Set	Elements
Activities	
Agriculture (7)	Paddy, grains, other crops, livestock, poultry, shrimp, and other fish
Industries (9)	Rice milling, grain milling, other food, mill clothing, woven ready-made garments, knitwear ready-made garments, textiles, petroleum products, and other industries
Services (10)	Urban construction, rural construction, public construction, utility, trade, transport, housing, education-health, public administration, and private services
Institutions	
Households (7)	Rural: Landless, marginal farmers, small farmers, large farmers, and nonfarm Urban: Low educated and high educated
Others (3)	Government, saving-investment, and rest of the world
Factors of production	
Labor (4)	Agricultural labor unskilled, agricultural labor skilled, nonagricultural labor unskilled, and nonagricultural labor skilled
Capital (2)	Nonagriculture capital and agriculture capital

Table 4A.2: Structure of the 2005 Social Accounting Matrix of Bangladesh

	Import Penetration Ratio	Import Share	Export Orientation Ratio	Export Share	Value Addition Share
Paddy	0.00	0.00	0.00	0.00	5.84
Grains	38.80	2.46	0.00	0.00	0.40

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Table 4A.2. continuation

	Import Penetration Ratio	Import Share	Export Orientation Ratio	Export Share	Value Addition Share
Other crops	5.17	3.21	1.12	1.11	7.31
Livestock	0.41	0.07	0.00	0.00	2.05
Poultry	0.00	0.00	0.00	0.00	0.42
Shrimp	0.00	0.00	33.92	4.52	0.89
Other fish	0.02	0.01	1.11	0.56	3.51
Rice mill	3.34	2.07	0.00	0.00	2.18
Grain mill	1.19	0.07	0.00	0.00	0.30
Food	15.34	6.78	11.06	6.95	2.22
Mill cloth	0.00	0.00	0.00	0.00	1.00
Woven ready-made garments	0.18	0.06	80.26	42.72	2.29
Knit ready-made garments	8.42	1.84	99.32	33.48	1.26
Other textile	42.66	17.55	1.94	0.77	1.54
Other industry	39.94	65.89	5.94	9.89	7.09
Urban construction	0.00	0.00	0.00	0.00	1.89
Rural construction	0.00	0.00	0.00	0.00	5.70
Public construction	0.00	0.00	0.00	0.00	0.61
Utility	0.00	0.00	0.00	0.00	2.09
Trade	0.00	0.00	0.00	0.00	15.27
Transport	0.00	0.00	0.00	0.00	10.80
Housing	0.00	0.00	0.00	0.00	8.39
Education and health	0.00	0.00	0.00	0.00	4.77
Public administration	0.00	0.00	0.00	0.00	2.72
Private service	0.00	0.00	0.00	0.00	9.44

Source: Bangladesh Social Accounting Matrix 2005.

Table 4A.3: Shares of Household Incomes by Source, 2005 (%)

	Labor Agri Unskilled	Labor Agri Skilled	Labor Non-Agri Unskilled	Labor Non-Agri Skilled	Non-Agri Capital	Agri Capital	Govt Transfer	Remittances	Total
Landless	0.033	0.013	0.295	0.202	0.285	0.057	0.050	0.065	1.000
Marginal farmers	0.088	0.034	0.303	0.138	0.201	0.130	0.046	0.060	1.000
Small farmers	0.105	0.041	0.182	0.125	0.184	0.255	0.047	0.061	1.000
Large farmers	0.149	0.058	0.120	0.082	0.004	0.495	0.040	0.052	1.000
Rural nonfarm	0.019	0.007	0.115	0.078	0.601	0.088	0.040	0.052	1.000
Urban low education	0.011	0.004	0.618	0.147	0.072	0.04	0.047	0.061	1.000
Urban high Education	0.005	0.002	0.015	0.480	0.369	0.046	0.036	0.047	1.000

Source: Bangladesh Social Accounting Matrix 2005.

Table 4A.4: Macroeconomic Effects of Remittance Shock

Variable	% change from the base case
Real GDP	–0.10
Agriculture	–0.32
Manufacturing	1.50
Services	–0.85
Consumer price index	–1.61
Consumption	–1.17
Imports	–1.26
Exports	7.41
Return to labor agricultural unskilled	–2.10
Return to labor agricultural skilled	–2.10
Return to labor nonagricultural unskilled	–1.70
Return to labor nonagricultural skilled	–1.90
Return to nonagricultural capital	–1.80
Return to agricultural capital	–2.10

GDP = gross domestic product
Note: Real GDP is equal to the sum of consumption, investment, and government consumption plus exports less imports in real terms for all sectors in the economy.
Source: Simulation results.

Table 4A.5: Percentage Changes in Prices from the Base Case

	PD	PV	PX	PQ	PE_FOB
Paddy	–1.76	–1.95	–1.76	–1.76	
Grains	–1.66	–2.04	–1.66	–1.02	
Other crops	–1.78	–1.89	–1.77	–1.68	–0.31
Livestock	–1.91	–2.19	–1.91	–1.91	
Poultry	–1.90	–2.47	–1.90	–1.90	
Shrimp	–2.55	–2.06	–1.81	–2.55	–0.39
Other fish	–1.98	–2.27	–1.96	–1.98	–0.24
Rice mill	–1.72	–1.77	–1.72	–1.65	
Grain mill	–1.28	–1.77	–1.28	–1.26	
Food	–1.87	–1.78	–1.66	–1.49	–0.21
Mill cloth	–1.23	–1.79	–1.23	–1.23	
Woven ready-made garments	–4.07	–1.77	–1.30	–4.03	–0.63
Knit ready-made garments	–5.78	–1.79	–1.15	–0.41	–1.12
Other textile	–1.50	–1.80	–1.49	–0.84	–0.76
Other industry	–1.47	–1.78	–1.39	–0.81	–0.17
Urban construction	–1.43	–1.77	–1.43	–1.43	
Rural construction	–1.61	–1.77	–1.61	–1.61	
Public construction	–1.30	–1.75	–1.30	–1.30	
Utility	–1.70	–1.80	–1.70	–1.70	
Trade	–1.74	–1.80	–1.74	–1.74	
Transport	–1.61	–1.76	–1.61	–1.61	
Housing	–1.74	–1.77	–1.74	–1.74	

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Table 4A.5. continuation

	PD	PV	PX	PQ	PE_FOB
Education and health	–1.72	–1.85	–1.72	–1.72	
Public administration	–1.70	–1.85	–1.70	–1.70	
Private service	–1.73	–1.82	–1.73	–1.73	

Note: PD = domestic goods price, PV = value-added price, PX = aggregate output price, PQ = price of composite goods, PE_FOB = freight on board export price
Source: Simulation results.

Table 4A.6: Percentage Changes in Volumes from the Base Case

	M	X	E	Q	D
Paddy		–1.10		–1.10	–1.10
Grains	–3.30	–0.34		–1.50	–0.34
Other crops	–2.75	0.48	3.18	0.26	0.45
Livestock	–3.99	–0.59		–0.60	–0.59
Poultry		–0.99		–0.99	–0.99
Shrimp		1.34	3.98	–0.04	–0.04
Other fish	–4.31	–0.77	2.40	–0.80	–0.80
Rice mill	–3.76	–1.05		–1.15	–1.05
Grain mill	–3.25	–1.24		–1.27	–1.24
Food	–3.51	–0.27	2.15	–1.16	–0.55
Mill cloth		–1.59		–1.59	–1.59
Woven ready-made garments	–3.55	5.64	6.57	1.75	1.80
Knit ready-made garments	–2.73	11.86	11.91	–2.21	5.10
Other textile	4.77	6.87	7.90	5.93	6.85
Other industry	–2.13	0.02	1.76	–1.01	–0.08
Urban construction		–0.86		–0.86	–0.86
Rural construction		–1.22		–1.22	–1.22
Public construction		–1.46		–1.46	–1.46
Utility		0.03		0.03	0.03
Trade		–0.62		–0.62	–0.62
Transport		–0.85		–0.85	–0.85
Housing		–1.02		–1.02	–1.02
Education and health		–1.13		–1.13	–1.13
Public administration		–1.14		–1.14	–1.14
Private service		–0.93		–0.93	–0.93

Note: M = imports, X = domestic output, E = exports, Q = composite goods, D = domestic sales
Source: Simulation results.

Table 4A.7: Impact at the Household Level (% changes from base case)

Households	CPI	Nominal Income	EV	Real Consumption
Landless	–1.57	–2.91	–1.20	–1.20
Marginal farmers	–1.60	–2.87	–1.17	–1.18
Small farmers	–1.61	–2.91	–1.16	–1.17

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Table 4A.7. continuation

Households	CPI	Nominal Income	EV	Real Consumption
Large farmers	–1.61	–2.82	–1.15	–1.17
Rural nonfarm	–1.61	–2.67	–1.16	–1.17
Urban low education	–1.60	–2.79	–1.17	–1.18
Urban high education	–1.57	–2.62	–1.18	–1.16

CPI = consumer price index, EV = equivalent variation
Source: Simulation results.

Table 4A.8: Poverty Impact at the Household Level
(% changes from base case)

Scenarios	Landless	Marginal Farmer	Small Farmer	Large Farmer	Non-agriculture	Low Education	High Education	All
Headcount Poverty (P0)								
Base	62.60	56.20	37.20	17.10	44.90	44.50	10.60	40.10
Remittance shock	63.20	56.88	37.64	17.42	45.82	45.18	11.12	40.74
Percentage point change from the base run	0.60	0.68	0.44	0.32	0.92	0.68	0.52	0.64
Poverty Depth (P1)								
Base	17.10	13.60	7.60	2.70	11.20	10.90	1.90	9.70
Remittance shock	17.50	13.92	7.80	2.86	11.44	11.30	2.02	10.18
Percentage point change from the base run	0.40	0.32	0.20	0.16	0.24	0.40	0.12	0.48
Poverty Severity (P2)								
Base	6.30	4.60	2.10	0.70	3.80	3.80	0.50	3.30
Remittance shock	6.70	4.96	2.34	0.78	4.08	4.04	0.54	3.54
Percentage point change from the base run	0.40	0.36	0.24	0.08	0.28	0.24	0.04	0.24

Source: Simulation results.

Table 4A.9: Macroeconomic Effects of Export Reduction
(% changes from base case)

Variable	(%)
Real GDP	–0.62
Agriculture	0.15
Manufacturing	–2.12
Services	0.54
Consumer price index	0.22
Consumption	–0.44
Imports	–8.88
Exports	–14.79
Return to labor agricultural unskilled	0.45

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Table 4A.9. continuation

Variable	(%)
Return to labor agricultural skilled	0.79
Return to labor nonagricultural unskilled	–1.24
Return to labor nonagricultural skilled	–0.90
Return to nonagricultural capital	–0.68
Return to agricultural capital	–0.23

GDP = gross domestic product
Note: Real GDP is equal to the sum of consumption, investment, and government consumption plus exports less imports in real terms for all sectors in the economy.
Source: Simulation results.

Table 4A.10: Sectoral Price Effects from Export Reduction
(% changes from base case)

Sector	PD	PV	PX	PQ	PE_FOB
Paddy	0.24	0.12	0.24	0.24	
Grains	0.64	0.36	0.64	2.17	
Other crops	–0.24	–0.07	–0.18	–0.29	–0.79
Livestock	0.46	0.81	0.46	0.10	
Poultry	0.49	0.33	0.49	0.49	
Shrimp	–1.86	0.24	0.22	–1.86	–1.47
Other fish	0.07	0.81	0.13	–0.30	–0.84
Rice mill	–0.01	–0.75	–0.01	–0.20	
Grain mill	1.13	–0.75	1.13	0.82	
Food	–0.99	–0.90	–0.26	–0.05	–1.07
Mill cloth	0.82	–1.00	0.82	0.82	
Woven ready-made garments	16.36	–0.95	1.12	15.84	2.60
Knit ready-made garments	11.58	–0.76	1.13	5.67	2.60
Other textile	–0.02	–1.07	0.12	2.06	0.78
Other industry	0.20	–0.87	0.49	2.24	–0.89
Urban construction	0.23	–0.84	0.23	0.23	
Rural construction	–0.22	–0.70	–0.22	–0.22	
Public construction	0.59	–0.97	0.59	0.59	
Utility	–0.53	–0.79	–0.53	–0.53	
Trade	–0.79	–1.02	–0.79	–0.79	
Transport	–0.53	–1.08	–0.53	–0.53	
Housing	–0.66	–0.70	–0.66	–0.66	
Education and health	–0.56	–0.89	–0.56	–0.56	
Public administration	–0.49	–0.92	–0.49	–0.49	
Private service	–0.68	–0.99	–0.68	–0.68	

PD = domestic goods price, PV = value-added price, PX = aggregate output price, PQ = price of composite goods, PE_FOB = free on board export price
Source: Simulation results.

Table 4A.11: Sectoral Output Effects from Export Reduction
(% changes from base case)

Sector	M	X	E	Q	D
Paddy		0.56		0.18	0.56
Grains	–6.29	2.36		–1.05	2.36
Other crops	–10.87	–0.90	8.25	–1.60	–1.01
Livestock	–7.85	1.00		0.97	1.00
Poultry		–0.33		–0.70	–0.33
Shrimp		8.27	15.85	3.86	4.26
Other fish	–9.33	0.21	8.75	0.12	0.12
Rice mill	–8.29	0.29		–0.03	0.29
Grain mill	–6.85	0.00		–0.12	0.00
Food	–8.06	3.06	11.32	–0.03	2.10
Mill cloth		–0.77		–1.14	–0.77
Woven ready-made garments	–3.55	–21.42	–23.00	–15.10	–15.20
Knit ready-made garments	–5.42	–22.92	–23.00	–5.88	–12.02
Other textile	–21.07	–14.84	–7.56	–17.70	–14.98
Other industry	–4.75	3.04	9.21	–0.72	2.66
Urban construction		–0.72		–1.09	–0.72
Rural construction		0.45		0.07	0.45
Public construction		–0.06		–0.44	–0.06
Utility		–1.06		–1.44	–1.06
Trade		–0.33		–0.71	–0.33
Transport		–0.12		–0.49	–0.12
Housing		0.47		0.09	0.47
Education and health		0.54		0.16	0.54
Public administration		–0.02		–0.40	–0.02
Private service		0.33		–0.05	0.33

M = imports, X = domestic output, E = exports, Q = composite goods, D = domestic sales
Source: Simulation results.

Table 4A.12: Household Welfare Impact of Export Reduction
(% changes from base case)

Households	CPI	Nominal Income	EV	Real Consumption
Landless	0.26	–0.32	–0.50	–0.17
Marginal farmers	0.20	–0.15	–0.45	–0.14
Small farmers	0.21	–0.02	–0.46	–0.14
Large farmers	0.20	–0.20	–0.41	–0.11
Rural nonfarm	0.22	–0.29	–0.45	–0.12
Urban low education	0.16	–0.57	–0.45	–0.13
Urban high education	0.08	–0.40	–0.27	–0.05

CPI = consumer price index, EV = equivalent variation
Source: Simulation results.

Table 4A.13: Household Poverty Impact of Reduction in Exports
(% changes from base case)

Scenarios	Landless	Marginal Farmer	Small Farmer	Large farmer	Non-agriculture	Low Education	High Education	All
Head-Count Poverty (P0)								
Base	62.60	56.20	37.20	17.10	44.90	44.50	10.60	40.10
Reduction in RMG exports	63.10	56.70	37.40	17.30	45.70	45.30	11.20	40.60
Percentage change from the base run	0.50	0.50	0.20	0.20	0.80	0.80	0.60	0.50
Poverty Depth (P1)								
Base	17.10	13.60	7.60	2.70	11.20	10.90	1.90	9.70
Reduction in RMG exports	17.40	13.80	7.70	2.80	11.40	11.20	2.00	9.90
Percentage change from the base run	0.30	0.20	0.10	0.10	0.20	0.30	0.10	0.20
Poverty Severity (P2)								
Base	6.30	4.60	2.10	0.70	3.80	3.80	0.50	3.30
Reduction in RMG exports	6.40	4.70	2.20	0.70	4.00	3.90	0.60	3.40
Percentage change from the base run	0.10	0.10	0.10	0.00	0.20	0.10	0.10	0.10

RMG = ready-made garment
Source: Simulation results.

B. Indonesia

Kecuk Suhariyanto, Guntur Sugiyarto,
and Ahmad Avenzora

1. Introduction

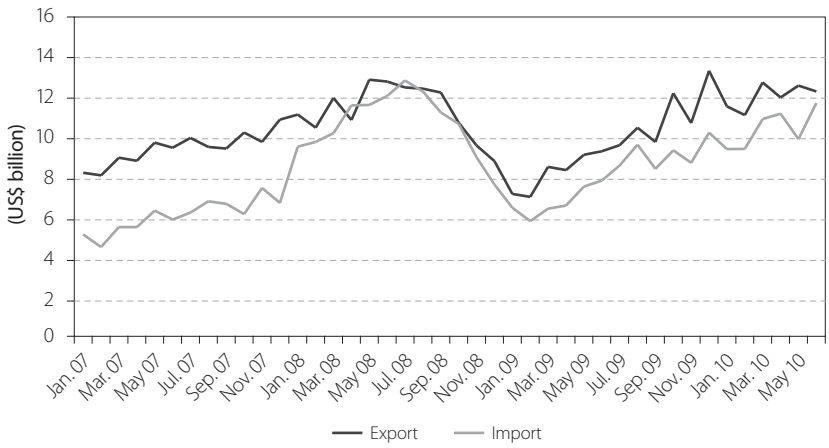
Indonesia is a lower middle-income country richly endowed with natural resources. With a population of 237.6 million people as of 2010, it is the fourth most populated country in the world after the PRC, India, and the United States. It is one of the world's major emerging economies, with an annual growth rate averaging around 6.0% during 1966–2005 (IMF 2006). Though the economy contracted 15.1% in 1998 and 0.1% in 1999 owing to the Asian financial crisis, it seems to have been relatively unscathed thus far by the recent global crisis.

In October 2005, the government had to cut its huge fuel subsidies due to sharp increases in international oil prices that resulted in a more than doubling of fuel prices. Along with rising food prices, the inflation rate jumped 17.1% in 2005 (Table 4B.1). Poverty incidence rose from 15.97% in February 2005 to 17.75% in March 2006 while the number of poor people increased by 4.2 million. Jobless growth also worsened, with the unemployment rate climbing from 10.26% in February 2005 to 10.45% in February 2006. To help its citizens cope with the economic difficulties, the government implemented in December 2005 a program of direct cash transfers, rice subsidies, and health insurance for the poor and very poor households.

The global crisis started to hit the Indonesian economy in the fourth quarter of 2008 when GDP growth slowed to 5.3% from 6.3% in the third quarter largely brought about by a 12.1% drop in exports (Figure 4B.1). This downtrend continued in the following months although exports recovered to pre-crisis levels by October 2009. The largest export commodities in 2009 were oil and gas (16.3%), minerals (14.3%), crude palm oil (12.5%), electrical appliances (8.2%), and rubber products (5.0%), and the top four destinations were Japan, the US, PRC, and Singapore.

The slowdown in export and investment growth resulted in a lowering of GDP growth to 4.5% in 2009 from 6.0% in 2008. However, this growth was still higher than that of the other G20 countries, and comparable to India's and People's Republic of China's economic performance during the depth of the global crisis. Indonesia's economic growth in 2009 was driven mainly by domestic consumption, with household and government spending accounting for 68.2% of GDP. For 2010, Indonesia's economic performance was expected to improve, with GDP growth at 5.9%. Nevertheless, the

Figure 4B.1: Trends of Indonesian Exports and Imports ($ billion)



Source: Bureau of Statistics, Indonesia.

country continues to face such daunting challenges as poverty, unemployment, low foreign direct investment, bureaucratic red tape, widespread corruption, and regional disparities across provinces and districts.

2. Effects of the Global Crisis

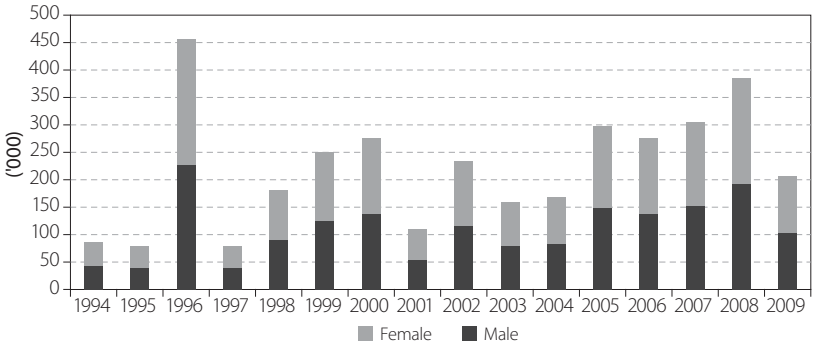
a. Labor migration and remittances

According to official data from the National Agency for Placement and Protection of Migrant Workers (Indonesian acronym BNP2TKI), the number of registered Indonesian migrant workers in 2009 fell 15.6%, from 748,825 persons in 2008 to 632,172 persons in 2009. This was attributable to the economic recession in destination countries in the wake of the global financial crisis.

The number of labor migrants fluctuated during 1994–2003 and peaked in 1996 at 517,169 people. It fell sharply in 1997 due to the Asian financial crisis and then started to recover in 1998. Significant drops occurred again in 2001 and 2003 due to the 9/11 incident in the United States, the Iraq war, and stricter requirements for migrant workers. Since 2004 the number of migrants has increased steadily, averaging 500,000 annually, 75% of whom are females (Figure 4B.2). The predominant share of female migrants persisted owing to the increasing demand for domestic workers from neighboring countries such as Malaysia and Singapore, in addition from the Middle East.

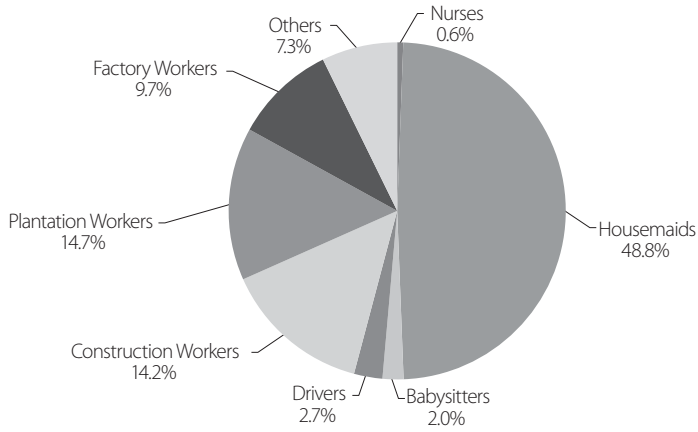
Housemaids account for 49% of all migrant workers, and the rest work in plantations (14.7%), construction (14.2%), factories (9.7%), and other industries (7.3%) (Figure 4B.3). Before 1996, most migrant workers went to Malaysia and Saudi Arabia, but later the destination countries expanded to Asian countries such as

Figure 4B.2: Number of Indonesian Migrant Workers by Gender, 1994–2009



Source: The National Agency for Placement and Protection of Migrant Workers (BNP2TKI).

Figure 4B.3: Occupational Distribution of Migrant Workers, 2007

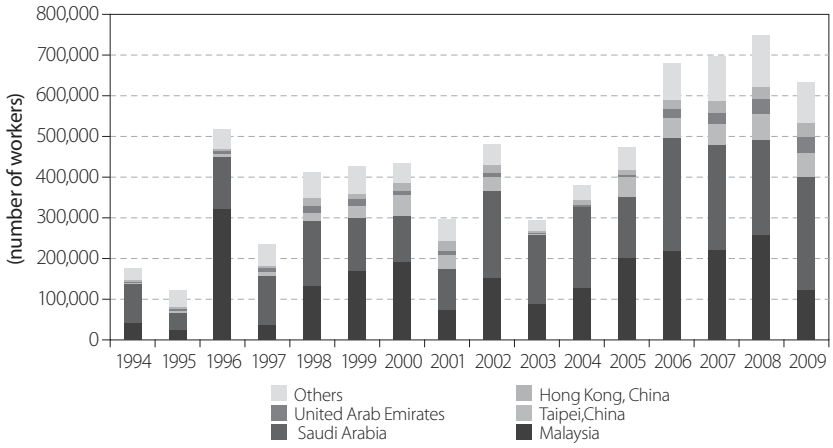


Source: Authors' calculations based on Susenas 2007.

Taipei,China and Hong Kong, China (Figure 4B.4). In 2008 Malaysia was the most preferred destination country (35.4% of total migrants) because of its proximity and similarity in language and culture, followed by Saudi Arabia (32.2%), Taipei,China (8.6%), the United Arab Emirates (5.2%), and Hong Kong, China (4.2%).

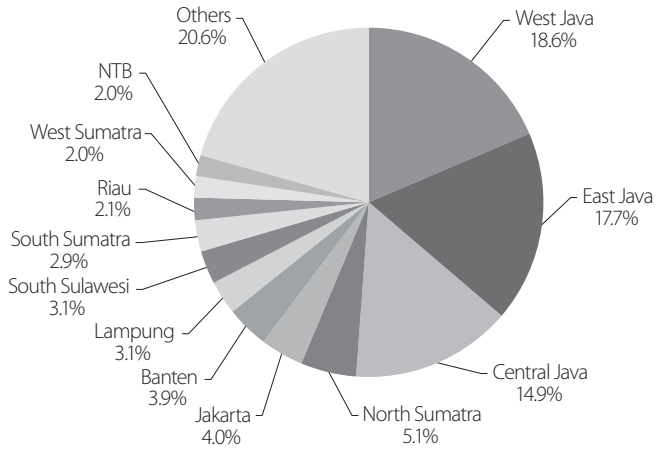
In terms of origin, about 51% of the migrants come from three provinces in Java: Central Java, East Java, and West Java (Figure 4B.5). The majority of West Java migrants come from eight districts (Cianjur, Cirebon, Indramayu, Karawang, Majalengka, Purwakarta, Subang, and Sukabumi); those from Central Java are from six districts (Banyumas, Brebes, Cilacap, Kendal, Pati, and Wonosobo); and East Java

Figure 4B.4: Number of Indonesian Migrant Workers by Major Destination Countries, 1994–2009



Source: The National Agency for Placement and Protection of Migrant Workers (BNP2TKI).

Figure 4B.5: Province of Origin of Indonesian Migrant Workers, 2007



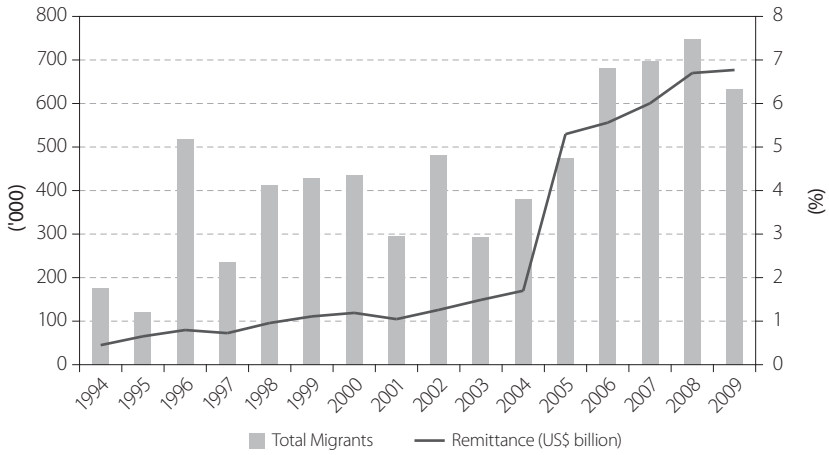
Source: Authors' calculations based on Susenas 2007.

migrants are from seven districts (Banyuwangi, Blitar, Kediri, Malang, Ponorogo, Sampang, and Tulung Agung).

Despite the fluctuations in migration flows, and particularly the reduction in 2009, the amount of remittances received by households in Indonesia increased steadily during

1994–2003 and significantly afterwards including 2009. In 1994, remittances amounted to $0.45 billion, increasing to $1.70 billion in 2004. This jumped to $5.30 billion in 2005, reaching $6.77 billion in 2009 (Figure 4B.6). However, compared with other migrant-sending countries such as the Philippines, the amount of remittances to Indonesia is still small. The Philippines, whose population is less than half that of Indonesia, received about $18 billion in 2010, which is roughly 12% of GDP (Ang et al. 2009).

Figure 4B.6: Total Migrant Workers and Remittances in Indonesia, 1994–2009



Sources: Bank Indonesia and National Agency for Placement and Protection of Migrant Workers (BNP2TKI).

The officially recorded amount of remittances received by Indonesia is probably lower than the actual number due to the inadequate recording system (World Bank 2006). Remittance does not have its own category in the formal recording system and it is simply calculated from "all residual of balance of payments." Furthermore, a significant amount of remittances to Indonesia are still not detected, as they are sent through informal channels. The National Remittance Survey conducted by Bank Indonesia in Nunukan, East Kalimantan reveals that only 30% of migrants use the formal channels or banks to remit their money. The rest send it through returning relatives (35%), friends (18%), and other informal ways of remitting money (9%). By contrast, the same survey conducted in West Nusa Tenggara shows that the majority of respondents (87.1%) use banks, while the rest remit through friends or bring the cash with them when they come home.

b. Remittances in household incomes

From the Susenas 2007 data it can be gleaned that migrant households made up only about 3.5% of all Indonesian households, numbering 2.23 million migrant workers. Compared with the number officially registered in BNP2TKI, which was only 696,746 migrants in 2007, the Susenas figure seems too high. The difference may

be due to two reasons. First, Susenas gives no information about when the migrants started to work abroad, implying that the number includes the cumulative stock of migrant workers from previous years. Second, the data from BNP2TKI cover only the legal migrants. The common belief, however, is that the actual number is much bigger since many migrate illegally, as can be inferred from the anecdotal evidence of illegal migrants having to return home during the crisis. The number of illegal migrants is large, especially in Malaysia. There are diverse estimates of illegal Indonesian migrants in Malaysia, among them 700,000 (Kassim 1997), 54% (Keban 2000), and two-thirds of the Indonesian migrant population in Malaysia (Sukamdi 2008).

Box 4B.1: Data Source—Susenas

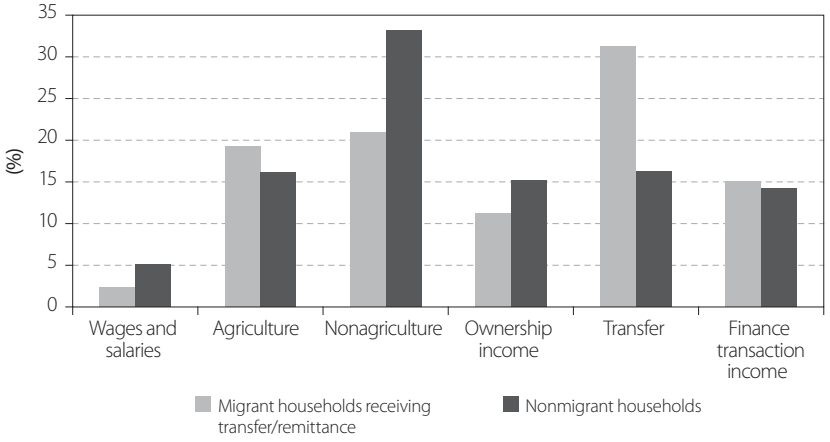
The main data source used for analyzing migration and remittances in Indonesia is the National Socioeconomic Survey (Susenas) conducted regularly by the Bureau of Statistics. Susenas is a nationally representative household survey covering all areas of the country and is the primary source of socioeconomic data and information at the household level. The survey consists of two modules: consumption and core. The consumption module collects information every 3 years on detailed consumption expenditures covering a total of 229 food and 115 nonfood items. It has been used regularly to estimate household expenditure patterns and poverty indicators. The core module, on the other hand, collects information every year on such basic sociodemographic characteristics as age, marital status, education level, health condition, fertility, family planning, household facilities, and economic activities.

There is no specific information on migrant workers in Susenas except in February 2006, with sample households numbering 10,000, and March 2007, with 68,000 sample households. Considering the larger sample size, the latter Susenas is used for the analysis. The information is, however, very limited, covering only the number of household members working as migrant workers by sex and occupation. There is no information on the amount of remittances received by households and, hence, it must be estimated from the sums of cash transferred, which include pensions, scholarships, insurance claims, and payment for goods received from other parties. Since the amounts of these four kinds of transfer items are usually small, it is reasonable to assume that if a migrant household receives a transfer income, a large part of it must be remittances. Moreover, some migrant households did not receive any transfers and, hence, no remittances in 2007. This makes it meaningful and instructive to explore the different patterns of expenditure among three different household groups: (i) migrant households receiving remittances, (ii) migrant households receiving no remittances, and (iii) nonmigrant households. The calculation of poverty headcount, poverty gap, and poverty severity indexes among the three groups, for instance, can give some indications on the impacts of remittances on household welfare and poverty reduction.

The main income source for migrant households is remittances, contributing about 31.2% of total income (Figure 4B.7). For nonmigrant households, nonagriculture income makes up 33.2% of total income, while the share of transfers is only about half at 16.3%. Remittances are the main source of income for migrant households in both rural and urban areas; the second highest source of income is agriculture in rural areas and nonagriculture income in urban areas.

The share of agriculture income decreases as migrant households move to higher clusters (Table 4B.2). In cluster one (lowest income group), the share of agriculture income is about 17.8%, while for cluster three (highest income group), the share is only 7.0%. In contrast, the share of remittances rises as the households move to higher clusters. Remittances constitute 24.2% of total income for cluster one and this

Figure 4B.7: Share of Household Income by Source and Migrant Status, 2007 (%)



Notes: Ownership income = house/land rental + interest + dividend + royalty + other necessities; Transfer = cash transfer (from abroad and domestic) + scholarship + pensions + insurance claim + food/goods received; Finance transaction income = saving withdrawal + debt return + borrow money + pawning
Source: Authors' calculations based on Susenas 2007.

increases to 30.9% for cluster three. This probably indicates that the education and skill levels of migrant workers coming from higher-income groups may be better, enabling them to get higher-paying jobs and send more money to their families. For nonmigrant households, especially those in rural areas, the share of income from agriculture and remittances decreases and that from nonagricultural activities rises as they move to higher clusters.

c. Remittances and consumption expenditure patterns

The share of food expenditure is higher for migrant households, except in rural areas, while their share of education expenditure is lower. However, migrant households spend larger shares of expenditure on health care and durable goods, and this pattern is true in both rural and urban areas. As regards expenditure by cluster, the share of food expenditure decreases as the migrant households move to higher clusters, while that for health care and durable goods expenditures rises sharply as migrant households move to higher clusters (Table 4B.3). Health care spending accounts for 2.3% of total expenditure for the first cluster and increases to 6.5% for the third cluster; correspondingly, the share of durable goods expenditure goes up from 3.7% to 20.9%.

To determine the extent to which consumption patterns of Indonesian households are affected by remittances, microeconometric analysis was carried out on the Susenas data. The exercise assumes that the expenditure on each item is a linear function of household attributes such as family size; household head's age, sex, education, and employment status, and sector; the number of working household members, area;

dependency ratio; and a dummy variable indicating whether the household receives remittance. The regression equation can be written as follows:

$$Household_{exp} = \beta_0 + \beta_1 HH\_age + \beta_2 HH\_sex + \beta_3 HH\_edu + \beta_4 Working + \beta_5 HH\_size +$$

$$\beta_6 Dep\_ratio + \beta_7 Empl\_sector + \beta_8 Empl\_status + \beta_9 Area + \beta_{10} remit + \varepsilon$$

where:

$Household_{exp}$	: Share of household expenditure as a dependent variable (food, housing, health care, education, and durable goods)
HH_age	: Age of household head
HH_sex	: Sex of household head (*1 male; 0 otherwise*)
HH_edu	: Educational level of household head (average years of schooling)
Working	: Number of working household members
HH_size	: Household size
Dep_ratio	: Dependency ratio
Empl_sector	: Employment sector (*1 agriculture; 0 otherwise*)
Empl_status	: Employment status (*1 employee; 0 otherwise*)
Area	: Area (*1 urban; 0 rural*)
Remit	: Household receives transfer/remittances (*1 receives remittances; 0 otherwise*)

Adopting the ordinary least squares method would ignore the endogeneity problem that makes the coefficient β in the model biased. To circumvent this problem, we follow the two-stage least squares procedure and introduce instrumental variables. The instrumental variables considered are household asset holdings (i.e., ownership of motorcycles/cars and durable goods such as refrigerators, televisions, and jewelry).

