FINANCING FOR OVERCOMING ECONOMIC INSECURITY

EDITED BY NAZRUL ISLAM AND ROB VOS

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Financing for Overcoming Economic Insecurity

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Preface

Economic insecurity remains a persistent feature of life in both developed and developing countries. In fact, the combination of economic insecurity and high mean income is one of the paradoxes of recent times. How economic insecurity can be overcome therefore remains a pertinent question engaging the minds of policy makers and the common people alike. The global financial crisis and the Great Recession in developed countries and their continued aftermath have further vindicated the importance of the question of economic insecurity and ways of overcoming it.

This book is a contribution to the knowledge pool that is necessary to answer this question. Its chapters are derived from a set of background papers that were written for the United Nations flagship report, *World Economic and Social Survey*, devoted to the issue of economic insecurity. Several personnel changes and administrative and financial hurdles delayed the publication of this volume. However, given the topicality of its subject and the recent nature of the data, information, and analysis presented in its chapters, this book is as relevant now as it would have been a few years ago.

As this volume finally gets published, we would like to thank the authors, first, for writing the background papers, second, for cooperating with the editing of their papers, involving significant shortening and other modifications, and, third, for being patient to allow various hurdles to be overcome and the publication process to be completed. We hope that their effort and perseverance will be paid off by the impact this book will have both on policy making and on further research on the subject.

Taking the opportunity, we would also like to thank staff members of Development Policy Analysis Division (DPAD), who were part of the writing team for *World Economic and Social Survey*, and the participants of the Expert Group Meetings that were held to discuss these background papers. The chapters of this book benefited from their comments and suggestions. Finally, we would like to thank the staff members of DPAD/DESA and DPI of the United Nations who interfaced with the publisher and gave the last push needed to bring this volume out.

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1

Introduction

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One of the recent paradoxes is simultaneous increase in economic insecurity and per capita income. This paradox is true for both developing and developed countries. In developed countries, one reason for greater insecurity is increased (at least perceived) volatility of income. Even a billionaire may feel insecure if there is a strong chance for his or her portfolio value getting wiped out shortly. The second reason for heightened insecurity in developed countries is unequal distribution. Income growth in most of these countries in recent years was concentrated in the very upper echelons of income distribution. A vast number of people in developed countries live from pay check to pay check, and they are haunted by the prospect of losing their job.

Increased volatility and unequal distribution lie at the root of rising insecurity in developing countries too. Financial deregulation eased the movement of capital around the world. However, the procyclicality of these capital flows has become an increasing source of macroeconomic volatility in most developing countries. As a result, livelihood in these countries has become insecure even for those who are above the poverty line. While the standard trade theory suggests that increased openness will lead to greater use of labor and hence rise of labor income share in developing countries, this has generally not happened. Instead, globalization has been associated with rise in inequality in developing countries too. Since their per capita income is low, unequal distribution in these countries implies that significant portions of their populations lie at or below the poverty level. For these people, economic insecurity is a permanent or chronic feature of life.

Increased economic insecurity is harmful for human welfare in several ways. First, job and income insecurity affects directly the material and psychological well-being of a person. Second, economic volatility and high uncertainty generally exert negative influence on productive investment, thereby hurting long-term development prospects. Reducing insecurity is therefore an urgent necessity for both short-term relief and long-term growth.

However, formulation of policies necessary for reducing and coping with insecurity requires adequate understanding of the causes of insecurity and of steps and measures that have proved successful so far. This book aims at enhancing that understanding by presenting a set of chapters focused on economic insecurity problem and the policies that may be pursued to overcome the problem. These chapters were originally written as background papers for the UN annual flagship report, *World Economic and Social Survey* (WESS), devoted to the issue of economic insecurity. The data, analysis, and recommendations presented in these chapters can be of much help in understanding the causes and nature of economic insecurity and in identifying the steps that may be taken to deal with it.

Several features set this book apart from other books on the topic of economic insecurity. First, the chapters of this book not only cover the causes of rising insecurity, but also focus on the policies that may be pursued to overcome the insecurity problem. Second, the chapters include discussions of both macro- and microfinancing initiatives that may be taken to mitigate and cope with economic insecurity. It may be noted that many books on the subject deal with either macro- or microfinance issues. Yet, issues of microfinance are closely related to those of macrofinance. Third, instead of taking a narrow *financial* view of the problem, this book provides a broader perspective on the issue of economic insecurity, relating insecurity to the *real* life issues of jobs, unemployment, offshoring, and natural disasters. In other words, the issues of finance are discussed in close connection with issues of the real side of the economy.

Offshoring of jobs and rising economic insecurity in developed countries

The volume begins with Milberg and Winkler explaining (in Chapter 2) why economic insecurity has increased in developed countries and what the policy responses have been so far. It starts by documenting the rise in insecurity in most industrialized countries since mid-1970s, and observes that in many of them the

burden of economic risk has shifted from the state and corporations to private households. The chapter identifies offshoring of jobs caused by globalization as the main reason behind the rising insecurity, and predicts even more offshoring in the future, including that of jobs related to production of high-tech goods and high skilled services. The authors point out that, on the one hand, the threat of job offshoring has also helped employers to keep domestic wages low. On the other hand, exploitation of developing countries' cheap labor abroad and stagnant wages at home have resulted in huge increase in profit income.

The authors note that, despite the commonality of these structural processes, the actual insecurity outcome depends to a large extent on how the enhanced profit income is used. Focusing on employment protection and public expenditure on worker support (social security), the authors identify several models, namely the Anglo-Saxon, the Mediterranean, the Rhineland, and the hybrid model of "flexicurity." According to the authors, the Anglo-Saxon model combines low employment protection with low levels of public spending. At the other extreme is the Rhineland model that combines high employment protection with high levels of spending on worker support. The Mediterranean model is characterized by high employment protection with low levels of public spending, while the hybrid, flexicurity model (practiced in Denmark, Finland, and the Netherlands) combines low employment protection with high levels of public spending.

The authors observe that while greater levels of public spending can counteract, to some extent, the adverse impact of globalization on economic insecurity, it is more important in the long run to channel profit into productive domestic investment, instead of being spent on dividend payouts and share buyback. The authors also refute the commonly heard argument that greater spending on social protection harms global competitiveness. Citing the fact that countries such as Germany and Denmark have excelled in export while Anglo-Saxon countries have not, the chapter argues that appropriately directed high social spending may even help increase export competitiveness.

Volatile capital flows as a cause of economic insecurity in developing countries

While offshoring of jobs is one important aspect of globalization, its other important aspect is greater capital mobility. Akyüz identifies capital mobility as the most important source of volatility and income insecurity in developing countries. He provides (in Chapter 3) the details about how increased capital

mobility enhances the boom–bust pattern of output and leads to considerable human costs, because employment levels do not recover that fast after recessions. He thinks that management of international capital flows is now a greater challenge than attaining price stability.

Akyüz goes on to consider the policies that developing countries can adopt at the national level to mitigate increased insecurity arising from capital mobility. He considers three interrelated areas of such policies, namely (i) macroeconomic (mostly monetary) policies focusing on interest and exchange rate, (ii) prudential regulations of the financial sector, and (iii) building up of reserves. In general, Akyüz thinks that countercyclical policies should start during the expansion phase (when capital inflow surges) so that macroeconomic imbalances and exposure to a reversal of capital flow can be minimized. He offers a detailed discussion of the *pros* and *cons* and the challenges involved with each of these three types of policies.

Akyüz however reaches the conclusion that while national level policies can be helpful, they are neither effective nor optimal in counteracting the negative consequences of capital mobility. He notes that the magnitudes of private capital flows have become so huge that for most developing countries it is difficult to withstand their disrupting influence without an appropriate multilateral mechanism. Akyüz surveys the recent experience and points out the inadequacy of various IMF initiatives, which were mostly focused on repayment to creditors rather than on recovering employment and output of borrowing countries. He thinks that IMF should focus on lending for current account financing only, leaving resolution of capital account crises to the governments and financial institutions of major countries that host the creditors and investors.

Insurance as a way to overcome economic insecurity of the poor in developing countries

Considering the problem of economic insecurity of the poor of developing countries, Clarke and Dercon (in Chapter 4) ask how insurance can be delivered to the poor more effectively. They begin by documenting substantial risks faced by poor households in developing countries. In this regard, they contrast the "traditional, asset-focused view" of poverty that neglects risk, and the "vulnerability view" that puts emphasis on risk. Clarke and Dercon note that in recent years the "asset-focused view" has gained prominence, as evidenced by the

proliferation of "microcredit" programs. They however argue for a combination of both asset creation and risk reduction and coping.

Clarke and Dercon note the inherent difficulties with insurance programs meant for the poor, including difficulties arising from information asymmetries, high transaction costs, weak enforcement, and so on. They survey the experience of insurance programs offered so far for the poor, illustrating the difficulties earlier, and note their lack of success as compared to that of microcredit programs.

Clarke and Dercon take note of microcredit's insurance role too, but view this role to be applicable mostly for small shocks, leaving for insurance programs the important role of dealing with large and catastrophic shocks. The authors reach a similar conclusion with regard to informal mechanisms. They however argue that in developing formal insurance programs, it is important to take note of the complex interconnections among formal insurance programs, microcredit programs, and informal insurance mechanisms. Clarke and Dercon recommend using the synergies among these different types of programs and mechanisms, while avoiding the negative effects of one on the other. They also discuss the interrelationships between insurance programs and safety-net programs, pointing out their specific attributes, and argue for the use of both.

Potential and limitations of microinsurance programs

While Clarke and Dercon use mostly theoretical and conceptual arguments to discuss the general relationship of insurance programs with other poverty alleviation programs, Mosley provides (in Chapter 5) empirical details about existing microinsurance programs, assesses their impact, and suggests ways of overcoming the difficulties they face in further expansion.

Like Clarke and Dercon, Mosley too notes the vast unmet demand for insurance, particularly among poor females. He thinks that previous attempts at providing insurance to the poor failed because of inappropriate configuration of the supply. He thinks that the current wave of microinsurance programs is faring better, though they have been limited so far mostly to risks to health and life and not expanded that much to weather-related risks and risks to assets.

Mosley presents positive evidence of impact of the microinsurance schemes, though his sample is small. However, he emphasizes that the impact has been mediated largely through microinsurance's spillover effects on both the clients

and other institutions dealing with the clients. For example, loan repayment rates appear to be better for those who subscribe to microinsurance.

Despite the progress, Mosley thinks that microinsurance programs now face a dilemma with regard to the direction to take in expanding further. In his view, one option is to put emphasis on financial viability and pay less attention to the needs of the poor. However, he thinks that it is possible for microinsurance to expand in a pro-poor way too, and he suggests various policies that can help to do so. Pointing to its positive externalities, Mosley also suggests that external agencies (though not the government itself) have to come forward to fill the gap in the private supply of insurance. He also notes that microcredit, microsaving, and other pro-poor programs can serve as "quasi-insurance" programs.

Microsavings as a way of overcoming economic insecurity

While Clarke, Dercon, and Mosley point to *potential* insurance role of microsavings schemes, Hulme, Moore, and Barrientos (in Chapter 6) focus on the actual realization of this role. They lament the fact that while much attention in recent decades has been devoted to microcredit, savings programs, despite their potentiality, have been neglected. In fact, the authors think that there has been a "historic shift" from thrift (savings), as the foundation of finance for the poor in the early twentieth century, to debt in the early twenty-first century. In their view, this shift has been the result, in part, of a misperception that the poor does not or cannot save. The authors refute this perception and show many different ways in which poor actually save and use their savings to both reduce and cope with risks.

Hulme, Moore, and Barientos offer a quantification of microsavings programs worldwide, noting however the difficulties regarding data, classification, and so on. They highlight the fact that, despite the spread of microsavings programs so far, these remain confined mostly in the informal sector. In their view, an enormous demand from the poor for formal deposit (savings) services still remains unmet.

Hulme, Moore, and Barrientos also offer some quantification of the impact of microsavings programs. Based on data from three microfinance programs in India, Peru, and Zimbabwe, they conduct regression analysis to show that savings help the poor to smooth consumption, avoid debilitating disinvestment, and build up fixed assets.

The authors note that, unlike insurance programs, which focus on specific risks, savings can serve as "general purpose" insurance, allowing the poor to deal with a wide range of risks, and without requiring anybody else's approval. However, the authors agree with Clarke and Dercon that microsavings may not be enough to deal with large, catastrophic risks. Hulme, Moore, and Barrientos therefore recommend that microsavings should be strongly promoted as an "essential element" of the strategy to overcome economic insecurity of the poor, complemented by other schemes that can address the large, catastrophic risks.

Making use of complementarities among various microfinance programs

Islam offers (in Chapter 7) a synthesis of the papers on microfinance, putting emphasis on the complementariness among various microfinance programs (credit, savings, and insurance). He draws a distinction between *episodic* insecurity suffered by people who are much above the poverty line and *chronic* insecurity suffered by people who are below or near the poverty line. He notes the vicious circle characterizing the "poverty–insecurity" relationship and identifies various links connecting insecurity with poverty. To clarify the historical context of the current microfinance efforts, Islam provides a brief review of the international poverty reduction efforts so far, noting the oscillation between *indirect* and *direct* approaches to poverty reduction. He also notices that poverty and insecurity reduction policies may be classified into *aggregate-growth*, *within-growth*, and *outside-growth* types, depending on their effect on economic growth.

Islam draws attention to the fact that the vast expansion and high repayment rates of microcredit provide *prima facie* support for the novel idea of collateral-free lending to the poor. The success of microcredit has prompted expansion of microinsurance and microsavings programs too, making it necessary to ensure that the different types of microfinance program benefited from possible complementarity among them. In this regard, Islam identifies three different ways in which the complementarity may work, namely *economies of scale* (e.g. sharing of overhead cost by different programs), *extensive combination* (e.g. making it possible to extend one type of microfinance program to clients of other types of microfinance programs), and *internalization* (e.g. making it easier for insurance holders to make loan repayments and vice versa). He suggests that awareness about these different ways of interaction can be helpful in further expansion of microfinance programs. However, echoing Clarke and Dercon, Islam also draws

attention to the possibility of negative spillover among various microfinance schemes (e.g. loan burden from participation in microcredit program may make it difficult to pay premiums on microinsurance program).

With regard to the overall impact of microfinance, Islam distinguishes between its "narrow financial impact" and the "broader impact." He notes that countries with significant presence of microfinance (such as Bangladesh, Bolivia, Indonesia, etc.) are not the leaders in poverty and insecurity reduction. By contrast, East Asian countries had dramatic success in poverty reduction with little or no microfinance. This contrasting experience suggests that the poverty and insecurity reduction impact (or the narrow financial impact) of microfinance may not be of "first-order" importance. However, Islam holds out the hope and the possibility that microfinance may be more potent through its broader role in ensuring a more egalitarian initial distribution of endowment (including access and voice) that is necessary for the "takeoff" to an equitable growth process.

Ways to overcome economic insecurity caused by natural hazards

While the previous chapters focus on insecurity caused by *economic* reasons, Linnerooth-Bayer and Mechler focus their attention (in Chapter 8) on insecurity caused by *natural* hazards. They focus on developing countries, though allude considerably to the relevant developed country experience too.

The authors notice that during 1980–2004, over 95 percent of natural disaster deaths occurred in developing countries and their direct economic losses averaged $54 billion per annum. They observe that disasters are underprevented in developing countries and even in developed countries. Also, due to the covarying nature of the risk and greater problems of moral hazard and adverse selection, insurance against natural disasters prove to be more difficult than against other risks.

Linnerooth-Bayer and Mechler survey recent attempts to insure natural disaster risks in developing countries, distinguishing between insurance schemes devised for households and businesses, agricultural farms, and governments. Among microinsurance schemes, the authors identify several models, including "community-based model," "full service model," "provider model," and "partner-agent model." They highlight the novelty of insurance programs that do not try to indemnify actual losses and instead base themselves on objective, but indirect indexes (such as rainfall, average price of cattle in the district, etc.).

Linnerooth-Bayer and Mechler note that while many rich countries have developed national programs of insurance against natural disasters, similar programs are almost nonexistent in developing countries. The authors emphasize that for many small developing countries, natural disasters may prove to be *national* disasters. There is therefore a need for pooling risk across countries, involving either developed countries (e.g. via donor agencies) or fellow vulnerable developing countries. The Caribbean Catastrophe Risk Insurance Facility (CCRIF), directed against losses caused by hurricanes, is an example of the latter. Linnerooth-Bayer and Mechler conclude that, despite the difficulties, it is necessary to continue the effort to expand insurance coverage of natural disaster risks by pooling across hazards, regions, and nations and across private and public sectors, because insurance is a better way to cope with risk than depending on post-disaster donor aid.

Overall, the book offers a rich array of experiences of both developing and developed countries in dealing with economic insecurity arising from both economic and non-economic reasons. It subjects these experiences to deep analysis and brings out practical policy recommendations. Both the insights derived from the analysis and the policy recommendations drawn from them should be of much help in overcoming economic insecurity by making available the appropriate types and amounts of financing.

2

Globalization, Offshoring, and Economic Insecurity in Industrialized Countries

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Introduction

How can one dare speak of economic insecurity in the industrialized countries when the rate of per capita GDP in Germany is 120 times that in Uganda, the rate of unemployment in the United States is one-tenth of that in Nepal, or when the share of population below the poverty line in France is one-tenth of that in Zimbabwe? The question itself indicates that economic insecurity is a relative phenomenon. Those who are subject to a high risk of a sudden drop in income or wealth without adequate offsetting support are facing economic insecurity, irrespective of nationality or location. Hacker (2006: 20) defines economic insecurity as "a psychological response to the possibility of hardship-causing economic loss." He notes, however, that "a feeling of insecurity is not enough to say someone is insecure. Insecurity requires real risk that threatens real hardship."

By many accepted measures—real wage growth, inequality, labor's share of national income, the incidence of long-term unemployment, the number of workers displaced by foreign trade, and investment—"real" economic insecurity in industrialized countries increased in the past 15–20 years. The period has also been one of rapid globalization, with international trade and capital flows reaching historic highs. The role of globalization in heightened economic insecurity has thus become a major topic of debate in the advanced countries. Throughout this chapter, we focus on six countries: Denmark, France, Germany,

Japan, the United Kingdom, and the United States. These countries represent a broad spectrum of the advanced industrialized world, and although all have expanded their exposure to international trade and investment they have not all experienced the same degree of increased economic insecurity. We also find that the *perception* of economic insecurity is strong in these industrialized countries, especially in the United States and in France.

The risk from a high level of real—and perceived—economic insecurity in the industrialized countries is borne by both the government and private households. Household consumption and borrowing patterns may reflect the burden of risk on the household private sector. This may partly depend on the private sector's expectation of government policy. While rising economic insecurity has in some cases resulted in increased demand for state-provided social protection, these demands have met various responses from business and government on the grounds that they raise production costs and reduce a nation's international competitiveness.[1] The new wave of economic insecurity has occurred in a variety of political contexts. Although offshoring[2] has increased in all industrialized countries and raised the degree of economic insecurity on average across the OECD, economic insecurity varies considerably across countries, depending largely on the institutions in place. The ILO index of economic security gives the following rankings for the six countries that are the focus of this chapter (Table 2.1).[3]

During the 1990s, a good deal of research aimed at showing that technological change rather than trade had been the principal source of labor market churning in industrialized countries. This chapter revisits this debate in the light of the evolution of the world trading environment, involving emergence of new and

Table 2.1 ILO economic security index

Rank	Country	Economic security index	Scores		
			Input	Process	Outcome
4	Denmark	0.91	0.812	0.930	0.949
7	France	0.83	1.000	0.914	0.698
9	Germany	0.79	0.871	0.785	0.759
15	United Kingdom	0.74	0.681	0.673	0.795
18	Japan	0.72	0.702	0.814	0.679
25	United States	0.61	0.261	0.662	0.762

Source: ILO (2004).

larger trading nations in the developing world, development of sophisticated global supply chains driven by lead firms in industry, financialization[4] of the nonfinancial corporate sector in the major countries, and implementation of a number of regional free trade agreements that lower trade barriers and extend property rights protection to foreign investors.

This chapter addresses three central questions. First, what has been the impact of globalization, and specifically offshoring through trade and foreign investment, on economic insecurity in the industrialized countries? Second, what are the specific microeconomic and macroeconomic channels through which globalization impacts economic insecurity in these countries? Third, what political responses have best addressed rising economic insecurity without inflicting damage on other countries and in particular on the low-income developing countries whose export performance has been bolstered by the new wave of globalized production? (For more details regarding these questions, see Milberg and Winkler 2009.)

The main findings of this chapter are:

1. Since the mid-1970s most industrialized countries have experienced a rise in economic insecurity, and in many of them the burden of economic risk has shifted from the state and corporations to private households.
2. There are different models of state–market relations with respect to economic insecurity, ranging from the limited state role in the Anglo-Saxon model to a heavy state role in the Rhineland model and a hybrid model of "flexicurity"[5] in Denmark and a few others.
3. International trade and investment increasingly occur within global supply chains, which have reached a level of growth and depth to constitute a "new wave" of globalization in which trade and technology are inextricably linked to an extent not witnessed previously. Offshoring would be unthinkable without low-cost information technology (IT), and IT would not be as low cost if not for the effective extension of global supply chains into low-wage countries.
4. The new wave of globalization has created new sources of gains from trade and new channels for transmission of economic insecurity arising from trade and investment. Moreover, as supply chains extend to high-tech goods and higher-skill services, there are massive possibilities for future expansion of offshoring, indicating that economic vulnerability will rise across all skill and education groups rather than falling entirely on low-skilled workers, as has been the case until recently.