The econometric results suggest a significant association between the receipt of remittances and the spending patterns across different commodity groups (Table 4B.4). The estimated coefficients of the remittance dummy are statistically significant for any of the budget share equations. For the food expenditure equation, the remittance dummy has a negative coefficient and is statistically significant at the 1.0% level. This suggests that households receiving remittances tend to spend a lower share (by 2.9 percentage points) of their expenditure on food compared with households receiving no remittances. For the housing, health care, and education equations, all coefficients of the remittance dummy are positive and statistically significant, suggesting that the remittance recipients spend higher budget shares for these items than do non-recipient households. However, the estimated coefficients for health care and education are small and the effect of remittances seems to be bigger (by 4.5 percentage points) for durable goods for migrant household than for their nonmigrant counterparts. On the whole, therefore, these results support the observations that are apparent from the cross-tabulations of the data.

d. Remittances, poverty, and inequality

To examine how remittances impact poverty reduction in Indonesia, a probit model is applied to Susenas data, using the same explanatory variables as above:

$$Pov = \beta_0 + \beta_1 HH\_size + \beta_2 HH\_age + sex + \beta_4 Working\_edu + \beta_5 Dep\_ratio +$$

$$\beta_6 Working + \beta_7 Exp\_percap + \beta_8 remit + \beta_9 Area + \beta_{10} Emp\_sector + \beta_{11} Emp\_status + \varepsilon$$

where:

Pov	:	Poverty level (*1 poor; 0 nonpoor*)
HH_size	:	Household size
HH_age	:	Age of household head
HH_sex	:	Sex of household head (*1 male; 0 otherwise*)
HH_edu	:	Educational level of household head (*average years of schooling*)
Dep_ratio	:	Dependency ratio
Working	:	Number of working household members
Exp_percap	:	Per capita expenditure
Remit	:	Household receive transfer/remittances (*1 remittances received; 0 otherwise*)
Area	:	Area (*1 urban; 0 rural*)
Empl_sector	:	Employment sector (*1 agriculture; 0 otherwise*)
Empl_status	:	Employment status (*1 non-employee; 0 otherwise*)

Table 4B.5 summarizes the probit results, essentially showing the probability of being poor. All explanatory variables included in the model are significant except for sex of household head, dependency ratio, and employment sector and status. Household size has the positive sign, suggesting that the probability of being poor increases as the household size expands, which is consistent with the finding that the large population increases in Indonesia pose a major obstacle to poverty reduction. Also as expected, education reduces the probability of being poor. Likewise, the more working members a household has, the lower the probability of falling into poverty. Finally, the coefficient of the remittance dummy is negative, indicating that the likelihood of becoming poor declines by 1.5% if the household receives remittances.

To assess the impact of remittances on poverty and inequality, relevant indicators are calculated for migrant households that receive or do not receive remittances (Table 4B.6). The percentage of poor among migrant households receiving remittances is lower (21.0%) than those with no remittances (22.1%). The poverty gap and severity indicators are also lower, implying that among remittance-recipient migrant households, the average income and expenditure of those in poverty is closer to the poverty line and the inequality among them is lower as well. The poverty headcount decreases by 4.85% for households receiving remittances; likewise, there are faster declines in the poverty gap (by 14.6%) and severity indexes (by 25.9%). All these

measures suggest that remittances generally improve the welfare of poor households. The income inequality of migrant households receiving transfers, however, appears slightly higher (Gini coefficient of 0.29) than for migrant households that do not receive remittances (0.28). It increases 5.42% if the households receive remittances. The impact is more severe in urban areas.

3. Conclusion and Policy Implications

As one of the top 10 remittance-receiving countries in Asia, Indonesia seemed relatively unscathed by the global crisis. The economy quickly bounced back from the negative effects felt in 2008–2009 and the recorded remittance inflows grew during the crisis. The registered number of migrant workers, however, fell by more than 15% in 2009. The dominant majority of migrants come from the lower income groups, working mostly as domestic workers, albeit middle- and upper-class households also participate in the migration process.

Remittances are the main income source for migrant households, contributing close to a third of their total incomes. This share rises as the migrant households move to higher-income groups, implying that remittances contribute to, rather than improve, inequality across households. Migrant households spend lower shares on food and larger shares on health care and durables compared with nonmigrant households.

The results of econometric analysis are essentially consistent with the cross-tabulated data, showing that households with remittances spend lower shares on food and higher shares on housing, health care, and education. The effect of remittances is especially pronounced for spending on durable goods. Further, the results of probit analysis show the important role remittances play in reducing poverty. Likewise, larger household size reveals a positive link with poverty, while increased education and number of working household members show a negative association. The income inequality of migrant households receiving remittances, however, tends to be higher than those receiving no remittances, and this effect appears stronger in urban areas.

As in the case of most other economic activities, labor migration has benefits and costs. An important implication of this study is the need to identify sound approaches that involve the government and other key stakeholders to work together to maximize such benefits while minimizing associated costs. Appropriate policies should cover the key stages of the migration process, including recruitment, orientation and training, protection from abuses in host countries, minimizing remittance costs, and reintegration of returning migrants. Further, policies and programs are needed to maximize the short- and long-run benefits from the use of remittances to households, communities, and the economy.

4. Tables

Table 4B.1: Indonesia Macroeconomic Indicators, 2005–2010

	2005	2006	2007	2008	2009	2010
Growth rate (%)						
Gross domestic product	5.7	5.5	6.3	6.0	4.5	5.9[a]
Agriculture	2.7	3.4	3.5	4.8	4.1	3.0[a]
Manufacturing	4.6	4.6	4.7	3.7	2.1	4.0[a]
Service sector	5.2	6.2	6.4	6.2	6.4	4.9[a]
Inflation rate (%)	17.11	6.60	6.59	11.06	2.78	6.22[b]
Unemployment rate (%)	10.26	10.45	9.75	8.46	8.14	7.41
Poverty:						
Number of poor (million people)	35.10	39.30	37.17	34.96	32.53	31.02
Percentage of poor people (%)	15.97	17.75	16.58	15.42	14.15	13.33
Gini ratio	0.343	0.357	0.376	0.368	0.357	-

a Semester I-2010 (year-on-year)
b July 2010 (year-on-year).
Source: Bureau of Statistics, Indonesia.

Table 4B.2: Share of Household Income by Source and Migrant Status, 2007 (%)

	Migrant Households Receiving Remittance				Nonmigrant Households			
Sources of Income	Cluster 1	Cluster 2	Cluster 3	Total	Cluster 1	Cluster 2	Cluster 3	Total
Urban + Rural								
Wages and salaries	21.47	20.66	15.56	2.34	32.22	38.43	40.01	5.06
Agriculture	17.78	15.19	7.02	19.20	19.32	9.57	3.49	16.13
Nonagriculture	16.47	14.47	19.33	20.98	18.08	22.01	21.25	33.19
Ownership income	10.13	9.21	8.30	11.23	10.09	9.66	10.68	15.17
Transfer	24.23	29.56	30.94	31.23	13.75	11.79	13.05	16.26
Finance trans. income	9.93	10.91	18.85	15.02	6.53	8.54	11.51	14.20
Total Income	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Urban								
Wages and salaries	24.06	27.02	20.99	3.08	40.25	43.92	42.38	6.33
Agriculture	8.87	10.40	2.41	9.43	6.91	3.18	1.39	4.84
Nonagriculture	23.09	14.03	17.83	25.34	24.13	23.76	21.09	39.54
Ownership income	10.21	8.92	7.28	11.68	9.54	9.97	11.39	17.52
Transfer	23.52	28.88	31.51	33.26	12.65	11.48	13.17	16.69
Finance trans. income	10.25	10.76	19.98	17.22	6.53	7.68	10.58	15.08
Total Income	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Rural								
Wages and salaries	20.36	16.55	5.50	1.97	27.39	28.08	25.58	3.27
Agriculture	21.57	18.29	15.56	24.17	26.79	21.63	16.26	32.03
Nonagriculture	13.66	14.75	22.12	18.76	14.44	18.70	22.24	24.23

continued on next page

Table 4B.2. continuation

Sources of Income	Migrant Households Receiving Remittance				Nonmigrant Households			
	Cluster 1	Cluster 2	Cluster 3	Total	Cluster 1	Cluster 2	Cluster 3	Total
Ownership income	10.10	9.41	10.19	11.01	10.42	9.08	6.39	11.86
Transfer	24.53	30.00	29.87	30.20	14.42	12.36	12.36	15.65
Finance trans. income	9.79	11.00	16.76	13.90	6.53	10.15	17.16	12.96
Total Income	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Notes: Ownership income = house/land rental + interest + dividend + royalty + other necessities
Transfer = cash transferred (from abroad and domestic) + scholarship + pensions + insurance claim + food/goods received
Finance transaction income = saving withdrawal + debt return + borrowing money + pawning
Source: Authors' calculations based on Susenas 2007.

Table 4B.3: Share of Household Expenditure by Type of Expenditure and Migrant Status, 2007 (%)

Components of Expenditure	Migrant Households Receiving Remittance				Nonmigrant Households			
	Cluster 1	Cluster 2	Cluster 3	Total	Cluster 1	Cluster 2	Cluster 3	Total
Urban + Rural								
Food	61.09	50.97	34.80	54.43	62.01	51.43	34.36	48.73
Housing	17.87	19.67	17.02	17.24	18.08	21.56	25.61	21.03
Education	1.93	1.86	1.24	2.03	1.89	2.81	3.97	3.25
Health care	2.27	3.19	6.49	2.94	2.06	2.83	4.06	2.88
Durable goods	3.65	9.01	20.90	8.08	3.13	5.25	9.85	6.44
Others	13.18	15.30	19.56	15.27	12.82	16.12	22.15	17.67
Urban								
Food	58.39	50.16	35.72	50.93	57.48	49.47	34.05	43.51
Housing	19.31	20.41	16.43	18.13	21.01	23.71	26.91	23.99
Education	2.24	2.44	1.44	2.32	2.42	3.37	4.31	4.01
Health care	2.14	4.19	6.99	3.74	1.98	2.85	4.03	3.09
Durable goods	4.01	7.06	16.66	8.05	3.35	4.14	8.60	6.22
Others	13.90	15.73	22.76	16.83	13.75	16.46	22.11	19.18
Rural								
Food	62.23	51.47	33.12	56.37	64.79	55.32	36.44	58.16
Housing	17.27	19.20	18.08	16.76	16.29	17.25	16.80	15.68
Education	1.79	1.50	0.86	1.87	1.56	1.71	1.66	1.89
Health care	2.33	2.57	5.58	2.50	2.11	2.79	4.32	2.49
Durable goods	3.50	10.23	28.62	8.10	2.99	7.48	18.32	6.82
Others	12.87	15.03	13.73	14.40	12.25	15.44	22.45	14.95

Source: Authors' calculations based on Susenas 2007.

Table 4B.4: Regression Results of Key Expenditure Components

	Food		Housing		Health Care		Education		Durable Goods	
Independent Variable	**Coeff**	**Std. Error**	**Coeff**	**Std. Error**	**Coeff**	**Std. Error**	**Coeff**	**Std. Error**	**Coeff**	**Std. Error**
Constant	0.906[a]	0.1631	–0.445[a]	0.084	–0.181[a]	0.052	–0.284[a]	0.038	1.562[a]	0.198
Age of HH head	0.001	0.0024	0.011[a]	0.001	0.002[a]	0.001	0.005[a]	0.001	–0.028[a]	0.003
Sex of HH head	0.055[a]	0.0175	0.060[a]	0.009	0.018[a]	0.006	0.027[a]	0.004	–0.206[a]	0.021
Educational level	–0.040[a]	0.0138	0.008	0.007	0.013[a]	0.004	0.005	0.003	0.014	0.017
No. of member work	–0.294[a]	0.0507	0.011	0.026	–0.036[b]	0.016	0.013	0.012	–0.020	0.061
Household size	0.142[a]	0.0079	–0.025[a]	0.004	–0.005[b]	0.003	–0.006[a]	0.002	0.003	0.010
Dependency ratio	–0.348[a]	0.1174	0.088	0.060	0.123[a]	0.037	0.045	0.028	–0.013	0.142
Employment sector	0.115[a]	0.0342	–0.020	0.018	0.023[b]	0.011	–0.005	0.008	0.031	0.042
Employment status	0.021	0.0268	0.062[a]	0.014	–0.007	0.009	0.032[a]	0.006	–0.214[a]	0.033
Area	–0.057[a]	0.0112	0.049[a]	0.006	–0.008[a]	0.004	0.005[b]	0.003	–0.010	0.014
Remittance dummy	–0.029[a]	0.0092	0.015[a]	0.005	0.006[a]	0.003	0.005[b]	0.002	0.045[a]	0.011

HH = head of household
a significant at 1% level
b significant at 5% level
Source: Authors' calculations based on Susenas 2007.

Table 4B.5: Probit Estimation Results: Impact of Remittances on Poverty

Independent Variables	**Coefficients**	**Std. Error**	**P > z values**	**Marginal Effects**
Household size	0.0855	0.0091	0.0000	0.0040
Age of household head	–0.0031	0.0010	0.0010	–0.0001
Sex of household head	0.0710	0.0411	0.0841	0.0032
Educational level of household head	–0.0169	0.0061	0.0060	–0.0008
Dependency ratio	0.0130	0.0198	0.5115	0.0006
Number of household member working	–0.0432	0.0139	0.0020	–0.0020
Per capita expenditure	–0.0461	0.0005	0.0000	–0.0022
Households receiving remittances	–0.4823	0.0675	0.0000	–0.0146
Area	1.9087	0.0392	0.0000	0.2591
Employment sector	0.0449	0.0292	0.1241	0.0021
Employment status	0.0282	0.0372	0.4484	0.0014
Constant	6.3016	0.1120	0.0000	–

P=probability value; z=normal distribution
Note: Dependent variable: poor = 1, nonpoor = 0; Pseudo R2 = 0.6502
Source: Authors' calculations based on Susenas 2007.

Table 4B.6: Poverty and Inequality Indicators for Migrant Households

Variables	Migrant Households Receiving Remittance			Migrant Households Receiving No Remittance		
	Urban	Rural	Total	Urban	Rural	Total
Headcount (Po)	12.06	25.71	20.98	13.10	27.45	22.05
Pov Gap/P1	1.37	5.14	4.14	1.95	5.83	4.85
Pov Severity/ P2	0.35	1.72	1.20	0.55	1.81	1.62
Gini ratio	0.265	0.304	0.292	0.241	0.296	0.277

Source: Authors' calculations based on Susenas 2007.

C. Pakistan

Vaqar Ahmed and Guntur Sugiyarto

1. Introduction

In 2009, overseas remittances to Pakistan of around $8 billion accounted for nearly 70% of net current transfers. These are expected to overtake earnings from textile exports, currently constituting 65% of Pakistan's total export basket. At the household level, remittances accounted for 5.3% of rural and 3.5% of urban incomes. Despite the global financial crisis, transfers from abroad in 2010 increased by 13%, totaling around $9 billion, making Pakistan ranked the 12th in the world in terms of overseas remittance inflows.

Global remittances in the recent past have been recognized as an important source of foreign exchange inflows into developing economies that, in turn, finance physical and social infrastructures. Their role in smoothing consumption has allowed households in developing countries to be insulated from exogenous shocks. The South Asian economies recently witnessed reverse migration from some Persian Gulf countries, particularly Dubai, whereby the accumulated savings of households with migrant workers served as an important cushion from the crisis. However, owing to the crisis, global remittance flows to developing countries fell 6.0% to $316 billion in 2009 from $336 billion in 2008.

The impact of the crisis in Asia seemed mixed given that Asian workers were in economies badly hit by the crisis as well as in others that managed to stay afloat. The World Bank reported a decline in remittance flows to Central and East Asia, Europe, Latin America, the Middle East, and North Africa. However, remittance flows to South Asia remained on an upward trend. Such diversity in migration destinations allows remittances to remain protected from global shocks. As barriers to worker mobility decrease, the link between remittances and pro-growth policies is strengthened. Remittances as a key source of financing external gaps is being incorporated in debt sustainability analysis for developing countries, and this has increased interest in raising capital through diaspora financial instruments (World Bank 2010).

Even in countries where remittances declined during the crisis, it was observed that these inflows remained more resilient than private capital flows including foreign direct investment, portfolio investment, and private debt. The resilience of remittance flows has been attributed to the stock of migrants already in the host countries besides the periodic deployment of migrants, though this deployment has seen some decrease of late. In any case, the migrants continue to send remittances despite economic crisis.

Table 4C.1 represents Pakistan's key macroeconomic indicators before, during, and after the crisis period. One notes the GDP plummeting soon after 2007 and weakly recovering thereafter. Exports that were relatively inelastic with respect to world income managed to grow at a steady rate, while imports declined following the rise in fuel and food prices. The fall in foreign direct investment was one of the main channels through which the global financial crisis impacted the economy. After an encouraging inflow of $5.1 billion in 2007, foreign direct investment has been declining since. For 2010 it is being provisionally estimated at around $2.2 billion.

The decline in growth coupled with the low levels of resource mobilization has forced the public sector to resort to heavy borrowing since the start of global food price shocks. This has resulted in the external debt touching alarmingly dangerous levels. One of the main consequences of the lack of liquidity in the public sector has been the reduction in poverty-related expenditure, which has contributed to the recent rise of poverty headcount ratio. With higher remittances and exports not making up for the ballooning debt liabilities and their short-term costs, the exchange rate has been depreciating sharply since 2007—which is also one of the reasons that explain the slowdown in imports.

2. Crises, Migration, and Remittances

Remittances serve to neutralize the volatility in foreign exchange reserves that provide a cushion against external shocks as discussed in Ballard (2005), Lucas (2005), Acosta et al. (2006), and Ahmed et al. (2010). Meanwhile, the poverty impact of remittances has been the subject in many studies,[1] which reveal varied findings. For Egypt and Pakistan, Adams (1991, 1996) finds a rise in inequality as a result of increased migration. By contrast, Taylor and Wyatt (1996) shows an inequality-reducing impact of remittances among rural households in Mexico. In another study, a negative impact of remittances on the labor force participation of males is found in Pakistan (Kozelt and Alderman 1990). For some countries in Asia and the Pacific, while a positive but marginal effect of remittances on economic growth is shown, significant poverty reduction appears to result via higher disposable incomes that smooth consumption and reduce capital constraints (Jongwanich 2007).

a. External shocks and developing economies

The economic impact of external shocks on developing countries has been widely discussed in literature. Robilliard et al. (2001) used a CGE model to simulate the impact on Indonesia of the 1997 Asian financial crisis through the channels of real currency devaluation as well as the foreign and domestic credit crunch. They found a decline in wages of 24% for skilled labor and 21% for unskilled labor, with poverty rising

[1] See Adams (2006), Adams and Page (2005), Lopez-Cordova (2005), Page and Plaza (2005), Taylor et al. (2005), Yang and Martinez (2006), Maimbo and Ratha (2005), Ozden and Schiff (2006), Ruiz and Vargas-Silva (2009), Raihan et al. (2010), and Ang et al. (2010).

by 93% and inequality rising by 5.5%. Similarly for Indonesia, Bourguignon et al. (2003) show that a 30% decrease in foreign direct investment and flexible government spending led to a decline of around 11% in skilled wages and 25% in unskilled wages, while poverty deteriorated by 37% and inequality by 2.0%.

Block et al. (2004), while discussing the impact of Indonesia's 1997 financial crisis on child nutrition, explained that despite a rise in food prices, which significantly altered the nutrition profile, the child weight-for-age remained constant throughout the crisis. This was primarily because within the households, children's caloric intake was buffered by mothers. However, there was reduced consumption of high-quality foods, resulting in increased prevalence of anemia for both mothers and children.

Martin-Prével et al. (2000) discuss the effects of the 1994 devaluation of the African Financial Community franc on the nutritional status of populations in two districts of Brazzaville, Congo. The overall nutritional situation deteriorated with greater levels of stunting and wasting among children, mothers with lower body mass index, and infants with reduced birth weights. The increased food prices decreased the quality of first complementary foods offered to infants (e.g., less use of special transitional foods and imported flours of higher nutritional quality). Gitau et al. (2005) also show that due to the Southern African drought, there was increased stunting among infants whose mothers experienced high maize prices while pregnant. A direct intervention in this case, such as the provision of micronutrient supplements even to those less food-insecure, could have reduced the effect of price increases.

Lokshin and Ravallion (2002) examined the welfare impacts of the 1998 financial crisis in the Russian Federation and the social safety net response. There was a general deterioration in the welfare levels during the crisis period, with expenditures contracting more than incomes as the households expected worse times ahead. The poverty rate increased by almost 50%. However, safety nets fell short of what was needed to preserve living standards, particularly of the poor. The targeting of safety nets was critical to their success, but the authors reveal that even without better targeting, a 10% increase in cash benefits would have avoided increased income poverty. The role of safety net programs has also been discussed in Ravallion (2009) and Suci (2006). In the wake of prolonged Indonesian financial crisis, the government launched social safety nets for the poor in 1998. The program increased both potential and realized access of children to health services via successful distribution of health cards to the poor.

Haq et al. (2008) showed that as a result of rising world food prices, poverty in Pakistan increased by 34.8%. The poverty levels grew more in urban areas (44.6%) than in the countryside (32.5%). Examples from other countries include Benson (2008) for Uganda, Warr (2008) for Thailand, and Valero-Gil and Valero (2008) for Mexico.

During crisis times that lead to a contraction of expenditures, many families resort to lower-quality food (Chapman-Novakofski 2009). This implies that even if the poor preserve the overall caloric intake by concentrating on the consumption

of foods with higher calories, their nutrition declines as foods containing important micronutrients become unaffordable.[2] Friedman and Levinsohn (2001) show that during the Indonesian financial crisis the distributional consequences remain the same whether we allow the households to substitute their consumption toward relatively cheaper goods or not. While every household was adversely impacted by the crisis, the urban poor faced the worst consequences. The poor rural households remained relatively less affected due to their ability to produce food. In both urban and rural areas, the geographical location and structure of families mattered, with households having younger children suffering more adverse impact.

Poverty, malnutrition, and hunger are deeply integrated. Poverty is a leading cause of hunger (food deprivation), while malnutrition results from food deficiencies (FAO 2008, Taylor 1977). Bhutta et al. (2008) also show that food and economic crisis lead to significant deterioration of the health and nutrition of mothers and children in poor communities in the short term. The authors also find that, if unaddressed, the current financial crisis could increase rates of maternal anemia by 20%, prevalence of low birth weight by 10%, childhood stunting by 7.0%, and wasting by 16%.

b. Remittance flows to Pakistan during the global crisis

Ahmed and O'Donoghue (2010), with data on actual changes in prices and factor returns during food, fuel, and financial crises, used a microsimulation model to examine the impact of the crises on poverty and caloric intake in Pakistan. The purpose of simulating the three crises at the outset is to take stock of the decline in welfare as a whole during 2007–2009. The prices of items under staple consumption rose by more than 30% while fuel prices went up by more than 50% (Table 4C.2). Real incomes decreased for all labor segments, with the largest declines in the earnings of self employed (11%) and skilled labor (10%).

Consequently, the poverty headcount ratio increased by around 40% as measures for both poverty gap and severity also worsened (Table 4C.3). The daily caloric intake declined by 9.3%, with slightly higher loss endured by urban households. The substantial rise in poverty also showed up in the 35%–40% range using a different methodology as used in the Panel of Economists' report submitted to Pakistan's Planning Commission.

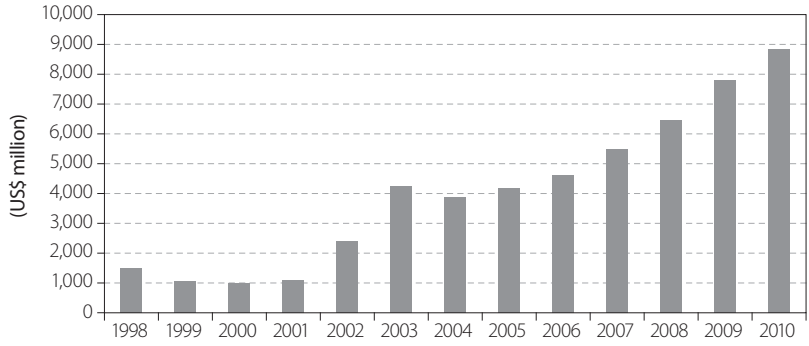
The rise in remittances in Pakistan, even during the crisis period, is attributable to a number of factors (Figure 4C.1).[3] First, the financial crunch in the developed countries in 2008–2009 saw migrant workers in the Persian Gulf, particularly Dubai, returning and bringing along with them their accumulated savings. Second, with the industrial sector in Pakistan facing an energy crisis, unemployment soared, motivating relatives living abroad to send a greater proportion of their incomes to help smooth

2 See hierarchy of food needs in Satter (2007).

3 This section also draws from our companion paper (Ahmed et al. 2010).

their families' consumption in Pakistan. Third, improved financial sector regulation in Pakistan implied lower transaction costs and reduced the number of days taken to transmit overseas incomes, complemented by the central bank's special remittances deposits. Finally, following the real estate boom in the Middle East that attracted substantial private capital from Pakistan during 2005–2008, a reverse capital flow was seen to have occurred in reaction to the global crisis that triggered falling oil prices

Figure 4C.1: Pakistan: Workers' Remittances, 1998–2010 ($ million)



Sources: State Bank of Pakistan.

The growth trajectory of remittances from around $1 billion in the year 2000 crossed the $8 billion mark by 2010 (Figure 4C.1). According to the latest World Bank's *Migration and Remittances Factbook*, the number of Pakistani emigrants in 2005 stood at 3,415,952, composing some 2.2% of the total population. The leading destinations were the United States (US), Saudi Arabia, United Arab Emirates (UAE), the United Kingdom (UK), Canada, and countries in continental Europe. The numbers of skilled emigrants given in Docquier and Marfouk (2004) and Docquier and Bhargava (2006) imply that Pakistan's emigration rate for the service sector stood at 9.2% in 2000 (Table 4C.4). As much as 5.0% of the physicians trained in the country (amounting to 4,359) had emigrated in pursuit of better economic opportunities and incomes abroad.

Table 4C.4 also shows the phenomenal increase in overseas migration that started in the early 1970s and gathered further momentum during this decade. The increase has been in both skilled and unskilled categories. The semiskilled/unskilled categories are dominated by workers in the construction sector, while those in the skilled/highly skilled groups are hired in specialized production or processes industries or are specialist doctors, engineers, and other high-level professions.[4]

Table 4C.5 provides information on emigration by province. Punjab, the largest province, hosts 55% of the total population of Pakistan and also has the largest share

4 For details on emigration by occupation, see MoLM (2009).

of workers going abroad. This is followed by Khyber Pakhtunkhwa. The category of "Others" includes northern and tribal areas. There is some evidence of greater migration from areas that are prone to conflict. Though Khyber Pakhtunkhwa is ranked third population-wise, it has the second highest number of emigrants—more than half of Punjab. Based on history, one may say that a series of wars in the border regions has brought about a climate of uncertainty for natives. This is especially true for Khyber Pakhtunkhwa, which borders Afghanistan and is paying a heavy price in terms of loss of assets and employment during the Soviet- and US-led wars in the region.

Saudi Arabia, the UAE, and the United States remain the top origins of remittances, accounting for 20% or more of the total (Table 4C.6). Other sources of remittances are the Middle Eastern countries (14%) and the European Union (3%). Pakistani migrant workers have also found newer destinations, such as Ireland and Scandinavia.

Table 4C.7 exhibits the negative impact of the crisis on Pakistani migrant workers. The sharp falls in the numbers is visible after 2008 except for semiskilled workers. The largest decline is seen for the highly skilled followed by the highly qualified. It is understandable to see the demand for skilled and relatively better-educated workers decline, as they cost more to firms in host countries having financial problems during the global economic slowdown. There are two reasons for the surprising increase in the emigration of semiskilled workers: (i) the traditional destination for Pakistan's semiskilled workers has been the Middle Eastern which, apart from Dubai, managed to stay afloat during the financial crisis; and (ii) workers from India started to look for greener pastures as the Indian currency appreciated such that the differential between the foreign-currency salary and the domestic-currency earnings declined. A substantial number of Indian nationals were reported applying for European jobs after 2007–2008. Accordingly, a rising number of vacancies in the Middle-East in 2009 were being filled by Pakistanis.

3. Previous Research on Remittances to Pakistan

The literature on remittances to Pakistan includes work on estimating the determinants of remittances and linking remittances to poverty reduction. Nishat and Bilgrami (1993) show that the remittances to Pakistan significantly depend on such variables as commitment to support for the family, education, income, skills, and living with or without family. The authors show that a migrant's income is the most important factor for an individual's decision on remittances. If the migrant's income increases by 10.0%, the remittances will increase by 3.6%. The data used in this study come from a survey of workers registered with the Overseas Pakistani Foundation. Out of a total of 35,000 registered workers returning in 1990–1991 from the Gulf region, a sample of 7,061 was randomly selected. Even before this study, Pasha and Altaf (1987) found that the phenomenon of returning home after spending a lifetime abroad may be a deliberately planned move about one's future, prompting migrant workers to remit more. Migrants as part of their plans may invest in land and related assets.

Suleri and Savage (2006) discuss how Pakistani households with migrants abroad are less vulnerable due to better investment opportunities and assets such as housing. In the wake of the 2005 earthquake, international remittances helped households to be resilient and also facilitated the recovery process. In the 2005–2006 earthquake and its aftermath, official remittances from abroad increased 10% in comparison with the previous year. The authors argue that the mode of remittance transfer also plays an important role in the overall socioeconomic impact (see also Gazdar 2003). There has been an increase in the amount of money sent through the formal financial institutions due to stringent regulations against money laundering. The money sent through informal (*hundi* or informal money changers) channels previously had the advantage of speedy and low-cost transactions and the system helped people who were illiterate. But informal means are risky and now take longer to reach the recipients due to tighter regulations.

The informal "by hand" channel remains speedy but faces host-country-specific regulations regarding the amount that can be carried. With increased domestic banking sector sophistication, the financial institutions in Pakistan have been able to beat high transaction costs (e.g., documentation requirements). The government has been urging migrant workers to send their remittances through formal channels. To this end, Amjad (1989) pointed out that the relevant financial institutions should improve convenience, flexibility, safety, and profitability. In this context, the government expanded the country's banking network, including opening bank branches in countries hosting substantial numbers of Pakistanis.

As part of the liberalization of foreign exchange transactions, migrant workers are now allowed to maintain foreign currency accounts and the free inflow and outflow of foreign currency is permitted. Moreover, a floating exchange rate policy has reduced the gap between official and market exchange rates (Azam 2005). Exemptions from custom duties are also allowed for migrant workers who send remittances through formal channels. Further, the government has introduced foreign exchange bearer certificates and foreign exchange currency certificates that provide high returns over the longer run to attract more investments from migrants.

There are three main methods used by workers to complete the process of emigration: through agents, through relatives in the destination country, or by personal application for a tourist visa. The poor borrow at high interest rates to meet the processing costs. For this group of migrant workers, using professional agents is the favored method. The procedure for remitting income from abroad also entails a choice of channels. The costs are often very high, particularly in countries where there are only a few Pakistanis as there are no economies of scale for formal channels to be viable. The costs of remitting $200 to Pakistan are the highest in East Asia, followed by the UK and the United States.[5]

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5 See http://remittanceprices.worldbank.org.These figures do not reflect the overall remittances market and are also not weighted by market share.

The optimal use of remittances in Pakistan has also been debated. It is widely known that the majority of these transfers are devoted to consumption expenditures. Ranked according to their final use, these expenditures are food, debt repayment, construction or renovation of houses, weddings and dowries for children, purchase of real estate, starting a business, and performing the religious act of the *Hajj* involving travel to Mecca in Saudi Arabia.

Kalim and Shahbaz (2008) look into the remittance-poverty nexus in Pakistan in 1973–2006. Results suggest that poverty is negatively associated with remittances, GDP per capita, and urbanization. Ahmad et al. (2008) show that migration from Pakistan is positively related to inflation and unemployment rate in the country. Arif and Irfan (1997) examine the occupational choices of migrants returning from abroad and find a preference for pursuing their own business ventures or activities related to farming.

Ahmed et al. (2010) find that the education level of the household head, employment in urban areas, region, and households with migrant workers abroad are negatively associated with poverty. The probability of being poor declines by 12.7% if a household receives overseas remittances. The probability of migrating abroad is negatively associated with households having primary and university education. However, the negative coefficient for households with primary education needs to be probed further in the context of the theoretical notion that high-growth economies prefer skilled migrants. Highly skilled workers are also regarded as more internationally mobile while unskilled workers are concentrated in fewer countries abroad (see Giodani and Ruta 2008 for a detailed exposition).

The individuals having graduate and postgraduate qualifications eventually find their way in the domestic labor markets despite seasonal downturns. These individuals participate in the labor market at a lower reservation wage in times of prolonged unemployment. Alternatively, it is likely that once an individual achieves higher levels of education (university level in particular), the desire to move to greener pastures abroad decreases significantly.

As the earning potential of a household increases, the probability of a household member moving out of the country to get a job decreases. A greater number of earners in a household reduces the problem of having to smooth overall household consumption over the longer term. Consumption smoothing is often the main motivation for a family member to migrate to other country despite the sacrifice of leaving the family behind. The geographical location of a household also explains the propensity for moving abroad. If a household is in the vicinity of relatively developed labor markets, then there are opportunities that lessen the need to migrate. This was observed in the negative and significant coefficient for two variables representing regional characteristics: (i) if the household resides in an urban region and (ii) if the household lives in Punjab or Sindh province, which have relatively developed goods and factor markets.

The mean income of remittance-recipient households is 17.3% higher than households with no remittances from abroad. Moreover, the mean income of remittance-recipient households is 10.2% higher even if the remittance income is excluded from the overall income of the households. The initial investment required to finance the "going abroad" process implies that households need to have a basic level of accumulated savings or wealth to meet the costs of emigrating.

It is interesting to note that for the recipients of remittances, the mean expenditure shares decline for food, clothing, transport, household operations, and tobacco. However, there is an increase in the expenditure shares for durable goods, education, health care, and housing. This is to be expected and is in accord with the famous Engel's Law. Clearly, the shift in expenditure categories reflects an improvement in the household's standard of living.

Finally, there is a 7.8% decline in poverty incidence for households receiving income transfers from abroad. This substantial reduction in poverty level signifies the importance of the poverty-reducing effect of remittances in Pakistan, as has also been observed in other countries (e.g. Bangladesh, Indonesia, and the Philippines). Similarly, the poverty gap declines by 11.5% and severity by 14.9%. Moreover, income inequality is lower among households receiving remittances compared with households having no migrant workers abroad. There is a 4.8% reduction in the Gini coefficient if households move from the without-remittance to the with-remittance category.

4. Pakistan's Rising Remittances: Initiatives and Response to Crisis

During the 1950s and 1960s, employment of Pakistanis in the UK and the Gulf region was unrecorded. The oil boom of the 1970s saw a rise in demand for engineers and construction-related workers in the Gulf countries. At that time, South and East Asia were in a position to supply cheap labor given the rapid population growth and low school enrollment rates in the region. By 1971 the export of manpower from Pakistan started on a planned basis (Mughal 2004). The Bureau of Emigration and Overseas Employment (BEOE) was set up and began to function under the Emigration Act of 1922, which was subsequently replaced by the Emigration Ordinance of 1979. BEOE regulates, facilitates, and monitors the emigration process conducted by overseas employment promoters, in addition to direct employment recruitment where the individual obtains employment in another country through his/her own efforts.

BEOE usually checks on the commission charges of recruitment agents, fees for skills test, medical charges, and related documents required by foreign employers. Usually the accountability of private recruiting agents is not easy to check and recruiting agents charge migrants at least 8–10 times more than the officially prescribed fees (Azam 1998 and 1995). In more recent years, though, the incidence of such overcharging has come down.

While migration of skilled workers out of Pakistan kept growing until the early 1990s, after 1995 overseas employment of Pakistanis started to decline owing to the lower quality of manpower, a primary result of the neglect of vocational and technical training institutes. Employers in the Gulf countries, in particular, complained about the lack of basic qualifications and work experience, driving prospective employers to look for workers from other countries, such as Bangladesh and India. This triggered the search for untapped markets for Pakistani manpower in France, Germany, Greece, Italy, Japan, and others (Mughal 2004). The period immediately after the 9/11 incident also proved to be particularly difficult for aspiring migrants, as several countries, including Bahrain, Kuwait, Qatar, and the UAE, imposed a ban on visas. Several western countries, such as the United States and various European Union countries, likewise introduced measures restricting the inflow of foreign workers.

The government's migration policy has two broad objectives: (i) lowering recruitment and settling-down costs; and (ii) enhancing migration benefits (enforcing minimum standards, social security coverage, protection and welfare of migrants, and making use of return migrants). However, migration policy in Pakistan has for the most part been independent of poverty-reduction or related development objectives (Azam 2005).

A contribution to a "welfare fund" is also enforced on all registered migrants to be used as insurance against any untoward events faced by Pakistani workers abroad. In the host countries, community welfare attachés in the Pakistani embassies also help migrants resolve disputes with employers—a service of crucial importance to less-educated migrants who may be unaware of their legal rights.

The Overseas Pakistanis' Foundation (OPF), set up in 1979 and financed through the migrants' own contributions, provides advice and guidance to the migrant's dependents about coping strategies in the event of a migrant's death or disability. According to the 2005 data, OPF has helped around 3,000 families in obtaining death compensation amounting to almost PRs1.0 billion from the foreign employers. The purview of OPF has expanded and the foundation now provides services such as investment advice to returning workers, helping potential investors in the completion of formalities, providing loans to the dependents of deceased workers, and developing housing associations for migrants.

In the recent past, the government has taken the following specific steps to further facilitate the remittance of incomes from abroad. Some of these steps were formulated in response to the effects of the global financial crisis. For Pakistani workers abroad who face work-related difficulties, disability, or death, lump-sum financial assistance is provided in the amount of PRs100,000 (currently under review).

OPF, realizing the postretirement needs of workers abroad, is developing housing programs in different cities. To date, 10,000 residential units created under these schemes have been allocated to overseas Pakistanis.

The government has taken steps to advance the social welfare of overseas Pakistanis through the establishment of a complaint cell, a services and welfare section, and most importantly, the recently established emergency relief cell.

The existing Foreign Exchange Remittance Card Scheme, launched by the Ministry of Finance to encourage remittances through official banking channels, has now been expanded. The holders of this card are also provided preferential logistics facilities on their return.

To encourage investment by overseas Pakistanis, the government is taking steps to increase the investment opportunities available to returning migrants. The investment advisory cell has been established for this purpose. The services of this cell relate to basic information on procedures to start a business, investment policies, feasibility studies, information on related businesses, and provision of small loans.

The government has embarked on a new initiative for protecting the interest of overseas Pakistanis by supporting their children's education. OPF has its own schools and colleges in Islamabad and all provinces of the country, all of which are affiliated with the federal or provincial boards of education and the University of London. Due attention is given to the extracurricular activities of students in these institutions. In addition, scholarships for deserving children from elementary school to the postgraduate level have been reserved for overseas Pakistanis.

To reduce the transaction costs of remitting, the central bank has initiated the Pakistan Remittance Initiative, where the marketing expenses of overseas financial entities that mobilize large amounts of remittances will be reimbursed. This initiative will reduce the overall costs of remitting by migrant workers abroad (Figure 4.3.1).

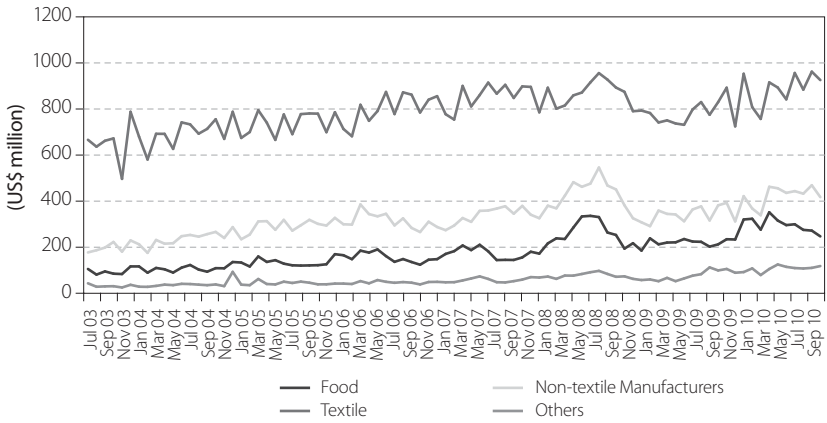
Going forward, the objectives of the government's migration policy include (i) maximizing the export of manpower, (ii) safeguarding and protecting the interests of workers abroad, (iii) simplifying procedures, (iv) strengthening welfare programs for emigrants, (v) coordinating with missions abroad regarding the medium-term economic projections of countries interested in Pakistani manpower, (vi) holding fairs to attract foreign employers, (vii) sending delegations to yet-untapped regions, and (viii) opening labor attaché offices in countries with potential Pakistani employment.

Mughal (2004), while providing recommendations for optimizing migration for Pakistan, explains the need for (i) facilitating basic understanding of the language, culture, legal, social, and political setup of countries where Pakistani migrants go; (ii) reducing the costs of migration; (iii) undertaking global market analysis and training workers in skills increasingly in demand; (iv) carrying out publicity efforts in foreign countries to ensure stable markets for Pakistani manpower; and (v) highlighting investment opportunities for returning migrants and those wishing to enter into joint ventures.

5. Impact of Global Financial Crisis on Pakistani Exports

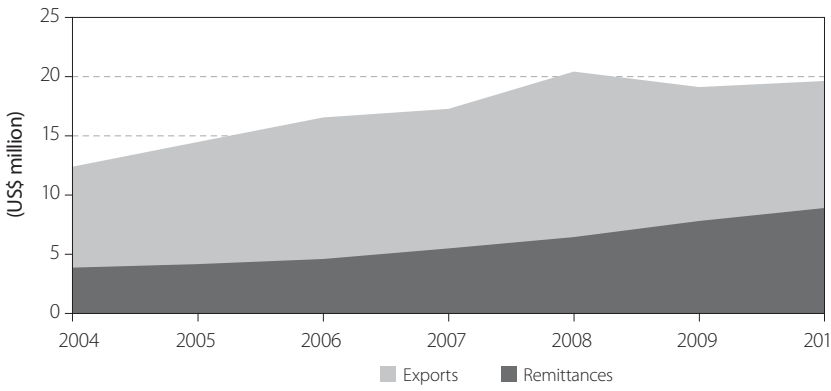
It is believed that Pakistan's trade sector largely remained insulated from the effects of the current global financial crisis. This is attributable to its narrow and inelastic export base that is mainly made up of cotton and textiles. Figure 4C.2 indicates that the major decline in monthly export receipts set in after July 2008 and lasted until May 2009. In annual terms, between 2007 and 2008 overall exports grew 18.2%, and from 2008 to 2009 exports declined 6.4%. However, they recovered quickly in 2010, posting an increase of 2.7%[6] (Figure 4C.3).

Figure 4C.2: Patterns of Monthly Exports to Pakistan, 2004–2010



Source: State Bank of Pakistan.

Figure 4C.3: Pakistan's Annual Exports and Remittances, 2004–2010

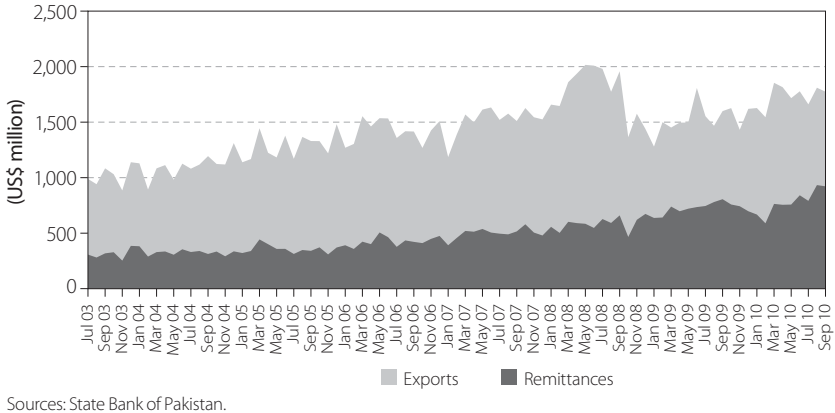


Sources: State Bank of Pakistan.

6 This is a provisional estimate for 2010.

Remittances from abroad, however, showed robust growth during the period that exports seemed vulnerable to the exogenous shock of the global financial crisis. While the monthly data show some dip in remittances between August and October 2008 (Figure 4C.4), annual data indicate that between 2007 and 2008 remittances increased 17.4%. From 2008 to 2009, remittances further increased 21.1%, and in 2010 growth was (provisionally) around 14%.

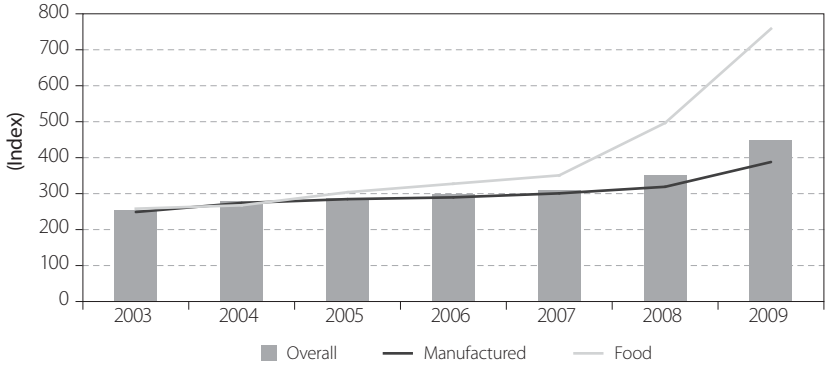
Figure 4C.4: Pakistan's Monthly Remittances and Exports, 2004–2010



Sources: State Bank of Pakistan.

It is also noteworthy to see how the prices of Pakistani exports were behaving during the financial crisis. One can observe a steady rise in unit value index of exports (Figure 4C.5) between 2003 and 2007 and a sudden jump thereafter, particularly for the food basket. This coincided with the commodity price boom explained above. So it can be inferred that during the crisis Pakistani exporters gained in value terms from their goods sold in global markets.

Figure 4C.5: Unit Value Index of Exports



Sources: State Bank of Pakistan.

6. Quantifying the Impact of Remittances

a. Macro and meso level effects

The CGE model used in this paper follows the framework in Cororaton and Orden (2007). Firms are assumed to operate in a perfectly competitive environment, and in each industry firms maximize profits subject to the underlying technology. A nested production structure is specified where the elasticity of substitution is greater at lower levels of the hierarchy. The sector output (at the top of the nest) combines value-added and total intermediate consumption in fixed shares. At the second stage, using a Cobb–Douglas production function, the value added by each industry embodies composite labor and capital. These two factors of production are employed until the point where the value of their marginal product is equal to the price. At the bottom, composite labor and capital are constant elasticity of substitution combinations of different categories of labor and capital. The demand for each type of factor results from cost minimization. It is assumed that intermediate inputs are perfectly complementary and are combined following a Leontief production function.

Household incomes are a combination of returns to labor and capital and transfers. Total labor and capital income is distributed in fixed proportions between all economic agents. Disposable income of the household is obtained after subtracting direct taxes and transfers. Household savings are a linear function of disposable income. Enterprise income consists of its share of capital income and transfers received from other agents. After subtracting corporate taxes, the disposable income of each type of enterprise is obtained. Enterprise savings are the residual after subtracting transfers to other agents from disposable income.

Government income is derived in the form of direct tax receipts from households and enterprises, indirect taxes on production and consumption, and taxes on international trade. Income taxes in the model are a linear function of total income. Taxes on factors of production are distinguished according to the tax rates levied on different industries. The current government budget balance is the difference between revenues and expenditures. The rest of the world receives payments for the value of imports, some portion of income from capital, and transfers from domestic agents. Foreign spending in turn is represented by the value of exports and transfers to domestic agents. The difference between foreign receipts and spending is foreign savings.

On the demand side, it is assumed that households have Stone–Geary utility functions specified as a linear expenditure system. This offers a degree of flexibility with respect to substitution possibilities in response to relative price changes. Investment demand is the sum of gross fixed capital formation and changes in stock. Total investment expenditure is distributed among commodities in fixed shares. Margin rates are applied to the value of domestic production and imports to generate the quantities of transport, retail, and wholesale trade (margin services[7]).

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7 Services required to distribute commodities to buyers.

On the international trade front, the small country hypothesis is adopted (i.e., the world price of traded goods is exogenous). The imperfect substitutability on the export side is specified using constant elasticity of transformation. The commodities supplied to the domestic market may also be a combination of locally produced and imported goods, and this imperfect substitutability is captured by constant elasticity of substitution.

The unit cost of an industry's output is a weighted sum of the prices of value added and aggregate intermediate consumption. The price of the latter is a combination of the commodity prices of the industry's intermediate inputs. The price of value added is a combination of the prices of composite labor and composite capital. A similar treatment is retained for the prices of composite factors.

In the agriculture sector, capital and land are assumed to be fixed, while in nonagriculture sectors only capital is fixed. Unskilled nonfarm labor is fully mobile between sectors, whereas unskilled farm labor is only used in agriculture and skilled labor only in nonagriculture sectors, where they are also assumed to be fully mobile. Supply of land is fixed and sector-specific. Total investment is fixed and equal to total savings, which are made up of household, corporate, foreign, and government savings. Real government expenditure is held fixed and public deficit is flexible. The nominal exchange rate is kept flexible, which implies that foreign savings, which are fixed in nominal terms, are flexible in domestic currency terms. Thus the external account is cleared by the nominal exchange rate.

The 2002 social accounting matrix for our CGE model has been derived from Dorosh et al. (2004). On the activities side, the matrix includes payments and receipts for 34 sectors of the economy including 12 agricultural, 16 industrial, and 6 service sectors. Similar sectoral detail follows in the commodity accounts. Factor accounts include labor, land, and capital, with labor disaggregated into 10 different categories. This disaggregation is based on the criteria of farm size, agriculture and nonagriculture wage, and unskilled and skilled labor. Land is disaggregated again according to farm size in different provinces. Capital is categorized as livestock, other agricultural, informal capital, and formal capital. The household accounts are distributed into rural and urban, with rural households being further classified into 17 categories based on farm size, rural poor and rural nonpoor. Urban households are classified into poor and nonpoor. Other institutions in the social accounting matrix include enterprises, government, and the rest of the world.

The social accounting matrix data indicate that 6% of overall household incomes are derived from land, 39% from labor activity, 9% from agricultural capital, 21% from informal capital, 6% from transfers, and 19% from other activities. A further disaggregation of labor income reveals that the agricultural labor force contributes around 2% while the rest, 37%, come from nonagricultural labor. The annual per capita income for 2002 was PRs23,900 ($389), with rural at PRs15,000 ($244) and urban at PRs46,200 ($752). On the production side, around 23% of value addition is

contributed by the agriculture sector, 20% by industry, and 57% by the services sector. The agriculture sector contributes 4% to total exports, with industry's share at 79% and services at 18%. Imports are dominated by industrial goods, whose share in overall imports is around 92%, followed by 5% for the services sector and 3% for agriculture.

The data indicate an increase in remittances of around 30% between 2008 and 2010. We have simulated the same magnitude using the CGE model in order to see the macro–micro impacts. An increase in remittances leads to a rise in real investment and private consumption (Table 4C.8). Due to a favorable exchange rate effect, we can observe imports picking up, which in turn raises government revenue from customs duties. By contrast, exports become uncompetitive, with textile exports falling by around 4%. While the returns to capital increase, wages for farm labor and skilled workers decline and earnings of unskilled workers remain unchanged.

The impact on consumer prices is mixed (Table 4C.9). In the agriculture sector there is a decline in prices in most cases, given the increased quantum of imports. There are, however, exceptions, such as livestock and sugarcane, whose prices increase. In industry, one can observe an increase in the prices of construction, cement, and housing. These generally are the sectors that experience increases in demand on account of the rise in foreign inflows. The prices of public and private services decline.

During the financial crisis the usual transmission mechanism was mostly the decline in exports. Between 2008 and 2009, Pakistan's exports faced a 6.4% decline (as shown by actual data). We try to simulate this change using the CGE model to see its economy-wide impact (Table 4C.10).

We note a decline in real investment, but one can observe the domestic sector gaining momentum as enterprise and government incomes increase. For the latter there is some decrease in direct tax revenues. Wages decline for farm labor and skilled workers. Given that the bulk of Pakistan's exports comprises cotton-based textiles, a decline in overseas demand leads to a fall in returns to factors being used extensively in producing these export goods. Likewise, the returns to land decline by almost 3.0%.[8]

b. Welfare analysis

Following Alatas and Bourguignon (2000), we estimate wage income as a function of the personal characteristics of earning members of the household, thus allowing for heterogeneity of earnings within wage groups. We retain the same wage grouping as explained above in the CGE model. The heterogeneity may be due to differences in factors such as educational profile, area of residence, and experience (for mathematical details, see Ahmed et al. 2010).

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8 A more complex specification of the labor market in the CGE model is required to model migration, which was more important in post-2007. The CGE model used currently is a standard trade-focused framework.

The self-employment income of households is estimated as a function of household members associated with the economic activity as well as household characteristics such as region, type of experience, size of land owned, and schooling of household heads. Using an accounting identity, we sum the wage income of household members, earnings of members involved in self-employment, and the nonlabor income of households, which in Pakistan's case may include remittances, *zakat,*[9] and miscellaneous items. Any direct taxes paid by the household are deducted, and household income is then deflated by a specific consumer price index to arrive at total household disposable real income.[10]

The occupational choice available to an individual is then determined in a discrete fashion using a multilogit model. The value for inactivity is set to zero and the values for wage or self-employment are functions of household characteristics. For instance, an individual will choose self-employment if the value associated with this choice is greater than that of other alternatives.

Total expenditure is obtained by subtracting household savings from total nominal income, and when multiplied by the observed budget shares gives the monetary value of commodity-specific consumption. For the calculation of caloric intake it is essential to divide the value of consumption of food items by their corresponding unit consumer prices to get the quantity of each item.[11] Finally, we divide these total quantities by the number of households to get the per capita quantity consumed of each food item.

In line with the benchmark social accounting matrix, the main data source for the microsimulation model is the Pakistan Household Income and Expenditure Survey 2002. A total of 16,400 households were interviewed for this survey, with the sample households drawn from 1,150 primary sampling units, of which 500 are urban and 650 rural.[12] The national average household size is 6.9 members, 7.0 members for rural and 6.9 for urban. By province, household size is largest in Baluchistan (7.4) and smallest in Punjab (6.5). The average number of earners per household is 2.1, with 1.9 in urban areas and 2.2 in rural. By employment status, 41.1% are paid employees, 26.8% self-employed, 1.0% employers, 28.3% unpaid helpers,[13] and 3.0% economically inactive.

The average monthly income as of 2002 was PRs7,168 per month, with quintile 1.0 earning PRs4,391 and quintile 5.0 earning 11,360. Incomes falling under self-employment account for 41.3% while wages and salaries make up 33.5% of the total.

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9 An obligatory contribution that every wealthy Muslim is required to pay to the state or to distribute among the poor.

10 The price index is calculated as the sum of all budget shares multiplied by the price of goods.

11 Alatas and Boruguignon (2000) did not focus on the nutritional aspects.

12 After some data cleaning we randomly selected a sample of 15,000 households for the microsimulation exercises.

13 An unpaid family helper is a member of the family who works for the family enterprise without being paid in monetary terms. Although they are not paid, their efforts result in an increase in the household income; therefore they are considered employed persons.

The average monthly consumption expenditure per household was PRs6,714, with urban households spending PRs8,997 and rural PRs5,766. The consumption share is highest for food (48.3%), followed by housing (13.2%); fuel (7.9%); apparel, textiles, and footwear (6.6%); transport and communication (3.9%); and education (3.6%). Among the major food items, the monthly expenditure is highest for milk (16%) followed by wheat (15.8%), vegetables (7.5%), and sugar (6.7%).

Before moving on to our microsimulation results, it is instructive to see who actually migrates. The official statistics from the 2006 Household Income and Expenditure Survey indicate that 22.3% of the population live below the poverty line (Table 4C.11). A larger proportion (27%) of poor people lives in rural areas. The mean per capita monthly household consumption is PRs10,693, of which the mean per capita transfer is PRs304. The share of food consumption in the overall budget stands at 35% for urban households and 50% for rural.

The contribution of migrants to poor and nonpoor households is shown in Table 4C.12. The monthly per capita income of the poor is around PRs500, with 50% spent on food consumption, and the share of remittances in household income is 8.2%. While household data do not show the occupation of overseas Pakistanis, it is understood that migrants from poor households usually go to the Middle East using private recruiting agencies that hire unskilled labor in bulk. They are employed in construction and building maintenance activities. As regards the nonpoor, their mean monthly per capita household income is PRs10,221, with 49% of overall expenditure spent on food consumption. Remittances make up 4.2% of the income of the urban nonpoor and 5.4% of the rural nonpoor.

In Table 4C.13 households are grouped into three clusters according to their income levels, where the middle cluster represents the country's middle class. One can readily notice the gap between the rich and poor (i.e., clusters 1 and 3), where mean per capita income of the poor is PRs1,591 versus PRs20,534 of the rich. This clustering indicates that middle-class households exhaust practically 50% of total expenditure on food alone, and little remains for other household requirements. The share for durable goods, which represents a household's ability to afford amenities of life, is only around 2%. Similarly, the expenditure shares for education are 2.4% and for health, 5.2%. Meanwhile, the share of remittances in total household income is highest for cluster 3 at a little over 8.0% and lowest for the middle class at 2.8%.

In Table 4C.14 clustering is done on the basis of the share of food in total expenditure. Only in this case do we see the income levels slightly more equitable. The middle class earns PRs4,025 per person per month, with the share of food consumption at 51%. The shares of durable goods, education, and health expenditures are roughly the same, as seen in the previous clustering using household incomes. Here, the share of remittances in household incomes is greatest for cluster 3 followed by cluster 2, implying that the middle and rich classes participate more in the migration process. These results seem more plausible as these two classes are in a better position to afford the high costs associated with overseas migration.

In Table 4C.15 we use a comprehensive set of criteria for determining the middle class. Here, a family that owns a house and whose head has a stable job, possesses higher education, and is financially secure is considered to belong to the middle class. In this case, the mean monthly per capita income of the middle class is greater compared with the earlier clustering. The share of food consumption is higher at 52% and the share of remittances in overall household income is 1.3%. This is similar to the previous case where clustering was based on food consumption. It seems that the middle-class household finds it easier to participate in the domestic labor market due to its educational level and financially secure condition. The middle class contributes substantially to the country's growing service sector, accounting for 53% of GDP. In contrast, the transition of the poor from agriculture to the more advanced sectors is difficult, especially with the barriers to entry in urban labor markets. They are therefore willing to offer their low-level skills at higher wages in overseas labor markets.

In Table 4C.16, we present our CGE results on the impact on household consumption from a 30% increase in remittances (which occurred during 2008 and 2010). While all households gain in consumption terms, a clear redistribution can be observed in a rural and urban divide. On the rural side, small farmers and landless workers gain the most. On the urban side, the increase in consumption of poor people is around 1.6% while for urban nonpoor it is about1.0%.

Table 4C.17 shows that the poverty headcount ratio decreases by 1.7% and even bigger declines are seen in the poverty gap and severity measures..

7. Conclusion

This paper looks into the trends and patterns of migration from and remittances to Pakistan during the global financial crisis. While migration from Pakistan decreased, remittances increased to record levels. Using a linked CGE–microsimulation approach, we note that a 30% increase in remittances (as observed during 2008 and 2010) leads to a rise in investment, improvement in household consumption (particularly in poor households), foreign exchange appreciation, falling consumer prices, increased imported inputs for the industrial sector, and increased returns to capital. There is also a decline in poverty headcount ratio as well as improvements in poverty gap and severity. We may conclude that migration has a pro-poor effect and remittance flows appear to contribute toward wealth redistribution.

Pakistan has taken several measures in recent years to further increase the potential contribution of remittances to the country's socioeconomic development. For the returning migrants, self-employment and housing investment schemes have been expanded. For migrants who face physical losses abroad, a small-scale bailout package provides them with a lump-sum fund. Under the Pakistan Remittances Initiative, the central bank reimburses the marketing expenses of overseas agencies that mobilize large transfers to Pakistan. This initiative reduces the overall costs of remitting borne by Pakistani workers abroad. The schools for the children of overseas Pakistanis are being expanded and equipped with better facilities in line with international best practices.

Finally, an investment advisory program has been established to help migrants make wise investment decisions.

8. Tables

Table 4C.1. Pakistan: Macroeconomic Situation, 2001–2010

Indicators	2001	2005	2006	2007	2009	2010[a]
Real GDP growth (%)	2.0	9.0	5.8	6.8	1.2	4.1
Merchandise exports ($ billion)	9.2	14.4	16.4	17.1	18.9	19.6
Merchandise imports ($ billion)	10.7	20.6	28.6	26.6	31.4	30.5
Foreign direct investment ($billion)		1.5	3.5	5.1	3.7	2.2
Remittances ($ billion)		4.2	4.6	5.5	7.8	8.9
External debt and liabilities ($ billion)		34.0	35.9	39.0	50.7	52.7
Poverty headcount ratio	34.5	23.9	22.3		35.0	
Poverty related expenditure ($ billion)		5.3	6.3	7.0	3.8	
Exchange rate	58.4	59.4	59.9	60.6	78.5	83.6

$ = United States dollar, GDP = gross domestic product
[a] Provisional estimates. All values in United States dollars are in nominal terms.
Source: Economic Survey of Pakistan, State Bank of Pakistan Annual Report.

Table 4C.2: Historical Change in Prices and Wages, 2007–2009

% Change in Consumer Prices	
Milk	34.7
Meat	15.3
Fruits	19.6
Vegetables	18.6
Sugar	17.6
Beverages	42.5
Ready-made	10.0
Cereals	86.1
Oil	56.3
Tea	42.5
Baked	55.9
Misc	55.9
Fuel	72.7
% Change in Real Returns	
Skilled	–9.5
Unskilled farm labor	–2.2
Unskilled industry	–3.0
Unskilled services	–5.6
Self employment	–11.0

Source: Authors' calculation.

Table 4C.3: Impact of 3F Crises

Variables	Actual Change (%)
FGT(0)	39.6
FGT(1)	26.8
FGT(2)	19.4
Nutrition intake (overall)	–9.3
Urban	–9.6
Rural	–8.7

3F = food, fuel, and financial, FGT(0) = headcount ratio (proportion poor), FGT(1) = average normalized poverty gap, FGT(2) = average squared normalized poverty gap
Source: Authors' calculation.

Table 4C.4: Number of Pakistani Migrant Workers Abroad by Skill

Period	Highly Qualified	Highly Skilled	Skilled	Semiskilled	Unskilled	Total
1970s	12,616	25,032	237,669	16,986	315,790	608,093
1980s	13,471	54,705	444,715	27,761	461,245	1,001,897
1990s	19,314	95,949	630,529	34,252	491,983	1,272,027
2001–09	43,752	151,817	835,660	34,494	885,911	1,951,634
Total	89,153	327,503	2,148,573	113,493	2,154,929	4,833,651

Source: Bureau of Emigration and Overseas Employment.

Table 4C.5: Number of Pakistani Workers Abroad by Province, 2004–2009

	Emigrants	Share in Population (%)
Punjab	789,777[a]	54.71[b]
Sindh	114,528	22.01
Khyber Pakhtunkhwa	418,537	13.42
Balochistan	23,255	5.03
Others	180,977	2.70

Sources: [a] Bureau of Emigration and Overseas Employment; [b] Economic Survey 2008–2009.

Table 4C.6: Workers' Remittances by Country ($ million)

Item			1998[a]	2002	2003	2006	2007	2009	2010	% Share 2010
I.	Cash		1,238	2,341	4,191	4,588	5,491	7,811	8,821	100
	1.	United States	166	779	1,238	1,242	1,460	1,736	1,751	19.8
	2.	United Kingdom	99	152	274	439	430	606	853	9.7
	3.	Saudi Arabia	475	376	581	750	1,024	1,560	1,911	21.7
	4.	UAE	208	469	838	716	866	1,689	2,021	22.9
		Dubai	101	331	581	540	636	970	845	9.6
		Abu Dhabi	75	104	212	148	200	669	1,120	12.7
		Sharjah	29	34	43	27	29	48	55	0.6
		Other	3	0	2	1	2	1	2	0.0

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Table 4C.6. continuation

Item			1998[a]	2002	2003	2006	2007	2009	2010	% Share 2010
	5.	Other GCC countries	161	224	474	596	757	1,203	1,231	14.0
		Bahrain	34	40	71	101	136	153	151	1.7
		Kuwait	52	90	221	247	289	432	442	5.0
		Qatar	12	32	88	119	171	340	351	4.0
		Oman	62	63	94	130	162	278	287	3.3
	6.	Other EU countries	39	29	54	120	149	248	249	2.8
		Germany	17	13	27	59	77	101	80	0.9
		France	9	4	4	8	9	19	28	0.3
		Spain	0	0	1	3	8	30	39	0.4
		Italy	1	0	1	12	12	31	39	0.4
		Ireland	0	0	1	7	6	24	19	0.2
	7.	Norway	7	7	9	17	22	25	34	0.4
	8.	Switzerland	5	16	35	21	18	19	21	0.2
	9.	Australia	5	5	8	25	31	34	55	0.6
	10.	Canada	4	21	15	82	87	79	112	1.3
	11.	Japan	3	6	8	7	4	5	6	0.1
	12.	Other countries	66	256	658	573	642	609	577	6.5
II.	Encashment and profit of Foreign Exchange Bearer Certificates (Pakistan rupees)		252	48	46	12	3	0	1	8.4
TOTAL (I+II)			1,490	2,389	4,237	4,600	5,494	7,811	8,822	100.0

$ = United States dollar, EU = European Union, GCC = Gulf Cooperation Countries, UAE = United Arab Emirates
[a] Annual data represents fiscal year (June–July).
Source: State Bank of Pakistan, 2010 (provisional figures).

Table 4C.7: Impact of Global Economic Crisis on Pakistani Emigrants

Period	Highly Qualified	Highly Skilled	Skilled	Semiskilled	Unskilled	Total
2006	5,708	16,332	71,898	3,375	85,878	183,191
2007	8,178	20,975	110,938	3,243	143,699	287,033
2008	9,713	33,173	177,791	4,209	205,428	430,314
2009	4,633	2,537	99,428	6,547	132,602	245,747
2009/2008 % change	–52.3	–92.4)	–44.1	55.5	–35.5	–42.9

Source: Bureau of Emigration & Overseas Employment.

Table 4C.8: Impact on Macroeconomic Variables

Variables	% Change
Real investment	4.0
Private consumption	1.4
Government revenue	–0.2
Tariff	0.8
Direct tax	0.9
Indirect tax	–0.9

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Table 4C.8. continuation

Variables	% Change
Wages	
Farm labor	–1.9
Unskilled	0.0
Skilled	–1.7
Capital returns	0.9
Land returns	–1.6
Exports	
Wheat	–6.8
Rice	–3.4
Other major crops	–2.9
Cotton yarn	–1.5
Textile	–3.7
Chemicals	–2.1
Other manufacturing sector	–2.3
Leather	–9.0
Imports	
Wheat	6.5
Other major crops	4.8
Chemicals	1.7
Petroleum	1.4
Other manufacturing sector	2.8
Private services	6.9
Source: Authors' calculation.	

Table 4C.9: Impact on Consumer Prices

Commodity Groups	% Change
Wheat irrigated	–1.4
Wheat nonirrigated	–0.7
Paddy IRRI	–3.3
Paddy basmati	–2.8
Cotton	–3.6
Sugarcane	2.2
Other major crops	–2.0
Fruits and vegetables	–1.1
Livestock	1.7
Poultry	2.2
Forestry	–3.0
Fishing industry	–1.3
Mining	–3.1
Vegetable oil	–1.8
Wheat milling	–0.7
Rice milling IRRI	–1.9
Rice milling basmati	–1.4

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Table 4C.8. continuation

Commodity Groups	% Change
Sugar	0.7
Other food	–2.3
Cotton lint yarn	–3.0
Textiles	–2.0
Leather	0.6
Wood products	–1.9
Chemicals	–3.0
Cement bricks	7.0
Petroleum refining	–2.8
Other manufacturing	–2.9
Energy	–1.5
Construction	1.1
Commerce	–0.2
Transport	–0.7
Housing	5.2
Private services	–0.2
Public services	–1.5

IRRI = International Rice Research Institute
Source: Authors' calculation.

Table 4C.10: Macroeconomic Impact of Decline in Exports

Variables	% Change
Real investment	–1.5
Government consumption	4.0
Government income	3.5
Tariff revenue	13.5
Direct tax revenue	–1.0
Indirect tax revenue	5.3
Enterprise income	1.2
Wages	
Farm labor	–1.4
Unskilled workers	0.9
Skilled	–3.2
Capital return	1.2
Land Return	–2.9

Source: Authors' calculation.

Table 4C.11: Pakistan: Poverty Situation, 2006

	Urban	Rural	Total
Headcount ratio of poor people (%)	13.1	27.0	22.3
Poverty gap	2.1	5.0	4.0
Poverty severity	0.5	1.4	1.1
Gini Coefficient	0.35	0.24	0.30

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Table 4C.10. continuation

	Urban	Rural	Total
Monthly consumption per household (rupees)	13,997	8,945	10,693
Monthly transfers received per household (rupees)	161	380	304.24
Share of food consumption (%)	35.17	49.56	43.05
Literacy rate (%)	72	45	55
Source: Household Income and Expenditure Survey 2006.			

Table 4C.12: Pakistan: Poor and Nonpoor Segments, 2006

	Urban Poor	Rural Poor	Total
Monthly income per household (rupees)	500.6	498.1	498.8
Share of food consumption (%)	51.4	49	49.6
Share of remittances in Hhs income (%)	9.9	7.6	8.2
	Urban Nonpoor	**Rural Nonpoor**	**Total**
Monthly income per household (rupees)	13,509.1	7,668.9	10,221.5
Share of food consumption (%)	47	56	49
Share of remittances in Hhs income (%)	4.2	5.4	4.9
Hhs = Households Note: For these estimations we used a sample that excludes tribal areas. Source: Household Income and Expenditure Survey 2006, Authors' calculation.			

Table 4C.13: Clustering Based on per Capita Income, 2005–2006

	Cluster 1	Cluster 2	Cluster 3
Monthly income per household (rupees)	1,590.6	5,304.3	20,534
Share of food consumption (%)	76.3	50.6	44.9
Share of durable goods (%)	2.3	2.1	3.7
Share of education expenditure (%)	2.2	2.4	4.3
Share of health expenditure (%)	7.0	5.2	4.8
Share of remittances in Hhs income (%)	7.6	2.8	8.2
Source: Household Income and Expenditure Surveys 2005–2006, Authors' calculations.			

Table 4C.14: Clustering Based on per Capita Food Consumption, 2006

	Cluster 1	Cluster 2	Cluster 3
Monthly income per household (rupees)	2,837	4,025	9,967
Share of food consumption(%)	46	51	49
Share of durable goods (%)	2.3	2.4	3.4
Share of education expenditure (%)	2.4	3.1	4.7
Share of health expenditure (%)	6.8	5.1	3.9
Share of remittances in Hhs income (%)	0.82	1.14	1.81
Hhs = Households Source: Household Income and Expenditure Survey 2005–2006, Authors' calculation.			

Table 4C.15: Clustering Based on Comprehensive Middle Class Criteria, 2006

Monthly income per household (rupees)	5,613.8
Share of food consumption (%)	52.1
Share of durable goods (%)	2.8
Share of education expenditure (%)	3.4
Share of health expenditure (%)	5.6
Share of remittances in Hhs income (%)	1.3

Hhs = Households
Source: Household Income and Expenditure Survey 2005–2006, Authors' calculation.

Table 4C.16: Increase in Remittances: Change in Consumption, 2006 and 2010

Household Type	% Change
Large farmers—Sindh	0.6
Large farmers—Punjab	0.9
Large farmers—Other Pakistan	1.0
Medium farmers—Sindh	0.9
Medium farmers—Punjab	1.2
Medium farmers—Other Pakistan	0.9
Small farmers—Sindh	1.5
Small farmers—Punjab	1.4
Small farmers—Other Pakistan	1.7
Small farm renters—landless—Sindh	1.2
Small farm renters—landless—Punjab	1.4
Small farm renters—landless—Other Pakistan	1.4
Rural agricultural workers—landless—Sindh	2.0
Rural agricultural workers—landless—Punjab	1.7
Rural agricultural workers—landless—Other Pakistan	2.2
Rural nonfarm—nonpoor	1.8
Rural nonfarm—poor	2.0
Urban nonpoor	0.9
Urban poor	1.6

Source: Household Income and Expenditure Survey 2005–2006, Authors' calculation.

Table 4C.17: Increase in Remittances: Change in Poverty, 2006 and 2010

Poverty Indicators	% Change
FGT(0)	–1.7
FGT(1)	–2.9
FGT(2)	–2.3

FGT(0) = headcount ratio (proportion poor), FGT(1) = average normalized poverty gap, FGT(2) = average squared normalized poverty gap
Source: Household Income and Expenditure Survey 2005–2006, Authors' calculation.

D. Philippines

Alvin P. Ang and Guntur Sugiyarto

1. Introduction

The global financial crisis that began in the third quarter of 2008 appears to have abated somewhat in 2010. Global indicators suggest that the world economy may be heading for a recovery, albeit slow and uneven, raising hopes that the impact on migrant workers and their remittances would be relatively modest. Earlier, among the Philippines' countermeasures against the crisis (under the so-called Economic Resiliency Plan) was the protection of the most vulnerable sectors, including overseas workers. A contraction of remittance inflows that averaged upward of $10 billion (10% of GDP) over the last 10 years was feared to have negative consequences on the economy in general and on households in particular. However, contrary to expectations, the end of 2009 actually saw an increase in remittances of 6.0%.

The resiliency of remittances can be traced to a number of factors. First, the impact of the crisis across the more advanced host countries has been uneven. With Filipino workers in almost every country and territory (239 in all) in the world, there may have been compensating effects from the least affected countries. Second, the crisis was generally felt in sectors linked to business cycles such as construction, manufacturing, and financial services. But the Filipino diaspora's skills distribution varies widely, ranging from unskilled construction workers to high-precision engineering and computer managers. In addition, there is a large concentration of workers in health care and domestic services largely unaffected by the crisis. Third, the deployment of Filipino migrant workers actually increased during the crisis period over that of previous years. Anecdotal evidence suggests that the strong demand for Filipino workers can be partly explained by their adaptability to new environments and ability to communicate in English.