5. Spreading and sustaining the benefits of offshoring depend on the domestic reinvestment of efficiency gains that offshoring brings. While offshoring has contributed to the rise in profit's share in the national income of most industrialized countries, they are also witnessing a fall in the investment rate, as percentage of both profit and GDP. Nonfinancial corporations are increasingly using profits to raise dividend payments, share buybacks, and purchase of other financial assets, rather than making productive investment.
6. Denmark's mix of labor market flexibility, ample social protection, and active labor market policies—so-called flexicurity—has successfully raised economic security in that country despite globalization. The US labor market flexibility, combined with relatively meager social protection in the face of rapid growth of imports from developing countries, has contributed to an unprecedented rise in income inequality and economic insecurity for a large share of the American population.
7. Given the macroeconomic consequences of offshoring, flexicurity arrangements alone are likely to be insufficient to sustain high levels of economic security in the industrialized world. Trade protection has largely been ruled out, but other policies involving redistribution and channeling of gains from offshoring to investment and growth are likely to be more important in the near future, as offshoring expands beyond low-skilled manufacturing workers.
8. Finally, the provision of a solid and portable set of social protection elements does not reduce a nation's trade competitiveness and in fact may raise it as increased worker security leads to greater possibilities for innovation and growth in productivity.

We begin with an overview of recent trends in economic insecurity and the different policy regimes in industrialized countries. Then we consider in detail how globalization and offshoring might have contributed to rising economic insecurity. We conclude with a discussion of the importance of combining creative macroeconomic and microeconomic policies in order to provide more security even as economic openness continues to grow.

Economic insecurity in industrialized countries

The period from 1950 to 1973 is widely referred to as the "Golden Age" of capitalism, but it may better be termed as the period of rising economic *security* for people in the industrialized countries. Not only did the OECD countries

experience rapid growth in real GDP, but also this growth was reflected in rising median wages, even more rapid improvements in median family income, relatively low rates of unemployment, falling inequality, and improvements in the post-Great-Depression system of social protection in most countries.

Since 1973 the industrialized economies have grown more slowly, as productivity growth has diminished. As can be seen from Table 2.2, all six countries in our sample had higher GDP growth rates during 1950–1973 than during 1980–2007. In some cases (for example, Japan, Germany, and France), the growth rate fell by more than half. Labor productivity growth follows a similar pattern. Over the entire OECD, total factor productivity growth fell to 1.5 percent per annum on average after 1985, from rates more than twice that during 20 years before 1973.[6]

The productivity growth slowdown occurred as the process of deindustrialization continued in all countries of our sample except Germany, and in many cases the pace of deindustrialization accelerated (see Figure 2.1).[7] Manufacturing now accounts for between 12 percent and 15 percent of total value added in the United States, the United Kingdom, Denmark, and France. The two trends are not unrelated, as productivity in services, while difficult to measure, is widely recognized to be lower than productivity in manufacturing.

Table 2.2 Economic performance, golden age versus post-golden age (compound annual growth rates unless otherwise indicated)

	Denmark %	**France %**	**Germany %**	**Japan %**	**United Kingdom %**	**United States %**
Gross domestic product						
1950–1973	3.8	5.0	6.0	9.3	2.9	3.9
1980–2007	2.1	2.0	2.2	2.3	2.5	3.0
Labor productivity						
1950–1973	2.9	4.7	4.7	7.5	2.4	2.3
1980–2007	1.7	1.5	0.8	1.8	2.1	1.6
Employment-to-population-ratio average						
1960–1973	48.5	41.0	45.1	48.1	45.4	38.9
1980–2007	50.9	40.2	45.9	49.9	44.8	47.4
Unemployment rate average						
1956–1973	1.1*	1.9	1.3	1.5	1.8	5.0
1980–2006	7.2	10.1	7.6	3.3	7.9	6.2

Source: Authors' illustrations based on data from the Conference Board and Groningen Growth and Development Centre, Total Economy Database, January 2008 and OECD Labor Force Statistics.

*Average based on 1960, 1965, 1967, 1969–1973.

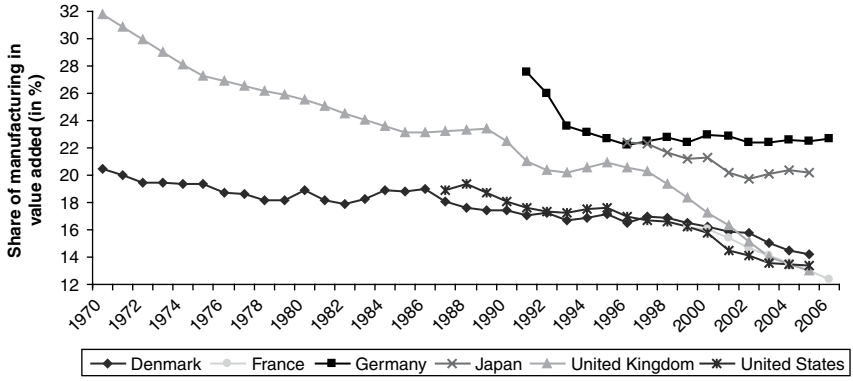

Figure 2.1 Share of manufacturing in value added, 1970–2006 (in %).

Source: Authors' illustrations based on data from OECD National Accounts Statistics.

Thus the increase in the importance of services in economic activity relative to manufacturing contributed to reductions in economy-wide rates of productivity growth. By some accounts manufacturing output growth is the main driver of productivity growth, following the so-called Verdoorn's Law.[8] Moreover, the manufacturing sector traditionally offered jobs with high pay and employment protection, often the result of effective bargaining by labor unions. Service sector jobs vary in their skill requirement and pay, but generally offer lower wages and less job security and employee benefits, partly due to low rates of unionization in services industries, an issue we return to later. As the share of services sector has grown in employment and value added, productivity growth has fallen, certainly as compared to that in the "Golden Age."

Unemployment and inequality

More importantly for the purposes of this chapter, the post-1973 period has seen a significant increase in worker vulnerability in many industrialized countries. The average rate of unemployment (on a standardized basis) has been significantly higher in the post-Golden Age era compared to the rates of the 1956–1973 period. The extent of rise varies, ranging from slightly higher in the United States to more than five times higher in France, Germany, and Denmark (see Table 2.2). In most cases, the incidence of long-term unemployment (i.e. unemployment of duration greater than 1 year) also rose (Figure 2.2).[9]

The slowdown in GDP and productivity growth described earlier not only brought higher rates of unemployment, but also occurred along with a slowdown in the growth of wages. In the United States, real median wages

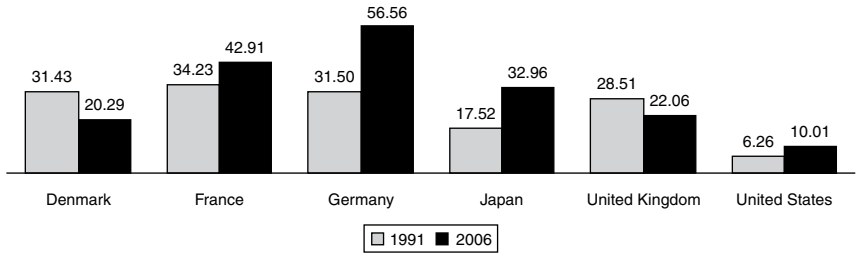

Figure 2.2 Share of long-term unemployed (>1 year) in total unemployed (in %).
Source: OECD Labor Force Statistics.

Table 2.3 Wage inequality, 1985–2005 (ratio of wages of top 10% of earners to bottom 10% of earners)

	1985	**1991**	**2005**
Denmark	2.2	2.2	2.6
France	3.1	3.3	2.9
Germany	2.9	2.8	3.3
Japan	3.1	3.1	3.1
United Kingdom	3.2	3.4	3.6
United States	4.1	4.3	4.9

Source: Wages per full-time employee are calculated based on OECD Labor Force Statistics.
Notes: 1985 wages only for West Germany, 1991 wages for Denmark, and 2005 wages for France.

have been effectively stagnant since the late 1970s.[10] The result of these trends is that beginning in the 1980s, the labor share of national income began to fall across many industrialized countries. Since most labor force participants are not owners of capital, this trend in the labor share captures in a broad way the growing economic insecurity in the industrialized countries.

Even more dramatic than the rise in income inequality between wage earners and profit earners was the rise in inequality across wage earnings, and especially in the gap between the wages of skilled and unskilled workers. The rise in "wage inequality" has been much discussed and is documented for our six country sample in Table 2.3, which shows the ratio of wages in the top decile to wages in the bottom decile of the wage distribution for 1985, 1991, and 2005. Over the entire period, the inequality has been the greatest in the United States and the lowest in Denmark. Since 1985, France and Japan were the only countries not to experience an increase in inequality. In the other four countries, inequality began to rise after 1991, more pronouncedly in the United States and Germany.

The burden of risk

There are private and public responses to rising economic insecurity of workers. Households may borrow in order to insulate their spending patterns from earnings volatility. The rise in home equity loans in the United States and consumer credit in the United Kingdom are in part explained by such responses.[11] Rates of household saving out of disposable income fell during the 1990s for most of the countries in our sample (Germany and France being the exceptions), indicating the need for households to limit and reduce savings in order to maintain their consumption level (OECD, 2007a).

Government responses to economic insecurity also vary greatly. The US response was to privatize the burden of health insurance and pensions (see later). In other countries, there was a decline in unemployment benefits (Table 2.4). Among the countries of the sample, only Denmark and France increased spending (as percent of GDP) on active labor market programs since 1990, though in France the percentage has declined after 2000 (Table 2.4). Responding

Table 2.4 Labor market policy indicators

Public expenditures for active labor market programs (% of GDP)	**1980**	**1990**	**2000**	**2003**
Denmark	0.4	1.1	1.6	1.6
France	n.a.	0.8	1.3	1.1
Germany	n.a.	1.0	1.1	1.1
Japan	n.a.	0.3	0.2	0.3
United Kingdom	0.6	0.6	0.4	0.5
United States	0.2	0.2	0.1	0.1
Gross unemployment replacement rate (%)	**1981**	**1991**	**2001**	**2005**
Denmark	54.2	51.9	50.9	48.9
France	31.3	37.6	43.5	39.0
Germany	29.3	28.8	29.4	24.2
Japan	8.8	9.9	9.1	7.7
United Kingdom	24.2	17.8	16.6	15.6
United States	14.6	11.1	13.5	13.5

Source: Authors' illustrations.

Data: OECD Social Expenditures and OECD Tax-Benefit Models.

Gross unemployment replacement rate: The OECD summary measure is defined as the average of the gross unemployment benefit replacement rates for two earnings levels, three family situations, and three durations of unemployment. For further details, see OECD (1994: chapter 8) and Martin (1996). Pre-2003 data have been revised.

to the rising economic insecurity, governments have also made changes in regulations on hiring and firing. However, these changes have gone in different directions, becoming less strict in Denmark, Germany, and Japan, and stricter in France, and to some extent in the United Kingdom (Table 2.5a and b).

More important than shifting the burden of risk are differences across countries in terms of the degree of labor market flexibility, level of unemployment benefits, spending on active labor market programs, and the level of pension benefits. Economic insecurity is higher where state protection is lower and/or social protection is more closely tied with employment. By looking at these three variables—strictness of employment protection legislation, gross unemployment replacement rate, and public expenditures on active labor market programs—we see some clear patterns in the government response to economic insecurity. We calculated an index of the strictness of employment legislation by setting the

Table 2.5a Strictness of employment protection legislation (higher values indicate stricter regulation on hiring and firing)

	1990	**1998**	**2003**
Denmark	2.3	1.4	1.4
France	2.7	3.0	3.1
Germany	3.2	2.5	2.2
Japan	2.1	2.0	1.8
United Kingdom	0.6	0.6	0.8
United States	0.2	0.2	0.2

Source: OECD Labor Statistics.
Info on EPL: The OECD uses the term Employment Protection Legislation (EPL) in the context of employment protection legislation generally. It refers to all types of employment protection measures, whether grounded primarily in legislation, court rulings, collectively bargained conditions of employment or customary practice. http://stats.oecd.org/glossary/detail.asp?ID=3535

Table 2.5b Union members as share of total labor force (in %)

	Union members/total labor force		
	1980	**1991**	**2001**
Denmark	60	61	63
France	14	8	8
Germany	29	30	19
Japan	22	19	17
United Kingdom	43	30	26
United States	18	13	11

Source: Authors' illustrations.
Data: OECD Trade Union Statistics, based on administrative data except for United Kingdom 2001 and United States 1991 and 2001 (survey data).

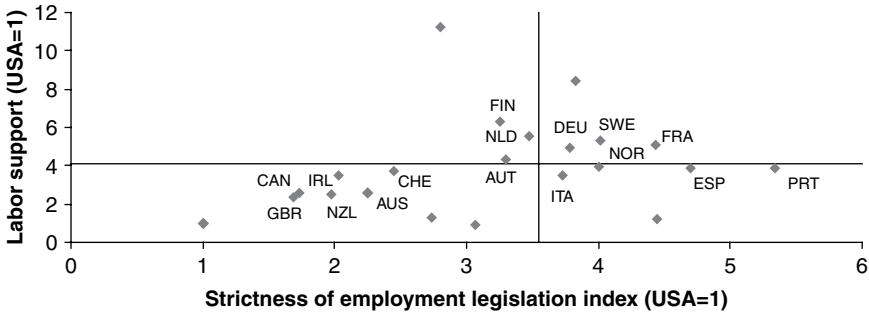

Figure 2.3 Strictness of employment legislation versus labor support in OECD countries, 2003 (Indexes, USA = 1).

Source: Authors' illustrations, Data: OECD (2005), OECD Social Expenditures and OECD Tax-Benefit Models.

Notes: The Strictness of Employment Legislation Index has been calculated indexing the USA = 1, that is, dividing the values of all other countries by the US value. Higher values indicate stricter regulation on hiring and firing. Labor support is an index (using equal weights) composed of the indexed (USA = 1) active labor market expenditures (as % of GDP) as well as the indexed (USA = 1) gross unemployment replacement rate. Higher values indicate a higher security level. Gross unemployment replacement rate: The OECD summary measure is defined as the average of the gross unemployment benefit replacement rates for two earnings levels, three family situations, and three durations of unemployment.

US level of employment protection level as the base and calculating the relative levels for other countries. Similarly, we constructed an index of "labor support" by again taking the US level of gross unemployment replacement rate and public expenditure on active labor market programs as the base. A scatter plot of these two indexes is given in Figure 2.3. We next combine these two indexes, giving equal weights to each, into a single index.

Based on the values of these indexes, five distinct "models" emerge and they follow closely the groupings presented in Boeri (2002). On the lower left corner, we can identify an "Anglo-Saxon model" of low levels of regulation on hiring and firing and low levels of worker support. To this corner belong the United States, the United Kingdom, Canada, Australia, Ireland, and New Zealand. Countries on the lower right corner follow the "Mediterranean model" that combines relatively strict employment legislation and low levels of worker support. This group includes Greece, Portugal, Spain, Italy, and Norway. Countries on the upper right corner of the scatter plot—"the Rhineland model"—combine relatively strict employment protection legislation and high levels of worker support. To this corner belong France, Sweden, Belgium, and Germany. In the upper left corner are countries with relatively flexible labor markets and high

levels of worker support. We call this the "flexicurity model," and its followers include Denmark, Finland, and the Netherlands.

Japan has always been difficult to categorize in these schemes because although the state supports only low levels of labor market and social protection, the private sector had traditionally supported long-term employment security. We would propose an "East Asian model" including Japan and Korea, both of which have greater employment protection than those in the Anglo-Saxon group in Figure 2.3. It would seem that the traditional role of the private sector in Japan has vanished to a great extent, as seen by the increase to European levels of Japanese long-term unemployment and involuntary part-time employment.

The flexicurity model has attracted a lot of attention because of a superior Danish performance in trade and employment and the unusual combination of policies, with flexibility in terms of hiring and firing and strong social protection for those seeking employment, including a high level of unemployment benefits and considerable levels of spending on active labor market programs.[12] Moreover, Denmark greatly exceeds other countries in terms of pension benefits relative to lifetime earnings (Figure 2.4). This system of flexicurity is in part the reason for Denmark's attainment of a high level of economic security.

By many measures economic security is the lowest in the United States, and this is supported by the unusually high perception of insecurity and fear of globalization in the United States discussed in the next section. The United States, often lauded for the flexibility of its labor markets, also stands out in terms of its low levels of unemployment benefits and limited state spending on active labor market programs (Table 2.6a and b, Table 2.7, and Table 2.8). Moreover, over the past 20 years, the United States has experienced a dramatic shift in the

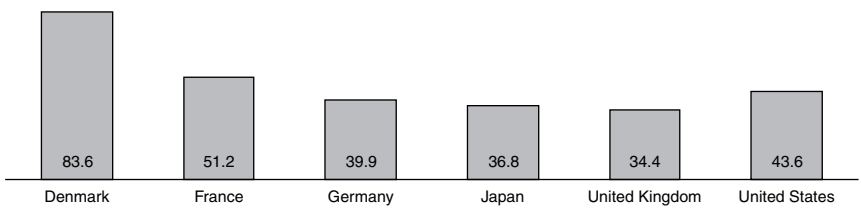

Figure 2.4 Gross pension replacement rates by earnings based on 2004 rules (% of median earnings).

Source: Authors' illustrations. *Data*: OECD pension models. OECD (2006: 33–34).

Notes: For median income earner. The figures are "estimates of the level of pension people will receive if they work for a full career and if today's pension rules stay unchanged."

Table 2.6a Exports and imports of commodities

	Exports				Imports				Balance			
	(in Mio. USD)		(in % of GDP)		(in Mio. USD)		(in % of GDP)		(in Mio. USD)		(in % of GDP)	
	1991	2005	1991	2005	1991	2005	1991	2005	1991	2005	1991	2005
Denmark	37,708	83,311	27.6%	32.2%	34,253	74,987	25.1%	29.0%	3,455	8,324	2.5%	3.2%
France	213,367	434,425	17.2%	20.4%	230,770	475,999	18.6%	22.4%	−17,403	−41,574	−1.4%	−2.0%
Germany	402,737	977,794	22.3%	35.0%	389,095	777,439	21.5%	27.8%	13,642	200,355	0.8%	7.2%
Japan	314,525	594,941	9.2%	13.0%	236,744	515,866	6.9%	11.3%	77,781	79,074	2.3%	1.7%
United Kingdom	182,227	384,365	17.6%	17.5%	209,849	515,782	20.3%	23.5%	−27,621	−131,417	−2.7%	−6.0%
United States	421,706	904,339	7.1%	7.2%	509,193	1,732,321	8.5%	13.8%	−87,487	−827,981	−1.5%	−6.6%

Source: Authors' illustrations.

Data: OECD International Trade by Commodities Statistics, International Monetary Fund (IMF), CD-ROM via UNCTAD.

Table 2.6b Exports and imports of services

Services	Exports				Imports				Balance		Balance	
	(in Bn. USD)		(in % of GDP)		(in Bn. USD)		(in % of GDP)		(in Bn. USD)		(in % of GDP)	
	1991	2005	1991	2005	1991	2005	1991	2005	1991	2005	1991	2005
Denmark	14.3	36.3	10.4%	14.0%	10.4	33.4	7.6%	12.9%	3.8	2.9	2.8%	1.1%
France	80.1	116.0	6.5%	5.5%	63.7	106.1	5.1%	5.0%	16.4	9.9	1.3%	0.5%
Germany	64.1	154.9	3.5%	5.5%	90.0	202.9	5.0%	7.3%	−25.9	−47.9	−1.4%	−1.7%
Japan	44.8	110.2	1.3%	2.4%	86.6	134.3	2.5%	2.9%	−41.8	−24.0	−1.2%	−0.5%
United Kingdom	56.3	203.1	5.4%	9.2%	49.0	160.5	4.7%	7.3%	7.3	42.6	0.7%	1.9%
United States	162.6	376.8	2.7%	3.0%	118.1	314.6	2.0%	2.5%	44.5	62.2	0.7%	0.5%

Source: Authors' calculations, *Data:* International Monetary Fund (IMF), Balance of Payments, CD-ROM via UNCTAD

Note: 2004 imports and exports for Denmark.

Table 2.7 Offshoring intensity in Germany, the United Kingdom, and the United States 1992–2004 (imported inputs as % of total nonenergy inputs)

Year	Germany	United Kingdom	United States
Goods offshoring intensity			
1992	—	28.2	11.7
1993	—	29.5	12.7
1994	—	29.8	13.4
1995	12.2	30.7	14.2
1996	12.2	30.7	14.3
1997	14.8	29.7	14.6
1998	14.6	28.0	14.9
1999	15.4	28.0	15.6
2000	19.5	28.6	17.3
2001	19.9	28.1	—
2002	19.7	—	—
2003	20.5	—	—
2004	23.1	—	—
Growth 1992–2000*	59.1%	1.3%	47.9%
Service offshoring intensity			
1992	1.0*	1.4	0.2
1993	1.0**	1.6	0.2
1994	0.9**	1.6	0.2
1995	1.0	1.6	0.2
1996	1.1	1.8	0.2
1997	1.2	1.7	0.2
1998	1.4	2.0	0.2
1999	1.7	2.2	0.3
2000	2.0	2.4	0.3
2001	2.3	2.6	—
2002	2.2	—	—
2003	2.1	—	—
2004	2.1	—	—
Growth 1992–2000	100.0%	76.3%	61.1%

Source: Authors' calculations for Germany.
Data: Input–output tables, Federal Statistical Office.
*1995–2000 for Germany.
** German service offshoring intensities from 1992 to 1994 use unrevised input–output data. Service offshoring intensity = Σ_s [(input purchases of service s by sector i)$_t$/(total non energy inputs used by sector *i*)$_t$] * [(imports of service s)$_t$/(production$_{st}$ + imports$_{st}$ − exports$_{st}$). Weighted average across all sectors *i* by outputs at time *t*. Goods offshoring intensity is calculated equivalently.
Calculations for the United Kingdom: Amiti and Wei (2005). *Data:* input–output tables, UK National Statistics, IMF: Balance of Payments Statistics. *Notes:* UK data is not directly available, but can be reconstructed from Figure 2 in Amiti and Wei (2005).
Calculations for the United States: Amiti and Wei (2006). *Data:* input–output tables, US National Statistics, IMF: Balance of Payments Statistics.