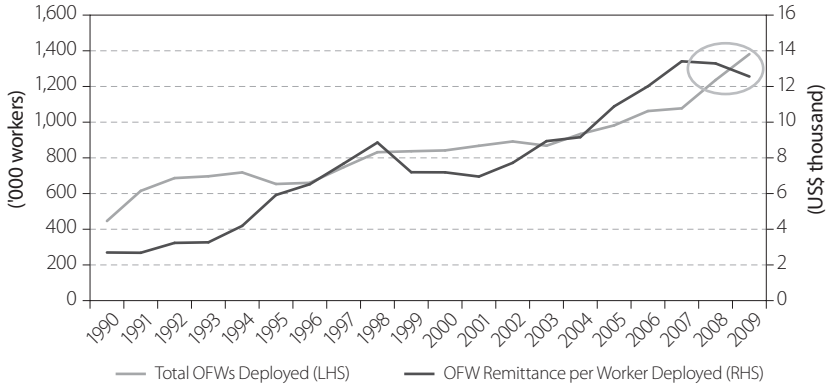
While labor migration and remittances, on the whole, emerged relatively unscathed by the global crisis, certain segments were hit nonetheless. This chapter aims to look into how the global economic crisis has affected Filipino migration and remittances in general and how such impact has been transmitted to household incomes and expenditures, employment, and poverty. It is hoped that a good understanding of the links between these elements and their implications would be valuable in informing policy.

2. Crisis and Demand for Migrant Workers

Recent literature on the crisis in relation to migration and remittances suggests that the impact differs from country to country, depending on the migration history and profile of the country of origin (Awad 2009, Goshi 2009, Riester 2009). Insofar as the Philippines is concerned, higher-than-expected deployment levels were recorded by the Philippine Overseas Employment Administration (POEA).[1] During the crisis period, 2009 saw an all-time high of 1.4 million deployed workers, an increase of 17% from 2008 and 27% from 2007. Likewise, remittance inflows rose 6.0% in 2009, albeit lower than the more than 10% growth in 2007.

According to Asis (2009), the government's intensification of deployment helped in raising both the number of workers and the amount of remittances. Still, this was not enough to sustain the growth in remittances per employed worker. As Figure 4D.1 shows, per-worker remittance actually fell from a peak of about $13,500 in 2007 to $12,500 in 2009.

Figure 4D.1: Total Overseas Filipino Workers Deployed (New Hires and Rehires) and Remittance per Deployed Worker



LHS = left-hand scale, OFW = overseas Filipino worker, RHS = right-hand scale
Source: Authors' estimate from data from Bangko Sentral ng Pilipinas and Philippine Overseas Employment Administration.

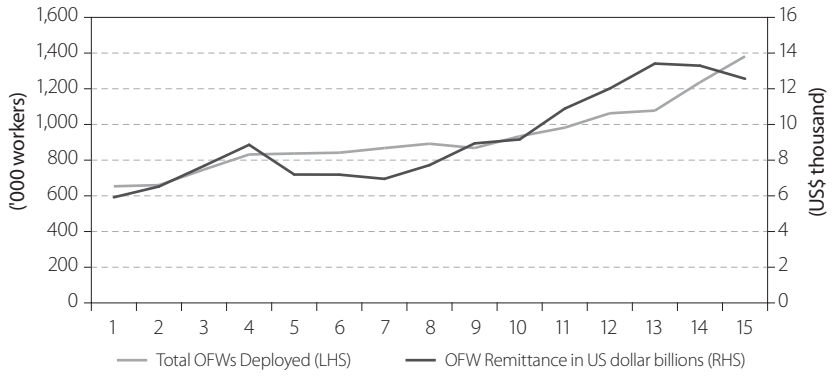
Intuitively, the increase in the number of workers has led to a larger denominator in the per-worker measurement and the slower growth of remittances has led to a smaller numerator. Probing deeper, this decline in per-worker remittance seems to support the view that while deployment had increased in 2008 and 2009, the newly deployed workers may not have been of the highly-skilled but more of the lower-skilled type of workers. Host countries that have gotten used to having domestic workers and other

[1] POEA is the government agency that records the annual deployment of workers and regulates the overseas recruitment industry.

low-skilled workers may have been unable to immediately end such arrangements. In fact, domestic help may have become more of a necessity as the crisis forced employers themselves to look for new employment.

Data from the 2009 round of the Survey of Overseas Filipinos (SOF) meanwhile reveal a decline in the amount of remittances (in peso value) sent as well as in the total number of overseas Filipino workers (OFWs[2]) sending money home (Figure 4D.2). It should be understood that the deployment data from the POEA represent mostly new hires and rehires of OFWs. On the other hand, data from SOF represent the stock of OFWs. The combined SOF and POEA data show that despite the increase in OFW deployment in 2009, there was nevertheless a decline in both the stock of OFWs and the total amount of money remitted. In per-worker terms, remittances sent actually declined 21% from $1,400 in 2008 to $1,120 in 2009, which was similar to the 2006 level. Further, this drop in remittances was much larger than during the Asian crisis, when the decline was only 2.0% in 1997 and 6.0% in 1998. Nevertheless, in terms of the stock of OFWs, the decrease during the Asian crises was much larger—14% in 1998 as against only 8.0% in 2009. Similarly, the drop in total remittances was also larger in 1998 than in 2009 (Table 4D.1). It can be inferred from the data that while total remittances have increased, the amount sent per worker has actually fallen, implying that the demand for Filipino workers has shifted from higher-skilled workers to lower-skilled and salaried workers.

Figure 4D.2: Total Remittances and Overseas Filipino Workers

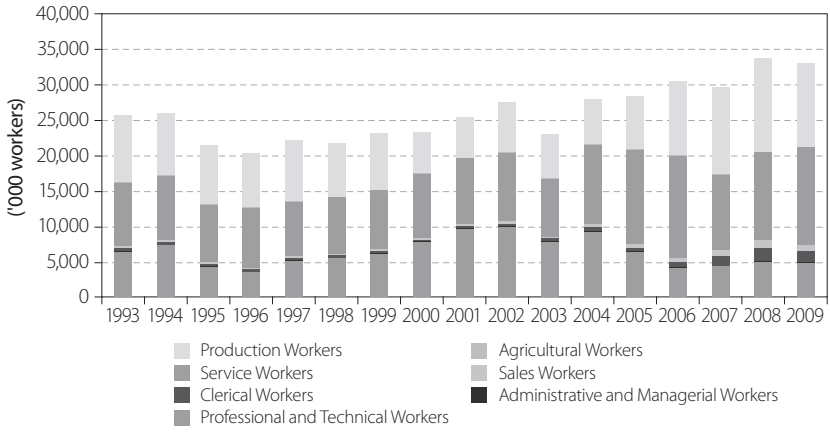


LHS = left-hand scale, OFW = overseas Filipino worker, RHS = right-hand scale
Source: Philippine National Statistics Office, Survey of Overseas Filipinos, various years.

A look at the POEA's latest more detailed deployment data confirms the observation that the demand for Filipino workers remained high in production and services. Likewise, the demand for professionals (largely nursing and other allied health workers) has been on the wane since 2004 (Figure 4D.3). Of the top 20 migrant jobs for Filipinos, only six

2 OFW is the term used to describe a short-contract migrant worker from the Philippines.

Figure 4D.3: New Overseas Filipino Worker Hires by Skills



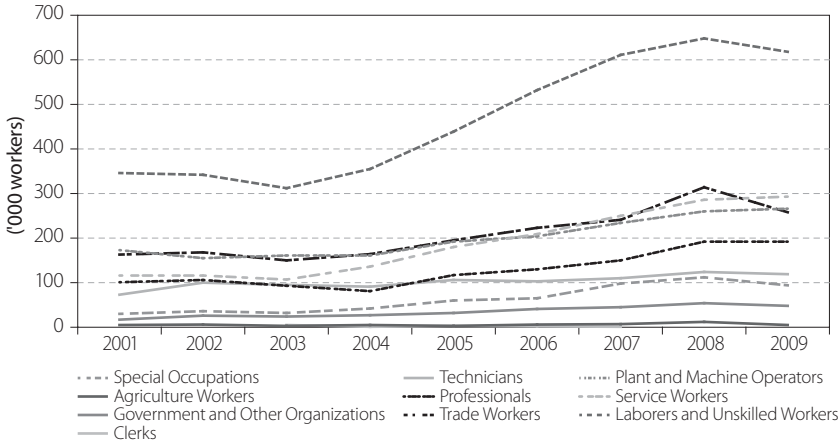
OFW = overseas Filipino worker
Source: Philippine Overseas Employment Administration.

posted increases in 2008–2009. These were therapists, clerks, housekeepers, wiremen, nurses, and domestic helpers. The increases in nurses and domestic helpers suggest that gender has played a key role in cushioning the impact of the crisis. For the Philippines, and probably for Bangladesh and Sri Lanka as well, the share of female migrants is larger than males owing to the sizeable share of domestic helpers in the overall demand and supply of migrant workers. Disaggregated data on new hires for 2007–2009 show that the male-dominated sectors were the ones particularly adversely affected by the crisis (Table 4D.2), as also observed by Awad (2009) and Goshi (2009). Thus, the declines in male job orders were compensated for by the increases in demand for female domestic helpers (up 45%), female housekeepers (63%), and female nurses (15%).

The data further confirm that the bulk of the new batch of workers during the crisis were lower-skilled and low-wage type of workers. This in turn shows that lower-salaried service and production workers were the ones who sustained the level of remittance flows. Most professionals are generally more flexible in finding other work opportunities and have the potential to become permanent residents, unlike production and domestic workers who have fixed contracts and are susceptible to business cycles and the needs of their employers. Production workers were particularly hit by the crisis since they are largely involved in export industries, construction projects, and leisure activities of the host countries. Domestic workers, on the other hand, are virtually shielded from the crisis, as most of their employers have become accustomed to a lifestyle with domestic help (OECD 2009) and their low wages are usually affordable even during a crisis. Moreover, domestic workers can be assigned tasks other than household chores.

Further, validation of the POEA 2009 deployment data with the SOF 2009 data shows that the total stock of OFWs declined 8.0% from a high of more than 2.0 million in 2008 to 1.9 million in 2009. The last time the SOF recorded a decrease in the stock of OFWs was in 2003, when it fell 7.0% from 2002. Significant declines were observed in the executive, clerical, trade, and laborer types of workers in 2009. Figure 4D.4 shows the breakdown of the stock of OFWs confirming that the bulk of migrants is made up of lower-skilled workers.

Figure 4D.4: Total Number of Overseas Filipino Workers by Worker Type



Source: Philippine National Statistics Office, Survey of Overseas Filipinos, various years.

Table 4D.3 shows that, indeed, the remittances from the growing stock of lower-skilled workers have not been enough to sustain the growth of total remittances. Their remittances have in fact fallen to their lowest level during the last 9 years. By contrast, remittances from professionals peaked in 2009. Hence, while there were fewer professional workers, they sent more in 2008 ($340 million) and 2009 ($345 million), posting an annual growth rate of 66% from 2007. This sudden spike seems to validate the observation that even savings were remitted, probably owing to uncertainties associated with the crisis. A similar reaction was apparent from the lower-wage workers, with total remittances rising 18% to $447 million in 2008. This appears consistent with the view that remittances tend to be countercyclical to periods of crisis or uncertainty (*Philippine Development Report 2009*). The report notes three possibilities regarding remittances during the global crisis: (i) some OFWs who lost their jobs did not come home but chose to find alternative work in the host country, and while job-hunting, they dipped into their savings and reduced their remittances; (ii) others came back home with their accumulated savings; and (iii) those who were not displaced were worried about the state of uncertainty and thus remitted most or all of their savings to Philippine banks, which they regarded as safer havens.

The Commission on Filipinos Overseas provides data on stock estimates of overseas Filipinos by type, whether they are permanent, temporary, or irregular. The latest data for 2008 show that the crisis probably contributed to a shift in the composition of migrants (Figure 4D.5). While the number of permanent emigrants had been steadily rising from 2007 to 2008, the number of temporary migrants also rose consistently but suddenly dropped in 2008.[3] At the same time, irregular migrants had been on a steady downtrend. The data further show that temporary migrants decreased in all major regions except in the Middle East. The largest declines were in Africa, East Asia, and Europe, with decreases of 22%–46%. By contrast, permanent emigrants increased in all regions, particularly in East Asia (15%) and the Middle East (12%).

Figure 4D.5: Stock Estimates of Overseas Filipinos

Source: Commission on Filipinos Overseas.

3. Cushioning the Impact on Migrants and Their Families

Government programs for the poor, such as conditional cash transfers, palay procurement, and expansion of health insurance coverage, have been implemented to supplement domestic income generation. Regarding OFWs, the government introduced a system to monitor drops in overseas labor demand. It also attempted to redeploy displaced workers to alternative markets such as Australia, Canada, Guam, and New Zealand, and actively searched for new labor markets. Meanwhile, OFWs who returned were given assistance through expanded livelihood and reintegration services for skills upgrading and retooling.

These policy pronouncements were eventually integrated into the government's Economic Resiliency Plan. The core of this plan was a combination of public–private investments in infrastructure and the front-loading of government expenditures.

[3] The Commission on Filipinos Overseas announced during the Philippine Statistical Association workshop on Migration and Remittance Statistics (16 September, 2010) that the 2008 stock estimates were adjusted downward due to possible overestimation in the past. Hence, caution is required in interpreting the time-series data.

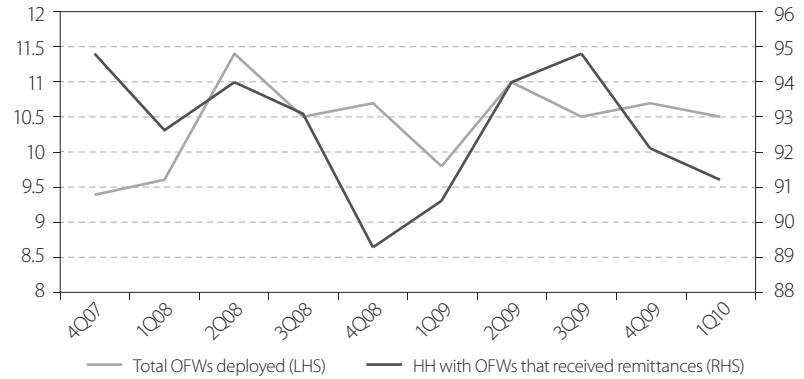
Among the plan's main objectives was the protection of the most vulnerable sectors, including OFWs and the export sector, by expanding social protection programs such as (i) the conditional cash transfers; (ii) the National Health Insurance Program; (iii) scholarship and training under the Technical Skills and Development Authority program for displaced workers; (iv) the Social Security System's reprieve of penalties and surcharges on loans of affected workers; (v) a standby fund for displaced seafarers and land-based OFWs established by the Department of Labor and Employment and the Overseas Workers Welfare Administration; (vi) front-loading of infrastructure spending to generate employment opportunities; and (vii) the Comprehensive Livelihood and Emergency Employment Program, an emergency livelihood program that is expected to generate 400,000 jobs for the poor, returning OFWs, workers in the export sector, and out-of-school-youths.

The National Economic and Development Authority in December 2009 reported a total of 6,931 displaced workers from October 2008 to July 2009, of which 4,495 returned home. More than 80% of the total displaced were in the United Arab Emirates (UAE) and Taipei,China, reflecting the impact on the manufacturing sector in the former and the construction sector in the latter. The National Reintegration Center for OFWs reported that it provided services to some of the 12,177 OFWs displaced by the crisis, mainly by way of loans equivalent to $1,000 to start-up businesses and $200 for entrepreneurship training. Others availed themselves of placement support, retraining programs, and legal assistance from different government agencies, which pooled their resources to provide safety nets to returned migrant workers. All told, it seems clear that the number of crisis-affected OFWs was small relative to the deployment in 2008 and 2009.

Among the studies conducted to assess the initial impacts of the crisis on workers and households is that by Reyes et al. (2010), which utilized the countrywide community-based monitoring system (CBMS) data for November 2008 to April 2009. This reveals that not everyone who returned home was retrenched due to the crisis. Of the total 3,499 households surveyed, about 450 households (13%) had temporary migrant workers, of which those from 200 households returned home. However, only 28 of these households had OFWs who returned home due to retrenchment. The retrenched workers were mostly from Italy, Qatar, Saudi Arabia, the United Kingdom, and the United States. This is quite different from the official data of government agencies showing that the bulk of the retrenched were from the UAE and Taipei,China. Similarly, CBMS data show that retrenched workers were from private households, health, manufacturing, and financial intermediation sectors, not from the manufacturing and construction sectors. Moreover, CBMS data reveal that workers in the service sectors were the largest group to experience wage reductions, while National Capital Region (NCR) had the highest proportion of households to sustain decreases in both the amount and frequency of remittances received (Table 4D.4). The larger and more established Family Income and Expenditure Survey (FIES) 2009 should, nonetheless, provide a more comprehensive and clearer picture of the impact of the crisis on migrant workers and their families.

A further source of information on the impact of the crisis is the quarterly consumer expectations survey of the Bangko Sentral ng Pilipinas (BSP). The survey tracks the expenditure pattern and the use of remittances by recipient households. For the period Q1 2007 to Q2 2010, households that have OFWs ranged from 8.2% to 11.4% of all households. Households with OFWs peaked in Q2 2008 at 11.4% but fell to below 10% in Q1 2009, inching to 10.4% in Q2 2010. Similarly, the share of households receiving remittances fell to 89.3% also during Q2 2008, when the number of households with OFWs peaked. This can probably be explained by Figure 4D.6, which shows that there is about a 2-quarter lag from the time the number of households with migrants is recorded to the receipt of remittances by the households. This trend suggests that a decline in the number of households with migrants leads to a drop in the number of households receiving remittances.

Figure 4D.6: Share of Households with Overseas Filipino Workers

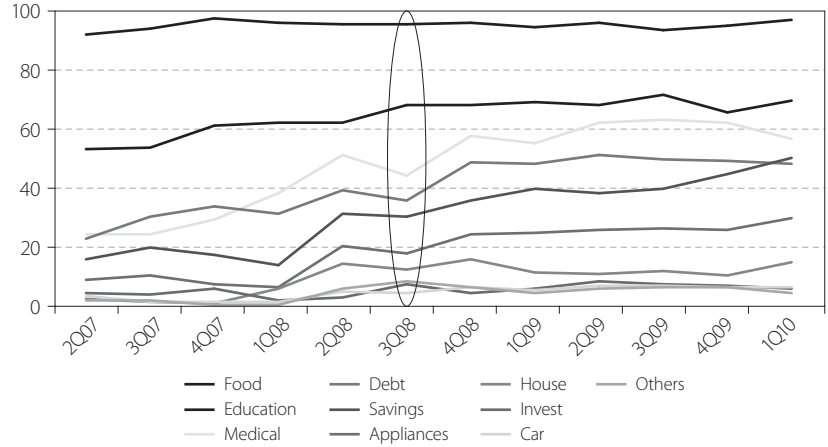


BSP = Bangko Sentral ng Pilipinas , HH = household, LHS = left-hand scale, OFW = overseas Filipino worker, RHS = right-hand scale
Source: Authors' estimate from BSP Consumer Expectations Survey, various quarters.

As regards the expenditure patterns of households with OFWs, it seems clear that households changed their spending in Q3 2008 at the onset of the crisis. Except for food and education, almost all other expenditure items showed decreases (Figure 4D.7). However, these were quickly reversed in the following quarter, possibly because some of these items were already committed, such as debt and amortization for houses and other appliances that could not be postponed further.

Custodio's (2010) study of 100 affected migrant families in Metro Manila shows that affected households sustain 10%–20% drops in their family incomes in 2010 from the levels in 2008 and 2009. But only 7% of the affected families sought government assistance, with most availing themselves of training programs. Tables 4D.5 and 4D.6 give an idea of the coping mechanisms adopted by the migrants and their families during the crisis. This information confirms data from the POEA, the SOF, and the Commission on Filipinos Overseas showing that, on the whole, only a few affected workers returned home and the reasons why they remained abroad.

Figure 4D.7: Use of Remittances



BSP = Bangko Sentral ng Pilipinas
Source: BSP Consumer Expectations Survey, various quarters.

Finally, an August 2010 survey conducted by Good Thinking Research[4] give another perspective on the impact of the crisis on OFWs and their families. The survey covered about 200 families in Metro Manila and Region IV-A (comprising the provinces of Batangas, Cavite, Laguna, Quezon, and Rizal) and utilized a combination of a survey questionnaire and focus group discussions. Among the highlights are the following:

i. around 75% of workers are land-based, the majority of whom are females working in the services sector (60%);

ii. more than half have tertiary education (including 29% of service workers);

iii. some 82% work abroad due to higher salaries;

iv. OFW households do not rely solely on remittances; on the average, remittances make up 42% of household incomes;

v. households of migrants in the services sector have a higher reliance on remittances, which make up 65% of household incomes;

vi. around 45% of households were well aware of the global financial crisis and 36% expected it to last around 2 years;

vii. only 28% of households experienced an adverse impact from the crisis;

4 Conducted for the International Organization for Migration and the Asian Development Bank.

viii. most affected households were in the production sector;

ix. affected households coped by reducing regular expenses and dipping into savings;

x. only 8% of households reported decreases in income, while 44% said their incomes even increased during the crisis period; and

xi. of the households reporting a decrease in income, only 16% attributed it to lower remittances.

These results seem to validate the macro data gathered by the national government agencies that the crisis affected only a small segment of the migrant workers. They also reveal that OFW families typically do not depend solely on remittances.

All these studies provide an instructive perspective on the effects of the crisis on migrant workers and their households in the Philippines. The effects can be summarized as follows: (i) many affected migrant workers opted to stay behind to look for other work opportunities, (ii) the decline in remittances was relatively small, (iii) affected families coped by cutting spending and dipping into their savings, and (iv) the jobs adversely affected were mostly male-dominated and the demand for female jobs compensated for the decline in demand for male workers.

4. Impact of the Crisis on Host Countries

The global financial crisis, as expected, led to an economic contraction in several countries hosting migrant workers. In turn, the inevitable consequence was a softening in varying degrees of the demand for labor migrants. BSP data as of June 2009 show that there were at least five economies exhibiting double-digit remittance decline in 2008: Taipei,China (–40%), Kuwait (–33%), Hong Kong, China (–21%), Italy (–18%), and the United States (–11%). However, by the end of 2009, the declines (except for Italy) slowed as follows: Kuwait (–16%), Hong Kong, China (–16%), and the United States (–6%).

Nonetheless, these reductions in remittances were offset to some extent by increases from European countries, led by Germany's (a rise of more than 40%). Likewise, two of the largest sources of remittances from the Middle-East and North Africa, Saudi Arabia and the UAE, sustained their remittance growth, albeit at single digits. Overall, these countries practically made up for the shortfalls from the other countries. Still, the large increase in remittances exhibited by European countries may largely reflect repatriated savings of permanent Filipino emigrants given that Europe as a whole, except for Italy, is a relatively minor market for Filipino temporary workers.

What is important to note is that the countries exhibiting sharp declines in remittances during the current crisis have been the major markets for Filipino migrant

workers over the last 2 decades. Hence, the main concern at the onset of this crisis was that a sustained fall in remittances originating in these host countries could mean a marked reduction in total remittances to the Philippines and an eventual decline of deployment to these countries. The declines could happen in two ways—through job cuts and/or through lowering of wages in the host countries affected by the crisis. To test these hypotheses, two regression models were estimated:

First, assess the effect of the economic weakness of major receiving countries on the growth of remittance inflows to the sending country specified as follows:

Growth of remittance inflows = f (economic growth rates of major Philippine labor-importing countries, growth in deployment, change in foreign exchange rate, dummy for years when crisis occurred in the Philippines).

Second, assess the effect of the economic weakness of major receiving countries on the growth of deployment of OFWs specified as follows:

Growth of deployment of OFWs = f (economic growth rates of major Philippine labor-importing countries, GDP growth of the Philippines lagged by 1 year, change in foreign exchange rate, dummy for years when crisis occurred in the Philippines).

The major labor-importing economies, as noted above, are Saudi Arabia; Hong Kong, China; Singapore; Qatar; Kuwait; the UAE; and Taipei,China, based on their consistency as the top seven labor-importing countries annually from 1993 to 2007. Four control variables are added: deployment, lagged Philippine GDP growth rate, change in foreign exchange rate (represented by the $), and a crisis dummy. The model covers annual data from 1981 to 2009 and captures the effects of the 1983–1985 debt crisis, the 1989 coup, the 1991 balance of payments crisis, the 1997 Asian financial crisis, and the recent global financial crisis. The results appear in Tables 4D.7 and 4D.8.

The results from the first regression reveal that the growth in remittance inflows to the Philippines is not generally affected by the economic growth of the major labor-importing economies. In particular, only two showed significant results, Qatar and Hong Kong, China. The significant negative impact of Hong Kong, China's economic growth on remittance growth may be explained in the context of the type of workers going to Hong Kong, China. The majority are domestic service workers who generally have fixed wages not affected by productivity-related increases in the economy.[5] It should be noted, however, that both the change in foreign exchange and the crisis dummy affect remittance growth negatively and significantly. A positive change in foreign exchange represents a depreciation of the peso and a negative change

5 Hong Kong, China increased the salaries of foreign domestic helpers only in June 2011 after wage cuts were implemented in the past due to SARS and the Asian financial crisis. The minimum wage of domestic helpers was pegged at HK$3,740 with an increase of HK$160/month but still lower than the HK$3,860 received in 1998 during the Asian financial crisis. www.gmanews.tv/story/222372/pinoy-abroad/pinay-domestic-helpers-in-hk-to-receive-wage-increase

represents an appreciation vis-a-vis the United States dollar. The negative coefficient of the change in foreign exchange reveals that a depreciation of the peso slows remittance growth. Meanwhile, the negative coefficient of the crisis dummy shows that remittance growth slows down during a crisis.

The results of the second regression (Table 4D.8), meanwhile, show that economic growth of the major labor-importing countries does not significantly impact the growth in deployment of OFWs. The only significant variable is the crisis dummy. The positive significant coefficient of the dummy variable confirms the observation that a crisis period induces people to seek employment abroad. The insignificant results of two other control variables, lagged Philippine GDP growth and change in foreign exchange, show that deployment growth is not influenced by GDP growth of previous years and the changes in foreign exchange.

Both regressions confirm the generally weak connections between the growth of remittances and deployment of OFWs, on the one hand, and the economic growth of major labor-importing countries, on the other. These results help explain why remittance growth has not been significantly affected by the current crisis while overseas worker deployment actually increased.

5. Impact of the Crisis on Households with Migrant Members

Previous studies on the Philippines and other countries show that remittances do raise household incomes and lift many poor people out of poverty. For the Philippines, Ang et al. (2009), Tullao et al. (2004), Yang (2005), Tabuga (2007), and Pernia (2008) are among the studies that looked into the effect of remittances on the well-being of households. The main source of data is the FIES whose main limitation is that, while conducted every 3 years, its results become usable only after about 2 years. The latest FIES data available at the time of writing this paper (October 2010) were as yet from the 2006 round. Another possible approach was to develop a computable general equilibrium model, which also has limitations in that the complete input-output table needed for this study still pertained to 2000.

A recent study by Balicasan et al. (2010) constructed panel data integrating FIES 2006 with Labor Force Survey (LFS) of January and July 2007 and July 2008 and APIS 2007 and 2008. To assess the impact of the crisis on poverty in 2009, the augmented panel projected household incomes for 2009 using the 2008 APIS associated with estimates of GDP growth. The study finds that household incomes declined by around 2.1% in 2009. However, the study was about the overall impact of the crisis on household incomes and had no breakdown into households with and without OFWs.

Another approach to properly account for the impact of the crisis via migration and remittances on household welfare is to conduct a purposive survey. The results of some of the simpler and smaller surveys have been discussed above. A bigger exercise that might be proposed entails a combination of different data sets similar to that of

Balisacan et al. (2010), with the results of these smaller surveys used to estimate the hypothesized negative impacts of the global economic crisis. Specifically, the data sets to be used are those from FIES 2006, SOF 1995–2009, and the POEA. The analytical framework is sketched in Figure 4D.8.

Basically following the approach of Anh et al. (2010) in their analysis of remittances in relation to Vietnamese households, we first utilize the data from FIES 2006 to analyze the impact of international remittances on households[6] to see if remittances do significantly lift households out of poverty. Then, households are ranked according to the amounts of monthly remittances received to get an idea of the types of occupations of the migrant workers. SOF 2006 provides data on average remittance by type of occupation. By ranking the information from lowest to highest monthly remittance, it is possible to match the monthly remittance by occupation with the monthly remittance received by the households as ranked in FIES 2006. This matched data set can now be compared with the POEA 2009 list of occupations and the SOF 2009 list of those affected by the crisis. Both the POEA and SOF lists for 2009 indicate the amount of decline in demand for each of the occupations affected. This information can then be used as a basis for estimating the reductions in remittance shares of the matched FIES and SOF data, allowing in turn for a re-ranking of the households by income to see the effect on poverty.

a. Impact of international remittances on the income ranking of households

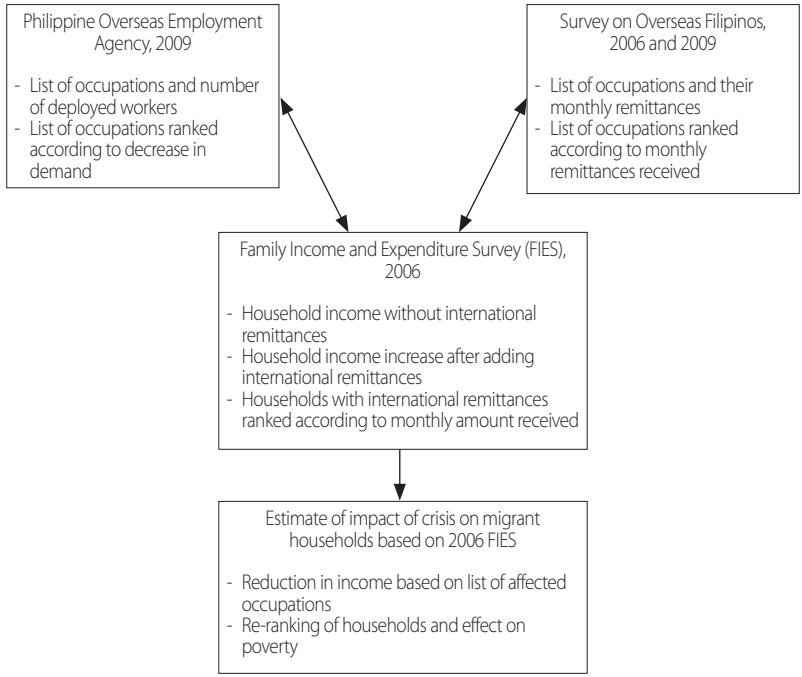
The total number of sample households in the 2006 FIES is 38,483. Initially, it was assumed that none of the households received international remittances and they were ranked according to the income they received. Adding international remittances to the incomes of households changes their ranking, albeit not as significantly as expected. In the 2006 FIES, around 23% (or 8,972 sample households) received international remittances. BSP's Consumer Expectations Survey, on the other hand, shows that an average of only 10% of households received remittances from 2007 up to their latest survey conducted in Q1 2010. Considering that the FIES counts all households receiving cash gifts as remittance recipients, a ranking based on actual remittances received could help determine if the remittances received were enough to push households out of poverty.

The re-ranking showed that with all 38,483 households included, only around 1,576 households (or 4%) were able to get out of poverty due to international remittances. This implies that several households in the FIES may have received remittances as once-off gifts, but not regularly. Thus, to make the estimation closer to actual remittances received, a further re-ranking of those receiving remittances based on the monthly amounts received is needed. In this re-ranking, only the 8,972 remittance-receiving households are included. Around 3,367 households

6 In the FIES, a cash gift from abroad is considered to be an international remittance.

(or 38%) from this ranking received an average monthly remittance of less than 1,500 Philippine pesos (P). Based on the 2006 SOF, monthly remittances range from a low of P6,000 for laborers to a high of P20,000 for executives. From this range,

Figure 4D.8: Framework to Analyze the Impact of the Global Economic Crisis on Migrant Households



Source: Author's framework.

there could be outliers falling close to P1,500 a month and households receiving this monthly average are included among those receiving a monthly remittance. From here it can be re-estimated that households that received remittances in 2006 accounted for 14.4% of the total. This adjustment comes closer to the estimate of BSP's Consumer Expectations Survey.

b. Impact of the global economic crisis on the income ranking of remittance-receiving households

This new list of households can now be used as basis for estimating the impact of the global crisis on households with migrants. The 5,605 sample households are ranked from the lowest monthly remittance received to the highest. This ranking is now matched against the 2009 POEA list of deployed occupations and the 2009 SOF list of occupations and monthly remittances sent. These two lists provide information on the affected jobs and average remittances sent per affected job (Table 4D.9).

Table 4D.9 shows that lower-salary occupations were more negatively affected than the higher-salary jobs. Although it was earlier observed that lower-skilled workers were little affected by the crisis, the data appear to support the view that male migrant workers tend to lose their jobs more than female workers who, in turn, are able to compensate for the male job losses albeit at lower wages.

In estimating the impact on households, the range of monthly remittances of the affected occupations is matched with the ranking of the remittances received by the 5,605 sample households according to FIES data. For instance, it can be assumed that for those receiving P6,000 or below, around 9.0% was lost due to the crisis. After applying the different observed decreases to the different remittance ranges, a new ranking of households can reveal by how much total household incomes have been reduced. The new ranking shows that the decrease in total incomes implies an average drop of 16% in remittances received by the household. Considering the number of households affected by the reduced remittances, it is estimated that less than 1.0% of the sample households slipped below the poverty line (Table 4D.10).

The foregoing analysis shows that from a broader perspective the impact of the global crisis on household incomes (thus far, at least) has been rather minimal. This is because households that receive remittances typically do not belong to the low-income group. This is consistent with the findings of earlier studies that, apparently, it is not the poorest of the poor but the upper-income groups that directly benefit from remittances.

6. Conclusion and Recommendations

Making use of data from official sources and recent surveys, this study finds that the impact of the global crisis on Philippine migrant workers and their families has thus far been relatively minor. Sectors adversely affected by the crisis were mostly those related to construction and manufacturing that typically employ male workers. Fortunately, the health and basic services sectors usually manned by female workers compensated for the male job losses. Still, the moneys sent home were not enough to make up for the decline experienced in certain occupations.

From a broader perspective, the regression models in this paper suggest that the economic performance of major labor-importing countries does not significantly affect the growth of remittance inflows or the increase in overseas worker deployment. However, it is to be noted based on the Philippine experience that crisis situations could slow remittance inflows, encouraging in turn higher deployment abroad.

Analysis that combines data from the various official surveys and a few private ones suggests that the crisis had an insignificant adverse impact on households receiving remittances. It was probably for this reason why only a few households availed themselves of the safety net programs extended by the government. More availed themselves of the loan program, but they were mostly in the National Capital Region (Metro Manila). Typically, OFWs and their families first approached relatives and friends before going to the government for assistance.

Notwithstanding, government should not be complacent about the welfare of migrant workers and their families, given the risks and uncertainties associated with global market swings. Perhaps the government's effort to search for alternative markets for OFWs mitigated what could have been a bigger blow from the global crisis. However, the new markets found were mostly for women in lower-skill and basic services sectors, not for the better-paying higher-skill and professional types of jobs.

The findings of this study lead to some policy implications. First of all, there is a need to seriously review the government's labor migration policy precisely owing to unpredictable exogenous shocks like the recent, and seemingly still continuing, global economic crisis. At the minimum, the government has to ensure that workers who opt to leave are well aware of the conditions in the country of destination as well as the global risks and uncertainties.

Second, government assistance to migrants, whether in crisis times or not, requires better communication. Many of the programs for OFWs under the Economic Resiliency Plan were really ongoing programs of many government agencies concerned with overseas migration. However, only a few availed themselves of the programs, apparently due to lack of information or miscommunication. The government must always make sure that OFWs and their families are properly accounted for, such that in any crisis the government is well informed of the conditions of the migrants and, hence, can provide appropriate information about its programs.

Finally, both the national government in general and local governments in particular should perhaps aggressively encourage entrepreneurship with a view to diversifying the income sources of households. One important outcome might be that households would become less dependent on employers and the government for social safety needs in times of global crises or domestic emergencies. Moreover, having one's own business enterprise could become an alternative to overseas migration or, for that matter, a gainful opportunity to engage return migrants.

7. Tables

Table 4D.1: Number of Overseas Filipino Workers, Total Remittances, and per Capita Remittance in US$ (% change)

	1996	1997	1998	1999	2000	2001	2002
OFWs (stock)	17	12	–14	32	–11	–10	19
Total remittances	13	14	–8	16	–9	5	4
Per capita remittance	4	–2	–6	14	–1	–15	15
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
OFWs (stock)	0	11	9	36	20	32	–8
Total remittances	–5	45	12	14	15	15	–4
Per capita remittance	5	–5	–2	15	8	11	–21

OFW = overseas Filipino worker
Source: Authors' estimate from the Survey on Overseas Filipinos, various years, National Statistics Office.