Table 2.8 Merchandise imports by region of origin (% of total imports)

Denmark	1950	93.3	0.9	3.5	0.9	5.4	0.7
	1970	88.4	4.5	3.4	2.6	10.5	1.1
	1991	89.8	3.6	2.4	2.9	9.0	1.2
	2005	84.4	4.7	2.8	6.3	13.8	1.7
France	1950	52.7	9.3	23.9	8.4	41.6	0.4
	1970	77.2	5.8	8.2	6.8	20.8	1.7
	1991	80.7	5.6	5.9	3.8	15.2	1.8
	2005	78.8	4.7	6.3	6.0	17.0	3.2
Germany	1950	74.4	4.8	9.9	9.1	23.8	1.0
	1970	79.5	6.6	6.5	4.5	17.6	2.8
	1991	81.6	5.5	5.1	4.1	14.6	3.7
	2005	76.2	5.0	5.0	8.6	18.6	5.2
Japan	1950	60.7	8.2	8.2	21.5	37.8	0.1
	1970	54.4	13.4	15.3	14.1	42.9	2.6
	1991	49.2	25.1	9.2	14.9	49.3	1.5
	2005	32.5	26.5	10.4	29.2	66.2	1.4
United Kingdom	1950	58.3	8.4	12.5	14.6	35.5	1.8
	1970	70.5	10.2	7.6	8.4	26.2	3.0
	1991	84.3	6.6	4.4	3.0	14.1	1.0
	2005	71.8	8.3	6.7	8.0	23.0	2.6
United States	1950	43.2	15.5	25.0	14.0	54.5	0.7
	1970	72.6	14.0	7.6	5.2	26.8	0.5
	1991	59.5	24.0	7.5	8.6	40.1	0.3
	2005	46.2	22.0	8.7	21.8	52.5	1.3

Source: Authors' illustrations.
Data: UNCTAD. *Handbook of Statistics.*

burden of risk, from government to the households themselves. This has resulted from more volatile household income, increase in health insurance costs, a greater reliance on private (as opposed to public) pensions, and a continuation of government policies of low levels of unemployment benefits. Hacker (2006) describes these changes as "the great risk shift," as governments and employers shifted the burden of insuring against a rapid decline in income to the employees and households themselves. In their long-term historical analysis of the US income distribution, Temin and Levy (2007: 5) argue that this deterioration of the social safety net, combined with the decline of other institutions such as trade unions, has been a source of the decoupling of growth of productivity and growth of wages.

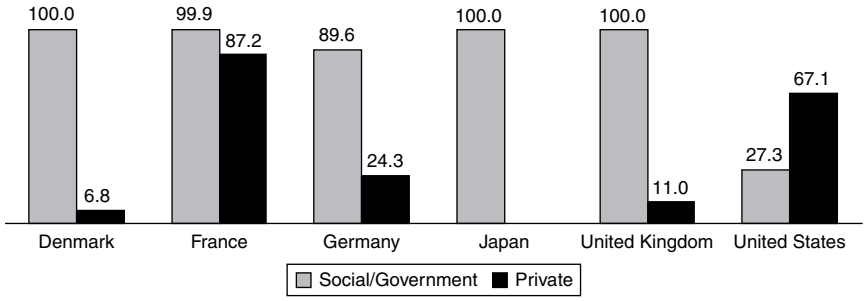

Figure 2.5 Government and private health insurance coverage in 2005 (% of population).

Source: Authors' illustrations.

Data: OECD Health Data. Social health insurance data includes government and social health insurance data. France: Private insurance data for 2004. Japan: Governmental/social insurance data for 2004, private insurance data not available. United States: Private insurance data for 1995 and 2000 from US Department of Commerce Economics and Statistics Administration, US Census Bureau.

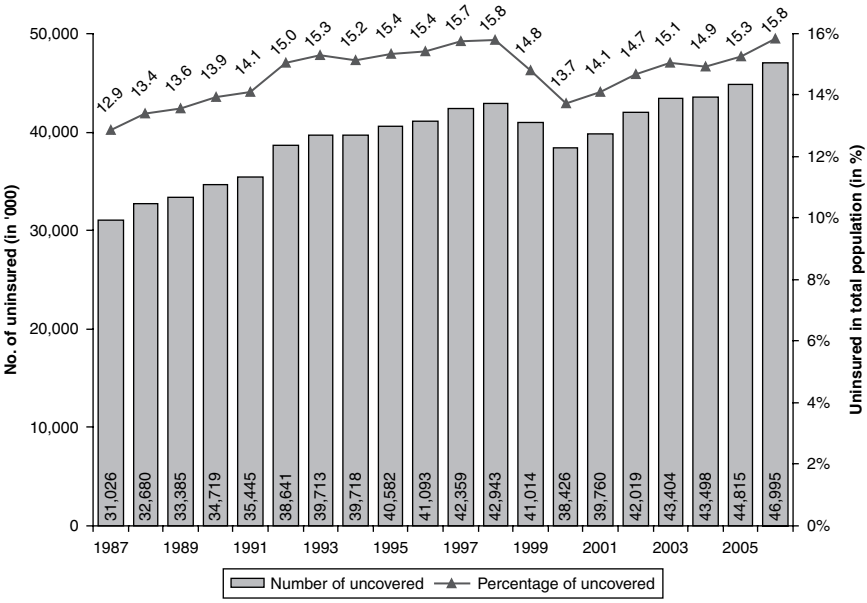

Figure 2.6 Number of people without health insurance in the United States.

Source: Authors' illustrations.

Data: US Census Bureau, Current Population Survey, 1988 to 2007 Annual Social and Economic Supplements. The number of people reported as of March of the following year. US Census Bureau (2007: 58).

As an indication of the changes in the United States, Table 2.5a and b shows union density in our sample countries since 1980, with the United States experiencing by far the greatest decline. The United Kingdom, following a similar model,

comes next, though unionization in the United Kingdom even in 2001 remained at a much higher level than in the United States. France's low rate of unionization would seem to be deceptive, since bargaining coverage of union agreements has remained very broad.

The United States also stands out in the area of health insurance. The United States is alone among our sample countries in not having universal health insurance coverage. There were 47 million people uninsured in 2005 in the United States, reflecting a steady increase in the number (and percentage) of people uninsured since the late 1980s (Figures 2.5 and 2.6).

Perceptions of economic insecurity

Popular perceptions of economic insecurity do not necessarily reflect objective measures of insecurity, but we find a generally high level of fear toward globalization among our sample countries and especially in the United States and France. According to the German Marshall Fund (2007), 34 percent of Americans and 38 percent of Europeans had a negative view of globalization. About half of Americans and Europeans think that "freer trade" results in more job loss than job creation. Between 2005 and 2007, American sentiment turned more against freer trade while European sentiment became less skeptical of the

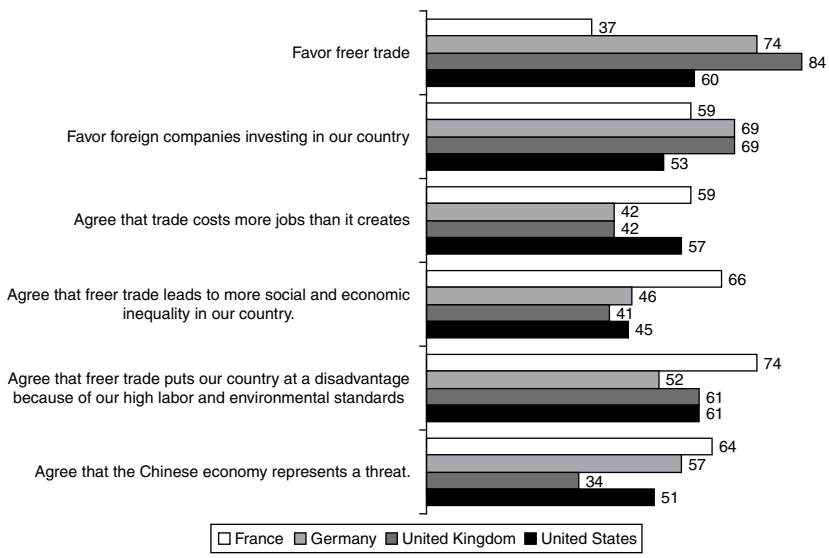

Figure 2.7 Concerns about free trade (in % of respondents).

Source: German Marshall Fund (2007), Topline Data October 2007.

employment benefits of trade liberalization. Half of Americans and a slightly higher percentage of Europeans "saw the growth of China's economy as a threat." Across countries, the survey showed that the United States and France show the most skepticism toward international trade and investment (see Figure 2.7). Of all countries surveyed, these two showed the highest proportion of respondents, 40 percent in the United States and 36 percent in France, who "did not favor FDI." This contrasted with 69 percent of English and German respondents who favored FDI.[13] Adverse attitude toward globalization went along with pessimism regarding future. In the United States, 40 percent expect the next generation will have a lower standard of living, 62 percent said job security had declined, and 59 percent said they had to work harder to earn a decent living. Most striking, 75 percent said that "outsourcing work overseas hurts American workers."[14] While this expression of greater economic insecurity was the greatest among those with less education, expressions of higher economic insecurity were found for all educational categories.[15]

The contrast between perceptions of globalization in France and Denmark is clear from a recent survey that asked "what comes first to mind when you hear the word 'globalisation'?" Fifty-seven percent of French respondents said

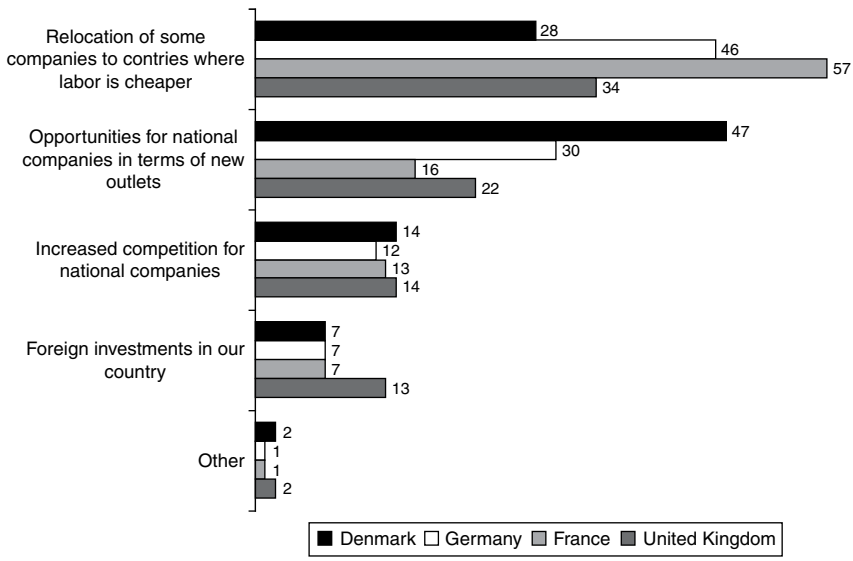

Figure 2.8 The perception of globalization (in % of respondents). Question: "There are multiple consequences of the globalisation of trade. When you hear the world 'globalisation,' what comes first to mind?"

Source: European Commission (2007).

that the word "globalization" evoked the "relocation of some companies to countries where labor is cheaper." Among Danes, 47 percent responded that globalization evoked "opportunities for national companies in terms of new outlets" (Figure 2.8).

Globalization and economic insecurity

Connecting globalization to economic insecurity

All six countries of our sample experienced an increase in globalization (by various measures) in recent years, and in almost all cases our measures of economic insecurity also increased, most prominently in Germany, Japan, and the United States (Figure 2.9). Two countries (Denmark and the United Kingdom) experienced declines in the share of long-term unemployment and also had the lowest growth in involuntary part-time work (see Table 2.9).

A closer look at winners and losers from offshoring

Trade liberalization is known to create winners and losers, and the new wave of globalization is no different in this regard, although some of the mechanisms and distributional effects may be new. Figure 2.10 depicts the variety of ways in which offshoring impacts the labor market. Offshoring, on the one hand, lowers prices of inputs and outputs, raising the demand for both and thus the demand for labor too. In addition, lower input prices should raise profit margins and profits, leading to investment that should further raise productivity and output. These gains are labeled as the "mark-up," and "scale" effects in Figure 2.10. On the other hand, offshoring weakens labor demand by replacing foreign labor for domestic labor, creating a "substitution effect." It also reduces demand for labor by raising productivity, an outcome referred to as the "productivity" effect.

Not the entire rise in profits is recycled into investment and labor demand, and this constitutes an important leakage in the system. As we will see later, corporations may also choose to return their net gains to shareholders, and this has occurred through higher dividend payments and share buybacks. This strategy of financialization of the nonfinancial corporate sector also includes the purchase of financial assets and the acquisition of other corporations (merger and acquisition). Financialization represents a drain on labor demand and, as we will see later, may play an important role in the link between globalization and economic insecurity.

Table 2.9 Globalization versus economic insecurity, 1991–2005 (compound annual growth rate, unless otherwise indicated)

	Globalization (1991–2005)				
	Exports plus imports in GDP (%)	**KOF Economic Globalization Index (%)**	**Imports from low-income countries in total imports (%)**	**Goods offshoring[1] (%)**	**Service offshoring[1] (%)**
Denmark	1.9	0.7	5.6	n.a.	n.a.
France	1.3	0.7	3.3	n.a.	n.a.
Germany	2.8	1.2	5.4	7.3	9.2
Japan	2.8	0.8	4.9	n.a.	n.a.
United Kingdom	1.3	0.6	7.3	0.0	7.6
United States	2.0	0.5	6.8	5.0	6.1
	Economic insecurity (1991–2005)				
	Share of labor compensation in GDP (%)	**Share of involuntary part-time workers in total employment (%)**	**Share of long-term unemployed in total unemployed (%)**	**ILO Economic Security Index 2004 (value)**	
Denmark	−0.2	1.1	−1.4	0.91	
France	0.0	1.4[2]	1.3	0.83	
Germany	−0.6	14.6	3.9	0.79	
Japan	−0.2	12.4	4.7	0.72	
United Kingdom	−0.2	0.5	−1.7	0.74	
United States	−0.1	n.a.	4.6	0.61	

Source: Authors' illustrations.

Data: OECD, UNCTAD, KOF Index of Globalization 2008 (http://globalization.kof.ethz.ch/), Federal Statistical Office Germany, Amiti and Wei (2005a, b, 2006).

[1] CAGR for 1995–2004 in Germany, 1992–2001 in the United Kingdom and 1992–2000 in the United States.

[2] 1992 data for France.

Figure 2.10 is a simplification that considers all labor as one type, and leaves out some potentially significant indirect effects. Thus in addition to the direct effect of offshoring on employment and profits, economic research has also considered the effect of offshoring on different types of labor (skilled and unskilled, through the Stolper–Samuelson effect), the increased sensitivity of labor demand to wage changes at home and abroad, and the greater use of company threats to move production abroad to undercut bargaining power of unions and laborers.

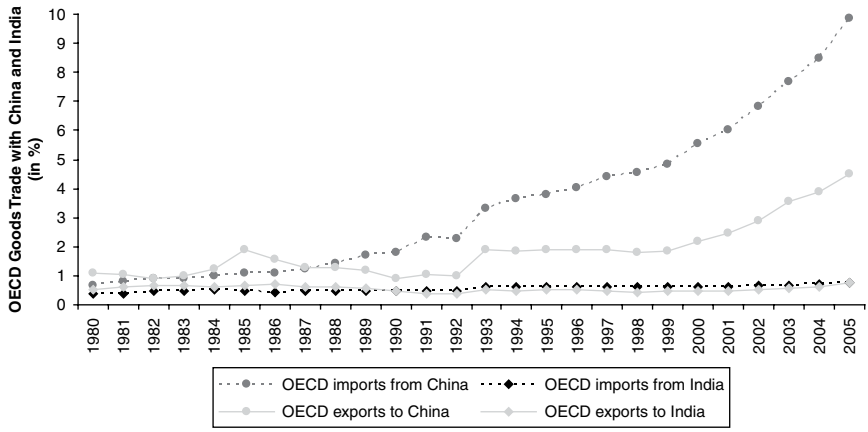

Figure 2.9 OECD goods trade with China and India (as % of total OECD Goods Trade).

Source: OECD (2007c: 110).

Data: United Nations (2008), COMTRADE database.

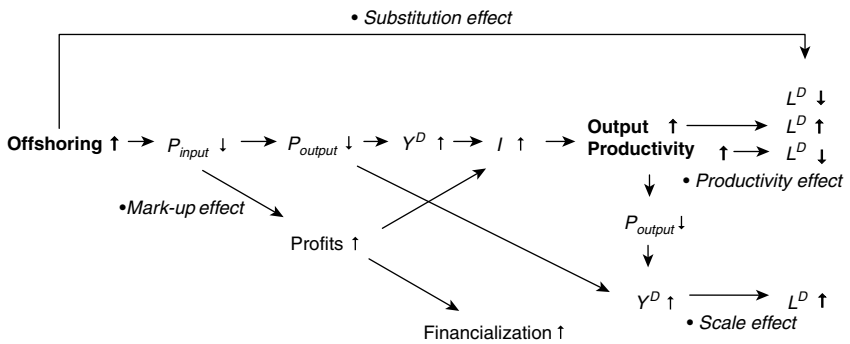

Figure 2.10 Gains and losses from offshoring.

Source: Authors' illustration. Based on Amiti and Wei (2006) and Milberg et al. (2007).

Notes: *YD* = demand for output and *LD* = demand for labor.

We briefly review the evidence on each of these channels before looking at the overall relationship between globalization and economic insecurity in the industrialized countries.

Profits and the profit share

We noticed that offshoring is one of the reasons behind the recent rise in the profit share of national income observed across industrialized countries. Figure 2.11 however shows the flip side, which is the decline in the labor share. Note that the

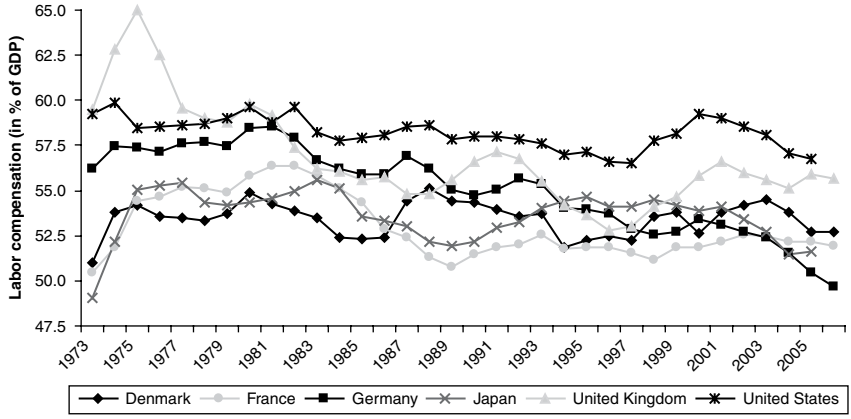

Figure 2.11 Labor compensation (in % of GDP).

Source: Authors' illustrations.

Data: OECD Annual National Accounts Statistics.

labor share in the United States has declined less than in other countries. This is partly due to the fact that the large levels of CEO compensation in the United States, including stock options, are officially counted in labor income.

A number of studies have confirmed the role of offshoring in changing the distribution of income between labor and capital. Most firm-level studies find that offshoring occurs when cost reductions can be achieved and are at least 40 percent of the labor cost.[16] Focusing on the data for 2000–2003, Milberg et al. (2007) find that offshoring intensity is positively associated with sectoral profit shares in the United States. A number of recent papers have taken up the question of trade and the profit share at the aggregate level. Harrison (2002) studies the relationship between trade openness and functional distribution of income across a large number of countries and finds that (contrary to the prediction of Heckscher–Ohlin theory) openness is generally associated with a lower share of labor in national income. Harrison concludes that "rising trade shares and exchange rate crises reduce labor's share, while capital controls and government spending increase labor's share." A study by the IMF (2005) finds that offshoring is a small, but significant negative factor in the determination of the labor share of income for a group of OECD countries. In this study, three aspects of globalization (related to prices, offshoring, and immigration) combined to play a large role in explaining the declining labor share. The study by Ellis and Smith (2007) finds no connection between openness and the profit share, but links the rising profit share to increased "churning" in the labor market. While

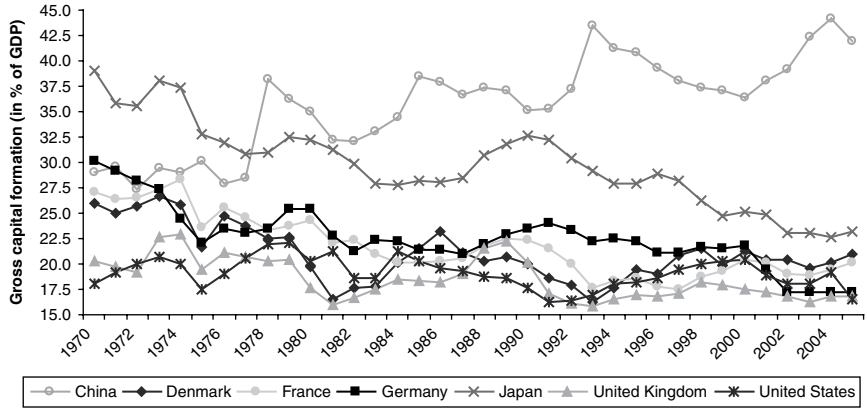

Figure 2.12 Gross capital formation (in % of GDP).

Source: Authors' illustrations.

Data: UN DESA Statistics Division and UNCTAD GlobStat Database.

the authors attribute this churning to technological change, it seems likely that it also results from some of the indirect effects of globalization discussed later.

It is important to recognize that the rise in income inequality (between labor and capital) is not inconsistent with the theory depicted in Figure 2.10. As Mann (2003) shows, offshoring may lead to positive net employment growth provided efficiency gains from offshoring are shared between consumers and producers and both these channels promote investment. The problem is that the increase in profit share has not generally resulted in higher rates of investment. In fact, as profit shares of national income increased, domestic investment has fallen, as can be seen in Figure 2.12.

There are a number of explanations for the decline in domestic investment. The simple fact is that less domestic investment is needed when significant portions of the production process (goods and services) are moved offshore. Thus decline in domestic investment of industrialized countries goes hand in hand with rise in investment rates of countries hosting offshoring activities, such as China (Figure 2.12).