Table 4D.2: Gender Disaggregation of Top 20 Jobs for Filipino Migrants Ranked according to Number of Females

	2007		2008		2009	
	Male	Female	Male	Female	Male	Female
Construction helpers	4,193	6	4,094	17	2,137	9
Carpenters	5,925	9	6,428	14	4,322	16
Bricklayers	4,318	9	5,206	20	4,766	33
Drivers	1,151	30	2,286	48	1,708	118
Welders	6,107	33	6,746	31	5,870	40
Wiremen	6,942	38	8,812	81	9,709	43
Mach assemblers	4,081	94	4,640	94	4,410	58
Engineers	2,234	185	2,501	197	1,598	109
Therapists	303	665	370	801	349	917
Teachers	411	1,044	375	872	198	629
Laborers	6,145	1,171	8,175	1,536	7,105	994
Clerks	894	1,458	1,057	2,010	914	2,178
Housekeepers	1,081	1,860	1,011	2,593	908	4,219
Musicians	571	3,364	517	2,021	445	1,545
General service	5,026	5,293	4,174	5,884	4,203	5,670
Cleaners	927	5,371	1,851	9,769	2,140	7,916
Waiters	3,677	5,597	5,183	8,728	4,978	6,999
Nurses	1,137	8,038	1,556	9,938	1,580	11,433
Production	15,277	10,635	12,111	11,144	11,053	10,706
Caregivers	1,070	13,325	595	9,513	507	8,720
Domestic helpers	2,959	44,904	2,240	47,841	1,888	69,669

Source: Philippine Overseas Employment Administration statistical reports 2007–2009.

Table 4D.3: Composition of Source of Remittances (% shares of total)

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Executives and managers	3.1	4.7	4.7	4.4	3.9	5.4	5.2	5.0	4.3
Professionals	13.3	15.7	12.9	10.4	13.4	12.0	11.5	14.6	16.1
Technicians	8.9	12.4	11.3	10.3	9.8	10.1	9.6	8.1	10.9
Clerks	2.4	2.5	2.7	4.5	4.5	4.5	4.5	5.1	4.1
Service workers	10.3	8.9	10.0	10.1	11.9	11.4	12.5	15.0	12.8
Farmers and agriculture workers	0.3	0.3	0.1	0.3	0.3	0.3	0.2	0.8	0.3
Trades and related workers	16.9	16.9	18.1	16.9	17.4	18.0	16.1	17.4	16.9
Plant and machine operators	22.0	19.5	21.0	21.4	18.3	17.1	18.7	15.0	16.9
Laborers and unskilled workers	22.0	19.1	18.7	21.8	20.3	21.0	21.5	19.1	17.6

Source: Authors' estimate, Survey on Overseas Filipinos, various years, National Statistics Office.

Table 4D.4a: Percent of Overseas Filipino Workers Experiencing Wage Reduction by Type of Work

Type of Work	Total	Male	Female
Service workers	30.2	69.2	30.8
Trade workers	14.0	83.3	16.7
Technical workers	14.0	83.3	16.7
Laborers	14.0	66.7	33.3
Others	27.8	83.3	16.7

Table 4D.4b: Percent of Households Experiencing Decline in the Amount and Frequency of Remittances

	Rural	Urban NCR	Urban Non-NCR	Total
HH with OFW HH w/ remittances last	8.7	8.3	17.3	12.9
6 months	82.3	76.1	78.0	78.4
HH experiencing decline in remittance received	8.9	18.3	6.7	8.9
HH experiencing decline in frequency of receipt of remittances	5.1	12.7	6.3	7.1

HH = household, OFW = overseas Filipino worker.
Source: Summarized from Reyes, Sobrevinas, and de Jesus (2010), based on 2009 countrywide community-based monitoring system (CBMS) data.

Table 4D.5: How Affected Overseas Filipino Workers Coped during the Crisis

Stayed abroad and look for other jobs	47%
Went home and tried to reapply for jobs abroad	28%
Stayed abroad and did job well	10%
Went home and sought help from government	5%
Used savings for expenses	3%
Others	7%

Source: Custodio (April 2010).

Table 4D.6: How Affected Migrant Families Coped during the Crisis

Cut in spending	47%
Household head got extra job	10%
Incurred more debts	9%
Stopped saving	8%
Other household members got extra job	8%
Sold assets	4%
Stopped paying recurring expenses	3%
Transferred children from private to public school	3%
One or more family members stopped schooling	2%

Source: Custodio (April 2010).

Table 4D.7: Growth of Remittances and Growth of Receiving Countries

Variable	Coefficient	Standard Error	T-stat
Log of OFW deployed[b]	2.047	1.065	1.920
Saudi Arabia growth	0.006	0.011	0.555
Taipei,China growth	–0.030	0.021	–1.434
Hong Kong, China growth[a]	–0.047	0.015	–3.135
UAE growth	0.006	0.008	0.787
Qatar growth[a]	0.029	0.006	4.856
Kuwait growth	–0.001	0.002	–0.505
Singapore growth	–0.008	0.018	–0.484
Change in Forex[b]	–0.733	0.401	–1.829
Crisis dummy[a]	–0.283	0.137	–2.053

OFW = overseas Filipino worker, UAE = United Arab Emirates
[a] significant at 5%
[b] significant at 10%
Source: Authors' estimate.

Table 4D.8: Growth of Deployment of Overseas Filipino Workers and Growth of Receiving Countries

Variable	Coefficient	Standard error	T-stat
Saudi Arabia growth	0.001	0.002	0.255
Taipei,China growth	–0.002	0.004	–0.454
Hong Kong, China growth	0.003	0.003	0.916
UAE growth	–0.001	0.001	–1.125
Qatar growth	–0.002	0.001	–1.417
Kuwait growth	0.000	0.000	–0.343
Singapore growth	0.000	0.004	–0.148
Philippines	0.006	0.004	1.489
Change in Forex	–0.071	0.091	–0.782
Crisis dummy[a]	0.072	0.027	2.678

UAE = United Arab Emirates
[a] Significant at 5%
Source: Authors' estimate.

Table 4D.9: Affected Occupations and Corresponding Remittances

Affected Occupations	Range of Monthly Remittance	Decline in Remittances as Observed in SOF 2009 (%)
Laborers and unskilled workers	P6,000 and below	–9
Service workers	P6,000 to P9,000	–19
Clerks	P9,000 to P12,000	–9
Executives	P18,000 to P22,000	–7

P = Philippine peso, SOF = Survey of Filipinos
Source: Authors' estimates from SOF 2009.

Table 4D.10: Ranking of Households Using the 2006 Family Income and Expenditure Survey

2006 FIES	
Number of sample households with regular monthly remittances	5,605
Number of households below poverty line (P75,000)	41 (< 1%)
Average decline in remittances sent due to the crisis	16%
Number of households falling below poverty line due to decline in remittances	51 (<1%)

FIES = Family Income and Expenditure Survey, P = Philippine peso
Source: Authors' estimate using 2006 FIES, 2009 Survey of Filipinos, and 2009 Philippine Overseas Employment Administration data.

E. Viet Nam

Nguyen Duc Thanh and Hoang Thi Chinh Thon

1. Introduction

Over the last 2 decades, Viet Nam has embarked on a series of policy reforms including economic openness to integrating the country into the global economy. As a developing country with a large and young population, the country possesses great potential for supplying labor to the global market. Accordingly, Viet Nam has been promoting the export of labor to reduce pressures on the domestic labor market and accelerate poverty reduction. As a consequence, a large number of Vietnamese migrant workers have established themselves in many countries over the last 10 years, resulting in an increased inflow of international remittances that has become an important resource for development.

However, the global financial crisis has adversely impacted the market for Vietnamese migrant workers, resulting in a reduction in the incomes and/or number of migrants. This in turn is expected to adversely affect the sending country's general economy, household welfare, and progress in poverty reduction.

This paper examines the impact of remittances at the macro, sector, and household levels in Viet Nam. First, it applies microeconometric techniques to household income and expenditure data of 2008 to see how remittances affect household incomes, expenditures, and poverty. Next, it employs a computable general equilibrium (CGE) model based on Viet Nam's social accounting matrix of 2005 for a scenario analysis of the impacts of reduced remittances on the economy, sector outcomes, household welfare, and social inequality.

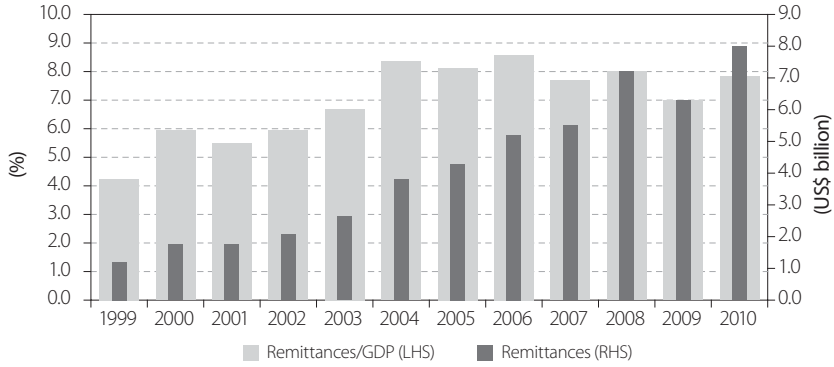
2. An Overview of International Remittances to Viet Nam

Due to the country's history, there are currently more than three million Vietnamese (about 3.5% of the total population) living abroad, of which 80% are residing in developed countries. Over the last decade, the number of Vietnamese migrant workers has increased substantially as the country has became more open and integrated into the global economy. These migrants annually remit considerable amounts of money to Viet Nam, providing significant help to the economy and households.[1] Figure 4E.1 presents data on remittances to Viet Nam in terms of their levels and shares of GDP

[1] In this study, remittance is defined as the money sent by Vietnamese migrants residing abroad for more than 1 year to their households.

during 1999–2009. In 2000, the total value of remittances reached $1.76 billion and tripled by 2006, nearly 9% of the country's GDP.

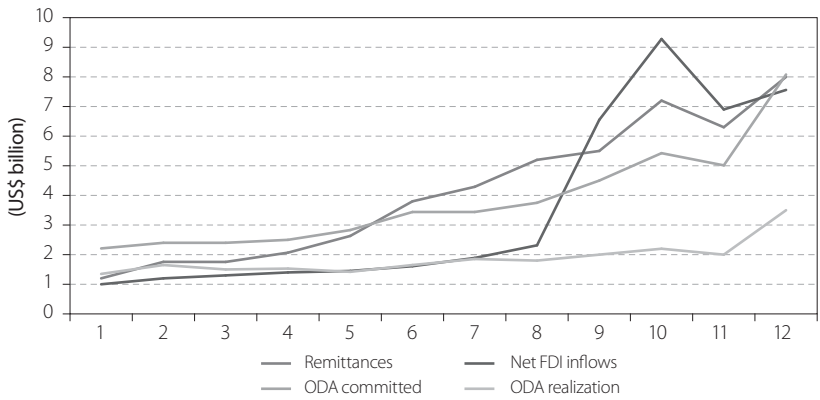
Figure 4E.1: International Remittances to Viet Nam and Their Shares to GDP, 1999–2010



GDP = gross domestic product, LHS = left hand side, RHS = right hand side.
Source: Author's compilation of international remittances from various sources on annual basis and GDP data from International Monetary Fund (2010).

After the global crisis erupted in late 2008, remittances declined in 2009 but quickly regained their upward trend thereafter. As can be seen, the ratio of remittances to GDP has been stable at roughly 8.0% in recent years. Moreover, Figure 4E.2 shows that the amount of remittances has been growing steadily over the last 10 years in comparison with other key financial flows from abroad. While the total value of remittances pre-

Figure 4E.2: Remittances and Other Financial Flows, 1999–2010 (US$ billion)

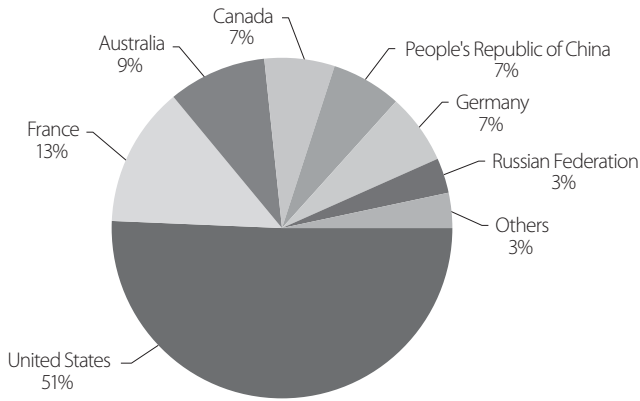


FDI = foreign direct investment, ODA = official development assistance
Source: Authors' calculation using data from International Monetary Fund. 2010. *Vietnam: 2010 Article IV Consultation Staff Report and Public Information Notice.* Country Report No. 10/281.

1999 was still less than that of foreign direct investment and official development assistance, it has since surpassed the latter, with the gap steadily increasing. Foreign direct investment exceeded remittances again only in 2007 when Viet Nam joined the World Trade Organization, reflecting optimism from foreign investors. As can also be seen from the figure, the remittances are more stable and significant than the other flows during the global crisis. It should be further noted that while foreign direct investment and official development assistance figures are relatively accurate, remittance data are typically underestimated due to money transfers through informal channels.

It is also important to note that there are two major sources of international remittances to Viet Nam. The first is from Vietnamese migrants living abroad permanently (Viet Kieu), and the second is from migrant workers whose number has steadily increased over the last decade or so due to the government's policy of exporting labor. As a result, there are many Vietnamese diasporas in developed countries, especially in the United States. Figure 4E.3 shows the distribution of more than three million Vietnamese migrants in 2008 who regularly remit to Viet Nam for different purposes, including support of family members and investment.

Figure 4E.3: Number of Vietnamese Overseas, 2008 (million persons)



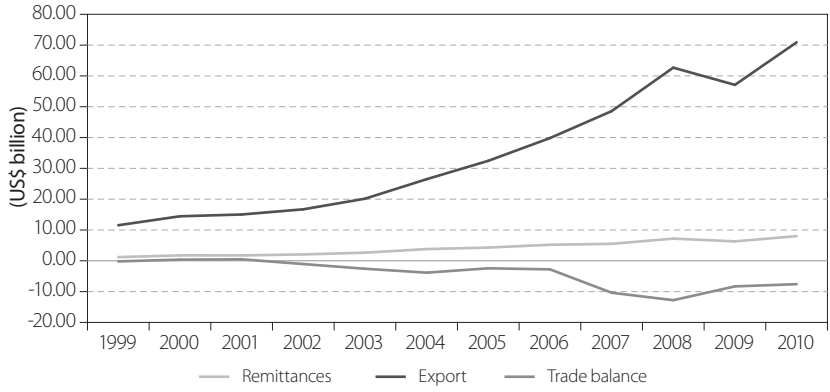
Source: Bùi Nhật Quang (2009). Available: http://www.tinmoi.vn/Tim-hieu-ve-nguoi-Viet-Nam-o-nuoc-ngoai-trong-tuong-quan-voi-truong-hop-Italia-0415154.html. Accessed on August 19, 2010.

Table 4E.1 summarizes the outflow of workers to major destination countries. If the global crisis had not happened, the annual number of Vietnamese migrant workers would have approached 100,000 in 2009 according to the government's plan. But the crisis has clearly slowed the outflow of workers, with a negative effect on remittance inflows.

The global crisis also has adversely impacted the Vietnamese economy through a sharp fall in exports to most important markets like the European Union and the United States, leading to a considerable decline in total exports between 2008 and

2009. Fortunately, the country's overall exports recovered quite quickly, thanks to the resilient economies of People's Republic of China and East Asia. Moreover, the market for Vietnamese products in developed countries is mainly for low-priced consumption goods that can recover and find other markets in a relatively short period of time. This can be gleaned from Figure 4E.4, showing Vietnamese exports' return to pre-crisis levels after only a year.

Figure 4E.4: Remittances, Exports, and Trade Balance, 1999–2010



Source: International Monetary Fund. 2010. *Vietnam: 2010 Article IV Consultation—Staff Report and Public Information Notice.* Country Report No. 10/281, the International Monetary Fund.

The trends of migrant worker outflows and remittance inflows are quite similar to that of exports in the context of the global crisis (i.e., relatively quick recovery). Still, the fall in remittance flows was not as severe as the drop in exports. One possible explanation is that although the growth of migrant workers slowed, returning migrants may have brought back with them their savings accumulated abroad, thereby compensating for the drop in annual remittances during the depth of the crisis. Hence, the aggregate amount of remittances during 2008–2010 may not fully reflect the real situation of labor migration and remittances. These trends may become clearer in the coming years, whether or not they are sustainable.

3. Related Previous Studies

The subject of migration and remittances has drawn the attention not only of policy makers but also researchers and academics. Dang Nguyen Anh (2005) discusses the importance of the Vietnamese diaspora overseas as an active source of remittances and investments, as well as of human capital and technology. He finds that, in addition to attraction coming from a more liberalized and developed economy, government policy measures that have facilitated the transfer and use of remittances have brought about a surge of remittance inflows into the country.

In examining the Canada–Viet Nam remittance corridor, Hernández-Coss (2005) presents a good basis for understanding not only how money is remitted from

Canada, but also to some extent the Vietnamese remittance transfer system in general. According to the author, the informal funds transfer system plays an important role, thanks to its "perceived reliability, reasonable fees, speed and cultural familiarity," and is able to effectively compete against the formal system, which is still in its early development. Hernández-Coss's research also provides a useful up-to-date review of the Vietnamese regulations on remittances.

However, despite the magnitude of remittances, there are few quantitative studies that allow us to fully understand the sources and purposes of the remittances and, even more importantly, how they are used and how they impact the economy.

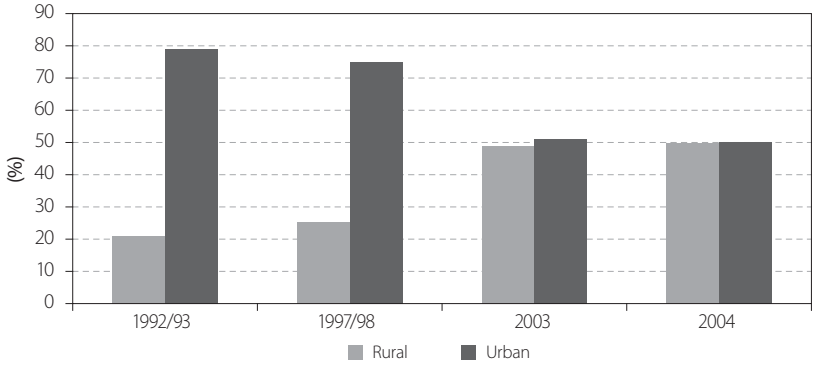
Pfau and Long (2006) approach these questions by examining the results of different Viet Nam Household Living Standard Surveys (1992/1993, 1997/1998, 2002, and 2004). They find that most of the remittances are from the United States and other industrialized countries. During the 1990s, there was a sharp reduction of remittances from the Eastern Europe, where many Vietnamese used to work. Remittances from the United States increased significantly, from around 40% of the total in the early 1990s to almost 60% near the end of the decade (Table 4E.2).

Table 4E.3 presents the distribution of remittances across different groups, which suggest that, on the whole, the nonpoor tend to receive remittances more than the poor and that remittance recipients are likely to be Kinh/Hoa (ethnic majority) households rather than ethnic minority groups.

Table 4E.4 shows the distribution of remittances throughout the country. Geographically, the Red River Delta (where the national capital, Ha Noi, is located) and the Southeast Region (with Ho Chi Minh City as its center) are the two major regions leading on all scores: population, remittances received, and the density of people receiving remittances. In the early 1990s, these two regions, which accounted for 38% of the population, received almost three-quarters of total remittances to the country. However, there has been a perceptible shift in the distribution of remittances, with declines in the shares of these two poles and increases in all other regions, notably the North Central Coast and Mekong River Delta. This shift may reflect the fact that during the last decade, the sources of migrant workers have included the neighboring regions as well.

There was also a shift between urban and rural areas in general, as illustrated in Figure 4E.5. While the share of rural population has tended to fall gradually (Table 4E.3), its share of total remittances tended to rise steadily. It is probably because at an early stage, opportunities to go to work abroad might benefit urban people more, owing to their advantage in accessing information about overseas employment. However, over time the supply of urban labor might decline while information becomes more widely diffused, leading to an increase in the number of migrant workers from rural areas.

Figure 4E.5: Distribution of Remittances by Area



Source: Pfau and Long (2006): *The Growing Role of International Remittances in the Vietnamese Economy: Evidence from the Vietnam (Household) Living Standard Surveys.* Paper presented at the Conference on Global Movements in the Asia Pacific, Ritsumeikan Asia-Pacific University (APU), Oita, Japan, 17–18 November, 2006.

An issue of great importance, albeit of much ambiguity, is the way in which remittances are used. An accurate answer to this question may shed light on the debate over the real effects of remittances. Table 4E.5 reports that 73% of remittances is allocated to immediate consumption while 14% goes to "household construction" and only around 6.0% to "investment."

For a more detailed understanding of household consumption, Nguyen Thi Thuy Linh (2006) provides a number of findings. By examining the 2002 Viet Nam Household Living Standard Survey (VHLSS), the author investigates the effects of remittances (both international and internal) on expenditure patterns of Vietnamese households. She finds that households that receive international remittances tend to spend a larger share of additional income on house construction. The spending is most evident in the cases of the poorest and richest household groups. She then argues that while the former group spends on their needs, the latter tends to spend on investment in real estate. From this perspective, it is difficult to distinguish between household construction and investment, as in Table 4E.5.

Cuong (2008) carried out a fixed effects regression to estimate the impact of international remittances on welfare, poverty, and inequality among Vietnamese households using the 2002–2004 VHLSS. He finds that households that received a greater percentage of international remittances became more wealthy. Remittances helped significantly increase the income and consumption of households, but reduced poverty only slightly (by about 2.0%) while contributing to some extent to a rise in inequality.

In contrast, Pfau and Long (2008a), applying logistic regression on the VHLSS 1992/1993, 1997/1998, 2002, and 2004 data, show that international remittances helped reduce inequality in terms of consumption per capita, though only to a limited degree.

Still, the authors also find that international remittances helped alleviate poverty. It is possible that the ambiguity in the findings may be due to internal remittances being mixed up with international transfers.

Nguyen (2007) looks at the influence of remittances on the behavior of recipients and reveals that remittances had a positive effect on household consumption. The average expenditure of remittance-receiving households was 7.9% higher than their non-recipient counterparts. At the same time, remittances contributed significantly to poverty reduction in Viet Nam.

Pfau and Long (2008b) also look at remittances from the perspective of gender, exploring the differences in behavior between men and women in Viet Nam. The authors have discovered that, as regards internal remittances, men tend to send to men while women send to women. By contrast, in the case of international remittances, men are more likely to transfer money to women. In addition, Pfau and Long find that women often transfer money as part of parents transferring money to children (across generation transfer) while men are often responsible for transferring money within the same generation.

Pfau and Long (2009), using the logistic model, show that living with children and receiving remittances increasingly became the support arrangements for the elderly. The future of the elderly is a concern for the Vietnamese transition economy. The relative share of the elderly in the total population will steadily rise in the coming years, creating a difficult situation that policy makers must address.

Also using VHLSS data of 2002 and 2004, Nguyen Viet Cuong (2009) finds that international and internal remittances raised both the income and expenditure of households. The impact on nonfood expenditure tended to be higher than that on food expenditure. A large proportion of the population received internal remittances, which were mostly used for consumption spending. On the other hand, international remittances went to a smaller proportion of the population, who used the money for savings and investments.

Deepening and updating the above analysis, Cuong and Mont (2011) employ fixed effect regressions on VHLSS 2006 and 2008 to assess the impact of international remittances on household spending in Viet Nam. The authors find that the international remittance receivers, who are largely nonpoor households, tend to spend most of their additional income on housing and land, debt repayment, and saving. Only a small proportion of remittances is used for durable goods consumption, and none is spent on production and day-to-day consumption. The effect of international remittances on consumption-based poverty is limited. The authors conclude that international remittances have not been effective in reducing poverty in Viet Nam.

4. International Remittances and Poverty in Viet Nam: An Update

a. Data sources

The data are from the latest VHLSS (2004, 2006, and 2008). The survey provides comprehensive information including basic data on demographics, education, health care, employment status and occupation of family members, income, consumption expenditures in various goods and commodities, housing conditions, fixed assets and durable goods, participation in poverty reduction programs, and information on remittances (both internal and international) received by households. The survey covers 9,189 households with 39,000 persons whose basic statistics are summarized for the purpose of this study in Table 4E.6.

About a quarter of households belong to urban areas and three quarters are in rural areas. Female-headed households account for nearly one quarter of the sample while male-headed households make up more than three quarters. Nearly one-half of household heads worked in agriculture in 2004 and 2006 and this dropped to 44.7% in 2008. More than 70% of household heads have finished secondary school. On the whole, the statistics have been fairly stable through the years.

For purposes of this study, households are classified according to the following characteristics:

(i) Based on the poverty line defined by the General Statistics Office and on the poverty line of the World Bank set at $1.25 per day at purchasing power parity (PPP), we divide households into poor and nonpoor groups.

(ii) Based on total consumption expenditures of households and the ratio of expenditure on food and beverages in total expenditures, we divide households into quintiles.

(iii) Based on total consumption expenditures of households and the ratio of expenditure on food and beverages in total expenditures, we divide households into three clusters to identify the middle class.

(iv) Finally, we identify the households in the middle class by a combination of four criteria regarding property possession, stable employment, good education, and financial security.

Households in these groups are then classified by the characteristics of the household heads and type of living area (urban or rural). In the next sections, we first provide a brief update of the poverty situation in Viet Nam during 2004–2008 and then look at the receipt of international remittances by households as classified above.

b. Poverty: A brief assessment

The General Statistics Office annually sets a standard poverty line, which was 173 thousand Vietnamese dong (D)/person/month for 2004, D213 thousand/person/month for 2006, and D280/person/month for 2008. The World Bank's poverty line of $1.25 PPP/person/day (or $37.5 PPP/person/month) is converted into dong by annual exchange rates. These rates are calculated based on the data on GDP per capita in US dollars at PPP and the average exchange rate of each year. The results are reported in Table 4E.7.

Based on the poverty lines above, we classify the poor and nonpoor households. The poverty rates are then calculated, and the results are displayed in Table 4E.8.

Table 4E.9 presents an alternative classification of poor groups by the quintile method. As mentioned, the quintiles are calculated in two ways, based on the total consumption expenditure of the households and based on the value of the ratio of expenditure on food and beverages in total household expenditures. Tables 4E.10 and 4E.11 present the proportions of households with different characteristics by the two types of expenditure groups.

Next, because Viet Nam is a low-income country, some researchers often divide the population into three clusters comprising the first 60% as the lowest income or poor class, the next 20% as the higher income or middle class, and the remaining 20% as the highest income or rich class. Accordingly, we divide the population into three groups based on total expenditures and the ratio of expenditure on food and beverages to total expenditures (Table 4E.12).

Finally, we consider the definition of middle class that includes those households that satisfy all four of the following criteria (Table 4E.13):

(i) *Property possession.* The house that the household is living in is under the ownership of at least one of the household members.

(ii) *Stable employment.* Total incomes (salary and other compensation) of the household members account for more than 90% of total expenditures.

(iii) *Good education.* At least one of the household members has or is obtaining higher education.

(iv) *Financial security.* The household has monthly savings (total monthly income is higher than total monthly expenditure).

The results show that the middle class by the above definition is increasing in Viet Nam, both in rural and in urban areas and for most of types of households. We now examine the receipt of international remittances by the different household groups.

c. Receipt of international remittances

Table 4E.14 gives an overview of domestic and international remittances to Vietnamese households during 1992–2008. It is clear that a much greater proportion of households receive domestic remittances than international remittances. By 2008, the proportions were 81.3% for domestic remittances versus a measly 2.1% for international money transfers.

Table 4E.15 presents the international remittance receipt rates by urban and rural households in 2004–2008. The rates for rural households rose slightly while those for urban households fell sharply, with the total also dropping. This appears to reflect the start of the global economy in 2007–2008.

We first look at international remittances going to households below and above the national standard poverty line (Table 4E.16). This shows that the receipt rates increased rapidly from 2006 to 2008 for poor households, while the opposite is the case for the nonpoor ones. This can be explained as a consequence of the policy to export workers from the poorest households during that period.

Next, we turn to the receipt rates according to the World Bank's poverty line of $1.25 PPP by average expenditure (Table 4E.17) and income methods (Table 4E.18). We observe that the values in the tables are not stable and even missing, especially for the urban poor groups. One possible explanation is a limited number of observations. In fact, the number of households in the survey satisfying the $1.25 PPP poverty line is rather limited, and the number of those receiving remittances combined with other characteristics is even smaller, and in some cases totally omitted from the sampling.

However, in general, the trend is similar to that depicted in Table 4E.16 where the receipt rates of remittances by poor households increased, especially between 2006 and 2008. Likewise, for the nonpoor households the declining trend is consistent with that seen in Table 4E.16.

Third, we consider the remittance receipt rates of households by quintile based on total consumption expenditures and on the ratio of expenditure for foods and beverages to total expenditures. Table 4E.19 shows that the first three-quintile group seems to receive more remittances during 2004–2008. The trend was the reverse for the top quintile, while for the upper middle the rates rose during 2004–2006 but declined subsequently. The trends are practically consistent across households with different characteristics. In terms of the ratio of expenditure for food and beverages to total expenditures (Table 4E.20), the patterns are similar to those in Table 4E.19.

Fourth, we examine the distribution of remittance receipts across three clusters and note that the trends merely confirm the behavior of the first quintiles and, hence, this clustering does not make much difference (Table 4E.21).

Besides the trends over time, an important observation that can be gleaned from the foregoing tables is that the richer the households, the more opportunities they have with respect to international remittances. Likewise, as would be expected, urban households generally have an edge over their rural counterparts. Still, from 2006 to 2008, poorer households appeared to have greater opportunities to be recipients of international remittances.

Finally, we move to the analysis of international remittance receipts by the middle class in both rural and urban areas. Table 4E.22 shows that the middle class have more opportunities to receive international remittances than the overall average and, in fact, are close to the richest quintile. Between 2004 and 2006, remittance receipts by the middle class generally decreased, but during 2006–2008 the trend was less clear.

d. Summing up

The main observations that can be gleaned from the foregoing analysis may be summed up as follows: (i) households in urban areas tend to have more opportunities to receive remittances than those in rural areas; (ii) richer households have more opportunities than poorer households; (iii) households whose head is a farm worker have less opportunities to receive remittances than others, and this appears to be the case among the poorest quintile and the richest quintile; (iv) households with female heads tend to have higher remittance receipt rates than those with male heads; (v) finally, as regards education, there seems to be no clear-cut difference between household heads with and without secondary schooling insofar as receipt of international remittances is concerned. To further explore the impact of international remittances on households and the economy as a whole, we now employ more advanced techniques.

5. Impacts of Remittances on Poverty: A Microeconometric Analysis

a. Model specification and data

We construct a simple model to look into factors affecting household poverty and see whether remittances play a significant role in explaining household poverty. For this purpose, we apply a logit model defined as

$$Pov = \beta_0 + b\boldsymbol{X} + b.Int\_rem + e$$

where:

Pov: poverty status of the household (a dummy variable = 1 if poor, 0 if nonpoor), using two definitions of poverty, the national standard and the $1.25 PPP.

Int_rem: household receives international remittances (dummy variable = 1 if receiving remittances, 0 otherwise).

X is a vector of the household characteristics, including the following elements:

- *Age of the household head*. As the effect of this variable may not be linear, we add the variable *age square* to test for nonlinearity
- *Gender of the household head* (dummy variable = 1 if male, 0 if female)
- *Educational level of the household head* (measured by the highest grade that the household head finished)
- *Universalized education* (dummy variable = 1 if the household head graduated from or attended tertiary education, 0 otherwise)
- *Vocational training* (dummy variable = 1 if the household head has graduated from or attended vocational training, 0 otherwise)
- *Employment of the household head* (dummy variable = 1 if a nonfarm worker, 0 otherwise)
- *Household size* (number of family members)
- *Household's asset* (dummy variable = 1 if household owns house, 0 otherwise)
- *Household's dependency ratio* (number of household members younger than 15 and older than 60 years divided by members 15–59 years of age)
- *Household's residence* (dummy variable = 1 if in rural area, 0 otherwise)

Our aim is to determine whether or not the variable *Int_rem* has a significant impact on the poverty status of the household, i.e., to test whether the coefficient *b* in the regression equation above is statistically significant. The data used in the analysis are from the 2008 VHLSS. The descriptive statistics are shown in Table 4E.1.

b. Results and interpretations

The regression results are reported in Table 4E.23, which shows that most of the coefficients have the expected signs and are statistically significant.

The results show that in all three models, households that receive international remittances have a significantly reduced likelihood of being poor. Therefore, remittance-receiving households are likely to be nonpoor.

In addition, the characteristics of the household head, such as age and educational level, are key determinants of the household's poverty status. The younger and less educated the household head is, the higher the probability of the household being poor.

Similarly, if the household head is involved in nonagricultural work, the household tends to be above the poverty line. However, gender of the household head is not a significant factor in relation to the poverty status of the family.

Further, large family size and dependency ratio significantly raise the possibility of the household falling below the poverty line. Also, households in rural areas tend to be poorer than their urban counterparts, which is consistent with the common observation in other countries.

To measure the marginal impacts of the various explanatory variables on household poverty, we derive parameters in Table 4E.24 from the above coefficients. The results show that the probability of a household becoming poor decreases from 3.4% to 8.6% (depending on poverty definitions) if the household receives international remittances, suggesting the important role of remittances in reducing poverty in Viet Nam. This result is comparable to those in other countries like Bangladesh (5.9% as found in Raihan et al. 2009) and Pakistan (12.7% in Ahmed et al. 2010).

The findings thus confirm that if poor households have more opportunity to send workers overseas and receive remittances, poverty reduction can be expected. In other words, to the extent that the global economic crisis leads to reduced growth of migrant workers and their remittances, adverse consequences follow for households, in general, and the poor, in particular.

6. Impacts of Remittances at Macro and Sector Levels Using a Computable General Equilibrium Model

a. Model and data

This computable general equilibrium (CGE) model follows the main structure of the one used by Nguyen Duc Thanh (2007, 2008) with an upgrade in the data for simulation. A new social accounting matrix (SAM) is specifically designed for the purpose of studying households in more detail. The consumer price index is fixed at 1.0 to act as the numéraire, meaning that all prices in the model are adjusted for the consumer price index.

Data base compilation. For modern CGE models, SAMs play a crucial role, serving as a consistent and convenient database to be used for calculation. A SAM is a comprehensive, economy-wide data framework, typically representing the economy of a country (Lofgren et al. 2002).[2] The present research employs the latest SAM of Viet Nam based on 2005 data. The SAM was an upgrade of the 2000 SAM constructed by the Central Institute for Economic Management of Viet Nam and the Nordic Institute of Asian Studies, formally released in 2004.[3]

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2 On the structure and use of a SAM, see Reinert and Roland-Host (1997) or Cohen (2002) for more detailed discussions.

3 Those who are interested in the details of the SAM may refer to its documentation by Jensen et al. (2004).

The fully disaggregated version of the 2005 Viet Nam SAM includes 112 production activities with 114 counterpart commodities. In addition, there are two factors (capital and labor) and 10 household groups divided by quintiles of income (for rural and urban areas). Other accounts are kept simple to concentrate on the effects on households.

Normally, the original SAM is aggregated into several smaller standard SAMs, which are also reported in Jensen et al. (2004). These SAMs are named following the number of aggregated sectors. They include SAM 31, SAM19, SAM3, and MacroSAM (SAM1). As an illustration, SAM3 is exhibited in Table 4E.2.

For the purposes of this paper, SAM19 has been aggregated into a seven-sector SAM, which we henceforth call SAM7. Our choice of sector aggregation is presented in Table 4E.25. Labels of sectors in SAM7 are also used as sector codes in the model's reports appearing in this study.

Other elements in SAM7 are the same as those of SAM19. Their names and labels are reported in Table 4E.26. Concerning the remittance data in the above SAMs, it should be noted that we use flows from "rest of the world" to "households" as proxies for international remittances.

With SAM7 the basic data compilation for the CGE model is complete. However, before proceeding to the calculations, we must specify values of the behavioral parameters used in the model.

Parameter specification. Identifying behavioral parameters (elasticities) for a CGE model is always a difficult task for modelers, especially in the case of developing countries. The preferred method to specify the elasticities is to estimate them directly from an appropriate data set by using econometric techniques. Unfortunately, it is usually difficult and costly to obtain time series data that are long enough for running regressions. Therefore, the most commonly suggested method is to search for previous econometric work on similar cases or to try to guess the best values (Shoven and Whally 1992).

In the present case, certain literature in which values of parameters are available is used as a helpful reference. They are Shoven and Whally (1992), Fossati (1996), Sapkota and Sharma (1998), Townsend and Ratnayake (2000), Zhang (2001), Chan and Dung (2002), and Lofgren et al. (2002). Our choice of elasticities for the CGE model is reported in Table 4E.3.

The model in GAMS. To solve for the system of equations, a program is written in the General Algebraic Modeling System (GAMS) software. After having been able to replicate the economy's initial equilibrium, which is identical to the original SAM 2000, we proceed to the simulations under different scenarios.

b. Simulation results

In order to assess the effects of remittances in Viet Nam's current condition, two scenarios are devised as follows:

Scenario 1: A decrease of 20% in remittances to rural households and a 30% decrease in remittances to urban households, with no change in tax or tariff.

Scenario 2: The same decreases in remittances as above and a reduction in indirect tax of 30% (economic stimulus policy).

Table 4E.27 presents the changes in selected macro variables following the simulation scenarios. As the consumer price index is used as the numéraire, all figures should be considered in real terms.