An associated phenomenon, also shown in Figure 2.10, is the leakage of profits to the financial system. According to a number of recent studies, the decline in investment spending in the corporate sector is also tied with the shift in corporate strategy occurring in the 1980s, when the pressure on management was to "downsize" the corporation and "distribute" profits back to shareholders at a greater pace. This process of financialization that occurred in the nonfinancial corporate sector was supported by the possibility

Figure 2.13 Dividends plus share buybacks as percentage of internal funds: US Non-Financial Corporations, 1960–2006.

Source: Schedule Z.1 of the Flow of Funds Account from the US Federal Reserve Bank online database.

of moving operations abroad through foreign direct investment and arm's length subcontracting and focusing increasingly on "core competence," a process that allowed corporate managers to reduce domestic investment in order to meet shareholder demands for improvements in shareholder value. Stockhammer (2004) documents a marked increase in the share of nonfinancial corporations' value added going to interest and dividends since the late 1970s in the United States, the United Kingdom, France, and Germany. In a firm-level study of the US nonfinancial corporate sector, Orhangazi (2008) finds a similar relation between financialization and investment. Milberg et al. (2007), also focusing on the United States, show that the rising profit share, due in part to offshoring, occurs as the share of investment out of profits falls and the payment of dividends and the purchase of share buybacks rises (see Figure 2.13).[17]

Job displacement and earnings replacement

There are a variety of ways of studying job loss resulting from international trade. One of these focuses on old-fashioned direct import competition,

that is on the employment effects of a change in net exports, where these employment effects are typically based on a comparison of actual employment with employment levels that would have occurred if the trade balance (relative to GDP) had remained unchanged. Sachs and Shatz (1994) had found that trade reduced US manufacturing employment by 5.7 percent in 1990, and Wood (1994) put the figure at 10.8 percent for all developed countries, with a relatively larger share of the decline borne by unskilled workers in both studies. In general, these studies find employment gains where net exports rise and employment losses where they fall. These studies focus almost exclusively on the manufacturing sector. In our sample, for the period 1991–2005, the United States, the United Kingdom, and France experienced increases in their trade deficit in manufacturing, while Denmark, Japan, and especially Germany had improvements. The deterioration has been the greatest for the United States, and Scott (2007) calculates that the decline in net exports between 2001 and 2006 cost the United States the equivalent of 1.8 million jobs.[18]

Another line of research looks at the employment effects of foreign direct investment. This however captures only a portion of the effect of offshoring, because much of it takes place at arm's length. The results proved to be ambiguous. Muendler and Becker (2006) in a study of Germany, Brainard and Riker (2001) in a study of the United States, and Fors and Kokko (2001) in a study of Sweden found a substitution effect between employment at home and in foreign affiliates. Desai et al. (2005) and Borga (2005) found complementarities between employment at home and in affiliates for US transnational corporations. Harrison and McMillan (2007) find that the effect of FDI on US employment depends on whether the investment is horizontal or vertical. Horizontal FDI, seeking to serve foreign markets, is found to reduce US labor demand, while vertical FDI, which seeks to reduce costs, increases the demand for labor.

An important measure of economic insecurity is the ability of workers displaced by trade to find a new job and not suffer a loss in earnings. Kletzer (2001) has done the most extensive analysis of the reemployment rate and replacement wage for workers displaced as the result of foreign trade. In a study of the United States for 1979–1999, she found that earnings losses from job dislocation are large and persistent over time. Specifically, she found that 64.8 percent of manufacturing workers displaced during 1979–1999 and one-fourth of those reemployed suffered earnings declines greater than 30 percent. For workers displaced from nonmanufacturing sectors, the situation is very

similar: 69 percent found reemployment, and 21 percent suffered pay cuts of 30 percent or more.

OECD (2005) did a similar study for 14 European countries for 1994–2001 and found that reemployment rates in Europe were lower than in the United States, but a much lower share of workers had earnings losses greater than 30 percent upon reemployment and 46 percent of workers had no earnings losses or were earning more than before displacement. Table 2.10 compares the United States and European situations for trade-displaced workers.

Trade versus technology: Skill-biased labor demand shifts

Labor economists studying rising income inequality in industrialized countries over the past 15–20 years often see the explanation in technological change. According to this view, the introduction of IT and IT-enabled tasks introduced a bias in the demand for higher-skill workers. The result of such "skills-biased technological change" was to raise income inequality, as the wages of higher-paid workers increased faster than those of lower-paid workers who experienced smaller gains or even, in some cases, a decline in wages.[19]

Table 2.10 Adjustment costs of trade-displaced workers

Industry	14 European countries: 1994–2001[1]			United States: 1979–1999		
	Share reemployed 2 years later (%)	Share with no earnings loss or earning more (%)	Share with earnings losses >30% (%)	Share reemployed at survey date (%)	Share with no earnings loss or earning more (%)	Share with earnings losses >30% (%)
Manufacturing	57.0	45.8	6.5	64.8	35.0	25.0
High-International-Competition	51.8	44.0	5.4	63.4	36.0	25.0
Medium-International-Competition	58.7	45.7	7.0	65.4	34.0	25.0
Low-International-Competition	59.6	47.3	6.8	66.8	38.0	26.0
Services and Utilities[2]	57.2	49.6	8.4	69.1	41.0	21.0
All sectors	57.3	47.1	7.5	—	—	—

Source: OECD (2005: table 1.3, p. 45) and Kletzer (2001: table D2, p. 102).

[1]OECD Secretariat estimates based on data from the European Community Household Panel (ECHP) for Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom.

[2]Services for Europe.

Responding to the empirical findings, many international trade economists have reformulated the traditional two-factor model of trade to allow distinction between labor of high and low skill.[20]

These models generally predict that trade liberalization would raise the relative demand for skilled labor in industrialized countries and thus raise the ratio of wages of skilled labor to wages of unskilled labor. These predictions are consistent with the observed increasing trends in income inequality in these countries.[21] In sum, trade liberalization and technological change both can contribute to the rising wage inequality in industrialized countries. The debate concerns their relative role in the phenomenon.

Wood (1995: 57) finds that "trade is the main cause of the problems of unskilled workers" (see also Wood 1994). As the main force driving the process, he identifies increasing specialization of industrialized countries in capital-intensive manufacturers, while developing countries specialized in the production of labor-intensive goods. Wood estimates that between 1980 and 1994, 75 percent of the increased wage inequality in the United States was due to trade.

Feenstra and Hanson (1996, 1999, 2001) follow up the earlier results with a series of studies applying the extended trade model to the case of offshoring. They find that changes in offshoring between 1979 and 1990 explain between 15 and 40 percent of the rise in the wages of high-skilled workers relative to the wages of low-skilled workers in that period. In a study of manufacturing offshoring in the United Kingdom for the period 1970–1983, Anderton and Brenton (1999) find that trade accounted for 40 percent of the rise in the skilled labor share of labor income. Geishecker (2002) in a study of Germany in the 1990s finds that offshoring had a significant negative impact on the demand for low-skilled workers, explaining about 19 percent to 24 percent of the overall decline in the relative demand for low-skilled labor. Head and Ries (2000) estimate a similar model for Japan and find "a strong positive correlation between the change in the firm's non-production wage share and a firm's share of employment in low-income countries" (Feenstra and Hanson, 2001: 28). In their summary paper on the issue, Feenstra and Hanson (2001) find that offshoring accounted for 15–24 percent of the rise in the "non-production wage share" (i.e. the share of wages going to higher-skilled workers), while computer services and other high-tech services account for 8 percent to 31 percent of the shift to nonproduction labor.

Further research could not actually resolve the debate concerning relative roles of technology and trade in wage inequality rise. Also, there has been a debate about the timing of the technological change.[22] By some accounts,

inequality began to rise well before new technology was integrated into production processes. Inequality actually fell during the late 1990s when the IT boom was the strongest. It also became clear that trade and technological change are interconnected, and increasingly so as global supply chains developed. For example, Wood (1995: 62) notes that "the pace and direction of technical change may be influenced by trade . . . So, however one looks at it, trade and new technology are intertwined: no story that excludes one or the other of them is likely to be the whole story."

Despite these difficulties, the increased magnitude of, and public concern over, offshoring have spurred much empirical research on the labor market effect of offshoring in the 1980s and 1990s. Table 2.11 presents a summary of recent research, which covers studies of the United States, the United Kingdom, Germany and a recent study of all OECD countries, and covering both the manufacturing and service sectors. These recent studies by and large support earlier findings: offshoring in the production of goods and services leads to the rise of employment and wages of high-skilled labor and fall in the employment and wages of low-skilled labor.

Some recent research has focused separately on offshoring of services and examined its effect on overall employment. This focus is important because it gets away from the narrow theoretical confines of the Stolper–Samuelson theorem and the difficulty of testing it, and asks a more general question.[23] Their results are not fully conclusive, but they broadly indicate that across the OECD, offshoring of services has led to reductions in overall employment (see, e.g. Amiti and Wei 2004, 2006). Similarly, Schöller (2007a, 2007c) offers evidence of negative influence of service offshoring on German employment between 1991 and 2000. OECD (2007b) measures the effects of offshoring for 12 OECD countries, showing significantly negative effect of goods and services offshoring on manufacturing and service employment.

The perceptions of a strong link between globalization and economic insecurity cited at the beginning of this chapter are likely to be driven both by current reality and by predictions about the future. A number of recent studies predict a significant expansion of services offshoring. For example, Blinder (2005, 2007a, b) has done a detailed analysis of the US labor force, looking especially at jobs in services and the extent to which they are "personally delivered" or "impersonally delivered." Personally delivered services cannot be delivered electronically, such as child care or garbage collection. Impersonally delivered services are those that can be delivered electronically without a significant loss of quality. These would include travel reservations and computer support (Blinder 2007a: 4). Blinder

Table 2.11 Labor market effects of offshoring: survey of literature

Source	Country	Industry	Sectors	Years	Effects of offshoring		
					Goods	Services	Overall
Dependent variable: employment							
Amiti and Wei (2004, 2006)[1]	United States	Mfg.	450	1992–2001	+	–	
			96		+	+	
Amiti and Wei (2005a, b)[1]	United Kingdom	Mfg.	69	1995–2001	±	+	
		Service	9		–	–	
Schöller (2007a)[1]	Germany	Mfg.	36	1991–2000	–	–	
Schöller (2007c)[1]	Germany	Mfg.	35	1995–2004	–	–	
OECD (2007b)[1]	12 OECD-count.	Mfg.	26	1995, 2000			–
		Service					–
Dependent variable: high-skill employment							
Feenstra and Hanson (1996)[2]	United States	Mfg.	450	1977–1993	+		
Feenstra and Hanson (1999)[1]	United States	Mfg.	450	1979–1990	+		
Falk and Koebel (2002)[2]	Germany	Mfg.	26	1978–1990	no ev.		
Ekholm and Hakkala (2006)[2]	Sweden	Mfg.	20	1995–2000	+[6]		
					+[7]		
Dependent variable: low-skill employment							
Falk and Koebel (2002)[2]	Germany	Mfg.	26	1978–1990	no ev.		
Geishecker (2002)[2]	Germany	Mfg.	22	1991–2000	–		
Strauss-Kahn (2003)[3]	France	Mfg.	not rep.	1977–1993	–		
Hijzen et al. (2005)[2]	United Kingdom	Mfg.	50	1982–1996	–		
Ekholm and Hakkala (2006)[2]	Sweden	Mfg.	20	1995–2000	–[8]		
Geishecker (2006)[2]	Germany	Mfg.	23	1991–2000	–[9]		
Schöller (2007b)[1]	Germany	Mfg.	28	1991–2000	–	–	
Dependent variable: high-skill wages							
Feenstra and Hanson (1996)[2]	United States	Mfg.	450	1977–1993	+		
Feenstra and Hanson (1999)[1]	United States	Mfg.	450	1979–1990	+		
Geishecker and Görg (2004, 2007)[4]	Germany	Mfg.	21	1991–2000	+		

Source	Country	Industry	Sectors	Years	Effects of offshoring		
					Goods	Services	Overall
Geishecker et al. (2008)[4]	Germany	Mfg.	not rep.	1991–2000	–[9]		
	United Kingdom	Mfg.	not rep.	1992–2004	–[9]		
Horgos (2007)[5]	Germany	Overall		1991–2000	+		
		service			+		
		HS intensive			+		
		LS intensive			–		

Source: Authors' illustration.

[1]Imported inputs/total nonenergy inputs.

[2]Imported inputs from same sector/output.

[3]Vertical specialization.

[4]Imported inputs/output.

[5]Several measures.

[6]To low-income countries.

[7]Inhouse-offshoring.

[8]Medium-skill employment.

[9]To CEECs.

estimates that 30 to 40 million current jobs (22 to 29% of the current American workforce) are likely to fall into the category of impersonally delivered services, and hence potentially subject to future offshoring. Blinder's analysis is notable not just because the potential labor market displacement is large, but because the displacement affects all skill levels of the US labor force. Blinder sees the potential wave of offshoring as driving a new industrial revolution, so that "the sectoral and occupational compositions of the U.S. workforce are likely to be quite different a generation or two from now. When that future rolls around, only a small minority of U.S. jobs will still be offshorable; the rest will have already moved off shore" (p. 27). Blinder's analysis shows that the distinction between high-skill versus low-skill labor that characterizes most of the research to date may be much less relevant in the near future.

Increase in the elasticity of the demand for labor

Rodrik (1997) and others have noted that greater openness to international trade would also raise the elasticity of labor demand with respect to both domestic and foreign wages. This increased sensitivity of labor demand to both domestic

and foreign wage movements is another result of rise of global supply chains and offshoring. Anderson and Gascon (2007: 2) describe the situation well.

However, there have been very few estimates of the relationship between trade openness and the wage elasticity of labor demand. Slaughter (2001) studied US manufacturing sector for the period of 1960–1991 and found that the elasticity of demand rose for US production workers (a proxy for lower-skill workers) but not for nonproduction workers during this period. The elasticity increase was the greatest in sectors that experienced the most offshoring and technical change in the form of more computer-related investment. Scheve and Slaughter (2004) find that FDI is the key aspect of globalization that raises the elasticity of labor demand. In a study of outward FDI by the UK firms, they find that higher FDI is associated with higher elasticity of labor demand and greater volatility of wages and employment.

Threat of job loss and wage suppression

A less easily quantifiable channel through which globalization and especially offshoring influence wages and job security is the threat by companies to move production overseas. Freeman (1995: 21) describes the phenomenon quite well.

The issue has received considerable attention from theorists, but there is little empirical analysis.[24] Bronfenbrenner (1997, 2000), studying the United States between 1993 and 1999, focuses more narrowly on unionization campaigns than on wages. She finds that a firm's mobility did raise the credibility of the threat to move production offshore, and it influenced the decision of workers regarding unionization. The study indicates that unionization drives have a much lower rate of success in firms with a credible threat of mobility than in those considered immobile. Similarly, Choi (2001) looked at detailed outward foreign direct investment by US manufacturers and found that increased outward FDI was associated with lower-wage premiums for union members during the period 1983–1996.

Conclusion and prospects for the future

This chapter has shown that the new wave of globalization has raised worker vulnerability in industrialized countries by increasing the likelihood of getting unemployed, reducing employment and wage growth, lowering the overall labor share of national income, and raising inequality between high- and low-skilled

workers. But vulnerability does not translate directly into economic insecurity. This depends on households' capacity to cope with the risk of sudden loss of employment and income and on national policies to absorb such risks. The decline in household saving and massive growth in household debt reflect in part the dwindling ability of households to cope with employment and income shocks.

Different industrialized countries have implemented very different sets of policies to cope with the situation arising from the new wave of globalization, and we have identified five "models." At one extreme is the Anglo-Saxon model represented by the United States and other Anglo-Saxon economies with lax hiring and firing regulations, low unemployment benefits, and very limited spending on active labor market policies. At the other extreme is the Rhineland model, represented by France and Germany, who have relatively high levels of employment protection, large unemployment benefits, and significant spending on active labor market programs.

Denmark and a few other countries seem to have combined elements of the two, devising a model of "flexicurity," characterized by labor market flexibility, high replacement income programs for the unemployed, and extensive active labor market programs. In recent years, France and Germany seem to be moving toward the flexicurity model, but are still far from reaching the Danish practice of this model.

The analysis of offshoring presented in this chapter indicates that flexicurity, as a way of managing state–market relations in a globalized economy, is probably not sufficient for ensuring economic security in the long run. What is instead required is rechanneling of the gains from offshoring away from finance and toward reinvestment in the domestic economy. Tighter labor markets driven not by unsustainable consumer debt but by productivity-enhancing private investment is the long-term key to "sharing the gains" from globalization.

This conclusion raises a question about the relationship between national policy and international competitiveness. It is often heard that greater state-provided social protection constitutes a cost to producers that reduces international competitiveness. The evidence, however, indicates that the opposite may be true. The provision of greater social protection does not unambiguously reduce a country's export competitiveness and in some cases may even increase it. In a study of OECD countries over the period 1978–1995, Milberg and Houston (2005) find that there are multiple paths to export competitiveness for industrialized countries. On the one hand, there is the "high-road" relying on innovation, high productivity, and high levels of compensation and job security

resulting from labor–management cooperation and state support for economic security. On the other hand is the "low road," in which productivity growth hinges on intense conflict between labor and management rooted in job insecurity and a weak role for the state in guaranteeing social protection.[25] This conclusion also applies to the six countries studied in this chapter. Denmark and Germany, two countries with greater state intervention in sharing the burden of insecurity, have increased their trade surpluses considerably over the past 15 years, while the Anglo-Saxon countries have experienced massive trade deficit.

Over the past 15 years, the new wave of globalization has led to a rise in the share of profits in the national income and decline in the share of wages, increasing inequality in the society. Unless reversed, this tendency toward polarization is likely to get stronger as globalization gradually engulfs more sections of the labor force, including high-skilled and service sector workers, and thus spreads insecurity to wider sections of the population.

In industrialized democracies, such polarization and widespread insecurity may call into question the very merit of liberal trade policies and the efficacy of the traditional (Anglo-Saxon and Rhineland) arrangements between states and markets. The response may take a variety of forms, including a dangerous protectionist backlash. It is therefore urgent to formulate policies and erect an institutional structure that can address effectively the challenges raised by the new wave of globalization.

Notes

1 See Rodrik (1997) on the increased demand for social protection.

2 Offshoring is defined in this paper as the reallocation of production across various geographical locations to benefit from low labour costs and low taxes. In large part, this process has been facilitated by fast technological innovations in telecommunication and low transportation costs. The concept of comparative advantage has been redefined to place the emphasis on the ability of firms to "coordinate a geographically dispersed network of activities." Levy (2005: 685).

3 The index combines measures of job security and social security, where the former includes income security and "voice representation security" and the latter measures "access to basic needs infrastructure pertaining to health, education, dwelling, information and social protection." See ILO (2004).

4 The term *financialization* is used to describe the growing influence of financial markets and institutions on economic growth and development both in the

domestic and international markets. It refers to a qualitative change in the operational logic of corporations and business firms away from productive investment and into financial investments where quick and larger profits can be realized.

5 The term *flexicurity* has been used to designate a social security model that includes some flexibility in the labour market for the hiring and firing of workers with high levels of support for displaced workers. It is a model that has been adopted by Denmark, Finland and the Netherlands.

6 Howell (2005: table 3.2).

7 According to Kalmbach et al. (2005), the German data overstate the size of the manufacturing sector because many services are counted in manufacturing.

8 According to the Dutch economist Jake Verdoorn, faster output growth is associated with an increase in productivity due to increasing returns to scale.

9 We have used 1991 as a start point in much of the analysis so that German data reflect unification.

10 Temin and Levy (2007).

11 Barbosa-Filho et al. (2005) find that the deterioration in the US current account between 1995 and 2003 closely tracks the rise in health care spending by Americans. This indicates that Americans were not so obviously on a whimsical buying spree, as is so often claimed, but instead were trying to retain spending in the face of stagnant real wages and rapidly rising costs of health care.

12 See, for example, Clasen (2007).

13 Note that Scheve and Slaughter (2001) find that in the United Kingdom over 1991–1999 perceived economic insecurity was higher in those sectors with greater outward FDI.

14 Anderson and Gascon (2007: 1).

15 Even on the issue of perception of insecurity, there is conflicting evidence. Kierkegaard (2007: 11) shows that among European countries there is not a statistically significant relationship between "public anxiety" over offshoring (as measured by the Eurobarometer 63 of 2005) and the intensity of offshoring and offshore outsourcing.

16 See Milberg (2007) for a review of these studies.

17 It would appear that the relationship between offshoring and financialization is not just in one direction. A study of UK and Danish retail firms shows that the financial pressures on the UK firms led to much stricter conditions being imposed on foreign suppliers of UK firms compared to Danish firms. UK retailers were more aggressive in seeking low-cost suppliers and in pressuring suppliers to reduce prices. See Palpacuer et al. (2005) and Gibbon (2002).

18 Note that the author attributes 11 percent of this job loss to Wal-Mart's imports alone.

19 For some early empirical analysis, see Berman et al. (1994) in the United States and Machin and Manning (1996) in the United Kingdom.
20 Wood (1994, 1995) pioneered this effort. He argued that capital could be ignored since with high international mobility capital had little differential effect across countries.
21 According to the Stolper-Samuelson theorem, trade liberalization should benefit an economy's abundant factor relative to its scarce factor. In a world of high- and low-skill labor, the industrialized countries were clearly relatively abundant in skilled labor and thus could expect to see the returns to skill rising in relative terms.
22 See Gordon and Dew-Becker (2007: section 5) for a discussion.
23 The theory has not gone un-criticized, both on grounds of relevance (see Samuelson 2004) and on the grounds of the difficulty of measuring high-skill and low-skill labour (see Howell 2002), and its weak predictive power for the case of developing (low-skill abundant) countries. See, for example, (Berg 2006).
24 See Burke and Epstein (2001) for an overview and Rodrik (1999) for a game-theoretic approach.
25 Belloc (2004) finds a similar result.

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3

Managing Financial Instability in Developing Countries: Why Prudence is Not Enough

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Introduction

The evolution of real economic activity has come to be increasingly dominated by financial cycles in industrial and developing countries alike. With rapid capital account liberalization, conditions in global financial markets have gained added importance as an independent source of instability in developing countries. Driven primarily by factors beyond the control of these countries, these flows are susceptible to large and sudden shifts, capable of hitting even those with monetary and fiscal discipline and exceptional track record in industrial development. These flows often behave procyclically, becoming more easily available at times of expansion in income and leading to excessive spending and over-indebtedness, but drying up during downturns when they are most needed, aggravating economic contraction.

Various policy instruments are available at the national level for mitigating these procyclical effects. However, the scope and effectiveness of these instruments are limited and they involve significant costs and/or other policy dilemmas, particularly in countries with weak fundamentals. Moreover, there is often very little room for countercyclical policies, and countries often need to rely on multilateral institutions for support. The way this support is provided plays a key role in the management of financial instability and its impact on real economic activity in developing countries.

There has been so far little prospect for reform to secure greater stability of international capital flows through regulations at source. After the Asian financial crisis and its more widespread contagion, a consensus seemed to emerge on

restricting IMF bailout operations, reorienting its lending and policies to the support of trade, income, and jobs, and prudent regulation of capital flows and the involvement of the private sector in the resolution of liquidity crises. However, with the revival of private capital flows to developing countries, the shrinking of risk spreads, and a strong trade and growth performance, this agenda was put on the backburner, exposing countries unable or unwilling to take self-insurance to a sharp reversal of these exceptionally favorable global cyclical conditions. The financial crisis that began in 2008 and its aftermath put the issue of financial reform back on the table. Governments adopted unprecedented measures to save financial institutions and stimulate economic recovery. However, with signs of recovery there are growing worries that the reforms needed to bring about stability and to prevent a repeat of boom–bust conditions will once again be delayed.

With this history of stalled reform in mind, this chapter addresses policy options in the management of financial cycles and economic instability at the national and international level, focusing on systemically important areas of intervention. Its main policy conclusion is as follows: developing countries need to manage surges in capital inflows using monetary policy and financial control with a view to preventing unsustainable exchange rates and current account positions and exposure of private balance sheets to currency turmoil. In this task, they should be encouraged and helped by the IMF. The Fund should also provide adequate liquidity in support of countercyclical policies when developing countries receive adverse external shocks, including attacks on their currencies and rapid exit of capital. This assistance should aim at maintaining imports, income, and employment rather than repayment to private creditors and investors and capital account convertibility. The latter issues should be dealt with mainly through orderly debt workouts, including internationally sanctioned temporary debt standstills and exchange controls.

The discussion of this chapter is organized as follows. "Financial instability and the real economy" discusses financial instability and its impact on real economic activity. "Financial cycles and countercyclical policy: issues at stake" gives a brief description of the policy issues involved in managing financial cycles. "Countercyclical monetary policy" and "Prudential regulations, capital controls, and risk management" examine the scope for and effects of monetary policy and financial regulations and control, respectively, in the management of capital surges. "Reserve accumulation as self-insurance: burden or blessing?" examines the recent tendency among developing countries to accumulate international reserves as an insurance against sudden stops and reversals in capital flows. "Multilateral lending and countercyclical policy" examines the

multilateral approach to capital flows and countercyclical policy. The final section concludes.

Financial instability and the real economy

Procyclicality of finance

With growing deepening of financial markets and rapid growth of financial wealth, business cycles in both developed and developing countries are increasingly dominated by developments in the financial sector. It is true that there is not always a one-to-one correspondence between real and financial cycles, and recessions do not always go in tandem with financial crises. Nevertheless, the growing tendency of the financial system, including international capital flows, to respond procyclically to impulses emanating from the real economy reinforces expansionary and contractionary forces, thereby amplifying swings in investment, output, and employment. The financial system is also capable of generating autonomous influences that can result in gyrations in real economic activity. This is particularly the case in developing countries where boom–bust cycles in capital flows driven by external factors can exert a disproportionately large impact on economic performance, producing unsustainable expansions followed by financial crises and recessions.

Capital account liberalization has added a new and increasingly dominant dimension to financial cycles in developing countries, creating mutually reinforcing interactions among credit, capital, and currency markets. On the one hand, international capital flows tend to respond procyclically to domestic cycles. Economic expansion and booms in stock and property markets attract foreign investment and lending which can, in turn, appreciate the currency and hence make such inflows even more attractive. During the downturn, falling domestic asset prices can trigger capital outflows and currency depreciations which can, in turn, aggravate credit crunch and debt deflation.[2] More importantly, international capital flows can trigger domestic financial and business cycles. Surges in capital inflows due to favorable global financial conditions and the consequent currency appreciations could generate booms in domestic assets and credit markets, encouraging borrowing and spending. When such inflows stop suddenly or are reversed, it would be almost impossible to prevent financial meltdown unless there are adequate foreign exchange reserves or international lender of last resort facilities.

Destabilizing feedbacks between domestic financial markets and capital flows are much stronger in developing than industrial countries. Currency instability in industrial countries rarely spills over to domestic capital markets and the banking sector, while in most emerging markets major payments and currency crises are seldom contained without having a significant impact on domestic financial conditions and economic activity.[3] Similarly, major banking and/or asset–market crises in developing countries often have adverse effects on international capital flows and currency markets, but this is not always the case in industrial countries.[4]

The greater susceptibility of domestic financial conditions and economic activity in developing countries to instability in international capital flows and exchange rates is often due to extensive dollarization of balance sheets and widespread currency mismatches. In a large majority of developing countries external liabilities in foreign currencies exceed by a large margin external assets, with the result that exchange rate changes can produce important shifts in net worth positions and procyclical wealth effects. This is a main reason why about 85 percent of all defaults in developing countries during 1970–1999 were linked with currency crises (IMF 2002; Reinhart 2002). In countries which hold large amounts of foreign currency reserves, these reserves are often concentrated in central banks or treasury funds while private balance sheets manifest vulnerability to currency declines. Even export sectors can be highly vulnerable to exchange rate swings when there is a maturity mismatch between their foreign-exchange-earning illiquid real assets and short-term foreign currency liabilities. Currency swings exert procyclical effects on economic activity; appreciations during boom lead to increases in net worth in balance sheets, supporting expansion in aggregate demand while depreciations at times of sudden stops and reversals add to contractionary impulses.

There can be little doubt that country-specific (pull) and global (push) factors can play important roles both in determining the direction, size, and nature of capital flows and on their impact. Strong and sustained growth, discovery of rich natural resources, rapid liberalization, large-scale privatization programs, and highly profitable corporate takeover opportunities can attract large amounts of foreign capital even when global financial conditions regarding risk appetite, liquidity, and interest rates are not very favorable. Nevertheless, as also noted by the World Bank (2003: 26), the "dynamics of net capital inflows and the changes of official reserves over the cycle do indeed indicate that the push factor is more important for middle-income countries, while the pull factor dominates in high-income countries." In fact, the most damaging episodes of boom–bust

cycles in capital flows to developing countries in the postwar period are the ones driven by special and temporary global push factors beyond the control of the recipient countries, including monetary and financial policies in major industrial countries.

During the postwar period, there have been three phases of global cycles in capital flows to developing countries. The first was triggered by oil export earnings following the formation of OPEC in the 1970s. The second comprised of cycles of the 1990s generated by low liquidity expansion in the United States and Japan and debt overhang removal through the Brady Plan. The current, third spate of cycles began with the boom in 2002. Excess liquidity created by historically low interest rates in the United States and Japan and large oil surpluses, channeled to developing countries' asset markets directly, without the intermediation of international banks, were again the major drivers. However, a reversal began with the onset of the financial crisis of 2008. The global economy is yet to recover fully from the aftermath of his crisis.

Financial cycles and investment and jobs

Procyclical behavior of finance has far-reaching implications for the real economy. Sharp swings in asset prices, exchange rates, and aggregate demand cause fundamental uncertainty regarding the return on capital, shorten planning horizons, and promote defensive and speculative strategies in investment which can, in turn, exert significant adverse influence on the pace and pattern of capital accumulation, economic growth, and employment.[5] Episodes of exceptionally rapid economic expansion driven by financial bubbles can no doubt bring greater prosperity, but they are also susceptible to producing deeper recessions or longer periods of stagnation, resulting in considerable waste of resources, including both capital and labor.

Investment has always been the most unstable component of effective demand, and more so in developing than in industrial countries.[6] Instability of investment is greater in low-income countries where investment depends more heavily on imported capital goods, and is closely linked to commodity price movements. Procyclical response of international financial markets to export shortfalls often aggravates the impact of commodity shocks. Official aid flows also appear to be procyclical for this group of countries (Akyüz 2007a, 2007b, 2008, 2009). Consequently, the burden of adjustment to external shocks almost invariably falls on capital spending.

Evidence also suggests that instability of investment increased relative to that of GDP in the 1990s both in developing and in industrial countries.

Investment cycles are now much more pronounced than income cycles, with investment rising faster than income during expansions and falling faster during contractions. Increased instability is more pronounced in middle-income countries. This is closely connected with growing influence of international private capital flows. Although they are procyclical in both industrial and developing countries, in the former they tend to lag the domestic investment cycles while in developing countries they often, though not always, lead them (World Bank 2003: 26).

Tracking the behavior of investment and employment over the entire expansion–recession–recovery cycle dominated by financial developments reveals some similarities between developed and developing countries. In particular, losses of investment and employment incurred at times of recessions are not fully recovered when the economy bounces back from its trough, giving rise to the phenomenon of jobless recovery.[7]

Not only do boom–bust cycles distort the composition of investment, but also they tend to lower its average level over the entire cycle. In the four countries hit by the 1997s crisis in East Asia, the boom supported by strong capital inflows in the mid-1990s raised the average investment ratio by some 7 percent points of GDP. However, during the crisis, the average decline was more than 16 percent points. Investment stagnated in the subsequent recovery with the result that there was a sharp decline in the investment ratio over the entire cycle (UNCTAD TDR 2000).

In the labor market, booms generated by capital inflows often raise real wages, but the behavior of employment depends on several factors.[8] Employment in traded-goods sectors tends to fall if the currency appreciates significantly. Investment and productivity growth are sluggish, and these may be offset only partly by expansion in services. Evidence shows that in almost all emerging markets, real wages rose during the boom phase. In Latin America, where productivity lagged behind wages, there was little change in unemployment, but in East Asia overall unemployment fell. In all these countries real wages fell and unemployment rose sharply during recessions, and in many of them unemployment rates exceeded the levels witnessed before the boom. Again, in all these cases the subsequent recoveries were jobless; the unemployment rates remained above the rates attained during expansion by between 4 and 6 percentage points even after income losses had been fully recovered. Indeed, evidence suggests that under conditions of increased instability and uncertainty, even longer periods of growth may fail to generate decent jobs.

Financial cycles and countercyclical policy: Issues at stake

A main challenge facing policy makers almost everywhere is how to manage financial cycles without sacrificing growth and employment. For most emerging markets, this is more about the management of international capital flows in view of their autonomous and strong influence on domestic financial conditions and real economic activity. It perhaps presents a greater challenge than attaining price stability which was once thought to be both necessary and sufficient for financial and economic stability. In most countries, both in the north and the south, financial boom–bust cycles, asset price and exchange rate gyrations, and credit surges and crunches have all occurred under conditions of low and stable inflation.[9] In some developing countries, where price instability is traditionally regarded as structural and chronic, single digit and stable inflation rates have been attained at the expense of increased financial fragility and instability through exchange-rate-based stabilization programs, relying on short-term, unstable capital inflows (UNCTAD TDR 2003).

Industrial countries are often able to respond to financial turmoil and recessions by expanding liquidity and lowering policy interest rates, and occasionally through fiscal expansion. However, such options are not open to developing countries facing economic contraction resulting from a sudden stop and rapid exit of capital, because they cannot stabilize the debt contracted in foreign currencies and undo the balance of payments constraint. In a credit crunch involving foreign lenders and investors, central banks cannot act as lenders of last resort to stabilize the exchange rate and avoid hikes in the debt burden. Nor is there an international lender of last resort to undertake this task. Consequently, even when the problem is, in essence, one of lack of international liquidity, the collapse of the currency and hikes in interest rates could lead to insolvency of otherwise sound debtors.

Even in industrial countries where balance sheets are largely insulated from the impact of large currency swings, monetary easing designed to weather difficulties in the domestic financial system can run against external hurdles. It could weaken the currency and increase inflationary pressures, particularly when there is a large current account deficit that needs to be financed by capital inflows. The problem is certainly more acute in developing countries where external obligations are in foreign currencies. In Korea, for instance, as in Japan, corporations had traditionally pursued aggressive investment strategies with a high degree of leverage, and the government often stood as a lender of last resort to bail out their creditors. This approach was also underpinned by a strong

government guidance of private investment to avoid moral hazard, speculation, and excess capacity. However, in the 1990s when corporations were allowed to borrow freely abroad, lack of an international counterpart to the domestic lender of last resort to smooth out liquidity problems drove a number of them into serious problems, including bankruptcy (Akyüz 2000).

This is why in developing countries it is all the more important to start countercyclical policy during expansion and manage surges in capital inflows so as to prevent macroeconomic imbalances and exposure to a reversal of international capital flows.[10] There are basically two broad areas of response: countercyclical macroeconomic policy, in particular monetary policy, and countercyclical adjustments in the rules and regulations applied to the financial sector, including direct or indirect restrictions over capital flows. There are difficulties in both spheres of policy and success often depends on a judicious combination of the two.

Countercyclical monetary policy

It has long been recognized that the capital account regime has important bearings on the scope and effectiveness of monetary and exchange rate policies. According to the standard economic theory, policy makers cannot simultaneously pursue an independent monetary policy, control the exchange rate, and maintain an open capital account. All three are *potentially* feasible but only two of them could be chosen as *actual* policy—thus, the dilemma known as impossible trinity. Once the capital account is opened, a choice has to be made between controlling the exchange rate and an independent monetary policy. Using monetary policy as a countercyclical tool to stabilize economic activity could result in large cyclical swings in the exchange rate and balance of payments. Conversely, if monetary policy is used to stabilize the fixed exchange rate, it cannot act as a countercyclical macroeconomic tool and prevent large cyclical swings in economic activity.

However, in most developing countries with open capital accounts, the erosion of monetary policy autonomy is often greater than is typically portrayed in economic theory. For two reasons monetary policy cannot always secure financial and macroeconomic stability whether it is geared toward a stable exchange rate or conducted independently as a countercyclical tool. On the one hand, as already noted, because of large-scale liability dollarization, there are strong spillovers from exchange rates to domestic economic and financial

conditions, and fluctuations in economic activity are increasingly associated with capital–account cycles. On the other hand, in modern financial markets the effect of monetary policy and policy interest rates on exchange rates is much more uncertain and unstable than is typically assumed in the theory of impossible trinity because of volatility of risk assessments and herd behavior. Financial turmoil hikes in interest rates are often unable to check sharp currency declines while at times of favorable risk assessment a small arbitrage margin can attract large inflows of private capital and cause significant appreciations.

Monetary policy on its own has limited scope in managing business cycles associated with surges and rapid exits of capital, in large part because domestic conditions may call for one sort of policy and international goals may call for another. This is most clearly seen at times of rapid exit of capital when monetary expansion and cuts in interest rates needed to prevent financial meltdown and to stimulate economic activity could simply accelerate flight from the currency. As a result, monetary authorities are often compelled to pursue procyclical policy in an effort to restore confidence. However, under crisis conditions the link assumed in the traditional theory between the interest rate and the exchange rate also breaks down. When the market sentiment turns sour, higher interest rates aiming to retain capital tend to be perceived as increased risk of default. As a result, the risk-adjusted rate of return could actually fall as interest rates are raised. This is the main reason why procyclical monetary policy and interest rates hikes implemented as part of IMF support during several episodes of financial crises were unable to prevent the collapse of the currency, and instead served to deepen economic contraction.

Monetary policy also faces hurdles at times of economic expansion associated with surges in capital inflows. In a high-inflation economy relying on the exchange rate and capital inflows for disinflation, there is little scope to prevent appreciations, trade imbalances, and currency mismatches in private balance sheets. This is why exchange-rate-based stabilization programs often ended in financial crises and recessions (UNCTAD TDR 2003). Neither is exchange rate floating a panacea in high-inflation economies. Prevention of appreciations, trade imbalances, and currency mismatches would call for lower interest rates to discourage arbitrage flows, but this could conflict with the objective of bringing inflation under control, particularly when disinflation relies on a strong currency to bring import costs down and to act as an anchor for inflationary expectations.[11] This is why countries in such circumstances tend to allow their currencies to float only upward, tightening monetary policy as soon as capital inflows show a tendency to slow down and pressure the currency to depreciate.[12]

Economies operating under a reasonable degree of price stability also face dilemmas in monetary policy at times of strong cyclical expansion associated with surges in capital inflows—a situation which has confronted some Asian economies in recent times. Tightening monetary policy in order to check asset price bubbles and overheating could encourage external borrowing and short-term arbitrage flows while lower interest rates would discourage such flows but lead to domestic credit expansion and overheating. A way out could be to employ countercyclical tightening while intervening in the foreign currency market and sterilizing its impact on domestic liquidity by issuing government debt. Intervention and sterilization can succeed when capital inflows are moderate in size and concentrated in the market for fixed-income assets. However, under strong surges across various segments of financial markets, sterilization could result in higher interest rates, attracting even more arbitrage flows. Furthermore, since interest earned on reserves is usually much lower than interest paid on public debt, there will be fiscal (or quasi-fiscal) costs, which can be large when interest rate differentials are wide and the surge in capital inflows is strong.[13]

There are less costly methods of sterilization, such as raising the noninterest-bearing reserve requirements of banks. This would also increase the cost of borrowing from banks, thereby checking domestic credit expansion. However, it could also encourage firms to go to foreign creditors. Banks may also shift business to offshore centers and lend through their affiliates abroad, particularly where foreign presence in the banking sector is important. A certain degree of control over the banking system would thus be needed to prevent regulatory arbitrage and reduce the cost of intervention.

During the surge in capital flows before 2008, several developing countries have intervened in currency markets to absorb excess capital inflows and avoid appreciations. Evidence suggests that sterilized intervention has generally been more successful in emerging markets than in advanced countries, particularly where a more strategic approach is followed in integration with global capital markets and financial deregulation.[14] In China, intervention not only has been successful in managing the exchange rate but is also less costly because of the close control that the government has over the banking system. This is also true for several other countries in Asia, including those hit by the 1997–1998 crisis, which have returned to quasi dollar pegs, stabilizing their currencies within relatively narrow margins, even though their task has been less difficult because of the moderate size of capital inflows and smaller current account surpluses.[15] There have also been examples of successful intervention in other parts of the developing world where capital inflows were relatively small.[16]

When successful, interventions in foreign exchange markets serve to prevent currency appreciations and deteriorations in the trade balance, and in doing so they reduce the likelihood of currency turmoil and the extent of payments adjustment needed in the case of such an event. But they do not prevent build up of currency mismatches in private sector balance sheets and their exposure to currency turmoil in the event of an external shock and contagion. This calls for effective measures to control and regulate international capital flows.

Prudential regulations, capital controls, and risk management

There is a consensus that prudential regulation and effective supervision of financial institutions play a key role in reducing the likelihood of financial crises and building safeguards in the event of their occurrence. These aim at ensuring the solvency of financial institutions by establishing adequate capital requirements, appropriate standards for risk assessment and diversification, sufficient provisions for nonperforming and questionable portfolios, and adequate levels of liquidity to address maturity mismatches between their assets and liabilities.

Since a large part of cross-border and cross-currency operations are intermediated by domestic financial institutions, notably banks, many prudential measures are considered as part of indirect and market-based controls over inward and outward capital flows and dollarization of assets and liabilities. In this sense, capital control measures cannot always be distinguished from prudential policies, and several measures that normally come under prudential policies can in fact be used for managing capital flows.

This position is sometimes taken to extremes by arguing that capital account liberalization should not be a cause for concern if it is accompanied by stronger and more comprehensive prudential regulations and effective supervision designed to manage the risks associated with international capital flows and to limit the vulnerability of the economy by discouraging weak credit evaluation and excessive risk-taking in borrowing and lending in foreign currencies. There are, however, limits to what prudential regulations can do in preventing instability, particularly in the face of macroeconomic shocks. Furthermore, it is not always possible to control capital flows through prudential measures because they are not always intermediated by the domestic financial system—for instance, when local firms directly borrow or invest abroad, or nonresidents enter domestic securities markets.

Many of the traditional risk assessment methods and prudential rules, including Basel I and Basel II, can serve to amplify cyclicality. This is clearly the case for loan-loss provisions based on current rates of loan delinquency. At times of boom, when asset prices and collateral values are rising, loan delinquency falls and results in inadequate provisioning and overexpansion of credit. When the downturn comes, loan delinquency rises rapidly and standard rules on provisions can lead to a credit crunch. Similar difficulties also apply to capital charges. Banks typically lose equity when an economy is hit by a massive exit of capital, hikes in interest rates, and declines in the currency. Enforcing capital charges under such conditions would only serve to deepen the credit crunch and recession.[17]

It is possible to design prudential regulations in a countercyclical fashion to make them act as built-in stabilizers and reduce the cyclicality of the financial system.[18] Forward-looking rules may be applied to capital requirements in order to introduce a degree of countercyclicality. This would mean establishing higher capital requirements at times of financial booms, based on estimation of long-term risks over the entire financial cycle, not just on the actual risk at a particular phase of the cycle. Similarly, not current but future losses can be taken into account in making loan-loss provisions, estimated on the basis of long-run historical loss experience for each type of loan. Again, long-term valuation may be used for collaterals in mortgage lending in order to reduce the risks associated with ups and downs in property markets. Finally, other measures affecting conditions in credit and asset markets, such as margin requirements, could also be employed in a countercyclical manner, tightened at times of boom, and loosened during contractions. While useful in containing the damage that may be inflicted by financial crises, none of these measures could adequately deal with the risks associated with sharp swings in capital flows and exchange rates or prevent crises.