Effects under Scenario 1. One of the predictable effects is the depreciation of the Vietnamese currency as the supply of foreign currency drops. The model predicts that the real foreign exchange rate will fall by about 0.37%. As shown in Table 4E.28, total expenditures fall by about 1% for rural households and 3% for those in urban areas. Household consumption of domestic goods also drops in a similar manner. All commodities imports decrease, while exports rise partly due to depreciation of the domestic currency.

Domestic sales of industrial products and trade activities tend to increase, while non-traded goods contract; industry increases the most (Table 4E.29). These changes imply that a decrease in remittances lowers domestic demand, but at the same time the Vietnamese dong depreciates and, other things being equal, exports tend to rise. But non-traded goods such as services are negatively affected.

One issue of great concern is factor prices. It can be seen that they behave differently. The rental price of capital (interest rate) tends to increase (almost 0.16%), while the general wage rate decreases. As the model assumes full employment of all factors and their supplies are fixed, the factor incomes change proportionally to their prices.

In general, we see that the impact of a reduction in international remittances is twofold. On one hand, it reduces the welfare of households through a decrease in household consumption and expenditures; on the other hand, it lowers the domestic wage of labor due to the contractionary effect of non-traded good in domestic production. Although the decrease in remittances may result in currency depreciation, exports may not expand strongly enough, especially during times of crisis, to offset the fall in non-traded (services) sectors.

Effects under Scenario 2. A 30% indirect tax cut for all production activities is added to the decrease in remittances under Scenario 1. It can be expected that the tax cut will help stimulate the economy, requiring more domestic resources that, in turn, may

help in the appreciation of the local currency. The model predicts that the combination of remittance decline and tax cut would lead to a very slight change in real exchange rate (–0.036%). This implies that the currency depreciation effect of the fall in remittances is offset by the appreciation effect brought about by the domestic tax cut.

Compared with Scenario 1, household consumption of domestic goods decreases further. In general, consumption rises in rural areas but slightly decreases in urban areas. This can be explained by the fact that the tax cut favors households for they consume cheaper prices products (income effect), but it cannot fully offset the reduction in remittances to the urban households. Consumption of agricultural goods increases the most at around 2.7% for rural households. Table 4E.30 shows the effects on various industries.

It is important to note that in factor markets, prices all rise due to higher spending stimulated by the tax cut. The significant increase in the rental price of capital is the major reason that makes investment spending decline and actually leads capital-intensive industries to contract, as would be expected.

In comparison with Scenario 1, one can see the importance of the indirect tax cut in coping with economic hardship. The tax cut helps to compensate for the welfare loss of households, especially those in rural areas, due to the negative effects of reduced remittances under Scenario 1.

7. Key Findings and Policy Implications

With more than three million Vietnamese living and working overseas, remittances from abroad have been an important resource for the economy. International remittances currently amount to nearly 8% of GDP. In some recent years, they have been along with foreign direct investments the two most significant and stable sources of finance for the country's current account deficit. This paper has examined the impact of remittances on the household welfare and economy using microeconometric analysis and CGE modeling approaches. The first approach showed how remittances reduce the probability of a household falling below the poverty line and, hence, the overall poverty situation in the country. The second assessed the macroeconomic and distributional effects of a fall in remittances.

The key findings are as follows:

(i) Descriptive analysis shows that households in urban areas have greater chances of receiving remittances than those in rural areas, as do richer households compared with poorer ones. Households whose head is a farm worker have less opportunity for obtaining remittances than other households, while those whose head is a female are more likely to be remittance recipients than male-headed families. As regards education, there seems to be no clear difference between households whose head has secondary schooling and those that do not.

(ii) Results from the logit model show that the probability of moving above the poverty line increases by 3.6%–8.6% (depending on the definition of the poverty line) if the household receives international remittances. This is consistent with the common finding in other developing countries that declining remittances negatively affect the welfare of households.

(iii) CGE simulation analysis reveals that a 20% decrease in remittances to rural households leads to a 1.0% drop in their total expenditures, and a 30% decrease in remittances to urban households leads to a 3.0% drop in their expenditures. The indirect effects include a depreciation of the domestic currency, which may help spur exports, while the non-traded goods sector may contract due to higher interest rates as capital becomes scarcer. This contraction in domestic production may lead to lower wages and incomes of poor households. Further, an anti-crisis policy like an indirect tax cut may help compensate for the welfare loss of households, especially in the rural areas.

Due to the global financial crisis, Vietnamese migrant workers appear to be in for hard times as the demand for labor in the advanced countries has declined. Many had to return home, creating new pressures on the domestic labor market. The flow of remittances appears to have increased in the short run as the returning workers brought back their accumulated savings—a phenomenon widely observed in other labor-exporting countries (e.g., Ahmed et al. 2010). Due to limitations of the data, we cannot conclude that the increase in remittances in 2008 is part of this general trend. However, as poorer households have become more actively involved in labor migration in recent years, the risk of their having to go back home is a serious threat.

Similar to other labor-exporting countries, a key challenge for Viet Nam is how to direct remittances toward long-term investments in physical and human capital that can contribute to the development of the real economy, which include entrepreneurial activities. However, for this to happen, serious reforms to improve the business environment, stabilize the macroeconomic fundamentals, and develop the capital and labor markets are called for. Moreover, the government should accelerate the implementation of ongoing policy reforms so that the economy can efficiently and effectively absorb the remittances not only from migrant workers but also from Vietnamese overseas (Viet Kieu), which actually account for the bulk of the total sum.

A nontrivial issue regarding labor migration from Viet Nam concerns the behavior of migrant workers. To address this concern, there should be predeparture training and orientation programs to enhance the skills and discipline of these workers, thereby ensuring that they observe the terms of their contracts and the laws of host countries. More frequent violations of labor contracts and local laws in the last few years by migrant workers could damage their reputation abroad, which, in turn, could result in fewer opportunities for Vietnamese workers and limit the potential for the country's labor exports.

8. Tables

Table 4E.1: Outflows of Migrant Workers by Country of Destination, 2005–2010

Receiving economies	2005	2008	2009	2010 (first 9 months)
Taipei,China	22,784	31,631	21,677	20,621
Japan	2,955	6,142	5,456	3,441
Republic of Korea	12,102	18,141	7,578	3,708
Malaysia	24,605	7,810	2,792	6,113
Macau, China	–	3,025	3,275	2,457
Middle East countries	881	8,611	10,389	12,008
Other countries[a]	7,267	11,630	21,861	10,362
Total	70,594	86,990	73,028	58,710

– = no data available
[a] Africa, Cambodia, Eastern Europe, and the Lao People's Democratic Republic are the main destinations.
Source: Authors' compilation from the Administration for Migrant Workers, MOLISA's website (accessed 17 October, 2010.

Table 4E.2: Sources of Remittances Inflows by Market/Economy (%)

	1992/93	1997/98
Lao People's Democratic Republic	0.0	0.0
Cambodia	0.2	0.0
Thailand	0.3	0.4
People's Republic of China	0.2	0.2
Hong Kong, China	0.0	1.1
Taipei,China	n/a	0.8
Australia	7.3	8.6
France	2.8	4.0
Western Europe	9.9	7.7
Former Soviet Union	3.4	3.2
Eastern Europe	9.3	3.9
United States	41.1	57.7
Canada	6.2	6.1
Others	19.2	6.5
North America	47.3	63.8
Europe	20.0	15.6
Australia	7.3	8.6
Asia	4.2	5.6
Others	19.2	6.5

Source: Pfau and Long (2006).

Table 4E.3: Distribution of Remittances by Different Groups, 1998–2008 (%)

	1998	2002	2004	2006	2008
Nonpoor	7.48	7.08	8.33	7.73	6.94
Poor	1.29	2.45	1.26	1.75	2.62
Ethnicity					
Kinh/Hoa	6.13	6.25	7.79	7.42	6.92
Ethnic minorities	0.80	2.86	1.46	2.95	2.46

Source: Cuong and Mont (2011).

Table 4E.4: Receipt of Remittances by Region (%)

	1992/93			1997/98			2002			2004		
	Share of Total Pop	share of total remittances	ratio of remittances received to pop	share of total pop	share of total remittances	ratio of remittances received to pop	share of total pop	share of total remittances	ratio of remittances received to pop	share of total pop	share of total remittances	ratio of remittances received to pop
Region												
Red River Delta	20.9	30.9	1.5	19.6	15.8	0.8	21.9	9.5	0.4	22.1	19.5	0.9
North East	14.2	3.0	0.2	15.1	2.8	0.2	11.9	5.7	0.5	11.6	3.9	0.3
North West	2.6	0.2	0.1	2.9	0.0	0.0	2.7	1.0	0.4	3.0	0.7	0.2
North Central Coast	12.8	1.2	0.1	13.8	6.9	0.5	13.4	9.5	0.7	13.1	10.9	0.8
South Central Coast	9.5	8.0	0.8	8.5	9.9	1.2	8.5	9.8	1.2	8.7	9.9	1.1
Central Highlands	2.3	0.7	0.3	2.8	0.3	0.1	5.8	2.8	0.5	5.0	1.8	0.3
South East	15.9	42.6	2.7	15.9	49.1	3.1	14.6	29.2	2.0	16.2	31.6	2.0
Mekong River Delta	22.5	13.3	0.6	21.5	15.3	0.7	21.3	32.5	1.5	20.4	21.8	1.1
Urban/Rural												
Rural	80.0	20.9	0.3	77.6	25.2	0.3	76.8	49.0	0.6	74.1	49.9	0.7
Urban	20.0	79.1	4.0	22.4	74.8	3.3	23.2	51.0	2.2	25.9	50.1	1.9

Source: Pfau and Long (2006).

Table 4E.5: Use of Remittances (%)

	Consumption	Household Construction	Nonfarm Investment	Others[a]
Share of funds received	73.0	14.4	6.0	6.6

[a] Including education and farm investment.
Source: Pfau and Long (2006).

Table 4E.6: Some Basic Statistics from the Surveys (%)

Type of Households	2004	2006	2008
Households in urban areas	25.80	26.72	27.64
Households in rural areas	74.20	73.28	72.36
Households headed by a female	21.68	22.11	21.98
Households headed by a male	78.32	77.89	78.02
Household heads' employment is farm work	47.95	47.45	45.95
Household heads' employment is nonfarm work	52.05	52.55	54.05
Household head finished secondary school	72.82	73.15	72.86
Household head did not finish secondary school	21.68	26.85	27.14

Source: Authors' calculation from Viet Nam Household Living Standard Surveys 2004, 2006, and 2008.

Table 4E.7: Comparison of $1.25 Purchasing Power Parity Poverty Line, 2006–2008

Year	GDP per Capita (PPP) ($ billion)[a]	GDP per Capita (nominal) ($ billion)[a]	Nominal Exchange rate[b] (D/$)	Converted Value of $37.50 (PPP)(D)	Difference Between the Two Poverty Standards (D)
2004	159.916	45.452	15,646	166,683	6,317
2006	199.004	60.933	15,916	182,523	30,477
2008	241.368	90.302	16,114	226,320	53,680

$ = United States dollar, D = Vietnamese dong, PPP = purchasing power parity
Sources: [a] www.economywatch.com/economic-statistics/economic-indicators (accessed 19 August, 2011); [b] value at the beginning of the year from International Monetary Fund. 2011.

Table 4E.8: Poverty Rates According to the National Standard and $1.25 PPP Standard, 2004–2008 (%)

		National Standard (%)			$1.25 PPP Standard (%) (Average expenditure)			$1.25 PPP Standard (%) (Average income)		
	Year	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Total	2004	3.57	24.98	19.46	2.99	22.96	17.81	2.54	14.09	11.11
	2006	3.82	20.36	15.94	2.51	13.31	10.43	1.00	6.35	4.92
	2008	3.31	18.76	14.49	1.40	10.34	7.87	1.12	8.68	6.59
Households with female head	2004	1.99	21.78	13.24	1.43	19.83	11.89	1.71	13.58	8.46
	2006	3.33	18.58	11.71	1.53	12.26	7.43	0.92	4.41	2.84
	2008	2.91	16.98	10.77	1.41	8.45	5.35	0.87	7.93	4.82
Households with male head	2004	4.48	25.62	21.18	3.87	23.59	19.45	3.02	14.19	11.84
	2006	4.11	20.72	17.14	3.10	13.52	11.28	1.05	6.73	5.51
	2008	3.53	19.13	15.54	1.39	10.73	8.58	1.26	8.84	7.10
Household head's employment is farm work	2004	10.22	30.82	29.29	8.94	28.42	26.97	6.52	18.32	17.45
	2006	13.64	25.94	24.95	10.57	17.53	16.97	3.36	8.69	8.26
	2008	11.00	24.15	23.15	6.67	13.90	13.30	2.93	11.91	11.17

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Table 4E.8. continuation

	Year	National Standard (%)			$1.25 PPP Standard (%) (Average expenditure)			$1.25 PPP Standard (%) (Average income)		
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Household head's employment is nonfarm work	2004	2.51	16.28	10.40	2.04	14.83	9.36	1.91	7.78	5.27
	2006	2.18	12.15	7.81	1.17	7.10	4.51	0.61	2.89	1.90
	2008	2.09	11.24	7.21	0.56	5.38	3.25	0.84	4.17	2.70
Household head finished secondary school	2004	3.35	25.15	19.23	2.98	23.12	17.65	2.32	14.27	11.03
	2006	3.23	19.96	15.17	2.28	13.47	10.27	0.92	6.34	4.79
	2008	3.08	18.72	14.08	1.29	10.28	7.61	0.89	8.57	6.29
Household head did not finish secondary school	2004	4.32	24.55	20.06	3.03	22.55	18.22	3.29	13.62	11.33
	2006	5.95	21.37	18.04	3.36	12.92	10.85	1.32	6.37	5.28
	2008	4.14	18.86	15.59	1.79	10.51	8.57	1.95	8.96	7.40

PPP = purchasing power parity
Source: Authors' calculation from Viet Nam Household Living Standards Survey 2004, 2006, and 2008.

Table 4E.9: Household Classification by Expenditure Quintiles

Name of Group	By total expenditures	By ratio of expenditures for foods and beverages in total expenditures
Quintile 1	20% lowest total expenditures	20% highest ratio
Quintile 2	20% second lowest total expenditures	20% second highest ratio
Quintile 3	20% third lowest total expenditures	20% third highest ratio
Quintile 4	20% second highest total expenditures	20% second lowest ratio
Quintile 5	20% highest total expenditures	20% lowest ratio

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.10: Household Characteristics by Group Classified Based on Total Expenditure (%)

	Year	Groups by Total Expenditures				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Households with female head	2004	17.54	13.73	16.23	18.45	34.05
	2006	15.74	15.21	16.26	19.36	33.43
	2008	16.78	14.83	17.39	18.15	32.85
Households with male head	2004	12.09	20.20	21.68	22.75	23.28
	2006	12.71	19.77	21.49	22.40	23.63
	2008	11.97	19.45	21.19	22.23	25.17
Household head's employment is farm work	2004	18.52	24.64	22.57	21.19	13.09
	2006	18.38	25.18	22.77	20.05	13.62
	2008	18.32	24.14	23.21	19.92	14.41
Household head's employment is nonfarm work	2004	8.43	13.42	18.59	22.40	37.16
	2006	8.86	12.96	18.13	23.25	36.80
	2008	8.53	13.58	17.92	22.53	37.44
Household head finished secondary school	2004	13.19	18.13	20.15	21.91	26.63
	2006	13.01	18.31	20.05	21.29	27.44
	2008	12.89	17.69	19.77	21.23	28.42

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Table 4E.10. continuation

	Year	Groups by Total Expenditures				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Household head did not finish secondary school	2004	13.51	20.60	21.42	21.61	22.89
	2006	14.36	20.01	21.11	23.21	21.31
	2008	13.41	20.42	21.93	21.59	22.65

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.11: Household Characteristics by Group Classified Based on Ratio of Expenditures for Foods and Beverages in Total Expenditures (%)

	Year	Groups by ratio of expenditures for foods and beverages in total expenditures				
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Households with female head	2004	15.33	16.90	21.91	22.11	23.76
	2006	14.75	17.32	21.59	22.27	24.07
	2008	16.35	17.52	19.15	22.14	24.84
Households with male head	2004	19.12	20.66	20.03	20.57	19.62
	2006	18.55	20.27	20.37	20.75	20.06
	2008	18.06	20.48	21.02	20.31	20.13
Household head's employment is farm work	2004	24.74	21.96	20.11	18.41	14.77
	2006	24.89	22.74	20.24	17.19	14.94
	2008	24.87	22.59	20.33	16.96	15.26
Household head's employment is nonfarm work	2004	12.36	17.89	20.73	13.21	25.81
	2006	11.23	16.79	21.01	24.61	26.37
	2008	11.57	17.49	20.85	23.90	26.19
Household head finished secondary school	2004	17.75	19.06	20.04	21.43	21.72
	2006	16.93	18.81	20.52	21.55	22.21
	2008	17.26	19.25	20.38	20.91	22.19
Household head did not finish secondary school	2004	19.76	21.95	21.48	19.51	17.29
	2006	19.86	21.85	20.97	19.81	17.51
	2008	18.82	21.39	21.21	20.17	18.41

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.12: Household Characteristics in Three Clusters (%)

	Year	By total expenditures			By ratio of expenditures for foods and beverages in total expenditures		
		Cluster 1	Cluster 2	Cluster 3	Cluster 1	Cluster 2	Cluster 3
Households with female head	2004	47.51	18.45	34.05	59.81	20.57	19.62
	2006	47.21	19.36	33.43	53.66	22.27	24.07
	2008	49.01	18.15	32.85	53.02	22.14	24.84
Households with male head	2004	53.97	22.75	23.28	59.81	20.57	19.62
	2006	53.97	22.41	23.63	59.20	20.75	20.06
	2008	52.61	22.23	25.17	59.56	20.31	20.13

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Table 4E.12. continuation

	Year	By total expenditures			By ratio of expenditures for foods and beverages in total expenditures		
		Cluster 1	Cluster 2	Cluster 3	Cluster 1	Cluster 2	Cluster 3
Household head's employment is farm work	2004	65.72	21.19	13.09	66.82	18.41	14.77
	2006	66.33	20.05	13.62	67.87	17.19	14.94
	2008	65.68	19.92	14.41	67.78	16.96	15.26
Household head's employment is nonfarm work	2004	40.44	22.40	37.16	50.98	23.21	25.81
	2006	39.95	23.25	36.81	49.03	24.61	26.37
	2008	40.03	22.53	37.44	49.91	23.90	26.19
Household head finished secondary school	2004	51.47	21.91	26.63	56.85	21.43	21.72
	2006	51.37	21.19	27.44	56.24	21.55	22.21
	2008	50.35	21.23	28.42	56.89	20.91	22.19
Household head did not finish secondary school	2004	55.51	21.62	22.89	63.21	19.51	17.29
	2006	55.48	23.21	21.31	62.68	19.81	17.51
	2008	55.76	21.59	22.65	61.42	20.17	18.41

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.13: Proportion of Middle-Class Households (%)

	Year	Urban	Rural	Total
Total	2004	26.65	6.66	11.82
	2006	22.27	4.11	8.96
	2008	30.13	8.83	14.71
Households with female head	2004	26.58	8.14	16.09
	2006	22.32	6.18	13.45
	2008	30.23	9.91	18.88
Households with male head	2004	26.71	6.37	10.64
	2006	22.23	3.69	7.69
	2008	30.07	8.61	13.54
Household head's employment is farm work	2004	13.64	4.76	5.41
	2006	6.94	2.62	2.97
	2008	11.06	6.09	6.51
Household head's employment is nonfarm work	2004	28.73	9.51	17.73
	2006	24.82	6.29	14.37
	2008	33.15	12.64	21.69
Household head finished secondary school	2004	29.54	7.61	13.56
	2006	26.24	5.05	11.11
	2008	34.21	10.39	17.45
Household head did not finish secondary school	2004	17.21	4.31	7.16
	2006	7.92	1.77	3.12
	2008	15.53	5.03	7.36

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.14: Household Remittance Receipt Rates: Domestic vs. International (%)

	1992/93	1997/98	2002	2004	2006	2008
HHs with no remittances	79.28	77.32	20.01	12.02	9.79	12.24
HHs with domestic remittances only	15.12	17.06	74.06	81.01	83.29	81.31
HHs with international remittances only	4.62	4.85	2.68	1.66	1.71	2.11
HHs with international and domestic remittances	0.99	0.78	3.25	5.32	5.21	4.35

HH = household
Sources: 1992–2002 from Long (2008); and 2004–2008: authors' calculation from Viet Nam Household Living Standards Surveys.

Table 4E.15: International Remittance Receipt Rates by Area (%)

Year	Urban	Rural	Total
2004	14.12	4.76	7.17
2006	12.12	5.03	6.93
2008	9.88	5.09	6.41

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.16: International Remittance Receipt Rates of Poor and Nonpoor Households, 2004–2008 (%)

		Poor			Nonpoor		
	Year	Urban	Rural	Total	Urban	Rural	Total
Total	2004	2.18	1.49	1.52	14.56	5.85	8.54
	2006	1.55	1.78	1.76	12.54	5.86	7.91
	2008	7.44	2.12	2.64	9.96	5.78	7.09
Households with female head	2004	0.00	2.81	2.62	18.44	8.58	13.39
	2006	0.00	2.81	2.45	13.83	8.77	11.26
	2008	6.87	2.21	2.27	11.68	6.91	9.21
Households with male head	2004	2.73	1.26	1.33	12.29	5.28	7.06
	2006	2.29	1.59	1.63	11.77	5.27	6.89
	2008	7.69	2.11	2.40	9.02	5.54	6.45
Household head's employment is farm work	2004	5.53	1.76	1.86	8.76	5.81	6.08
	2006	3.03	2.09	2.13	8.79	5.39	5.71
	2008	8.79	2.11	2.37	5.32	5.42	5.41
Household head's employment is nonfarm work	2004	0.00	0.71	0.64	15.41	5.91	10.33
	2006	0.00	0.78	0.69	13.09	6.45	9.52
	2008	6.31	2.16	2.69	10.63	6.21	8.26
Household head finished secondary school	2004	3.03	1.04	1.03	14.53	5.94	8.73
	2006	2.34	2.04	2.06	11.85	5.89	7.83
	2008	8.47	1.85	2.28	9.32	6.07	7.16
Household head did not finish secondary school	2004	0.00	2.64	2.52	14.66	5.62	8.02
	2006	0.00	1.17	1.09	15.11	5.81	8.12
	2008	4.68	2.78	2.89	12.29	5.06	6.89

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.17: International Remittance Receipt Rates of Poor and Nonpoor Households Using World Bank's $1.25 Purchasing Power Parity (Average Expenditures), 2004–2008 (%)

		Poor			Nonpoor		
	Year	Urban	Rural	Total	Rural	Urban	Total
Total	2004	2.26	1.43	1.48	14.47	5.75	8.41
	2006	0.00	1.76	1.65	12.43	5.53	7.54
	2008	9.38	2.21	2.55	9.88	5.43	6.74
Households with female head	2004	0.00	3.08	2.92	18.34	8.37	13.18
	2006	0.00	3.11	2.83	13.58	8.31	10.83
	2008	8.21	4.43	4.87	11.59	6.27	8.72
Households with male head	2004	3.15	1.16	1.24	12.21	5.21	6.96
	2006	0.00	1.51	1.43	11.74	4.98	6.57
	2008	10.02	1.84	2.15	8.96	5.25	6.17
Household head's employment is farm work	2004	6.32	1.66	1.78	8.63	5.71	5.97
	2006	0.00	1.88	1.78	8.95	5.11	5.44
	2008	9.88	1.98	2.31	5.41	5.05	5.08
Household head's employment is nonfarm work	2004	0.00	0.78	0.71	15.34	5.81	10.21
	2006	0.00	1.34	1.19	12.96	6.11	9.19
	2008	8.43	3.02	3.43	10.55	5.90	8.01
Household head finished secondary school	2004	3.41	1.02	1.13	14.47	5.82	8.59
	2006	0.00	2.07	1.94	11.81	5.59	7.53
	2008	13.03	1.92	2.47	9.24	5.67	6.81
Household head did not finish secondary school	2004	0.00	2.51	2.42	14.47	5.58	7.92
	2006	0.00	0.95	0.89	14.71	5.39	7.57
	2008	0.00	2.88	2.74	12.21	4.84	6.59

PPP = purchasing power parity
Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.18: Percentage of Poor and Nonpoor Households Based on the World Bank's $1.25 PPP Poverty Line, 2004–2008 (%)

		Poor			Nonpoor		
	Year	Urban	Rural	Total	Rural	Urban	Total
Total	2004	0.00	1.34	1.26	14.48	5.32	7.91
	2006	0.00	0.91	0.85	12.24	5.31	7.24
	2008	4.87	1.83	1.97	9.93	5.41	6.73
Households with female head	2004	0.00	0.81	0.74	18.39	8.34	13.00
	2006	0.00	2.61	2.22	13.49	7.89	10.47
	2008	0.00	2.57	2.63	11.65	6.42	8.82
Households with male head	2004	0.00	1.44	1.36	12.23	4.71	6.45
	2006	0.00	0.67	0.65	11.51	4.79	6.31
	2008	6.67	1.69	1.91	9.01	5.19	6.12

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Table 4E.18. continuation

	Year	Poor			Nonpoor		
		Urban	Rural	Total	Rural	Urban	Total
Household head's employment is farm work	2004	0.00	1.55	1.51	9.01	5.23	5.55
	2006	0.00	0.82	0.79	8.28	4.89	5.18
	2008	0.00	1.77	1.73	5.88	5.01	5.09
Household head's employment is nonfarm work	2004	0.00	0.58	0.49	15.32	5.44	9.81
	2006	0.00	1.26	1.08	12.88	5.89	8.98
	2008	7.57	2.06	2.81	10.57	5.91	8.01
Household head finished secondary school	2004	0.00	0.93	0.88	14.48	5.34	8.06
	2006	0.00	0.93	0.88	11.65	5.41	7.26
	2008	0.00	1.95	1.87	9.37	5.59	6.78
Household head did not finish secondary school	2004	0.00	2.39	2.24	14.51	5.28	7.51
	2006	0.00	0.81	0.76	14.41	5.09	7.19
	2008	12.87	1.55	2.21	11.96	4.93	6.59

PPP = purchasing power parity
Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.19: International Remittance Receipt Rates by Quintile Based on Total Expenditures, 2004–2008 (%)

	Year	Groups by Total Expenditures					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Total	2004	1.84	3.04	4.33	6.26	16.03	7.17
	2006	3.06	3.29	4.32	6.73	13.80	6.93
	2008	3.12	4.23	5.26	5.67	10.98	6.41
Households with female head	2004	2.92	3.01	7.82	10.85	22.80	11.96
	2006	4.84	5.08	5.95	9.25	17.76	10.23
	2008	3.47	4.91	7.69	6.07	14.50	8.51
Households with male head	2004	1.41	3.04	3.61	5.23	13.28	5.85
	2006	2.43	2.91	3.96	6.11	12.20	5.99
	2008	2.98	4.08	4.71	5.57	9.69	5.82
Household head's employment is farm work	2004	1.65	3.38	4.32	6.82	9.82	4.84
	2006	2.75	3.12	4.07	5.82	10.54	4.82
	2008	2.30	4.38	5.75	4.81	6.51	4.71
Household head's employment is nonfarm work	2004	2.23	2.46	4.33	5.77	18.04	9.32
	2006	3.63	3.60	4.61	7.44	14.89	8.83
	2008	4.62	3.99	4.73	6.31	12.44	7.86
Household head finished secondary school	2004	1.81	3.14	4.13	6.15	16.08	7.27
	2006	3.09	3.59	4.25	6.30	13.51	6.95
	2008	3.39	4.26	5.47	5.41	10.74	6.47
Household head did not finish secondary school	2004	1.93	2.79	4.82	6.56	15.86	6.91
	2006	2.98	2.56	4.49	7.79	14.80	6.85
	2008	2.43	4.15	4.77	6.34	11.81	6.26

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.20: International Remittance Receipt Rates by Quintile Based on Ratio of Expenditure for Foods and Beverages to Total Expenditures, 2004–2008 (%)

	Year	By ratio of expenditures for foods and beverages to total expenditures					
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Total	2004	3.02	6.21	6.37	8.73	11.98	7.17
	2006	3.52	3.83	6.12	8.62	11.81	6.93
	2008	3.36	4.45	5.69	6.71	11.22	6.41
Households with female head	2004	2.99	5.89	11.06	16.03	19.11	11.96
	2006	4.43	6.11	8.05	12.07	17.02	10.23
	2008	3.74	5.47	8.29	7.81	14.59	8.51
Households with male head	2004	3.03	5.06	4.94	6.56	9.59	5.85
	2006	3.31	3.28	5.51	7.57	10.05	5.99
	2008	3.27	4.20	5.03	6.37	10.05	5.82
Household head's employment is farm work	2004	2.65	4.31	5.13	6.44	6.93	4.84
	2006	2.91	2.48	5.08	6.56	9.21	4.82
	2008	3.24	4.54	4.88	6.28	5.38	4.71
Household head's employment is nonfarm work	2004	3.71	6.24	7.47	10.41	14.65	9.32
	2006	4.75	5.49	6.98	9.93	13.15	8.83
	2008	3.58	4.34	6.37	6.97	14.12	7.86
Household head finished secondary school	2004	2.58	5.36	6.51	8.93	11.84	7.27
	2006	3.61	3.91	5.72	8.65	11.58	6.95
	2008	3.76	4.48	5.24	6.73	11.21	6.47
Household head did not finish secondary school	2004	4.09	4.87	6.01	8.16	12.46	6.91
	2006	3.31	3.66	7.11	8.56	12.61	6.85
	2008	2.38	4.37	6.86	6.66	11.31	6.26

Source: Author's calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.21: International Remittance Receipt Rates in Three Clusters, 2004–2008 (%)

	Year	By total expenditures			By ratio of expenditure for foods and beverages to total expenditures		
		Cluster 1	Cluster 2	Cluster 3	Cluster 1	Cluster 2	Cluster 3
Total	2004	3.24	6.26	16.03	4.93	8.73	11.98
	2006	3.36	6.73	13.80	4.54	8.62	11.81
	2008	4.36	5.67	10.98	4.56	6.71	11.22
Households with female head	2004	4.62	10.85	22.80	7.16	16.03	19.11
	2006	5.31	9.25	17.76	6.43	12.07	17.01
	2008	5.42	6.07	14.51	5.95	7.81	14.59
Households with male head	2004	2.91	5.23	13.28	4.37	6.56	9.59
	2006	3.21	6.11	12.20	4.06	7.57	10.05
	2008	4.08	5.57	9.69	4.21	6.37	10.05

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Table 4E.21. continuation

	Year	By total expenditures			By ratio of expenditure for foods and beverages to total expenditures		
		Cluster 1	Cluster 2	Cluster 3	Cluster 1	Cluster 2	Cluster 3
Household head's employment is farm work	2004	3.22	6.82	9.82	3.94	6.44	6.93
	2006	3.34	5.82	10.54	3.41	6.56	9.21
	2008	4.28	4.81	6.51	4.17	6.28	5.38
Household head's employment is nonfarm work	2004	3.27	5.77	18.04	6.13	10.41	14.65
	2006	4.06	7.44	14.89	5.96	9.93	13.15
	2008	4.45	6.31	12.44	5.01	6.97	14.12
Household head finished secondary school	2004	3.19	6.15	16.08	4.90	8.93	11.84
	2006	3.72	6.31	13.51	4.48	8.65	11.58
	2008	4.51	5.41	10.74	4.53	6.73	11.21
Household head did not finish secondary school	2004	3.36	6.56	15.86	5.01	8.16	12.46
	2006	3.41	7.79	14.81	4.72	8.56	12.61
	2008	3.98	6.34	11.81	4.62	6.66	11.31

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.22: International Remittance Receipt Rates of the Middle Class, 2004–2008 (%)

	Year	Urban	Rural	Total
Total	2004	17.49	8.54	13.74
	2006	11.57	7.15	8.91
	2008	9.54	7.25	8.55
Households with female head	2004	24.98	18.32	23.06
	2006	15.05	12.54	14.42
	2008	10.55	12.39	11.09
Households with male head	2004	13.25	6.05	9.84
	2006	9.50	5.35	7.94
	2008	8.99	6.04	7.55
Household head's employment is farm work	2004	2.81	9.35	8.13
	2006	3.48	4.97	4.69
	2008	2.92	7.23	6.62
Household head's employment is nonfarm work	2004	18.60	7.93	15.32
	2006	11.95	8.49	11.10
	2008	9.89	7.27	9.04
Household head finished secondary school	2004	17.39	7.31	13.26
	2006	10.53	6.62	9.26
	2008	7.81	6.71	7.35
Household head did not finish secondary school	2004	18.06	14.04	16.18
	2006	24.02	10.87	18.14
	2008	23.18	10.03	16.20

Source: Authors' calculation from Viet Nam Household Living Standards Surveys 2004, 2006, and 2008.

Table 4E.23: Results of Logit Regressions of Poverty on International Remittances and Other Variables

Variables	Model 1: Poor as National Standard	Model 2: Poor as $1.25 PPP Standard (Average Expenditure)	Model 3: Poor as $1.25 PPP Standard (Average Income)
Remittance recipient	–0.884[c] (0.237)	–0.5939[a] (0.310)	–0.9003[b] (0.348)
Age	–0.041[a] (0.022)	–0.0661[b] (.027)	–0.0887[c] (0.027)
Age square	0.00014 (0.00021)	0.00033 (0.0003)	0.0006[b] (0.0002)
Gender of HHH	0.033 (0.108)	0.1012 (0.149)	0.0027 (0.150)
Educational level of HHH	–0.181[c] (0.013)	–0.2359[c] (0.018)	–0.1547[c] (0.017)
Vocational training	–0.241 (0.221)	–0.56503 (0.413)	–0.4975 (0.373)
Universalized education	–3.042[c] (1.0002)	–1.6911[a] (1.006)	–
Employment of HHH	–0.816[c] (0.094)	–0.8669[c] (0.136)	–1.0209[c] (0.134)
Household size	0.295[c] (0.026)	0.3466[c] (0.031)	0.2605[c] (0.033)
Household asset	–0.348 (0.217)	–0.2629 (0.288)	–0.5454[b] (0.264)
Dependency ratio	0.575[c] (0.066)	0.6208[c] (0.086)	0.5537[c] (0.086)
Living area	1.229[c] (0.158)	1.3041[c] (0.239)	1.2472[c] (0.237)
R squared	0.231	0.275	0.200

HHH = head of household, PPP = purchasing power parity.
[a] significant at 10% level
[b] significant at 5% level
[c] significant at 1% level
Source: Authors' calculation.

Table 4E.24: Marginal and Impact Effects on Poverty

Variables	Model 1: Poor as National Standard	Model 2: Poor as $1.25 PPP Standard (Average Expenditure)	Model 3: Poor as $1.25 PPP Standard (Average Income)
Marginal Effects			
Age	–0.004[a] (0.002)	–0.0037[b] (0.002)	–0.0048[c] (0.001)
Educational level of HHH	–0.0176[c] (0.0012)	–0.0133[c] (0.0009)	–0.0084[c] (0.0009)
Household size	0.0287[c] (0.003)	0.0196[c] (0.001)	0.0141[c] (0.0018)
Dependency ratio	0.0559[c] (0.006)	0.0351[c] (0.005)	0.02997[c] (0.005)

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Table 4E.24. continuation

Variables	Model 1: Poor as National Standard	Model 2: Poor as $1.25 PPP Standard (Average Expenditure)	Model 3: Poor as $1.25 PPP Standard (Average Income)
Impact Effects			
Remittance recipient	–0.0859[c] (0.023)	–0.0335[a] (0.017)	–0.0487[b] (0.018)
Gender of HHH	0.0332 (0.108)	0.0057 (0.008)	0.00015 (0.008)
Employment of HHH	–0.0794[c] (0.009)	–0.04896[c] (0.007)	–0.0553[c] (0.007)
Household asset	–0.0339 (0.021)	–0.0148 (0.016)	–0.0295[b] (0.014)
Living area	0.1195[c] (0.015)	0.0737[c] (0.013)	0.0675[b] (0.013)
Vocational training	–0.0234 (0.021)	–0.0319 (0.023)	–0.0269 (0.020)
Universalized education	–0.2958[c] (0.098)	–0.0955[a] (0.057)	–

HHH = head of household, PPP = purchasing power parity
[a] significant at 10% level
[b] significant at 5% level
[c] significant at 1% level
Source: Authors' calculation from Table 4E.24.

Table 4E.25: Labels of Sectors in the Aggregated SAM (SAM7)

Sector	SAM19's Sector Labeling	SAM7's Sector Labeling
Agriculture	01-AGR	01-AGR1
Forestry	02-FOR	01-AGR2
Fishery	03-FISH	
Mining and quarrying	04-MIN	
Manufacturing	05-MANU	03-IND
Electricity, gas, and water supply	06-EGW	
Construction	07-CONS	04-CONS
Wholesale and retail trade; repair of transport vehicles; personal and household goods	08-TRADE	05-TRADE
Hotel and restaurant	09-HOTEL	06-SER1
Transportation, storage, and telecommunication	10-TRANS	
Financial intermediation	11-BANK	07-SER2
Science and technology	12-SCIEN	
Real estate and consulting	13-REALCON	
Public administration and defense; compulsory social security	14-ADMDEF	
Education and training	15-EDU	
Health and social protection	16-HEALTH	
Recreational, cultural, and sports activities	17-CULT	
Activity of the party and associations	18-ASSO	
Community, household, and personal services	19-OTHER	

SAM = social accounting matrix
Source: Authors' calculation

Table 4E.26: Other Labels in SAM7

Sector	Label
Labor	LAB
Capital	CAP
Rural households 1st–5th Quintiles	HHRUR 1–5
Urban households 1st–5th Quintiles	HHURB 1–5
Enterprise	ENT
Government	GOV
Rest of the world	ROW
Saving—investment	S–I

Source: Authors' calculation.