There have been only a few attempts in emerging markets to curb surges in capital inflows by countercyclical tightening of restrictions. In 1994, Malaysia imposed direct quantitative restrictions on acquisitions of short-term securities by nonresidents and research suggests that these were effective in improving the external debt profile, preventing asset–price bubbles, and allowing greater space for macroeconomic policy. By contrast Chile used a price-based measure, unremunerated reserve requirements, in a countercyclical manner, applied to all loans at times of strong inflows in the 1990s, but phased out when capital dried up at the end of the decade. This was also effective in improving the maturity profile of external borrowing, but not in checking aggregate capital inflows, appreciations, and asset–price bubbles.

A problem with introducing *ad hoc* countercyclical capital control measures is that they can trigger adverse reaction from financial markets, leading to sharp falls in stock prices and causing concern among governments. This was the case in Thailand when a 30 percent reserve requirement was imposed at the end of 2006 on capital inflows held less than 1 year, including portfolio equity flows, in order to check continued appreciation of the currency. This provoked a strong reaction from the stock market, forcing the government to exempt investment in stocks from reserve requirements—something that was portrayed as a retreat in the financial press. More recently, in October 2007, the proposal by the Securities and Exchange Board in India to restrict foreign buying of shares through offshore derivatives resulted in a plunge in shares and suspension of trade, to recover only after a plea for calm from the government.

The adverse market reaction to the introduction of countercyclical restrictions could be much more dramatic in countries with large stocks of foreign debt, weak current account positions, and a high degree of dependence on foreign capital. This is why governments in such countries are inclined to allow in speculative, short-term capital even when they are aware of their potential risks. For these reasons it might be more effective to have a permanent system of control in place, with instruments being adjusted according to cyclical conditions.

When capital inflows are excessive, it is also possible to adjust the regime applicable to resident outflows in order to relieve the upward pressure on the currency. Chile followed this path in the 1990s for direct investment abroad. More recently, China took a decision to permit investment by its residents in approved overseas markets for mitigating the pressure for appreciation. Such a policy response is, in fact, an alternative to sterilization intervention, but does effectively nothing to prevent currency and maturity mismatches in balance sheets. Besides, once introduced for cyclical reasons they cannot be easily reversed when the conditions change. Therefore, regulatory measures on outflows by residents should also be a part and parcel of the overall capital account regime, adjusted, rather than introduced, on cyclical basis.

Reserve accumulation as self-insurance: Burden or blessing?

Traditionally, reserves covering 3 months of imports were considered adequate for addressing the liquidity problems arising from time lags between payments for imports and receipts from exports. The need for reserves was also expected to

lessen as countries gained access to international financial markets and became more willing to respond to balance of payments shocks by adjustments in exchange rates. However, capital account liberalization in developing countries and their greater access to international financial markets has produced exactly the opposite result. International capital flows have no doubt allowed running larger and more persistent current account deficits beyond the levels that could be attained by relying on international reserves. But this has also resulted in an accumulation of large stocks of external debt. The debtor countries have thus become increasingly vulnerable to sudden stops and reversals in capital flows, and this increased the need to accumulate reserves to safeguard against currency turmoil and speculative attacks. This has become all the more apparent after the East Asian crisis where the level of reserves was generally adequate to meet current account needs, but fell far short of what was needed to stay current on debt servicing and to maintain an open capital account. On the other hand, even though many emerging markets have adopted more flexible exchange rate regimes after the 1990s, the "fear of floating" has continued unabated, with central banks using reserves to reduce short-term volatility.[19]

One of the lessons drawn from the Asian crisis by emerging markets was thus that they should have adequate reserves to cover their short-term debt—debt with the remaining maturity of up to 1 year.[20] The IMF has also urged emerging markets to hold sufficient reserves to reduce their vulnerability. Developing countries have also been advised to reduce short-term debt and/or maintain contingent credit lines with international banks—that is, to arrange a private lender-of-last-resort facility—to be used in the event of a speculative attack (Blöndal and Christiansen 1999; Feldstein 1999). The latter, on the one hand, is often seen as an unpractical and insecure way of safeguarding against external financial instability in view of the size of the amounts involved and the procyclical behavior of financial markets. Indeed, as recognized by the IMF (1999) there is no guarantee that funds will actually be available when there is a massive withdrawal of foreign investment and lending; and even if they are available, the funds provided may merely offset reduced access to normal credits. Reducing short-term debt, on the other hand, necessitates control over private sector borrowing abroad but, as already noted, this is not favored by most countries.

A problem in determining the adequate level of reserves is that vulnerability to withdrawal of funds is not restricted to short-term debt. What matters in this respect is liquidity rather than maturity of liabilities. A run by nonresidents away from domestic equity and bond markets could also create significant currency

turbulence even though in such cases asset price declines shift the losses to lenders and investors and mitigate the pressure over the exchange rate. The impact on the currency could be particularly strong when bond and equity markets are large and foreign presence is significant. Much the same is true if the economy is highly dollarized financially.[21] A shift to foreign deposits by residents as a result of loss of confidence in the domestic currency and/or a bearish mood in the domestic securities markets could result in considerable currency instability and require large-scale interventions.

A policy of accumulating reserves at times of strong capital inflows and using them during sudden stops and reversals appears to be a sensible countercyclical response to instability in international capital flows. By intervening in the foreign exchange market and accumulating reserves, a country facing a surge in capital flows can both reduce its external vulnerability by preventing appreciations and trade deficits, and secure insurance against speculative attacks. Such a strategy, however, lacks a strong rationale since it implies that a country should borrow only if the funds thus acquired are not used to finance investment and imports, but held in short-term foreign assets. This is all the more so because, as already noted, reserves accumulated by borrowing abroad are highly costly. There are basically two types of costs involved, both of which fall on the public budget. First, there would be a net transfer of resources abroad since the return on reserves is less than the cost of external borrowing. Second, there is a transfer from the public to the private sector by the amount of the difference between the cost of sterilization and the cost of private borrowing abroad.[22]

When capital inflows are in the form of nonresident investment in domestic currency debt (i.e. when interest arbitrage is undertaken directly by nonresidents), the entire margin between domestic rates on government debt and the return on reserves would be a net transfer abroad. Indeed, in recent years a growing part of domestic-currency sovereign debt of emerging markets has come to be held by nonresidents, including hedge funds, as international investors have become more willing to assume the currency risk to benefit from considerably higher interest rates in emerging markets. Some countries have also started to issue local-currency-denominated global bonds at rates below those in domestic markets because of lower jurisdiction spreads, but above the rates on foreign currency debt.[23]

Clearly, such portfolio inflows are seen as particularly attractive in many developing countries because the exchange rate risk is borne by nonresidents. However, for the same reason, borrowing is more costly in local than in foreign currency. Besides, the interest differential is not always offset by currency

movements—that is, uncovered interest parity does not hold. This is because when capital inflows are large, it would be difficult to avoid nominal appreciations so that the cost of reserves can even be higher than that indicated by the margin between the interest rate on domestic debt and the return on international reserves.[24]

For reserves earned through current account surpluses, their opportunity cost is the return on alternative forms of investment. When the economy is growing below its potential, a high level of reserve holding as an insurance against external vulnerability would entail significant opportunity costs since these resources could be used for imports, investment, and growth.[25] When the economy is already investing a large proportion of its income and sustaining a high growth rate, return on alternative investment opportunities abroad, such as acquisition of equity, may provide a more appropriate measure of the opportunity cost of holding reserves. However, in this case there is also a broader issue of whether it is efficient to sustain such a high savings ratio and generate large current account surpluses.

Thus, while reserves in developing countries have been rising in recent years for self-insurance, there is considerable diversity regarding their size, sources, and costs. Countries with current account surpluses are translating most or all of these surpluses into international reserves at relatively high opportunity costs in terms of growth or return on investment in alternative assets. Those with weak growth and balance of payments, notably in Latin America, are compelled to absorb net capital inflows into low-yielding reserve assets rather than using them for investment and growth. Many poor countries are unable to accumulate adequate reserves because they do not have access to capital markets or cannot run current account surpluses, thereby remaining vulnerable to trade shocks. Finally, some countries lack self-insurance and are exposed to sudden stops because large amounts of capital received have been absorbed by current account deficits that these inflows helped to generate by appreciating the currency.

Multilateral lending and countercyclical policy

Many of the difficulties faced by national policy makers in sustaining stability and a high level of economic activity in the face of balance of payments shocks were recognized by the architects of the postwar international economic system. These difficulties all had become apparent during interwar years when countries facing shortages of international liquidity had been compelled to

resort to beggar-my-neighbor trade and exchange rate practices in order to avoid deflationary adjustment, thereby causing frictions in international economic relations and contraction in trade and employment. The postwar international financial architecture was designed to avoid the repetition of this experience, based on three central components: restrictions over short-term capital flows, multilateral discipline over exchange rate policies, and provision of adequate international liquidity. The IMF was created to oversee stability of international exchange and payments and provide international liquidity to countries facing temporary balance of payments deficits in order to avoid deflationary adjustments and *ad hoc* and discriminatory trade and exchange restrictions. Although the main objective was to secure orderly payments and exchange rates among industrial countries, the responsibility for addressing the problems associated with fluctuations in foreign exchange receipts of developing countries also fell under the IMF's role for the provision of international liquidity. Unfortunately, over time, IMF has departed significantly from its original mandate.

From countercyclical financing to procyclical conditionality

The past 60 years have seen a steady distancing of the IMF from its original modalities in the provision of financing in two respects. First, automaticity in drawing on Fund's resources has been abandoned and replaced by conditionality. The Articles in their original form did not make any reference to conditional drawing within the limits of members' quotas. Conditionality has been introduced by subsequent decisions by the Board and, eventually, by an amendment of the Articles in 1969 and combined with phased drawing through tranches for better enforcement of conditions attached to drawing beyond the reserve tranche. As argued by Helleiner (1999: 7) the Fund thus moved away from provision of liquidity, that is finance available on short notice and virtually unconditionally, toward finance supplied on the basis of negotiated conditions and made available through successive tranches.

Secondly, the content of Fund's conditionality has drastically changed and the balance between financing and adjustment has tilted toward the latter. Fund programs have almost invariably contained procyclical policy measures for adjustment to payments imbalances not only when these were due to excessive domestic absorption or exchange rate misalignments, but also when they resulted from terms-of-trade shocks, hikes in international interest rates, or adverse trade measures introduced by another country. The distinction between temporary

and structural disequilibria has become blurred, and the Fund programs have come to be built on the premise that a developing country should interpret every positive shock as temporary and thus refrain from using it as an opportunity for expansion, and every negative shock as permanent, thus adjusting to it by cutting growth and/or altering the domestic price structure.

Procyclical policy conditionality has applied not only to normal drawings from the Fund, but also to various facilities introduced to help overcome specific temporary payments difficulties faced by the members. For example, a Compensatory Financing Facility (CFF) was introduced in the early 1960s as a result of a UN initiative to enable countries facing temporary shortfalls in primary export earnings to additionally draw on the Fund over and above their normal drawing rights, without the performance criteria normally required for upper credit tranches (Dam 1982: 127–128). However, the semiautomaticity enjoyed by members in their access to this facility was effectively removed by a subsequent decision of the Fund (Dell 1985: 245).

Much the same is the case for the Exogenous Shock Facility introduced in 2006 for low-income countries. This was designed to provide short-term assistance to address temporary balance of payments needs arising from exogenous shocks, including natural disasters. It is a high conditionality facility with access requiring macroeconomic adjustment—something that actually contradicts the underlying rationale of introducing such a facility which should in fact aim at preventing contractionary adjustments to temporary shocks.

There has been no initiative to introduce similar global countercyclical facilities in the past three decades despite periods of widespread difficulties in the world economy, including global contraction in income and trade in the early 1980s and the threat of serious disruption to international trade and payments after the East Asian and Russian crises in the 1990s.

Crisis lending: Current-account financing or financial bailouts?

Perhaps an even more fundamental shift in the role of the Fund in multilateral lending is that it has become a crisis lender and manager for emerging markets. Under the Bretton Woods system where private capital flows were relatively insignificant, the amount of deficits that countries could run was restricted (except for the United States) to their reserve holdings. Thus, when they went to the Fund for liquidity, the official financing needed was relatively small and could be accommodated by their quota-based drawings. However, as already noted, with rapidly increased private capital flows and capital account opening,

it has become possible to run much larger deficits than made possible by reserve holdings and for much longer periods. But since capital flows are subject to boom–bust cycles, the amount of official financing needed to stabilize the exchange rate at times of sudden stops and reversals far exceeds the volume of official liquidity that would be available on the basis of regular credit tranches. Under these conditions, prevention of default would necessitate exceptional access to Fund's resources over and above quota-based drawing.

The role of the Fund as a lender and manager of capital account crises in emerging markets effectively started with the outbreak of the debt crisis in the early 1980s when "many developing countries borrowed heavily from multilateral sources in order to finance debt servicing to private creditors" (Sachs 1998: 53). Such lending has effectively become the dominant financial activity of the Fund after recurrent crises in emerging markets in the 1990s.

There are, however, serious difficulties in transforming the IMF into a genuine international lender of last resort. The effective functioning of such a lender depends on two conditions: it should have the discretion to create its own liquidity (or to have unconstrained access to international liquidity), and there should be reasonably well-defined rules and conditions that the borrower must meet. Strictly speaking, the IMF, as it stands, does not satisfy either of these conditions to qualify as a lender of last resort. However, it is in principle possible to overcome the resource constraint by allowing the Fund to issue reversible SDRs to itself for use in lender-of-last-resort operations; that is to say the allocated SDRs would be repurchased when the crisis was over (Ezekiel 1998).

The terms of access to such a facility could pose even more serious problems. A genuine lender-of-last-resort ready to lend in unlimited amounts without conditions except at a penalty rate would need to exercise a tight supervision over borrowers to ensure their solvency. But this is not easy to reconcile with sovereignty. While automatic access would ensure a timely response to market pressures, it would also create moral hazard for international borrowers and lenders and considerable risk for the IMF. By contrast, conditional withdrawal of financial support and a degree of "constructive ambiguity" would reduce the risk of moral hazard, but negotiations could cause long delays, perhaps leading to a deepening of the crisis.

Prequalification is often seen as away out: that is, countries meeting certain *ex ante* conditions would be eligible for lender-of-last-resort financing with eligibility determined, for instance, during Article IV consultations. Under such an arrangement, automatic access to the lender-of-last-resort facility on a prequalification basis could be subject to limits but, after a crisis occurred, the

country might receive additional funds subject to its commitment to undertake certain actions.

However, prequalification involves its own set of problems. First, IMF would have to act like a credit-rating agency. Second, the result could be a further segmentation of the Fund's membership, with attendant consequences for its governance. Third, lending at penalty rates might not be enough to avoid debtor moral hazard. Finally, it would be necessary to constantly monitor the fulfillment of the terms of the financing, adjusting them as necessary in response to changes in conditions (which might include those in financial markets or others beyond the control of the government of the recipient country). In these respects, difficulties may emerge in relations between the Fund and the member concerned.[26]

A fundamental flaw of the IMF's policies of crisis prevention is related to its approach to capital inflows. As recognized by the Independent Evaluation Office in a report on the IMF's approach to capital account liberalization, the Fund was ambivalent about controls over capital inflows, including market-based measures such as un-remunerated reserve requirements applied by Chile (IMF/IEO 2005: 60). It abstained from recommending controls even when surges in short-term capital were leading to sharp currency appreciations and growing trade deficits, advocating, instead, fiscal tightening, and greater exchange rate flexibility.

The objective of maintaining open capital account not only for inflows at times of surges, but also for outflows during exits underpins the initiatives undertaken for the provision of exceptional financing since the East Asian crisis, including the Supplementary Reserve Facility (SFR), Contingent Credit Line (CCL), and the Reserve Augmentation Line (RAL). The moral hazard implications of these facilities—namely that they tend to encourage imprudent lending and investment practices, adding to bubbles—are generally recognized, particularly for international creditors and investors. The debtor moral hazard is less of a problem since it must be now evident that the IMF bailout operations do not prevent financial meltdown and recessions. These facilities not only allow the creditors and investors to escape the full consequences of the risks they have assumed and, hence, weaken market discipline, but also place a disproportionate burden on debtors who not only pay a hefty risk premium on inflows but also penalty rates for IMF funds in order to finance outflows.

Creditor moral hazard, inequitable sharing of the burden of a crisis between debtors and creditors, and the inadequacy of the level of lending to forestall speculative attacks all render exceptional IMF facilities rather poor instruments for crisis prevention and intervention. By comparison, capital account policies

could present themselves as more viable alternatives, at times of both surges and exits. Countries have the scope to regulate capital inflows at times of surges and reduce their exposure. But without a multilateral framework it is considerably more difficult to impose control over outflows during sudden stops and reversals, and prevent financial crises and recessions.

After recurrent financial crises in the 1990s, there was indeed a growing consensus on the need to limit Fund bailout operations and introduce multilaterally agreed debt workout procedures in order to overcome moral hazard and involve the private sector in resolution of financial crises.[27] The IMF Board also recognized that at times of rapid outflows a need might arise for a unilateral standstill and comprehensive capital controls even though it was unwilling to provide statutory protection to debtors in the form of a stay on litigation, preferring instead signaling the Fund's acceptance of a standstill by lending into arrears to private creditors.[28] The secretariat took an initiative and proposed the Sovereign Debt Restructuring Mechanism (SDRM). However, this was designed to address the problem of sovereign insolvency; it would apply only to countries with unsustainable sovereign external debt, while those facing liquidity problems would continue to receive IMF support. The provision for statutory protection in the form of a stay on litigation was dropped to increase the likelihood of its acceptance. However, even this diluted version of the SDRM proposal could not elicit adequate political support and was abandoned.

Areas of reform

The guiding principle of any reform of IMF financial operations should be the following. The Fund lending should focus on countercyclical financing designed to support economic activity, trade, and employment in countries facing foreign exchange shortages due to trade and financial shocks, and the Fund should refrain from lending to support repayment to international creditors, and investors in developing countries. Even when capital account crises in emerging markets pose a systemic threat to international financial stability, the problem should not be addressed by the IMF, but by the governments of major countries hosting creditors and investors—as they did in the Long Term Capital Management debacle in the aftermath of the Russian default.

This is to say that the IMF should, in principle, lend for current account financing not for capital account financing, and instability in the capital accounts of developing countries should be dealt with using other policy instruments—something that calls for a fundamental reform of the approach of the IMF to

international capital flows. Reform of multilateral arrangements regarding capital account issues should aim at widening the space for countercyclical national and multilateral policy in the presence of both positive and negative capital account shocks. As they stand, the Articles of the Fund do not give it clear and effective jurisdiction over capital account issues or allow it to include capital account measures as conditionality in its financial arrangements with a member (IMF/IEO 2005: 50). The Fund should be able to request exercise of control over inflows as well as outflows, and the guidelines for surveillance should specify the circumstances in which it can actually recommend the imposition or strengthening of the measures of control and regulation. It should also develop new techniques and mechanisms designed to separate, to the extent possible, capital account from current account transactions, to distinguish among different types of capital flows from the point of view of their sustainability and economic impact, and to provide policy advice and technical assistance to countries at times when such measures are needed.

The Articles of the IMF allow it to request members to exercise control on capital outflows, but they do not provide legal protection against litigation by international investors and creditors for countries imposing temporary standstills and exchange controls at times of rapid exit of capital.[29] This would require an agreement on a definitive interpretation or an amendment of the Articles of the Fund to be ratified by all members. The decision for a standstill should be taken unilaterally by the country concerned and sanctioned by an independent panel rather than by the IMF because the countries affected are among its shareholders and the Fund itself is a creditor. This would be similar to WTO safeguard provisions which allow countries to unilaterally take emergency actions to suspend their obligations when faced with balance-of-payments difficulties (Akyüz 2002: 124–125). However, the Fund should also be able to request a mandatory standstill, as well as exchange controls, when it lends into arrears if creditors are unwilling to reach an agreement on a voluntary one. This would be essential to ensure that the Fund money is not used to finance debt repayments and capital outflows.

Countries facing temporary difficulties on their current payments due to shortfalls in export earnings, surges in import prices, or hikes in interest rates should enjoy adequate access to IMF financing. Such lending should be available both to low-income countries without regular access to financial markets and to emerging markets whose access to private finance is often impaired at times of current account difficulties because of procyclical behavior of markets. Exceptional current account financing may be needed at times of a contraction

in world trade and growth, and/or sharp declines in capital flows to developing countries, as was the case in the early 1980s and after the East Asian and Russian crises. The Fund's regular resources may not be adequate for dealing with such cases because they are not large or flexible enough. This can be handled by a global countercyclical facility based on reversible SDR allocations, and countries could be permitted to have access to such a facility on a temporary basis within predetermined limits.

The level and terms of access of developing countries to IMF resources need to be reconsidered. An across-the-board increase in IMF quotas at current levels of allocation would not improve the access by many developing countries because of the small size of their quotas. Even a redistribution of quotas on the basis of income shares valued at purchasing power parities would only address a small part of the problem for low-income countries. One way would be to use different quotas for contributions and drawing rights. Different access limits may be set for different groups of countries according to their vulnerability to external shocks and access to financial markets. Under such an arrangement, specific facilities such as the CFF would no longer be needed to meet the special needs of poorer countries. Access based on need, together with an overall expansion of Fund quotas and their redistribution in favor of developing countries, would increase unconditional access through reserve tranche purchases. However, it is also important to end the tendency to impose procyclical macroeconomic conditionality at higher access levels.

There has been considerable emphasis in the recent debate on the role that may be played by the SDR in a new design of the international economic architecture. There has been no SDR allocation since 1981; the special allocation agreed by the Board in 1997 has not taken effect because it has not been approved by the United States. Various proposals have been made to revitalize and use the SDR for development assistance or a lender-of-last-resort facility, but these do not have strong rationales. International taxes on global public bads such as currency speculation, gas emissions, or arms trade provide more appropriate alternatives for development financing, and the rationale for using reversible SDR allocations for a global countercyclical facility is much stronger than using it for financial bailout operations.