Table 4E.27: Percentage Changes in Selected Macro Variables

Variable	Scenario 1	Scenario 2
Real exchange rate	0.372	–0.036
Producer price index for non-traded	–0.148	–0.171
Government income	0.011	–24.596
Government expenditure	–0.039	0.923
Government savings	0.035	–37.167
Rental price of capital	0.157	4.207
Wage rate	–0.133	3.920

Source: Authors' calculation.

Table 4E.28: Percentage Changes in Household Consumption Expenditures

Variable	Scenario 1	Scenario 2
Rural households		
1st Quintile	–0.905	2.863
2nd Quintile	–1.100	2.599
3rd Quintile	–1.138	2.528
4th Quintile	–1.122	2.529
5th Quintile	–1.098	2.539
Urban households		
1st Quintile	–3.067	–0.118
2nd Quintile	–3.322	–0.506
3rd Quintile	–3.313	–0.493
4th Quintile	–3.231	–0.412
5th Quintile	–2.907	–0.187

Source: Authors' calculation.

Table 4E.29: Percentage Changes by Industry, Scenario 1

Variable	AGR1	AGR2	IND	CONS	TRADE	SER1	SER2
Production (QX)	0.268	0.624	0.749	0.021	–0.688	–1.154	–0.981
Value added (QVA)	0.268	0.624	0.749	0.021	–0.688	–1.154	–0.981
Fixed investment (QINV)	–0.015	–0.015	–0.015	–0.015	–0.015	–0.015	–0.015
Domestic activity (QA)	0.268	0.624	0.749	0.021	–0.688	–1.154	–0.981
Domestic sale (QD)	0.231	0.300	0.495	0.014	–0.821	–1.247	–1.062
Exports (QE)	0.484	0.824	1.155	0.393	–0.315	–0.784	–0.568
Imports (QM)	–0.525	–1.113	–0.925	–0.699	–1.771	–2.121	–1.996

Source: Authors' calculation.

Table 4E.30: Percentage Changes by Industry, Scenario 2

Variable	AGR1	AGR2	IND	CONS	TRADE	SER1	SER2
Production (QX)	–0.196	2.955	0.463	–5.241	–1.030	–0.504	0.215
Value added (QVA)	–0.196	2.955	0.463	–5.241	–1.030	–0.504	0.215
Fixed investment (QINV)	–5.812	–5.812	–5.812	–5.812	–5.812	–5.812	–5.812
Domestic activity (QA)	–0.196	2.955	0.463	–5.241	–1.030	–0.504	0.215
Domestic sale (QD)	–0.029	1.154	0.277	–5.244	–1.552	–0.327	0.367
Exports (QE)	–1.183	4.044	0.762	–5.117	0.417	–1.209	–0.568
Imports (QM)	3.516	–6.325	–0.771	–5.483	–5.162	1.375	2.171

Source: Authors' calculation.

Table 4E.31: Descriptive Statistics of the Variables

Variables	Obs	Mean	Std. Dev.	Min	Max
Dependent					
Poor as national standard	9189	0.1418	0.3488639	0	1
Poor as $1.25 PPP standard (average expenditure)	9189	0.0774839	0.2673723	0	1
Poor as $1.25 PPP standard (average income)	9189	0.066819	0.2497219	0	1
Explanatory					
Remittance recipient	9189	0.0597453	0.2370273	0	1
Age	9189	49.96169	13.50888	16	97
Gender of HHH	9189	0.755142	0.4300264	0	1
Educational level of HHH	9189	7.099249	3.66114	0	12
Vocational training	9189	0.1158994	0.3201217	0	1
Universalized education	9189	0.0487539	0.2153649	0	1
Employment of HHH	9189	0.5201872	0.4996195	0	1
Household size	9189	4.162912	1.65766	1	15
Household asset	9189	0.9552726	0.206716	0	1
Dependency ratio	9189	0.3376025	0.2749694	0	1
Living area	9189	0.7440418	0.4364222	0	1

HHH = head of household, PPP = purchasing power parity
Source: Authors' calculation from Viet Nam Household Living Standards Survey 2008.

Table 4E.32: Sector Social Accounting Matrix, 2005

	A01-AGR	A02-IND	A03-SER	C01-AGR	C02-IND	C03-SER	MM	LAB-RUR	LAB-URB	CAPITAL
A01-AGR				149,924.70						
A02-IND					497321.70					
A03-SER						25,5216				
C01-AGR	18,886.71	7,8750.98	2,117.23							
C02-IND	32,594.50	271,862.90	66,373.66							
C03-SER	1,882.22	15,243.32	36,288.17				88,435.14			
MM				17,345.61	71,089.53					
LAB-RUR	52,855.09	37,329.40	35,023.35							
LAB-URB	2,026.78	34,036.24	54,502.22							
CAPITAL	18,393.19	74,859.09	51,483.06							
LAND	31,585.39									
HH-RUR								125,207.80		15,705.25
HH-URB									90,565.24	22,115.33
ENT										97,851.80
DTAX										9,062.958
ITAX	5,606.67	16,042.32	1,0433.02	786.98	2,229.71	859.56				
IMPTAR				127.31	13,467.43					
GOV										
S-I										
ROW				3,886.79	224,704.80	25,067.05				
TOTAL	163,830.50	528,124.20	256,220.70	172,071.40	808,813.20	281,142.60	88,435.14	125,207.80	90,565.24	144,735.30

continued on next page

Table 4E.32. continuation

	LAND	HH-RUR	HH-URB	ENT	DTAX	ITAX	IMPTAR	GOV	S-I	ROW	TOTAL
A01-AGR		12,960.71	945.09								163,830.5
A02-IND		28,276.74	2,525.75								528,124.2
A03-SER		797.45	207.23								256,220.7
C01-AGR		23,829.18	18,420.68						3,288.859	26,777.79	172,071.4
C02-IND		72,311.52	56,161.30						128,190.60	181,318.7	808,813.2
C03-SER		30,362.68	29,565.93					45,566.91		33,798.26	281,142.6
MM											88,435.14
LAB-RUR											125,207.8
LAB-URB											90,565.24
CAPITAL											144,735.3
LAND											31,585.39
HH-RUR	28,517.17			4,790.011				13,002.31		5,524.466	192,747
HH-URB	906.178			9,733.287				9,755.687		13,361.49	146,437.2
ENT								3,742.09		2,607.39	104,201.3
DTAX	2,162.04	765.88	1,065.12	26,112							39,168
ITAX											35,958.26
IMPTAR											13,594.74
GOV					39,168	35,958.26	13,594.74			2,028	90,749
S-I		23,442.88	37,546.12	51,808.45				18,682			131,479.5
ROW				11,757.53							265,416.1
TOTAL	31,585.39	192,747	146,437.20	104,201.3	39,168	35,958.26	13,594.74	90,749	131,479.5	265,416.1	

Source: Authors estimates.

Table 4E.33: Behavioral Parameters for the Computable General Equilibrium Model

Table 4E.33.1: Armington and CET Elasticities by Commodity

Commodity	SIGMA-Q	SIGMA-T
AGR1	1.50	0.50
AGR2	1.50	0.55
IND	2.50	1.15
CONS	2.00	1.06
TRADE	2.00	1.06
SER1	2.00	1.05
SER2	2.00	1.05

AGR1 = Agriculture 1, AGR2 = Agriculture 2, IND = Industry, CONS = Consumption, TRADE = Trade , SER1 = Service 1, SER2 = Service 2
Source: Authors' estimates.

Table 4E.33.2: Elasticities of Substitution between Factors

Activity	SIGMA-A
AGR1	0.50
AGR2	0.50
IND	0.50
CONS	0.50
TRADE	0.50
SER1	0.50
SER2	0.50

Source: Authors' estimates.

Table 4E.33.3: Expenditure Elasticity of Market Demand for Commodity by Household

Commodity	HHRUR	HHURB
AGR1	0.70	0.80
AGR2	0.70	0.75
IND	1.37	1.35
CONS	1.27	1.26
TRADE	1.17	0.98
SER1	1.42	1.32
SER2	1.32	1.20

Source: Authors' estimates.

Table 4E.33.4: Other Parameters

Parameter	Value
Elasticities of substation between the value added and intermediate commodity for all activities	0.60
Output aggregation elasticities for all commodities	4.00
Frisch parameter	–4.00

Source: Authors' estimates.

Chapter 5
Impact on Migrants and Their Families: Survey Results[1]

Guntur Sugiyarto

A. Introduction

This chapter summarizes the results from household surveys conducted by ADB and the International Organization for Migration (IOM) in Bangladesh, Indonesia, and the Philippines in collaboration with local partners. The countries were selected for their position among the major labor-exporting countries in Asia and the willingness of the local counterparts to participate. The main purpose of the survey was to explore the impact of the crisis on migrants and their families at home (i.e., exploring how the crisis affects migration and remittances and their repercussions on the household welfare). Among other things, the survey inquired about household knowledge and expectations about the crisis, the impact of the crisis on out-migration and remittances received, the coping mechanisms of migrants and their families, and the nature of help that they use to cope with the crisis. The survey design and methodology is presented in the appendix.

Evidence at the household level indicates that the crisis affects countries differently, which in turn has very different repercussions on migration and remittances. To some extent, the effects also depend on key characteristics of the migrants, such as countries of origin and destinations, education level, and types of jobs and occupations. Moreover, gender also contributes to the nature of the effects, maybe through the difference in occupations and commitment to the family. Finally, the effects are also likely to be influenced by migrants' family characteristics such as the educational background of the household head and size and composition of their family members, which affect consumption patterns and other factors. Therefore, there are complicated links and strong dynamics across different regions, sectors of the economy, and groups of migrants and their families. The results of this survey are expected to contribute to an enhanced understanding about the impact of the crisis on migrants and their families in Bangladesh, Indonesia, and the Philippines, which can have some relevant policy implications for other countries in Asia.

[1] This section is drawn from 2011 ADB-IOM publication.

B. Main Results

1. Profile of Migrants and Migrant Households

a. Households

To get the perspective of the survey results, it is important to know the main characteristics of the unit of observation, which, in this case, is the migrant household. These have been included in the questionnaire. In addition, questions for profiling the migrants and their families have also been included to provide information about their main characteristics.

Migrant household heads are mostly less educated. A significant number of them (42%) have not completed primary school. This, however, varies considerably across the three countries. Migrant households in the Philippines are the most educated, followed by Indonesia and then Bangladesh, where about 41% of them have no education at all (Table 5.1).

In terms of occupation, 32% of Bangladeshi migrant households, and 65% of Indonesian, are still in agriculture. On the other hand, the occupations of migrant households in the Philippines are much more varied, spreading across different sectors and occupations. This different background seems to be reflected in the occupations of the migrant workers also (Table 5.2).

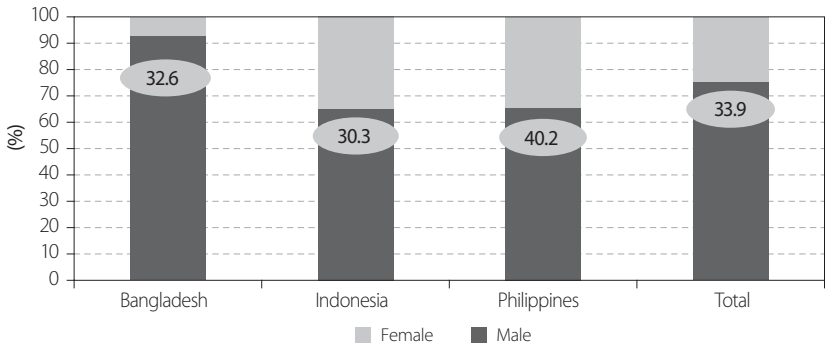
The survey also asked a question on what is considered to be the most important benefit of being a migrant worker. Most of them consider that earning more is the highest achievement, but migrant households in the Philippines also mention that having savings and investments for buying a house and a lot, as well as for education of their children, are the utmost achievements. This reflects that more experienced migrants in the Philippine are more focus on the long-term benefits, rather than just on having a higher income (Table 5.3).

b. Migrant workers

Moving to the main characteristics of migrant workers, about four out of five of them are males with the average age of 34 years (Figure 5.1). This situation is due to the predominance of male migrant workers from Bangladesh. The share of female migrants from this country is only 7%. In contrast, one-third of migrant workers from Indonesia and the Philippines are women, and the trend of "feminization" of migrant workers in these two countries is very strong. This gender difference reflects the differences in the migrants' sociocultural backgrounds, which also influences their choice of destinations and types of occupations.

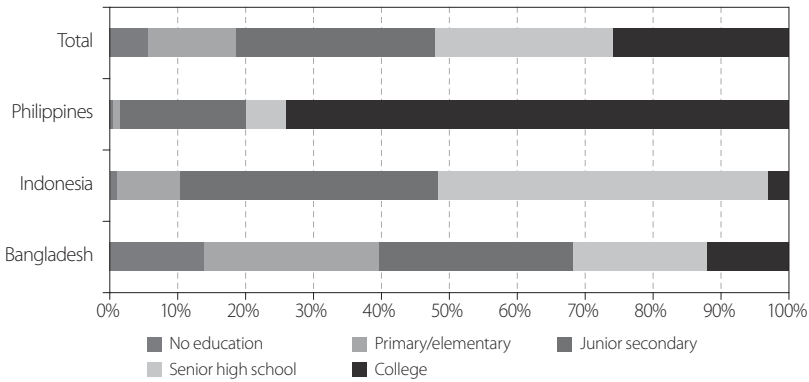
Looking at educational background (Figure 5.2), most of the migrants have at least a secondary education, but many from Bangladesh have no education at all or

Figure 5.1: Gender and Average Age of Migrants



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

Figure 5.2: Highest Education of Migrants

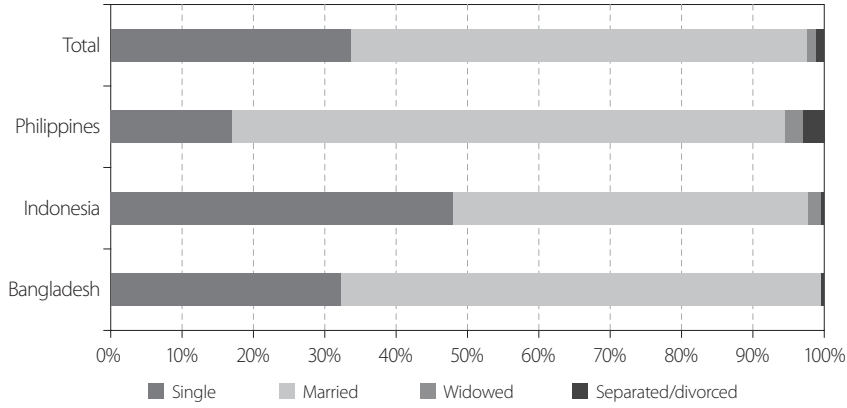


Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

completed only primary education. This will obviously limit their job opportunities abroad. On the other hand, half of the migrant workers from the Philippines have finished college, making Filipino migrants more likely to work at professional jobs or on sea-based contracts requiring a relatively higher level of skill (Figure 5.2).

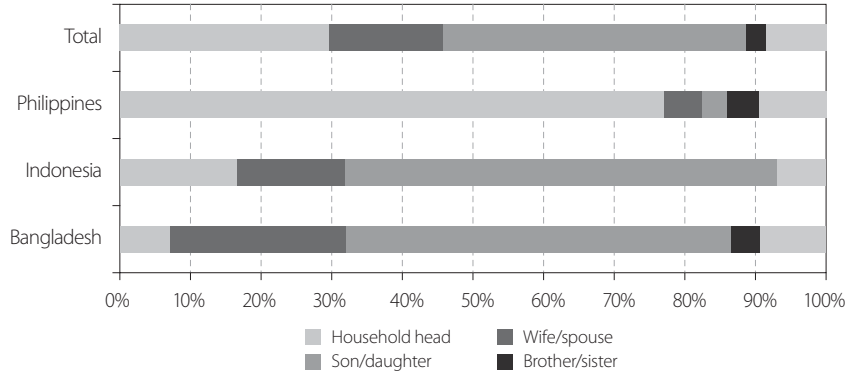
About two-thirds of the migrants are married but a significant number from Indonesia (nearly 45%) are still single (Figure 5.3). In relation to the household head, migrants are mostly the sons or daughters of the migrant family, but a number of them are also the household heads, a situation which is very dominant in the Philippines (Figure 5.4).

Figure 5.3: Marital Status of Migrants



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

Figure 5.4: Migrant Relationship to Household Head

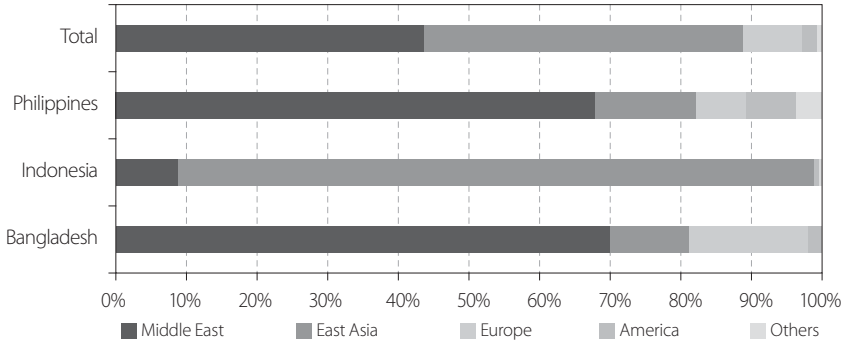


Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

The main destinations of migrant workers are the Middle Eastern countries, followed by European countries, particularly the United Kingdom. Malaysia; Hong Kong, China; Republic of Korea; and other areas of East Asia have also become favorite destinations (Figure 5.5).

Looking at the types of jobs that the migrants usually had before they went abroad, about 30% of them were unemployed, meaning that the job abroad is their first one. For those who had jobs before, the majority of Bangladeshi migrants had worked in agriculture and Indonesians as domestic workers, while Filipino workers had been employed in more diverse jobs including domestic and agriculture work, services, construction, and various professions (Table 5.4).

Figure 5.5: Destination Country of Migrants



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

Migrant workers from Indonesia (84%) and the Philippines (92%) usually have a written contract, but unfortunately this is not the case for migrants from Bangladesh (35%). Many of them only have a verbal agreement or no contract at all. This reflects the informality of the contract and the vulnerability of the migrant workers (Table 5.5).

A higher salary is the dominant factor in the decision to work abroad and serves as the main pulling factor for migration. Another reason is the lack of job opportunity in the domestic economy, which acts as the main pushing factor for migrants to work abroad. Migrant workers from Bangladesh also mentioned that the availability of family, friends, and relatives in the destination countries is one of the major reasons they are working abroad. This shows the key role of social networking and diaspora among the migrant workers and may also partly explain why many of them have no written contract (Table 5.6).

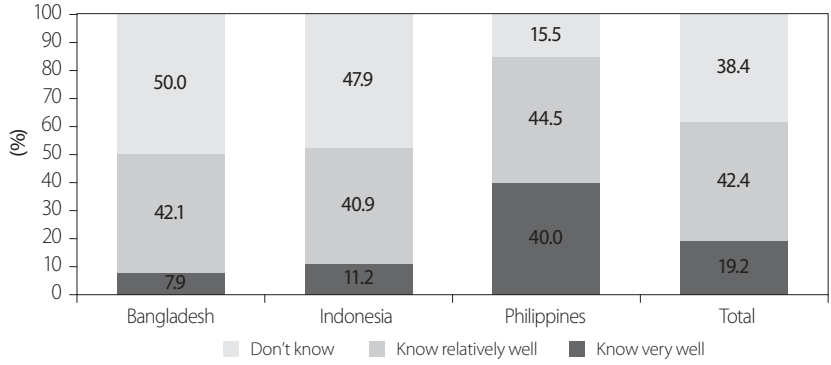
2. Knowledge and Expectations about the Crisis

Before looking at the impact of global crisis on the many aspects of migration, remittance, and household welfare, the survey first asked whether migrant households actually know about the global financial crisis and how long they expect the crisis impact to last. Furthermore, in one of the focus group discussion series, they were asked about their perceptions about the crisis. The focus group participants viewed the crisis as meaning economic slowdown in many countries, closures of many companies, and loss of jobs due to layoffs. They also perceived that it started in the United States but then spread across countries including Asia.

The survey results show that most migrant households are very knowledgeable about the crisis. They know it "very well" or "relatively well." The percentage is highest in the Philippines, reaching 84%. On the other hand, a significant number of migrant households in Bangladesh and Indonesia actually know very little about the crisis. About half in Bangladesh and 48% in Indonesia know nothing about the crisis

(Figure 5.6). This is a distressing reality given that their family members working abroad can actually be the first victims of the crisis.

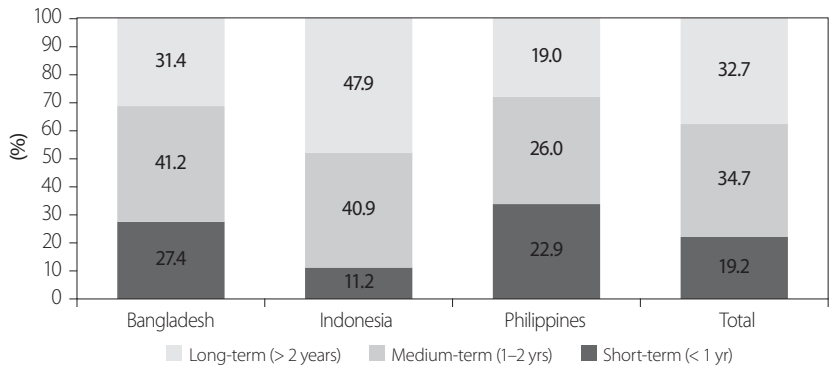
Figure 5.6: Knowledge about the Global Financial Crisis



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

Among migrant households who know about the crisis, about 35% of them think that the impact is going to last for 1–2 years, while 33% think that it will last for more than 2 years. Migrant households in Indonesia seem to be the most pessimistic about the crisis: about 48% think that the impact will last for more than 2 years, 41% think it will last for 1–2 years, and only 11% think that it will last for less than 1 year. The most optimistic group is migrant households from the Philippines (Figure 5.7).

Figure 5.7: Expected Length of the Crisis Impact



Note: Philippine had 32% refusal rate, hence, total may not add up to 100%.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

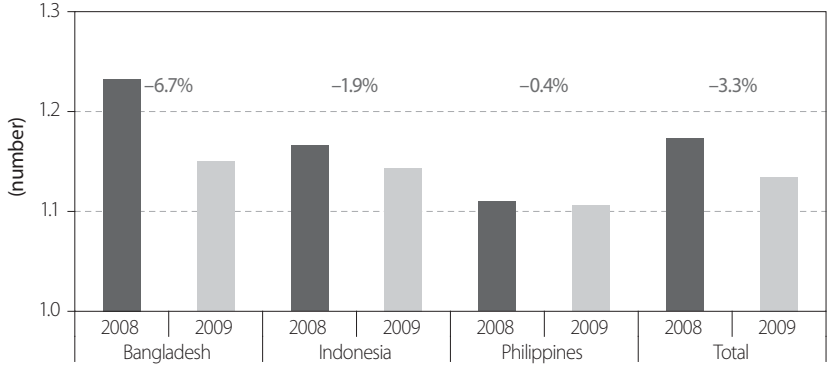
Moreover, migrant households across the three countries have different views about the overall impact of the crisis. In Bangladesh, for instance, they think that the job opportunities for migrant workers will be the most affected, while in Indonesia and

the Philippines there is more concern about the reduction in income and its effects on overall livelihood (Table 5.7).

3. Impact on Out-Migration

Impact on out-migration at the household level can be gauged from the number of family members working abroad as migrant workers before and after the crisis. The results show that the overall number declines by 3%, but the impact across countries is very different. The number in Bangladesh decreases significantly by 7%, which is in contrast with nearly nil in the Philippines and less than 2% in Indonesia (Figure 5.8).

Figure 5.8: Average Number of Family Members Working Abroad



Note: Figure in gray is the percentage difference between the two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

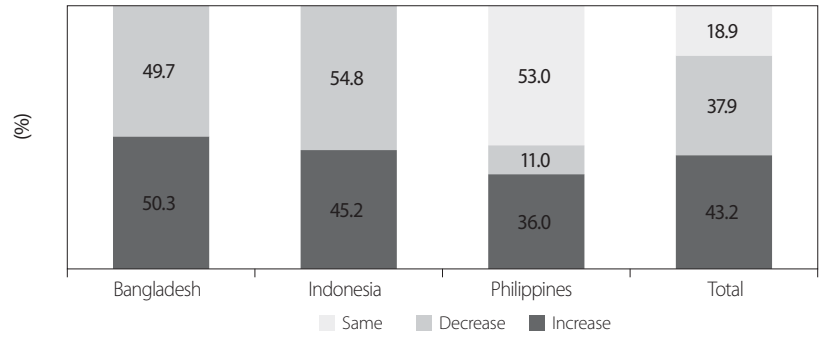
The survey also asked about the main reason why those who would like to go abroad could not do so. Before the crisis, the major reasons were personal, such as taking care of household work, resistance by relatives, or the sad thought of leaving loved ones. After the crisis, however, many of them cited the high cost as one of the main reasons. In Indonesia, the high cost is the main barrier to working abroad. Another finding from the Philippines indicates that in many cases it was because that they could not find the job they wanted after the crisis (Table 5.8).

4. Impact on Household Income

Impact on household incomes is represented by the change in the household income (increase or decrease), the amount of household income before and after the crisis, and changes in the sources of income.

Most migrant households felt that their incomes decreased during the crisis. Approximately half of migrant households in Bangladesh and Indonesia felt their income decreased. On the other hand, this share in the Philippines is only 11%, as a majority (53%) felt unaffected by the crisis (Figure 5.9).

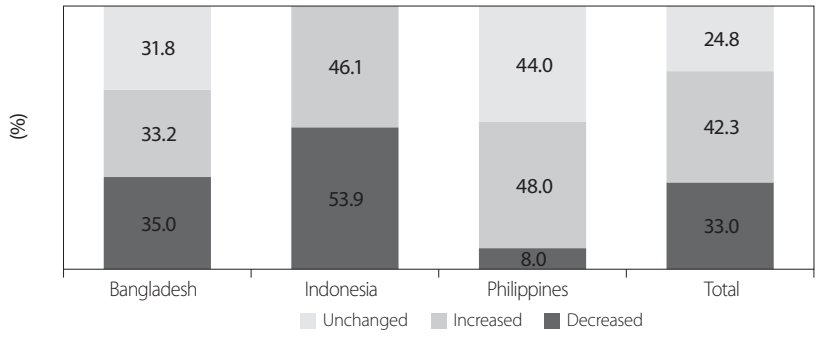
Figure 5.9: Change in Household Income before and after the Crisis



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

This perception is consistent with the overall trend in migrant household income, but inconsistent with the results from the actual calculation (i.e., whether the average migrant household income actually increases or decreases during the crisis). The share of migrant households experiencing a fall in income is 33% in Bangladesh, 46% in Indonesia, and 48% in the Philippines. Compared with the perception results before, this shows overoptimism among migrant households in Bangladesh and the Philippines but an overly pessimistic view among migrant households in Indonesia. Overall, about 42% migrant households experience a fall in their income (Figure 5.10). The different results may also reflect the difficulty in collecting or calculating income data.

Figure 5.10: Percent of Households Experiencing Change in Income



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

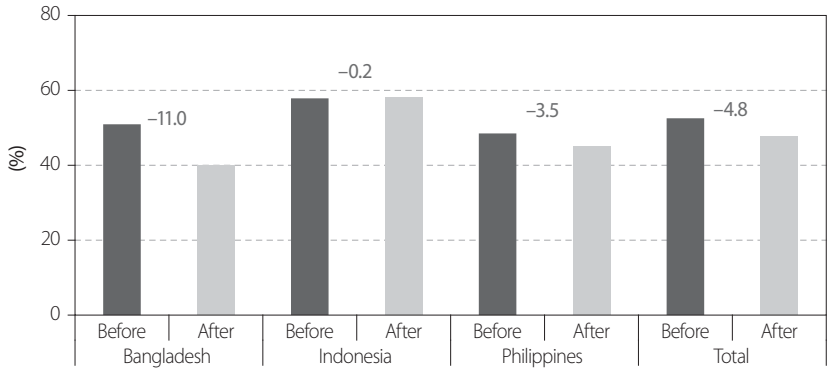
The average monthly income of migrant households has declined by about 1% during the crisis. The decline in Indonesia is much higher, nearly 7%, while in Bangladesh the decline is almost 3%. In contrast, migrant households in the Philippines experienced an increase in their incomes of about 1%. Most migrant households rely heavily on remittances, which contribute about 46% of their total income (Table 5.9).

5. Impact on Savings and Investments

a. Impact on savings

Four indicators are used for looking at the impact on saving and investment: savings incidence, savings scheduled, savings frequency, and savings amount. Following its impact on income, the crisis has also had a negative impact on savings of migrant households. Savings incidence decreases by 5 percentage points, and the largest fall is in Bangladesh (decrease by 11 percentage points). On the other hand, saving by migrant households in Indonesia was stable before and during the crisis (Figure 5.11).

Figure 5.11: Savings Incidence



Note: Figure in red font is the percent difference between the two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

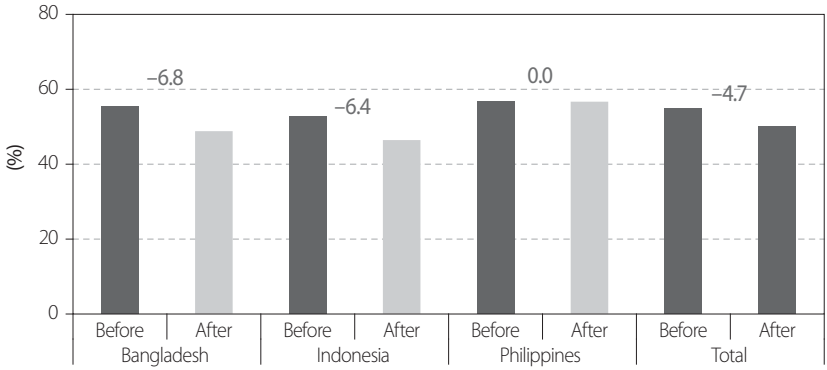
On the frequency of saving, saving monthly or quarterly is the dominant practice among migrant households. But the frequency seems to decrease during crisis (Table 5.10).

The proportion of migrant households who could save following their schedule came down by 4.7 percentage points because of the crisis. Again, Bangladesh appears to be the worst affected, followed by Indonesia. The impact on scheduled saving among migrant households in the Philippines is negligible. (Figure 5.12)

The total amount of savings has declined by about 5% during the crisis. The reduction in Bangladesh reaches 20% while in the Philippines it is about 6%. In contrast, migrant households in Indonesia were able to increase their savings by 37% (Table 5.11).

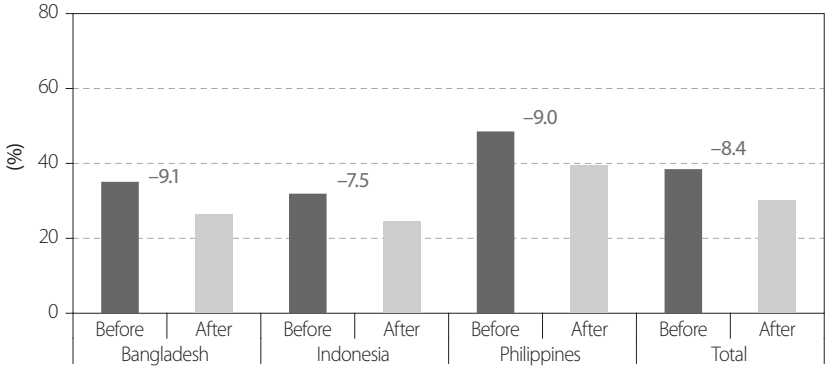
The dynamic effects of the crisis on migrant household savings incidence, schedule, and amount are very interesting. Despite the three indicators all showing a decline of about 5%, the effects across countries are very different (Figure 5.12, Table 5.11 and

Figure 5.12: Allocation of Savings as Scheduled



Note: Figure in red font is the percent difference between the two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

Figure 5.13: Incidence of Investment



Note: Figure in red font is the percent difference between the two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

5.13). The impact in Bangladesh seems the worst: all savings incidence, schedule, and amount decrease by –7% to –20%. The Philippines comes in second, as the negative impact is only on the savings incidence and amount. On the other hand, the impact in Indonesia is only on the savings incidence and schedule, while the savings amount actually increases.

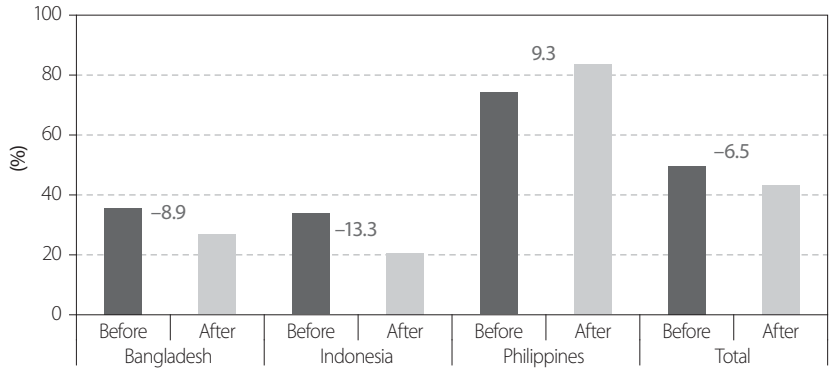
b. Impact on investment

Following the impact on saving, the impact on investment is measured by five indicators: investment incidence, investment allocation as scheduled, investment frequency, investment amount, and intention to invest in the future.

Not surprisingly, the impact of crisis on investment is very similar to its impact on saving. There is also an 8% decline in the incidence of investments during the crisis, primarily due to the need to prioritize expenditures on basic necessities such as food, utilities, and education (Figure 5.13).

The impact on investment schedule across countries varies much more. In general it decreases by 7%, but in the Philippines it increases by 9%, while it decreases by 13% in Bangladesh and 9% in Indonesia (Figure 5.14). The increase in the Philippines happens among those who invest monthly and quarterly, while for Bangladesh, monthly and quarterly investments became less common (Table 5.12).

Figure 5.14: Allocation of Investments as Scheduled



Note: Figure in red font is the percent difference between the two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

The average amount of investment declined 5% and the reduction in Bangladesh is the largest, 26%. For the Philippines, the decline in investment shows that many of the households are holding on to their cash for basic needs (Table 5.13).

Migrants in Indonesia have invested in housing or other entrepreneurial activities but its new migrants must have suspended investment activities during the crisis as their average investment declined by 15%.

Despite the reduced investments, many migrant households would like to invest more in the future. Three out of five migrant households would like to invest more; the share in Bangladesh reaches 82% while in Indonesia it is about 72%. On the other hand, only 43% of the migrant households in the Philippines would like to invest more. This may reflect the limited opportunity for small investments in the Philippines compared with those in Bangladesh and Indonesia (Table 5.14).

Another type of investment examined in the survey is the human capital investment, especially of children. In particular, the survey asked how the household

would compensate for reduced education expenditure. One alternative is to drop children from school, while other choices include transferring from private to public school, trying to raise more income, and borrowing money. The results show that in the Philippines, some migrant households have dropped their children from school due to the reduction in their income; others have chosen to transfer from private schools to less-expensive public schools. In Bangladesh, the migrant households have chosen to cut their other educational expenditure, while in Indonesia they use all alternatives except dropping children from school. It seems that the commitment among migrant households to keep their children in school in stronger in Bangladesh and Indonesia than in the Philippines (Table 5.15).

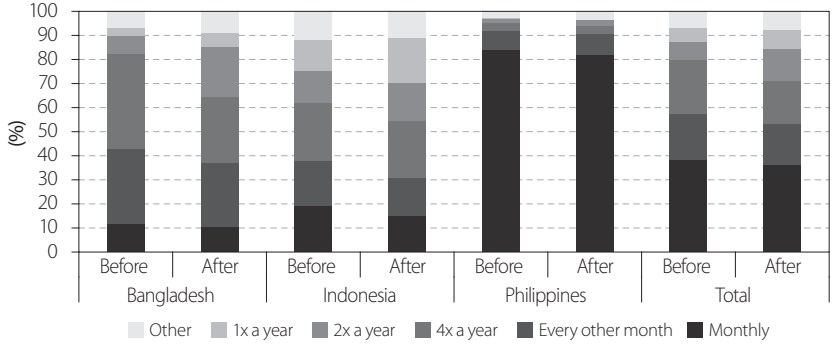
6. Impact on Remittance Dynamics

The impact on remittance dynamics is represented by indicators such as share of migrant households who receive remittances, frequency of receiving remittance, number of transactions of receiving remittance, and amount of remittances received. Additional indicators are whether the crisis has changed the mode use for transferring remittance and the use of remittance money for some key expenditure groups.