It has been suggested that while the original rationale of provision of additional liquidity to the system as a whole is no longer valid, SDR allocations can yield specific "benefits of permitting low-income countries to acquire and hold reserves at a much lower interest rate than they would have to pay in the market and a reduced dependence of the system on borrowed reserves that are

liable to be recalled when they are most needed" (Polak and Clark 2006: 553). In this proposal total stock of SDRs would be limited by the amount willingly held at the SDR interest rate, and there would be no IMF designation as to which countries should hold them. This is particularly important for preventing the SDRs from becoming an instrument for financing capital outflows and repayment of creditors at times of financial turmoil.[30]

Perhaps, one can go even further and replace quotas and General Arrangements to Borrow (GAB) and New Arrangements to Borrow (NAB) with the SDR to fund the IMF. This would require the Fund to allocate SDRs to itself up to a certain limit, which may be increased over time with growth in world trade and FDI flows. The demand for SDRs can be expected to be inversely related to buoyancy in global trade and production and the availability of private financing for external payments. Thus, it would help counter deflationary forces in the world economy and provide an offset to fluctuations in private balance of payments financing.

Conclusions

Real economic activity is increasingly shaped by developments in the sphere of finance. This influence is not always benign. Contractionary and expansionary impulses emanating from the real economy are often aggravated by procyclical response of financial markets, amplifying swings in investment, income, and employment and leading to waste of resources and creating income and job insecurity. In developing countries, financial cycles are dominated by surges and sudden stops in international capital flows driven by factors largely beyond their control. Consequently, stabilization of economic activity and prevention of financial crises crucially depend on how integration with the global financial system and international capital flows are managed.

This chapter has examined policy challenges and options at the national and international level in managing financial cycles without sacrificing output and employment. A key conclusion relates to the complementarity between national and international policies. In the absence of appropriate multilateral arrangements for the provision of international liquidity and management of capital flows, the scope for national policy is quite limited and national authorities are forced into seeking suboptimal solutions to problems posed by the instability of capital flows. However, it is also true that multilateral arrangements can only support national policy rather than substitute it.

There is considerable diversity among developing countries with regard to space available for countercyclical policy in the areas of intervention examined here. The policy space is much more limited in countries with structural fiscal and current account imbalances, inadequate levels of domestic savings and investment, high stocks of public and external debt, and excessive dependence on foreign capital. These countries face serious dilemmas in reconciling domestic and external objectives in the conduct of countercyclical monetary policy. They are also more susceptible to adverse reaction of markets to various measures of control that may be imposed over capital flows.

Managing capital inflows hold the key to the prevention of capital account crises since policy options are much more restricted under sudden stops and reversals. However, the policy space available is not always exploited efficiently. Some countries still adopt an attitude of benign neglect at times of strong inflows, allowing them to generate fragility in private sector balance sheets, currency appreciations, and trade imbalances. Although many countries, notably in Asia, show increased awareness of vulnerability to capital account crises, their policy response is not always optimal. Many of them continue to allow a high degree of freedom to capital movements, and intervene in foreign exchange markets to prevent sharp appreciations and trade deficits, and accumulate reserves as a safeguard against sudden stops and reversals.

Reserve accumulation is now seen as the only reliable defense against instability of capital flows. In some countries, these are generated by cutting imports and growth. In others, including those running current account surpluses based on strong exports, an important proportion of reserves are borrowed. These entail large carry costs and transfer of resources to reserve-currency countries. Efforts to build reserves as a self-insurance by generating current account surpluses and resisting currency appreciations are also threatening to become a major source of tension in international trade.

Accumulating reserves by cutting growth, borrowing, or generating large trade surpluses by beggar-my-neighbor trade and exchange rate policies is certainly inferior to cooperative multilateral solutions to the problem of instability in private capital flows. Solutions at the multilateral level could be sought in two main areas: provision of adequate international liquidity at appropriate conditions for current account financing to countries facing foreign exchange shortages as a result of trade and financial shocks; and orderly debt workout procedures designed to stem attacks on currencies, check capital outflows, and involve the private sector in the resolution of crises. Multilateral

policy surveillance and advice should also be used to help countries to manage surges in capital inflows.

However, the multilateral system has been moving away from countercyclical financing toward procyclical policy conditionality, and from current-account financing to capital account financing. Many facilities introduced in the past to allow countercyclical policy response to temporary payments imbalances have either disappeared or have been made highly conditional on the pursuit of procyclical macroeconomic policies. IMF crisis lending has focused on the repayment of private creditors and investors and maintenance of convertibility, rather than restoration of income and employment.

The way the IMF has handled financial integration and stability of developing countries has indeed been quite abysmal, even in comparison with the muddling through the debt crisis of the 1980s, causing rapid loss of reputation and relevance for the institution. There was first an attempt to change the Articles to establish a global regime of open capital accounts, but this had to be abandoned willy-nilly after a series of crises. There followed calls for an international lender-of-last-resort as a preemptive measure, but the CCL established for this purpose proved to be deficient and had to be abandoned. Difficulties in establishing a last resort lender with adequate power of supervision over national policies and the concern over safeguarding IMF resources, aggravated by sovereign defaults in some emerging markets working with the Fund, led to an attempt to design orderly workout procedures for sovereign debt and recommendations of self-insurance. The SDRM was abandoned because of opposition from the financial markets and the United States, and lack of support among developing countries. But the advice on reserves has been taken to heart, making the Fund irrelevant for an important group of developing countries. The fate of the recently proposed RAL, as an attempt to keep the Fund in business for weaker and highly vulnerable emerging markets, is uncertain—the debate in the IMF Board indicates that there are serious concerns about its viability.

Even with the severity and reach of the current economic crisis, the prospects for reforming multilateral monetary and financial arrangements in areas crucial for financial and economic stability of developing countries are not very bright. This makes it all the more important for countries that are vulnerable to crises to be vigilant about their integration into international financial markets. In order to reduce their exposure to financial crises, they need to make full use of the policy space available and create conditions for widening their policy space by addressing their structural and institutional weaknesses.

Notes

1 I am grateful to Sanja Blazevic and Makameh Bahrami of UNCTAD for their assistance with the data used in this chapter.

2 For evidence on the procyclical effects of capital flows on economic activity in emerging markets, see Prasad et al. (2003).

3 A classical example is the 1992 EMS crisis which produced sharp drops in the lira and pound sterling without provoking financial crises in Italy and the United Kingdom. Similarly, at the end of the 1990s, the dollar–yen rate was seen to change by over 20 percent within a matter of a week. Such swings were comparable to those experienced in East Asia in 1997 but did not produce widespread defaults and bankruptcies. A notable exception is the 1987 stock market break which was closely linked to the instability of the dollar after the Plaza agreement.

4 For instance despite persistent difficulties in the financial sector in Japan throughout the 1990s, the yen saw periods of strength as well as weakness. By contrast, the recent instability of the dollar is influenced, at least partly, by the sub-prime mortgage crisis.

5 For firms' investment and employment decisions under uncertainty, see Dixit and Pindyck (1994).

6 For the evidence on the stability of investment, see UNCTAD TDR (2003) and World Bank (2003).

7 Here recovery refers to the phase of expansion where growth is only sufficient to make up for income losses during the preceding recession. It is jobless if the growth rate of employment is not positive.

8 For the evidence on the evolution of employment and wages in boom–bust–recovery cycles in emerging markets, see UNCTAD TDR (2000: chapter 4), ILO (2004), and van der Hoeven and Lübker (2005), analyzed in greater detail in Akyüz (2006).

9 On the view that financial stability depends on price stability, see Schwartz (1995) and Bordo and Wheelock (1998). By contrast, Borio and Lowe (2002) argue that financial imbalances and instability can emerge in a low-inflation environment.

10 For a lucid account of options available in responding to excessive capital inflows, see Williamson (1995).

11 Lower interest rates are unlikely to generate significant domestic demand pressures on prices, since in such countries business rarely borrows in domestic currency, preferring much cheaper dollar credits while assuming the exchange rate risk.

12 This was the Turkish response to the impact of global instability in financial markets in May–June 2006 when interest rates, almost in double-digit figures in

real terms, were aggressively raised to check the depreciation of a highly overvalued currency. This suggests that the fear of floating (Calvo and Reinhart 2002) is asymmetrical, more overwhelmingly downward than upward.

13 For some estimates of fiscal cost of intervention in emerging markets, see Mohanty and Turner (2006).

14 On the effectiveness of foreign exchange market interventions in emerging markets and the recent experience, see the articles in BIS (2005), notably Disyatat and Galati (2005) and Mihaljek (2005). For a general survey of the issues involved, see Sarno and Taylor (2001).

15 According to Mohanty and Turner (2006), over the period 2002–2006 most central banks in Asia eased monetary policy and lowered interest rates as they were building reserves without losing control over inflation. Nevertheless, there were still sharp increases in the supply of central bank bills, which reached 15, 20, and 30 percent of GDP in China, Korea, and Taiwan, respectively. In China where over 80 percent of central bank securities are held by banks, reserve requirements were raised from 7 percent in 2003 to 12.5 percent in 2007, and the share of central bank bills in total assets of banks more than doubled.

16 In Argentina, for instance, sterilization has been successful in keeping the real exchange rate within a target range and absorbing resulting excess liquidity through emission of central bank paper since 2002–2003 despite opposition from the IMF—see Damill et al. (2007).

17 This happened in Asia during the 1997–1998 crisis as a result of extensive efforts to strengthen regulatory regimes as part of the IMF packages of financial support—see UNCTAD TDR (1998: chapter III, box 3).

18 This approach is finding considerable support in the BIS (2001: chapter VII); see also Borio et al. (2001) and White (2006). For further discussion in relation to emerging markets, see Akyüz (2004).

19 The IMF Guidelines for Foreign Exchange Reserve Management recognize that reserves are held with a number of objectives linked to the capital account, including supporting and maintaining confidence in monetary and exchange rate policy, limiting external vulnerability, and providing confidence to markets that the country can meet its external obligations—IMF (2005b).

20 This has come to be known as the Greenspan–Guidotti rule. For a discussion, see UNCTAD TDR (1999: chapter V). For an attempt to empirically determine the optimum level of reserves based on welfare criteria, see Jeanne and Rancière (2006) who find that the optimal level suggested by their model is close to the Greenspan–Guidotti rule.

21 Financial dollarization is often measured in terms of the share of foreign currency in the total deposits of residents. This tends to be very high in emerging markets,

reaching or exceeding 50 per cent in some—see Reinhart et al. (2003) for various concepts of dollarization, its determinants and consequences, and regional differences.

22 The cost incurred by the public sector on each dollar of reserves is given by $i_g - i_r = (i_g - i_x) + (i_x - i_r)$ where i_g, i_r, and i_x are the rates, in common currency, on government domestic debt, reserve holdings, and external borrowing, and typically $i_g > i_x > i_r$. When nonresident claims are only in foreign currencies, the first term on the RHS is captured by the holders of public debt at home and the second term is the net transfers abroad – what Rodrik (2006) calls the social cost foreign exchange reserves. For the distinction between the two types of transfers and costs, see UNCTAD TDR (1999: chapter V).

23 On increased holding by nonresidents of locally and globally issued domestic currency debt of emerging markets, see Mehl and Reynaud (2005), De Alessi et al. (2005), Tovar (2005), and IMF (2005a). In some countries such as Turkey, nonresident holding of local currency debt has increased much faster—Yeldan (2007). Thus emerging markets have started to overcome the "original sin" at the cost of paying much higher rates.

24 This has certainly been the case in Turkey over the last few years where the lira appreciated in nominal terms vis-à-vis most reserve currencies while the domestic borrowing rates stayed at around 20 percent.

25 Even when reserves are borrowed, the social return on investment may exceed the cost of borrowing abroad so that insurance against vulnerability would be even more costly in terms of growth. Rodrik (2006) uses external borrowing costs in estimating the social cost of foreign exchange reserves, pointing to the difficulties in empirically measuring the social rate of return on capital.

26 Such problems emerged in the Brazilian agreement with the IMF in 1999 which constituted an experiment with the provision of international lender-of-last-resort financing to an emerging market: it was intended to protect the economy against contagion from East Asia, subject to a stringent fiscal adjustment and a gradual depreciation of the *real* throughout 1999. After a political struggle, the Brazilian Government succeeded in passing the legislation needed to meet the fiscal target but, when the currency came under attack, the Fund allowed the agreement to collapse, requiring additional and more stringent conditions regarding the fiscal balance in order to release the second tranche of the package.

27 See, for example, Group of 22 (1998); the Council of Foreign Relations Independent Task Force (CFRTF 1999); the Emerging Markets Eminent Persons Group (EMEPG 2001); and the High-Level Panel on Financing for Development (Zedillo 2001). For a discussion of issues in bailouts and reform, see Goldstein (2000), Haldane (1999), Akyüz (2002), and Eichengreen (2002).

28 See IMF (2000). For further discussion of the debate in the IMF, see Akyüz (2002: 123–128).
29 On conflicting interpretations of IMF provisions and judicial practices, see UNCTAD TDR (1998: chapter V).
30 A further issue discussed by the authors is whether allocation should be made to all members or to low-income members alone. They advocate retaining the provision of the Articles which implies that the size of a member's allocation should not be based on the state of its payments position. This could further meet the concern expressed here that the SDR should not become an instrument of financial bailouts.

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4

Insurance, Credit, and Safety Nets for the Poor in a World of Risk

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Introduction

The poor face considerable risk to their livelihoods. In the last 20 years or so, we have learned much about the ways in which risk is managed in poor settings, despite key underlying failures in insurance and credit markets. At the same time, a multitude of interventions and innovations in credit and insurance markets are changing the policy environment. In this chapter, we offer a discussion of some of the key interactions between different private and public mechanisms to deal with risk, and their implications for poverty. As the focus is on risk, we will mainly focus on attempts to develop insurance for the poor. As it is the key response on which evidence is still most sparse, and has also been least broadly experimented with, we will inform much of our discussion by theory and conceptual arguments. Nevertheless, in combination with the available evidence, this leads us to a number of key policy implications that could guide further expansion of insurance for the poor, through better-designed insurance schemes.

The development of cost-effective insurance for the poor for a variety of risks could be considered to be one of the most important challenges in the fight against poverty. In richer economies, cost-effective insurance has fundamentally changed the lives of the poorer sections of society, and has been achieved through broad public action, combined with the development of private insurance mechanisms. In developing countries, private insurance markets are limited, as often are the capabilities of public agencies to provide adequate protection. Microfinance institutions have begun to take more interest in insurance and have started to provide insurance as part of their overall microfinance service

delivery, and some experimentation has occurred, particularly in the provision of agricultural insurance.

Risk is pervasive in developing countries. Rural households face risks such as drought, floods, or pests. Families face considerable unemployment, fire, theft, health, and mortality risks. Insurance provision is still limited, and state-provided social security or more basic safety nets are often not available or limited to particular widespread disasters. Richer families have reasonable access to insurance alternatives through substantial savings or credit facilities. While it is well known that the poor also use relatively sophisticated mechanisms to cope with risk, such as activity diversification, mutual support networks, and savings for precautionary purposes, risk appears to be only imperfectly handled with serious welfare consequences.

This is well illustrated by evidence from our own research program in Ethiopia.[1] Using the Ethiopian Rural Household Survey, a panel data survey covering about 1,450 households across the country, the prevalence of different types of risk is explored in Dercon et al. (2005). The survey collected detailed data on a variety of (self-reported) shocks that affected people during the period between 1999 and 2004. In the data, it was found that just under half of the households were affected by drought in this period (2002 was a serious drought year), but a large number of other shocks were also relevant (Table 4.1). For example, 43 percent reported to have been affected by a death in the household, and 28 percent were affected by a serious illness in the household. Other shocks reported (by between 10 and 20 percent of households) were output price collapses, increases in input prices, crop pests, and crime.

Table 4.1 The incidence of serious shocks, 1999–2004

Type of shocks reported	1999–2004
Drought (or other weather-related shocks)	47
Death of head, spouse, or another person	43
Illness of head, spouse, or another person	28
Inability to sell outputs or decreases in output prices	15
Pests or diseases that affected crops	14
Crime	13
Increases in input prices	11
Policy/political shocks (land redistribution, resettlement, arbitrary taxation)	7
Pests or diseases that affected livestock	7

Source: Dercon et al. (2005).

Despite a relatively widespread safety net to cope with drought, supported with foreign aid, and increased investment in health services, these shocks continue to cause important welfare costs. For example, the consumption levels of those reporting a serious drought were found to be 16 percent lower than those of the families not affected; illness shocks appeared to have similar impacts on average. These shocks result not only in short-run costs: in the sample, it was found that those who had suffered considerably in the most severe famine in recent history, the 1984–1985 famine, were still experiencing lower growth rates in consumption in the 1990s, a period of overall recovery, compared to those who had not faced serious problems in the famine (Dercon et al. 2005). The implication that poverty caused by shocks may well persist in the long run in addition to the short run is important and is supported by evidence from a number of countries.[2]

There are also other impacts, harder to measure. If households have poor mechanisms to deal with downside risk, they will try to manage their exposure to risk by changing their activities and asset portfolios, for example, by diversification or shifting into low risk activities (Morduch 1995). While diversification tends to be typically viewed very positively, these risk strategies come at a cost: to reduce overall risk exposure, gains from specialization are likely to be forfeited. In Ethiopia, we also found that the risk inherent in a modern high-return input (fertilizer) caused lower than optimal uptake (Dercon and Christiaensen 2007). Unable to insure agricultural risk, aversion to risk led to choices that suppressed expected returns.

What can be done about this? One intuitive policy response would be to encourage the development of insurance provision. In this chapter, we pursue this further, focusing on key problems in the design of insurance schemes that target the poor. However, any interventions should be well aware that insurance provision cannot take place in a vacuum. If effectiveness and efficiency are not to be compromised, policymakers should think carefully about alternative and already existing risk-pooling mechanisms as well as people's own responses to risk.

In most countries of the developing world, there is a continuing expansion of credit activities, and in the poorest settings schemes are usually group based, allowing aligned incentives and cheap monitoring in a way that economizes on information and transactions costs. Better basic safety nets are also being developed for the poor, although protection is usually limited to large-scale disasters. In recent years, support has been given through targeted conditional cash transfers payable only if families meet specified criteria, such as committing

to sending children to school. Finally, in most communities in the world, people have long organized themselves to provide some forms of informal mutual support to each other (Fafchamps 1992; Townsend 1995). A key issue for any further insurance provision is how it should relate to safety nets, credit schemes, and existing informal insurance schemes. In this chapter, this concern is central for our analysis (for more details, see Clarke and Dercon 2009).

A simple framework

In a simplified world, we could think of two competing starting points for fighting poverty (see Table 4.2). The second column presents the traditional view of poverty, in a world without risk. Market failures are usually assumed to exist in such a world; in particular, many common policy proposals are predicated on credit market failures being a binding constraint. This view stresses one fundamental characteristic of poverty: the poor lack capital. With few assets of value, there is no simple mechanism that allows the poor to build up their capital base, even if they have great potential. More importantly for our purposes, in analogy to the more macroperspective of standard growth theory, there may not be any convergence in the asset accumulation process, but divergence. Left

Table 4.2 A simple framework for researching poverty with and without risk

	Poverty	**Vulnerability**
	Asset focus, in a world without risk	**Risk focus in a world focusing on protection**
Responses		
Self based	Accumulation (savings for investment into productive assets, including physical and human capital)	Self-insurance (savings via liquid assets) and other risk management and coping mechanisms
Intervention based	Asset creation programs (targeted by wealth); transfers as gifts or gifts conditional on work or action (e.g. conditional cash transfers with education objective)	Safety net (responsive to crisis)
Market based or inspired	Microcredit, focusing on physical capital	Microcredit, focusing on consumption smoothing. Microinsurance

to their own resources and efforts, there may be a limit to the amount they can accumulate, leaving them trapped in a perpetual cycle of poverty (Ray 2007). If substantial minimum capital levels are required before lucrative activities can be started, or there are other multiple thresholds to surpass before growing out of poverty becomes feasible, poverty traps will lead to poverty persistence. Asset-related poverty traps are an appealing narrative to describe poverty in the developing world (Carter and Barrett 2006). One direct implication is that any policy that sufficiently increases the poor's access to capital breaks the trap immediately and allows the productive poor opportunities to grow out of poverty.

In terms of solutions, suggested policy responses are often intervention based, such as targeted gifts (pensions, food aid), gifts conditional on work (e.g. food-for-work), or gifts conditional on other actions (such as conditional cash transfers requiring children to attend school). Market-inspired responses are also widespread, implementing ideas from microcredit innovators that have successfully helped to make the poorest somewhat bankable.

The third column presents the vulnerable view of poverty, in which risk is a defining feature. Risk forces households to focus on avoiding serious shocks, instead of accumulating for the future. Household responses include self-insurance via precautionary savings, risk management to reduce exposure via activity and asset portfolios (diversification, migration, etc.), and risk coping to respond to shocks (mutual support networks, selling assets). The most common public intervention in the developing world takes the form of a safety net, coming into action when things go wrong for a particular individual. Although asset creation programs are also sometimes referred to as safety nets, when focusing on risk we will use the term to mean a responsive program that comes into action to avoid further hardship when catastrophic events occur. The market-based (or inspired) alternative would be to promote risk sharing through financial institutions such as private or social microinsurers. Access to microcredit can also help to reduce vulnerability to small shocks as in bad times a loan can be taken out to be repaid later. While attempts have been made to better insure the poor, microinsurance has not yet enjoyed the same success as microcredit, and access to microinsurance is not yet as widespread as to safety nets or indeed microcredit.

Focusing on one of these two routes has key limitations. For example, ignoring risk and protection misses an important reason for the perpetuation of poverty, as assets may be accumulated only to be lost during crisis, and high expected return opportunities may be foregone if they are also high risk. However, a naïve

focus on risk and protection would also be detrimental, as insurance may protect against the worst eventualities and enable individuals to safely take on high risk, high expected opportunities, but poverty may still persist if credit and other market failures constrain asset accumulation.