It is important to note that not all migrant households received remittances during the period covered by the survey. But the share of those receiving remittances has been very high, about 91%. The highest share is in the Philippines (99%) and the lowest one is in Indonesia (86%). This may relate to the fact that migration and remittance in the Philippines is relatively well developed and that many of the migrant workers from Indonesia are low-skilled and female. The share of migrant households who received remittances has declined by 4% overall. The biggest fall is in Bangladesh (6%), followed by Indonesia (5%), while in the Philippines it remains the same (Table 5.16).

The crisis also reduces the frequency of remittance receipt by the migrant households. The results show that households who used to receive remittances more frequently—monthly, every other month, and four times a year—received remittances less often during the crises. On the other hand, those previously receiving remittances only once or twice a year received remittances more often during the crisis period. Overall, the number of remittance transactions has decreased and the results across the three countries are very different. More than 80% of migrant workers from the Philippines send their remittance monthly, while no more than 20% Bangladeshi and Indonesian migrants remit this often. This shows that the remittance market in the Philippines is relatively more developed than in the other two countries which is, among others, reflected in the number of transactions (Figure 5.15).

Figure 5.15: Frequency of Receiving Remittances



On the amount of remittances received, migrant households experienced a dramatic 22% reduction during the crisis period. The worst is observed in Indonesia, where the decline is 30%, followed by Bangladesh with 19%. The amount of remittances received in the Philippines actually increased by 5% (Table 5.17).

On the mode used to transfer remittances, the use of formal channels, such as banks and other financial institutions, also shows a major change. It seems that speed has become more important than other factors, which increased the popularity of nonbank channels during the crisis, especially in Bangladesh and Indonesia. Overall, migrant households receiving remittances sent through banks decreased by 7.4 percentage points, increasing the share of remittances sent through money transfer organizations. The use of illegal and informal transfer channels such as *hundi* also declined by 2.4 percentage points (Table 5.18).

Looking at how the crisis has affected the use of remittance money, the results show overall increases in the share of remittance money used for nearly all categories of expenses, particularly savings and investments, beverages, gifts, durables, household operations, personal goods, and leisure goods. This clearly shows that migrant households have relied more heavily on remittances to finance their expenditures during the crisis. This is really unfortunate given that the amount of remittance money received has decreased during the crisis (Table 5.19).

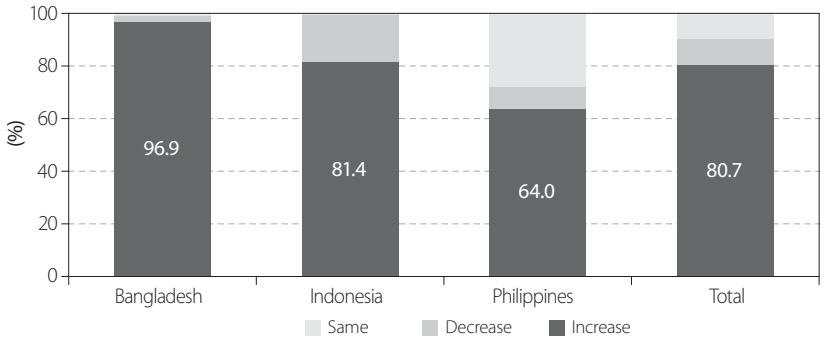
7. Migrant Household Coping Mechanisms

Construction, factory, and services work are the most important types of jobs among migrant workers. The crisis seems to affect construction and factory jobs more than services, especially for domestic workers that seem not affected by the crisis. The survey results show that there is no significant change in the type of job of the migrant workers during the crisis. Bangladesh has relatively big shares in services and

construction, while Indonesians work mostly in domestic and factory jobs. Philippines workers, on the other hand, are more widely spread across different types of jobs (Table 5.20).

In terms of total income, migrant households in the three countries in general experienced a fall during the crisis. About 81% of them reported that their income decreased. The biggest share of those experiencing a decline is in Bangladesh (97%), followed by Indonesia (81%) and the Philippines (64%) (Figure 5.16).

Figure 5.16: Percentage Change in Household Expenditure



Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

The reduction in total household income is mainly due to the decline in the remittances received, except for the Philippines where the remittances received increased. There are also other reasons, such as job loss and wage cuts among family members, as the crisis put pressure on their jobs and livelihood sources. In the Philippines, reduced contributions from other family members, the depreciation of the peso, and poor entrepreneur income also contributed to the decline in total household income. Accordingly, they have to work more jobs and work longer hours to compensate the loss in income. Borrowing money and using savings are the next options to compensate for a decline in income. Despite the decrease in income, there is an indication that household expenditure actually increased during the crisis, putting even more pressure on the migrant households (Table 5.21).

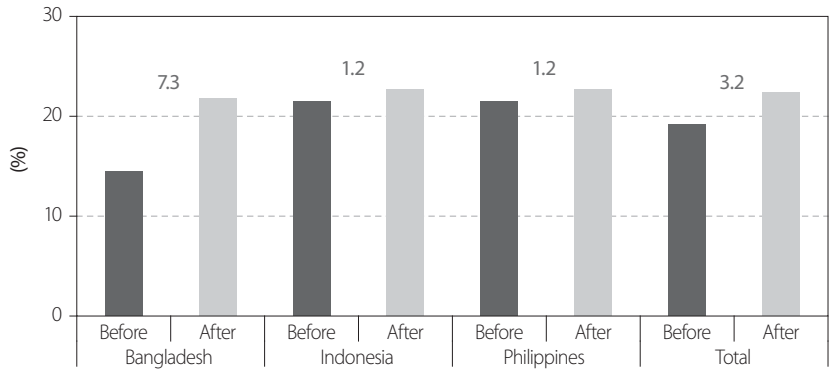
Comparing the coping mechanisms of migrant households across the three countries, there is a stark difference among them. To compensate for the reduction in income, most migrant households in Bangladesh (51%) and Indonesia (61%) resorted to working more, while only a minority in the Philippines chose this option (9%). On the other hand, migrant households in the Philippines are the most eager to borrow money (32%), while only 16%–17% of migrant households in Bangladesh and Indonesia do so. In addition to limited job opportunities in the domestic economy, this may be due to the fact that migrant households in the Philippines rely more on remittance income than those in Bangladesh and Indonesia (Table 5.22).

8. Migrant Worker Coping Mechanisms

In coping with the crisis, migrant workers abroad may have more limited choices given their status in the foreign country. Returning home is considered a last resort to be used only if other options are not available. Migrant workers can try to change jobs, work in the same jobs but at a different workplace within the country, or even move to another country that can provide a job for them. For those forced to be unemployed during the crisis, the survey also asked about the job search method that they used and whether their methods changed after the crisis. In addition, the survey asked about migrant coping mechanisms including for daily life, such as maintaining day-to-day expenditure, etc.

The percentage of migrants returning home during the crisis period increased by 3% (Figure 5.17). This can be due to reasons such as the end of a contract (with or without renewal by employer), pre-termination by the employer, vacation, taking leave, etc. The survey results show that the share of those returning home due to early termination of a contract increased by 4%. This is most prevalent among migrants from Bangladesh (15% increase) and Indonesia (7% increase), but the Philippines has no cases at all (Table 5.13).

Figure 5.17: Returning Home in 2008 and 2009

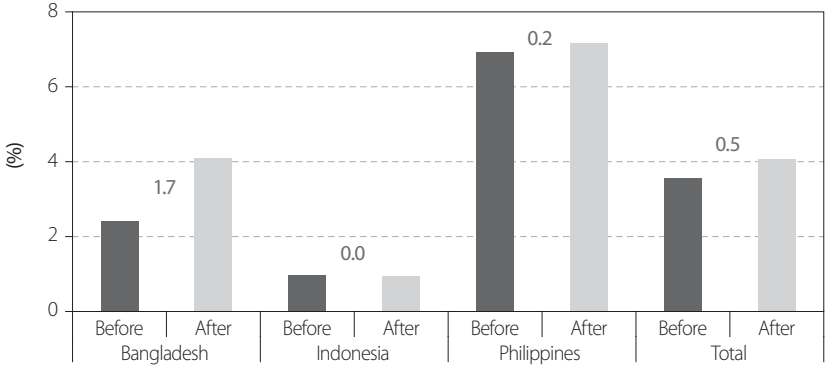


Note: Figure in red font is the percent difference between two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

The survey also reveals that the crisis does not seem to have really changed the occupations of the migrant workers, but it has changed their workplaces. When facing job cuts or layoffs, migrant workers move around to find a new workplace rather than staying and changing their occupations. About 11% of migrant workers manage to remain employed by changing their workplace. Moreover, migrant workers also considered going to another country to keep their jobs. About 7% of migrant workers did this, most of them from the Philippines. This may be due to the strong global network of Filipino migrants working in more than 200 countries (Table 5.24 and 5.25).

For those who were forced to be unemployed, the survey results show that the duration of unemployment increased by one-half month during the crisis. The most notable increase is in Bangladesh (nearly 2 months), while in other two countries there is not much change (Figure 5.18).

Figure 5.18: Number of Months Being Unemployed



Note: Figure in red font is the percent difference between two periods.
Source: ADB and International Organization for Migration. 2011. Survey on the impact of global financial crisis.

Comparing the number of months of unemployment, migrant workers from the Philippines have the highest number (7 months), those in Bangladesh remain unemployed between 2 and 4 months, and Indonesians only 1 month.

In an effort to find a new job, migrant workers may use various job searching methods, such as applying directly to companies, seeking assistance from private employment agencies, and/or asking for help from friends and relatives. The survey results show that the most dominant job searching method is registering with a private employment agency, followed by approaching employers directly. Migrant workers from Bangladesh rely heavily on private employment agencies, Indonesian migrant workers depend on the government employment agency, and Filipino migrant workers approach employers directly. This clearly reflects the different levels of migration development in the three countries and the relatively small role of the private sector in the migration market in Indonesia (Table 5.26).

Other migrant coping mechanisms relate directly to expenditure or livelihood. The survey found that more than a quarter of migrants had to lower their day-to-day expenses to cope with the crisis. Migrants across countries also used their savings and/or borrowed money from family, relatives, or friends (Table 5.27).

9. Assistance to Migrant Households

In facing the global crisis, very few households receive any form of assistance from the government except a very few migrant households in Indonesia that get some loans and cash assistance from the government. The role of nongovernment organizations in this case is still very small: overall, only about 3% of households receive credit or loans from nongovernment organizations. Migrant households in Bangladesh receive no training or job opportunities offered by the government or other institutions, but some households in the Philippines and Indonesia can avail themselves of training provided by the government (Table 5.28).

C. Conclusion and Policy Implications

Knowledge and expectations about the crisis. Most migrant households are very knowledgeable about the crisis. They either know it "very well" or "relatively well." The percentage of those two groups is highest in the Philippines, where 84% of the households fall into this category. On the other hand, a significant number of households in Bangladesh (50%) and Indonesia (48%) know nothing about the crisis. This is a distressing reality, given that their family members working abroad can be the first victims of the crisis as employers lay off workers in response to economic downturns. More than one-third of migrant households who know about the crisis think that it will last for 1–2 years and another one-third thinks that the crisis will last longer than 2 years. Migrant households in Indonesia seem to be the most pessimistic while migrant households from the Philippines are the most optimistic.

Impact on out-migration. The number of family members working abroad has declined by 3%, with the most notable fall in Bangladesh (7%). In contrast, the Philippines has none and Indonesia has less than 2%. The number of those who would like to go abroad but cannot afford to do so has also increased. This is in addition to the reason that they could not find the job they wanted. Therefore the crisis reduces the flows of existing and potential flows of out-migration.

Impact on household income. Most migrant households felt that their incomes have decreased during the crisis, and this is confirmed by calculations of their income before and after the crisis. Migrant households have become more vulnerable since they increasingly rely on remittances (about 46% of the total household income). Those affected by the crisis believe that it will also affect job hunting, wages, and overall livelihood of the migrants.

Impact on savings. Impacts on savings are measured by savings incidence, savings schedule, saving frequency and savings amount. The crisis has reduced savings incidence by 5 percentage points. Saving has also become less frequent, with scheduled saving declining by 5 percentage points. As a result, the amount of savings has also declined by around 5%. The dynamic effects on savings are very different across countries. Bangladesh experienced the worst, followed by the Philippines, but

in contrast, Indonesia experienced a negative impact only on the savings incidence and scheduled saving, but the amount of savings actually increased.

Impact on investment. The impact on investment is very similar to the impact on saving, but the decline is relatively bigger since households need to reprioritize expenditures, including basic necessities. Despite the decrease, migrant households would like to invest more in the future. The survey also asked households if they have reduced their human capital investment for their children (education) due the declines in income, savings, and investment. The results show that some households in the Philippines dropped their children from school during the crisis, while those in Bangladesh and Indonesia preferred to cut other expenses and cope in different ways without pulling children out of school.

Impact on remittance dynamics. The impact on remittance dynamics is very evident. The share of migrant households receiving remittances has declined by 4% and the amount of remittance money received has decreased by 22%. Migrant workers are sending remittances less frequently. On the use of formal channels, money transfer institutions have been preferred over banks during the crisis. The crisis has also reduced the use of informal channels such as *hundi*. Sadly, the crisis has also made migrant households more dependent on the remittance incomes. This is observed in all three countries, with remittance money increasingly being used in almost all categories of expenditures. This clearly shows that migrant households have relied more on remittances to finance their expenditure during the crisis despite the fact that the amount of remittances received during the crisis actually decreased.

Migrant household coping mechanisms. The survey found that while workers do change their workplaces, there is no significant change in migrants' occupations. Bangladeshi migrants work mostly in service and construction and Indonesians work mostly in domestic jobs or in factories. Workers from the Philippines, on the other hand, are spread more widely across different types of jobs and sectors.

Total income of migrant households in general fell during the crisis. About 81% of migrant households considered their income decreased. The biggest share is in Bangladesh (97%), followed by Indonesia (82%) and the Philippines (64%). The reduction in total household income is mainly due to the reduction in the amount of remittances received, except for the Philippines, where the remittances received actually increased. Other reasons for the reduction in household income are job loss and wage cuts among family members, as the crisis also put pressure on the jobs and livelihood sources of other family members.

In the Philippines, reduced contributions from other family members, depreciation of the peso, and poor entrepreneur income also contributed to the decline in the total income of migrant households. Accordingly, migrant family members have had to work in more jobs, work longer hours, and seek additional jobs to compensate for the loss in income. Resorting to borrowing money and using savings are the next

options. In addition to the decrease in income, there is an indication that household expenditures actually increased during the crisis, which put even more pressure on the migrant households.

The coping mechanisms of migrant households are very different across the three countries. To compensate for reduced income, most migrant households in Bangladesh (51%) and Indonesia (61%) resort to working more, while only a few in the Philippines (9%) use this option. On the other hand, migrant households in the Philippines are the most eager to borrow money (about 32%), while only 16%–17% of migrant households in Bangladesh and Indonesia do so. This could be due to limited job opportunities in the domestic economy and more reliance on remittance income.

Migrant coping mechanisms. Migrant workers may have more limited choices given their status in the foreign country, but returning home is considered a last resort to be used only if other options are not available. Other options include changing occupation, working in different places within the country, or even moving to another country. For those forced to be unemployed, the survey asked about the job search methods used before and after the crisis. The survey also asked about migrant coping mechanisms in terms of adjusting their expenditure. The percentage of migrants returning home during the crisis increased by 3%. This can be due to the end of a contract, pre-termination, vacation, taking leave etc. The survey found that the share of those returning home due to early termination of a contract increased by 4% overall. This is most prevalent among migrants from Bangladesh (15% increase) and Indonesia (7% increase), but the Philippines had no increase at all.

The crisis apparently has not changed the occupations of the migrant workers, but it has changed their workplaces. When facing job cuts or layoffs, migrant workers move around to find new workplaces rather than staying and changing their occupations. About 11% of migrant workers managed to use this strategy. Moreover, migrant workers also move to other countries to keep their jobs. About 7% of migrant workers did this, most of them from the Philippines. This may be due to the strong global network of Filipino migrants working in more than 200 countries.

For those forced to be unemployed, the survey results show that the duration of unemployment increased by one-half month during the crisis. The most notable increase is in Bangladesh (nearly 2 months), while there is not much change in Indonesia or the Philippines.

To get a new job, migrant workers may apply directly to companies, register with private employment agencies, and/or ask for help from friends and relatives. The survey found that registering with a private employment agency is the most dominant, followed by approaching the employer directly. Migrant workers from Bangladesh rely heavily on private employment agencies, Indonesians depend on the government employment agency, and Filipino workers approach employers directly. This difference reflects the relatively small role of the private sector in the migration market in Indonesia and the different level of migration development in the three countries.

The survey also found that more than a quarter of migrants had to lower their day-to-day expenses to cope with the crisis. Migrants across countries also use their savings and/or borrow money from family, relatives, or friends to meet their needs.

Assistance to migrant households. Very few migrant households received assistance from the government during the crisis. The role of nongovernment organizations is also very small. Therefore, migrant households are generally left alone to deal with the impact of the crisis.

Policy implications. The overall results suggest that there is strong variation in the impact of the crisis across different aspects of migration and remittances. Therefore, a "one size fits for all" policy approach will definitely fail to address the dynamic impacts of the crisis on migrants and their families. Any policy to address the issue should carefully consider the nature of migration and its remittances, as well as the underlying factors driving the impact dynamics. The one thing surely needed during an economic crisis is protection for migrant workers and their families that will enable them to cope with the crisis and to come up stronger and better equipped for the future. This covers many aspects, including training and improving the adverse conditions that have been fueling the push factors of migration. The optimal way to handle migration should be a "win-win-win" solution framework that benefits the host country, the sending country, and the migrant workers.

D. Tables

Table 5.1: Highest Education of Household Head

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
No education	88	40.9	17	7.8	0	–	105	16.6
Primary (up to grade 5 or equivalent)	49	22.8	112	51.6	3	1.5	164	25.9
Junior secondary (grade 8)	46	21.4	43	19.8	17	8.5	106	16.8
Secondary (senior)	23	10.7	44	20.3	41	20.5	108	17.1
College/university/master's	9	4.2	1	0.5	139	69.5	149	23.6
Total	215	100.0	217	100.0	200	100.0	632	100.0

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.2: Occupation of Household Head

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
Domestic worker	74	34.4	22	10.1	28	14.0	124	19.6
Construction worker	5	2.3	11	5.1	24	12.0	40	6.3
Factory worker	0	–	8	3.7	13	6.5	21	3.3
Agricultural worker	69	32.1	141	65.0	0	–	210	33.2
Service worker	6	2.8	16	7.4	37	18.5	59	9.3

continued on next page

Table 5.2. continuation

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
Clerical/Administrative worker	7	3.3	1	0.5	12	6.0	20	3.2
Technical/professional worker	2	0.9	0	–	29	14.5	31	4.9
Sea-based	0	–	0	–	42	21.0	42	6.6
Others	0	–	0	–	13	6.5	13	2.1
Unemployed	19	8.8	9	4.1	1	0.5	29	4.6
Entrepreneur	33	15.3	9	4.1	1	0.5	43	6.8
Total	215	100.0	217	100.0	200	100.0	632	100.0

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.3: Highest Achievement Considered by Migrant

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
More income	201	93.1	210	96.8	29	15.5	440	71.0
New knowledge and skill achievements	10	4.6	7	3.2	0	–	17	2.7
Saving and investment	0	–	0	–	100	53.5	100	16.1
Education expenses	0	–	0	–	55	29.4	55	8.9
Others	5	2.3	0	–	3	1.6	8	1.3
Total	216	100.0	217	100.0	187	100.0	620	100.0

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.4: Type of Migrant Work before Going Abroad (%)

	Bangladesh	Indonesia	Philippines	Total
Domestic	7.4	60.0	14.5	17.4
Construction	5.4	0.0	13.0	7.5
Factory	2.7	2.7	8.0	4.7
Agriculture	26.4	21.3	0.0	15.8
Service	2.3	2.7	21.5	9.6
Clerical/administrative	1.6	0.0	5.0	2.6
Technical/professional	5.0	0.0	16.5	8.6
Student	10.1	0.0	0.0	4.9
Other worker	0.0	0.0	0.0	0.0
Unemployed	39.1	13.3	21.5[a]	28.9

[a] sea-based workers
Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.5: Contract Types of Migrant Workers (%)

	Bangladesh	Indonesia	Philippines	Total
Verbal contract	25.1	5.0	3.0	10.7
Written contract	34.6	84.2	92.0	70.9

continued on next page

Table 5.5. continuation

	Bangladesh	Indonesia	Philippines	Total
No contract	36.0	0.0	4.0	12.5
No written accounts	3.3	3.1	0.0	2.2
With detailed accounts	0.9	3.1	1.0	1.8
No idea	0.0	4.6	0.0	1.8

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.6: Main Reason for Working Abroad (%)

	Bangladesh	Indonesia	Philippines	Total
Higher salary	70.9	71.7	82.0	74.1
Lack of job opportunity within the country	13.8	24.4	11.0	17.4
Wage cut or job loss	0.8	0.0	2.5	0.9
Family/relative/friend in destination country	11.1	0.6	2.0	4.5
Work experience	0.0	2.9	2.5	1.8
Others	3.4	0.0	0.0	1.2
No idea	0.0	0.3	0.0	0.1

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.7: Impact of Global Financial Crisis on Job, Income, and Livelihood

	Bangladesh	Indonesia	Philippines	Total
Job hunting/searching job	3.39	2.31	2.16	2.35
Income/wages	2.71	2.53	2.67	2.63
Overall livelihood	3.15	2.84	2.42	2.69

Note: Calculated by average of the impact scores, where 1 = the impact is expected to be much less, 2 = less, 3 = the same, 4 = more, and 5 = much more.
Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.8: Reasons for Not Going Abroad (%)

	Indonesia		Philippines		Total	
Reason	**Before**	**After**	**Before**	**After**	**Before**	**After**
Taking care of household work (i.e., personal reason)	20.0	13.0	25.0	10.0	23.3	12.1
Discouraged by family	6.7	4.3	14.3	–	11.6	3.0
Incomplete requirement	–	–	14.3	20.0	9.3	6.1
Got a job here in the Philippines	–	–	14.3	10.0	9.3	3.0
Could not leave work	–	–	10.7	–	7.0	–
The cost of going abroad too expensive	33.3	30.4	7.1	10.0	16.3	24.2
Did not meet requirements	–	–	7.1	10.0	4.7	3.0
Uncertain about the details of the offered work	–	21.7	3.6	–	2.3	15.2
No job available	–	–	–	20.0	–	6.1
Was not hired (too young)	13.3	8.7	–	10.0	4.7	9.1
No idea	26.7	21.7	3.6	–	11.6	15.2

Note: Data from Bangladesh cannot be obtained for this variable.
Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.9: Average Monthly Household Income (US$)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Average income, US$	299.90	291.58	187.63	174.97	698.20	705.77	1,186	1,172
		–2.8		–6.7		1.1		–1.1

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.10: Frequency of Savings

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Monthly	38.9	43.7	32.3	26.8	70.1	67.8	45.6	44.0
Every other month	9.3	11.5	15.3	13.8	14.4	17.8	13.1	14.3
4× a year	13.0	6.9	25.0	26.0	8.2	5.6	16.1	14.3
2× a year	15.7	10.3	8.9	12.2	0.0	0.0	8.5	8.0
1× a year	13.0	17.2	5.6	7.3	1.0	2.2	6.7	8.7
Other	10.2	10.3	12.9	13.8	6.2	6.7	10.0	10.7

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.11: Average Amount of Savings (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Average income, US$	1,151	921	1,885	2,578	81,590	77,006	84,625	80,505
		–20.0		36.8		–5.6		–4.9

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.12: Frequency of Investment (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Monthly	3.2	1.7	5.5	6.8	14.4	19.0	8.6	10.2
Every other month	1.6	1.7	4.1	1.7	3.1	1.3	3.0	1.5
4× a year	8.1	1.7	2.7	5.1	5.2	8.9	5.2	5.6
2× a year	11.3	11.9	5.5	8.5	10.3	10.1	9.1	10.2
1× a year	64.5	62.7	64.4	59.3	36.1	36.7	52.6	51.3
Other	11.3	20.3	17.8	18.6	30.9	24.1	21.6	21.3

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.13: Average Amount of Investment (US$)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Average income, US$	7,519	5,543	2,719	2,207	100,266	96,997	110,504	104,747
		–26.3		–18.8		–3.3		–5.2

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.14: Intention to Invest in the Future

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
Will invest	69	82.1	152	71.4	86	43.0	307	61.8
Will not invest	15	17.9	51	23.9	114	57.0	180	36.2
No idea	0	0.0	10	4.7	0	0.0	10	2.0
Total	84	100.0	213	100.0	200	100.0	497	100.0

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.15: Coping Mechanism to Compensate for Reduction in Education Expenditure (%)

	Bangladesh	Indonesia	Philippines	Total
Dropping children out of school	–	–	54.5	20.0
Transferring from private to public school	–	5.6	9.1	6.7
Trying to raise their income	–	16.7	–	10.0
Borrowing money	–	16.7	–	10.0
Cutting down other educational costs	100.0	27.8	–	20.0
Relying on remittances	–	5.6	–	3.3
No schooling children	–	11.1	–	6.7
Postponing payment	–	5.6	–	3.3
Other	–	11.1	36.4	20.0
	100.0	100.0	100.0	100.0

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.16: Share of Households Receiving Remittances from Migrant Workers (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
% of Households	95.8	89.7	90.7	86.2	99	98.5	95.1	91.4
Percentage point change		–6.1		–4.5		–0.5		–3.7

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.17: Average Amount of Remittances Received (US$)

	Bangladesh		Indonesia		Philippines		Total	
	2008	2009	2008	2009	2008	2009	2008	2009
Average income, US$	2,280.59	1,840.65	1,751.89	1,229.90	331.61	346.50	4,364	3,417
Percentage point change		–19.3		–29.8		4.5		–21.7

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.18: Mode for Transferring Remittance (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Bank	80.1	64.2	76.3	73.5	62.5	59.5	73.0	65.6

continued on next page

Table 5.18. continuation

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Money transfer	5.3	23.8	17.2	18.5	35.5	38.0	19.2	27.0
Friends/colleague	1.5	2.1	5.6	7.4	1.0	1.0	2.6	3.4
Hundi	10.2	7.8	0.0	0.0	0.0	0.0	3.5	2.6
Other	2.9	2.1	1.0	0.5	1.0	1.5	1.7	1.4

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.19: Average Change in the Use of Remittances before and after the Crisis

	Bangladesh	Indonesia	Philippines	Total
Food	3.4	3.1	3.8	3.5
Tobacco and alcohol	3.2	3.1	3.0	3.1
Education	3.5	3.3	3.8	3.6
Medical care	3.5	3.2	3.5	3.4
Housing	3.8	3.2	3.6	3.5
Household operation	3.2	3.1	3.4	3.2
Personal care goods	3.0	3.2	3.4	3.3
Durables	3.1	3.0	3.5	3.2
Utilities bills	3.3	3.3	4.1	3.7
Communication and transportations	3.4	3.4	3.7	3.6
Leisure goods	3.3	3.2	3.3	3.3
Gifts/donation	3.2	3.0	3.1	3.1
Special occasions	3.8	3.2	3.3	3.5
Savings	2.8	2.9	3.0	2.9
Investment	3.4	2.9	3.2	3.2

Note: The numbers are calculated from the average score of changes, where 1 = the change is much less, 2 = less, 3 = same, 4 = more, and 5 = much more. Overall, an average number above 3 means more and below 3 means less.
Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.20: Type of Work Abroad before and after the Crisis (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Domestic	1.5	1.5	30.1	30.7	14.5	14.0	15.4	15.4
Construction	20.8	19.1	15.8	16.0	13.0	12.5	16.9	16.1
Factory	14.4	13.7	28.2	28.4	8.0	8.0	17.6	17.4
Agriculture	3.4	0.4	13.5	13.2	0.0	0.0	6.1	4.9
Service	24.6	24.0	8.5	7.8	21.5	21.0	18.0	17.4
Clerical/administrative	6.1	6.1	1.2	0.0	5.0	5.5	4.0	3.8
Technical/professional	4.9	5.0	1.2	1.2	16.5	17.0	6.8	7.0
Others	24.2	30.2	0.8	1.6	0.0	1.0	9.1	11.8
Unemployed	0.0	0.0	0.8	1.2	21.5	21.0	6.2	6.3

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.21: Reasons for Decreased Income (%)

	Bangladesh	Indonesia	Philippines	Total
Reduction in remittance incomes	50.8	38.1	9.1	38.9
Job loss among family members	9.5	11.4	31.8	13.2
Wage cut among family	27.0	33.3	0.0	27.4
Decrease in exchange of foreign currency	0.0	0.0	27.3	3.2
Others	12.7	17.1	31.8	17.4

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.22: Ways to Compensate for a Reduction in Income

	Bangladesh	Indonesia	Philippines	Total
Working more (e.g., more work, longer hours)	50.8	61.1	9.1	51.8
Borrowing money	17.5	15.7	31.8	18.1
Requesting remittance	0.0	1.9	0.0	1.0
Using savings	27.0	13.9	22.7	19.2
Selling valuable assets	1.6	2.8	4.5	2.6
Others	3.2	4.6	31.8	7.3

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.23: Reasons for Returning Home (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
End of the contractual period and will be renewed	9.5	0.0	26.4	7.1	34.7	37.7	29.6	25.6
End of the contract and will not be renewed	0.0	9.3	15.1	16.1	2.5	2.0	4.4	5.8
Pre-termination of contracts by employers	4.8	20.4	7.1	7.1	0.5	0.0	1.0	4.9
Pre-termination of contracts by migrants (illness)	9.5	1.9	25.0	25.0	1.5	1.5	7.8	5.8
Discrimination against migrant workers	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.3
Vacation	21.4	11.1	0.0	0.0	16.6	18.6	14.3	13.9
Leave	40.5	31.5	0.0	0.0	0.0	0.0	5.8	5.5
No idea	9.5	3.7	0.0	0.0	44.2	38.7	31.3	25.6
Others	4.8	22.2	28.3	42.9	0.0	1.5	5.8	12.6

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.24: Incidence of Changing Workplace

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
Changed workplace	7	5.1	42	18.0	16	8.0	65	11.4
Did not change workplace	131	94.9	191	82.0	184	92.0	506	88.6

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.25: Incidence of Changing the Host Country

	Bangladesh		Indonesia		Philippines		Total	
	Number	%	Number	%	Number	%	Number	%
Changed country	7	5.1	10	4.4	21	10.5	38	6.7
Did not change country	131	94.9	217	95.6	179	89.5	526	93.3

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.26: Job Search Method Used (%)

	Bangladesh		Indonesia		Philippines		Total	
	Before	After	Before	After	Before	After	Before	After
Registered in public employment agency	2.7	2.4	25.1	25.3	9.8	6.8	17.9	16.3
Registered in private employment agency	73.3	64.3	61.6	59.6	41.5	36.4	61.8	57.5
Approached employer directly	17.3	25.0	1.5	3.4	34.1	38.6	9.4	14.4
Approached relatives or friends	4.0	4.8	4.9	4.5	12.2	15.9	5.6	6.2
Placed or answered advertisements	0.0	0.0	0.0	0.0	2.4	2.3	0.3	0.3
Others	2.7	3.6	6.9	7.3	0.0	0.0	5.0	5.2

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.27: Method of Coping Mechanism due to Changes in Livelihood (%)

	Bangladesh	Indonesia	Philippines	Total
Lowering day-to-day expense (food, house, etc.)	21.5	31.1	32.7	27.0
Looking for new job/additional job	12.9	9.3	8.2	10.7
Using his/her savings	44.8	17.9	28.6	31.4
Borrowing money from family or relative	11.0	4.0	14.3	8.5
Borrowing money from friends	3.1	2.6	12.2	4.1
Same	0.0	21.9	0.0	9.1
Others	6.7	13.2	4.1	9.1

Source: ADB and IOM survey on the impact of global financial crisis.

Table 5.28: Assistance Received from Any Institutions (% of households)

	Bangladesh		Indonesia			Philippines				Total			
	Loan	Cash	Training	Loan	Cash	Training	Loan	Cash	Job	Training	Loan	Cash	Job
Government	0.5	–	1.8	1.4	11.5	0.5	0.5	–	–	0.8	0.8	3.9	–
NGO	8.8	–	–	–	–	0.5	0.5	–	–	0.2	3.2	–	–
Friends and other relatives	3.7	2.8	–	0.9	–	–	1.0	6.0	0.5	–	1.9	2.8	0.2
Other	1.8	0.9	–	–	–	–	–	–	–	–	0.6	0.3	–

NGO = nongovernment organization
Source: ADB and IOM survey on the impact of global financial crisis.

Appendix: Survey Design and Methodology

The survey was conducted in Bangladesh, Indonesia, and the Philippines by using a questionnaire developed by the Asian Development Bank (ADB) and the International Organization for Migration (IOM). The questionnaire was written in English and then translated into local languages to ease the data collection process. The survey was intended to collect data from about 600 migrant households across the three countries (200 households each), but 634 households were surveyed to allow for a complete sample in case families were dropped out of the study or provided inadequate data.

In addition to a standard profiling of the migrants and migrant households useful in the data analysis, the survey focused on key topics involving knowledge and expectations about the global crisis and impact of the global crisis on different aspects of migration and remittances. Specific aspects addressed included (i) out-migration among family members; (ii) remittance dynamics, including incidence, frequency, and amount of remittances; (iii) household income and expenditures, including expenditures for saving and investments; (iv) coping mechanisms of migrant households and migrants themselves during the crisis; and (v) access to assistance provided by other parties, such as the government, nongovernment organizations, and family and friends.

Given the small sample, the selection of households was done by using purposive sampling such that the key characteristics of migrants, such as occupation and preferred destination country, are represented in the sample. Moreover, the survey is not intended to estimate population parameters, for there is not complete information about the population of the migrant households. The migrant household in the survey is defined as a household that has at least one member that lived or worked abroad before the crisis and continued to live or work there or return home afterwards.

In addition to the household survey, a series of focus group discussions (FGDs) was conducted before and after the survey to further understand and validate some results. In both the survey and the focus groups, a number of comparisons between "before" and "after" the crisis are made. Since from the Asian perspective, the crisis started in September 2008, for the purpose of the survey the period between August 2007 and September 2008 is considered as "before," and the period between October 2008 and September 2009 is considered as "after" the crisis.

i. Bangladesh

The household survey was implemented through 217 random samples of migrant households from three upazillas (village) in three zillas (district). A migrant household has been defined as a household that had at least one member who lived and worked abroad between August 2007 and September 2008 and lived and worked abroad or returned back home afterward. The selection of the migrant households was made

independently of their current status (i.e., regular or irregular) in the country of destination. The distribution of samples is provided in Table A1.

Table A1: Sample Distribution, Bangladesh

Name of District	Name of Upazilla	Name of Village	Number of Sample Households
Manikganj	Singair	Khan Baniara and Hindu Baniara	75
Gazipur	Joydevpur	Bhanua and Pajulia	77
Hobiganj	Hobiganj Sadar	Pailgram, Richi, and Nabiganj	65
			Total = 217

The selection of these three upazillas facilitates drawing information on migrants from diverse backgrounds. The migrants from Singair upazilla in Manikganj district work in different countries in the Middle East, and are both male and female. In Joydevpur upazilla in Gazipur district, the migrants also have different destinations in Middle Eastern countries. Migrants from Hobiganj Sadar upazilla in Hobiganj primarily work in the United Kingdom.

ii. Indonesia

Ponorogo District, East Java Province, was selected as the target area to survey 217 random households with migrant workers. Ponorogo was selected based on the following criteria:

1. It is known for sending family members to work abroad, and for the past 3 decades has been acknowledged as a pioneer in sending workers abroad.

2. It is famous for its migrant pool. It reflects the complexity in migrating and provides rich information on labor migration by gender, destination, and occupation.

3. It is a relatively representative location for surveys on migration and remittance issues.

The households were selected by random sampling method based on occupations, gender, and destinations of migrants.

iii. Philippines

The survey was conducted in six provinces (Batangas, Cavite, Laguna, Manila, Quezon, and Rizal) for 200 random households. The respondents were selected using multistage area probability sampling. Stage 1 was compiling a list of all cities and municipalities belonging to the six provinces. Qualified municipalities, towns, and

cities were then randomly selected. In stage 2, barangays were randomly chosen in each selected municipality/town, and these constitute the primary sampling units. In stage 3, sample households were chosen in each primary sampling unit using a random starting point and following predetermined routes. The following criteria were used in selecting the respondent in each household:

- males or females,
- aged 20 years old and above,
- must be either the household head or one of the decision makers in the family when it comes to household expenditures,
- respondent's household had at least one immediate family member who went overseas to work last August 2007 or earlier, and
- respondent's household is the direct remittance recipient or income beneficiary of the family member who works abroad.

Table A2: Sample Distribution, Philippines

Name of Province	Number of Sample Households
Manila	100
Cavite	25
Laguna	20
Batangas	20
Rizal	20
Quezon	15
Total	200

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