However, most of the discussions on asset poverty do not take the role of risk into account; the logic of these interventions is dependent on the world being riskless, often a poor assumption in practice.[3] This view is strongly implicit in early microcredit schemes, such as the Grameen Classic System (Yunus 2002) whose design focused on combating problems of moral hazard and adverse selection in a riskless world. All default was assumed to be information related and punished severely, even if the default was caused by an observable shock over which the group had no control.[4] Although access to microcredit allows the poor to smooth their consumption by taking out and paying back loans, microcredit can actually make borrowers more vulnerable to large shocks as the credible promise of severe punishment on loan default is necessary to keep borrowers honest. That things go wrong due to shocks is rarely acknowledged in design, leading some observers, such as Adams and von Pischke (1992), to refer to microdebt programs rather than microcredit, as obligations are created that cannot be fulfilled when shocks occur. Matin (1997) documents cases in which moneylenders were used to refinance microcredit loans that needed to be paid back, creating a debt trap. In practice, of course, many microfinance institutions acknowledge real-world risks and have ways of dealing with them, although typically the focus is on guaranteeing eventual payback of the loan when shocks occur through rescheduling rather than cancellation.[5] In short, while assets may in principle reduce vulnerability, a widespread route to acquiring them may actually increase vulnerability to large shocks.

In sum, a focus on both asset creation and risk seems to be important for poverty reduction in the real world. The discussion also suggests that different interventions should not be implemented in a vacuum. Neither credit nor insurance markets will work well for the poor if the other functions badly. In the absence of one or both markets, some protection or commercial financing may still be possible from safety nets, savings and various risk management, self-insurance, and other coping strategies.

In the rest of this chapter, we explore these interactions, and the relative advantages of different approaches. First, we explore the scope and constraints on developing insurance. Then, we explore the interactions between credit, insurance, and vulnerability.

Problems with insurance

Imperfections in insurance markets

In a world with widespread risk, but with limited insurance and protection, the successful development of fairly priced insurance markets is likely to provide a large social benefit. Unfortunately, insurance markets have historically always been slow to develop; currently, their expansion into the developing world is similarly slow. Understanding why this is the case is crucial for any public action related to insurance; the underlying problems will also bedevil these interventions.

In general, financial system constraints can be well explained by the quartet of (i) information asymmetries, (ii) transaction costs, (iii) enforcement constraints, and (iv) ambiguity aversion. First, information asymmetries are well known to restrict credit, saving, and insurance markets in the form of moral hazard and adverse selection. Moral hazard refers to situations in which the lender or insurer cannot observe the effort put in by the borrower, the amount of risk chosen by the borrower, or the outcome of the efforts. As noted by Crosby (1905), an individual's behavior may differ depending on whether she has insured her house against fire damage or not. Insurance may also suffer from adverse selection under which insurers are unable to distinguish between good and bad risks, and good risks are priced out of the market. Adverse selection can act in the opposite direction as well with an insurer knowing more about its riskiness than the insured, and finding it costly to credibly signal that claims will be paid in bad states of the world.

Second, there may be significant administrative costs of providing financial services, including search, bargaining, and calculation costs. These can be substantial relative to the size of the transaction, particularly for small transactions (Rojas and Rojas 1997). The popularity of Rotating Savings and Credit Associations (ROSCAs) highlights the need to keep calculation costs and complexity low for financial agreements concerning small amounts. Even formal financial institutions in the developing world cannot employ particularly sophisticated risk-management techniques as risk portfolios are rarely large enough to be able to support a team of costly financial professionals. Armendariz de Aghion and Morduch (2005) report that the accounting department for ASA, a microlender in Bangladesh providing banking services to nearly 2.3 million customers, consists of only 13 people. In the case of insurance, premium collection costs and the costs of verification that certain insured risks actually materialized can be high. Gollier (2003) argues that even in developed financial markets high administrative costs of insurance restricts

demand for insurance products to such a degree that the added value of the insurance sector is surprisingly low.

Third, there is the enforcement problem. This is clearest in the case of lending arrangements in which the borrower may be tempted to engage in strategic default, but this issue is also real in the case of the insurance provision. Large unlikely shocks, termed catastrophic shocks, are often difficult to share through informal or small-scale formal insurance mechanisms as they require full enforceability of contracts. Informal enforcement is often shallow and if a large shock hits, and a large transfer is required, the informal or small insurer is likely to successfully renege on the agreement. As any informal insurance cannot credibly offer full protection against catastrophic risks, such catastrophic risks will remain, at least partially, uninsured.

Fourth, insurance markets are slow to develop due to a need for viable financial institutions to protect against insolvency in the face of uncertainty, and the resulting institutional aversion to ambiguity, or actuarial prudence.[6] An ambiguity-averse insurance company prefers to insure when they have a good understanding of the odds, and demands a premium to insure risks for which data is scarce, even if there is no perceived moral hazard or adverse selection. This actuarial prudence in the face of ambiguity is one of most highly celebrated tenets of risk management in insurance companies but slows the development of new lines of insurance business as data is scarce and the claim odds are not well known. In many developing contexts, data and actuarial know-how are scarce and any insurer or reinsurer wishing to stay solvent must charge substantial ambiguity premiums, making products of poor value. Moreover, financial regulators tasked with maintaining confidence in the financial system must force financial institutions to price the way as suggested above, or risk facing widespread insurer insolvency.

These four types of constraint provide explanations for the limited development of insurance markets in poor settings. However, while they are explicitly discussed in any primer on insurance, it is easy to forget that these constraints are not easily resolved by any public or NGO scheme. Any viable insurer, formal or informal, is subject to these constraints, although different institutional forms and product designs may lead to higher or lower informational, prudential, or administrative costs. These constraints have implications for the products that can be fruitfully offered.

Insurance products—what to offer?

Offering insurance requires carefully designed products. Different classes of risks have different specific problems with information, enforcement, or ambiguity,

which should be taken into account when designing suitable products. For example, health insurance schemes tend to suffer mainly from adverse selection problems and post-selection residual ambiguity. Property and fire insurance are both strongly affected by moral hazard problems. Insurance against crop failure suffers from moral hazard and loss verification problems, and risks are also often highly covariate, necessitating a strong link between insurers and wider risk pools. Life insurance has fewer problems, and is typically observed to emerge early on in new insurance markets. For example, one of the first Indian microinsurance schemes was life insurance offered by the Indian Self-Employed Women's Association (SEWA), a trade union (Sinha 2002). With widespread informal insurance, and high information and transactions costs for formal insurance, the most promising forms of insurance are likely to offer protection against catastrophic shocks that are difficult to informally insure with neighbors. Offering insurance for low-impact risks is never likely to be cost effective. Informal systems are likely to provide insurance at a lower cost for these risks.

In recent years, a number of innovative products have been designed specifically for the developing world. Indexed products have been developed for rainfall insurance, in which fixed payouts are made when local rainfall levels fall above or below particular triggers. These insurance products are calibrated to cover typical losses from low or high rainfall across particular geographical areas, and predetermined payouts occur to those holding the insurance, without the need to check on specific losses for individual farmers. These are very attractive products to the insurer, as they sidestep the problems of moral hazard, adverse selection, and verification costs which have bedeviled crop insurance schemes across the world. In the developing world, there have been trials of rainfall insurance products in various areas of India (backed by ICICI Lombard, in Andhra Pradesh with an NGO called BASIX, and with SEWA in Gujarat), Nicaragua, Ukraine, Ethiopia, Malawi, Peru, and Mongolia (World Bank 2005).

Giné et al. (2007a, b) report on the experiments in Andhra Pradesh, based on the activities of BASIX, who have been trying out rainfall insurance since 2003. The findings of their controlled experimental study show some of the key problems with offering indexed insurance products for the poor. Despite being offered in areas with serious drought risk, with well-known negative consequences, only a small number of eligible households bought the insurance (4.6 percent). All evidence points to those who bought the insurance being wealthier, better educated, and more able to withstand drought shocks to start with. Why did the poorer farmers avoid insurance? The most common reason given by those interviewed was that they did not understand the product, and other evidence suggests that trust in the product and the organization matters

as well. However, it is worth noting that, despite the insurer-friendly indexed design of the product, insurance premiums were on average around three times as large as expected payouts. The work by Giné and Yang (2007) in Malawi reached similar conclusions on problems with uptake, although there is clearly a need for further work on understanding why take-up is so low.

The previous experience with index-based insurance illustrates a more general problem. Designing products is relatively easy compared to the task of ensuring that the uptake of sustainably priced insurance is considerable. Studies investigating the hypothetical demand for insurance consistently find high demand, but when insurance products are piloted, such as in Malawi and India, uptake is rarely swift or high. In insurance companies, this phenomenon is well known, and actuaries have a saying that "insurance is always sold, never bought." Explaining this is harder, but it may have to do with the fact that insurance is a difficult concept to understand. Taken in isolation, payouts from any insurance product are uncertain and so insurance might be thought to increase risk if considered in isolation from the rest of a risk portfolio.[7] For insurance to be successfully adopted, costly consumer education is necessary, increasing initial marketing costs substantially, although these costs might be expected to decrease over time as more people learn about insurance. Low uptake will further increase the costs of insurance as insured risk pools are smaller and additional costly reinsurance will be required if the insurer is to protect against insolvency.

Microinsurance innovations have not experienced anything like the success of the microcredit innovations of Grameen Bank and others. This is partly because innovation in insurance products is more difficult to critically assess than innovation in credit products, and new products require substantial costly consumer education. The microcredit experiments of Muhammad Yunus and others have been incredibly valuable to the world's poorest. If financial engineers can develop methods of insuring common catastrophes with low costs, low complexity, and aligned incentives, microinsurance may have the potential to make an even bigger impact on the lives of the poorest than microcredit. Moreover, economic theorists are well placed to lead this engineering by drawing on recent positive theoretical modeling of successful features of microcredit products (see, e.g. Armendariz de Aghion 1999; Rai and Sjöström 2004).

Can credit reduce vulnerability more effectively?

It is often assumed that by softening credit constraints, the primary economic function of microcredit is to allow microentrepreneurs to unleash their

productive potential. In the context of a world with high risk, it will then not only raise mean living standards, but also assist in rapid asset accumulation, offering a larger buffer to deal with shocks. Overall, it would allow the productive poor to grow out of poverty and leave their vulnerable lives behind.

It is, however, difficult to get reliable empirical justification for the basic assertion that access to microcredit induces any income growth. To date, there is no study investigating the effect of access to credit facilities on income levels that has achieved wider consensus as to its reliability (Armendariz de Aghion and Morduch 2005). Nevertheless, more optimistically, most studies do find strong evidence that access to microcredit facilities leads to reduced vulnerability, in the sense of a lower threat of fluctuations in the incomes or consumption (Hashemi et al. 1996; Montgomery et al. 1996; Morduch 1998; Zaman 1999). Morduch (1998), for instance, finds that households with access to microloans have smoother income streams (and thus smoother consumption patterns) relative to control groups, achieved by diversification of income-generating activities or entry into low risk activities with reasonable returns that required some capital investment. Microcredit may then offer a means for reducing risk exposure, while keeping costs and incentives aligned.

However, microcredit is not a perfect vehicle for vulnerability reduction. First, microcredit products, as typically offered, were not designed to achieve reduced fluctuations in consumption or protection against shocks. Few microcredit products are geared toward this objective, even if the return to consumption credit has been shown to be very high (Karlan and Zinman 2007b). Secondly, credit allows individuals' flexibility to smooth their consumption over time, but only generates quite crude risk pooling between group members; the effects of a shock to an individual may be spread over time, but the shock will ultimately be borne by that individual, rather than shared with other, luckier individuals. Finally, and most importantly, microcredit can actually make borrowers more vulnerable to large shocks as the credible promise of severe financial, social, or psychological penalties on loan default is necessary to keep borrowers honest. The relative natural division in domains between credit and insurance could be that credit is suitable for relatively small shocks, complementing more general savings and other informal insurance mechanisms, while insurance could become a key instrument for dealing large or catastrophic risks. However, interactions between credit and insurance need to be taken into account as well.

Credit, insurance, and crowding out

Insurance can crowd out credit

It is instructive to be reminded of why credit markets may fail to emerge or function competitively. One reason is related to problems of enforcement in the context of informational asymmetries. Its implications for poverty persistence are explored by various authors: Banerjee (2000) offers one plausible stylized model. In his model, wealth can be invested in a particular generic profitable project; borrowed funds could be used in the same way. Lenders can only enforce credit contracts with a particular probability; they also cannot distinguish between moral hazard and bad luck as the cause of a household's default. Households that default and are caught are pushed back to some minimum welfare level. The higher this minimum level, the more likely households are to default on the loan—the welfare costs of defaulting are lower. However, this makes borrowers more reluctant to lend. Wealthy households can offset this safety net effect by investing some of their personal wealth in the project, so that the repayment required to the bank for the same project size is relatively smaller, making default less attractive, and the borrower more creditworthy. To be able to ensure that the poorest are reached, a few options emerge. First, one could ensure that there is more information on the actions and circumstances of the poorer households, but this is costly, reducing profitability and the willingness to lend to these households. Secondly, the contract could be designed to ensure that alternative incentives are in place to ensure maximal repayment efforts—the tried and tested solution of many microcredit schemes, including use of group liability and/or dynamic incentives. Thirdly, one could make it easier for an individual to contractually agree to be punished harshly on default. Such a voluntary system, in some sense similar to the debtors' prisons so loathed by Dickens, might *ex ante* improve the lives of the poorest, but might be socially or morally unacceptable.

Introducing forms of insurance or social protection (whether via insurance of the basic livelihood, such as unemployment, or a basic safety net) is not innocent in these circumstances: by increasing the minimum welfare level that can be reached in case of default, it reduces the incentives for repayment, and reduces the amount of credit that lenders could profitably offer. Systems that offer individuals more livelihood protection are also likely to undermine the cross-reporting and monitoring incentives in group-based microcredit schemes, undermining the sustainability of the groups.

Are these problems real? They plausibly are when insured risks are subject to moral hazard and insurance payouts cannot be reclaimed by the lender. Insuring risks free from moral hazard, such as rainfall or mortality, wouldn't result in crowding out of credit as strategic default is very unlikely. However, insuring general business risks in such a way that the lender could not reclaim any insurance payouts would crowd out credit as lenders would need to reduce loan amounts to protect against strategic default as described earlier. Such complexities highlight the importance of well-designed products that are robust to moral hazard and adverse selection, such as rainfall insurance, or a well-designed health insurance product with clear selection and monitoring.

At the same time, it would be in the interest of microcredit institutions to internalize the provision of insurance, helping their clients protect against default when failure is no fault of their own. Many microcredit organizations offer forms of credit-life insurance—to ensure that repayment occurs in the case of death. Grameen Bank, for instance, charges a surcharge on interest rate payments to pay into an emergency fund for this purpose. In general, if insurance provision is planned where microcredit operations are present, linking these contracts may be of mutual interest for the sustainability of the credit schemes, by optimally internalizing the different incentive, monitoring, and enforcement problems. Examples would be to offer credit with mandatory insurance, rather than allowing some to opt into insurance to protect against adverse selection. We are effectively suggesting that collusion between providers of complementary financial services for the poor may well be beneficial for the poor. However, any resulting market power would require careful regulation, offering a crucial role for regulatory bodies for microfinance activities.

Insurance may help credit

We can also go a step further. By not offering insurance, but with strict enforcement of credit repayment, microcredit can be very risky and, as suggested before, it may increase vulnerability considerably, particularly for large shocks. Risk-averse poor families might decide not to borrow to invest in profitable activities if there is a reasonable chance that they will be unable to repay the loan and will be severely punished. An example of an Ethiopian microcredit product that was considered by many to increase vulnerability was analyzed by Dercon and Christiaensen (2007). In an attempt to boost modern input use (mainly fertilizer) in agriculture, a credit-cum-extension package has been offered in Ethiopia since the mid-1990s. However, repayment of input credit is

harshly enforced, so that the loans are actually very risky—if the harvest fails, the loans still have to be repaid. The case for offering insurance in this setting, for example by charging a higher rate of interest but forgiving the loan in the event of poor observed rainfall, is substantial as it would remove the major risk linked to the loan.

Successfully putting such ideas into practice is difficult as demonstrated by the Malawi experiment with rainfall insurance mentioned before (Giné and Yang 2007). While rainfall risk was substantial, there was less uptake of the credit product when linked with insurance, effectively a counterintuitive result.[8] Whether this is related to problems of understanding insurance and general issues of ambiguity cannot be easily shown but is of substantial practical interest.

The links between informal insurance, formal insurance, and safety nets

Informal insurance may be crowded out

The discussion thus far has assumed that there are no informal systems of insurance present, or at least, in common with most microfinance literature, that these are not relevant for the development of further microfinance, such as insurance. This reflects a poor understanding of the mechanisms by which informal insurance can be maintained in communities. Informal insurance systems relate to rather informal mutual support networks of neighbors, kinship groups, or local communities, as well as semiformal groups, such as funeral societies (Morduch 2002; Dercon et al. 2006). These groups and networks are relatively fragile, and for them to continue successfully incentives must be aligned so that it is in everybody's interest to sustain the system. As only few will receive support in each period, the others must be willing to remain in the system in case of future hardship. It is well known that commitment is not perfectly enforceable in these settings (Ligon et al. 2002). The implication is that anything that creates incentives to leave the informal system will tend to undermine it (Attanasio and Rıos-Rull 2000).

A general analysis of this problem of crowding out has been conducted by Arnott and Stiglitz (1991), in relation to formal and informal insurance. Attanasio and Rıos-Rull (2000) showed how the informal support system may break down due to the introduction of a formal insurance scheme, even if the formal insurance insures risks that are different from risks insured by the

informal system. They show that some members of the informal system may even be made worse off by the introduction of the formal scheme, even if the formal scheme is voluntary, as some members of the informal scheme would withdraw from the informal scheme, leaving the remaining members with less protection. There is only limited evidence from developing countries regarding the earlier described adverse impact on informal insurance mechanisms of introduction of formal insurance systems, but there is evidence of such impact of introduction of more general safety nets. For example, Jensen (2004) analyzed the crowding out of private transfers due to introduction of a pension scheme in South Africa. Albarran and Attanasio (2004) showed the crowding out of private transfers after the introduction of the conditional cash transfer scheme as part of the PROGRESA program in Mexico. Dercon and Krishnan (2003) found evidence consistent with crowding out of informal insurance networks in rural Ethiopia in areas with high formal food aid delivery.

Insurance schemes cannot be introduced without regard to any impact on existing informal systems as the crowding out of informal schemes could seriously undermine the value of any new scheme. If a new insurance scheme is carefully designed, the overall welfare effects may still be positive, although it is likely to be very difficult to guarantee that nobody will be worse off after implementation. Broad inclusion of the population, not least the poor and vulnerable, as well as a careful understanding of the existing systems appear to be minimum conditions.

Building on existing informal insurance structures

A further means of avoiding crowding out of informal systems is to build on the existing system, first by offering complementary rather than substitute insurance, and secondly to build on the membership of existing groups. Complementary insurance is likely to protect against those risks that cannot easily be pooled within the groups. Most informal insurance networks can only offer protection from idiosyncratic shocks. For example, Dercon et al. (2006) documented the risks insured by a sample of 78 Ethiopian semiformal insurance groups (the *iddir*), usually sub-village based and focused on funeral insurance. In return for premiums, they insure the cost of the funeral of a family member. House destruction (usually linked to the rains) was insured by 40 percent of groups. Fire and health insurance was offered by about 30 percent of the groups. Very few offered insurance for idiosyncratic crop losses. It is striking that drought or other large covariate risks, which were shown in Table 4.3 to be by far the most

Table 4.3 Types of additional insurance offered in Ethiopia (% of those groups offering additional cover)

Funeral expenses	100%
Destruction of House	40%
Illness	30%
Fire	28%
Death of Cattle	24%
Harvest	14%

Source: Dercon et al. (2006).

important risks, were not insured, while health shocks—the most important idiosyncratic shock—or asset protection only by less than a third. Clearly, there is scope for more formal insurance systems to focus on these products.

Building on existing systems is also often appropriate when a public agency or an NGO aims to specifically target the poor for improved insurance. In particular, any semiformal existing groups serving the poor should be targeted, especially those that have developed forms of insurance provision and mutual support within their ranks. In Europe, much social security provision in the form of health or unemployment insurance was first developed within cooperatives or trade unions before public interventions turned them into fully fledged national insurance schemes. In developing countries, such as India, there is ample evidence of functioning self-help groups and cooperatives. There are also long-standing institutions, such as funeral societies, that tend to be highly inclusive of the poorest segments of the community (Dercon et al. 2006). These existing groups could be strengthened by providing cost-effective risk-pooling and reinsurance solutions that offer protection for other risks they cannot help on their own, most notably covariate and catastrophic risks.

Working with groups has considerable advantages. First, it avoids or at least considerably reduces adverse selection for existing groups or where coverage is uniform across members in the group. Second, if members of the group can monitor each other at lower cost than a formal insurer can do, formal contract costs can be reduced by delegating much of the monitoring to group members.[9] Third, as long as groups are chosen that also include poorer segments of society, targeting can be devolved further in line with the rules governing the functioning of groups. Fourth, by focusing on groups that have already set up some mutual support systems within the group, it will be easier to ensure that formal insurance is complementary to existing informal schemes. If individuals

were targeted instead, then their newfound protection may well induce them to withdraw from existing mutual support, possibly leaving others with even less protection than before.[10]

Working with existing groups also accords well with the model that proved successful in currently developed countries when these were in early stages of economic development. Until recently, most developed country insurance companies have been mutual insurance companies (mutuals) where, in addition to receiving claim payouts, policyholders share in the profits of the company. "Imperfections in insurance markets" introduced the idea that any viable insurance company must price individual products as though it were averse to ambiguity, charging more for products where the true claim odds are not known. This can lead to very expensive premiums, particularly for new classes of insurance. However, contracts can be made much better valued without sacrificing prudential financial management if the insurance company is structured as a mutual company that partially refunds premiums, if realized insurance claims in a given year are not too high. Mutuality should work well in developing country contexts when the insurance company (or NGO) is not sure of the precise claim odds, holding ambiguous beliefs about the insured risks. By allowing better value products to be sold, profit sharing may also induce more groups to enter into the insurance arrangement, boosting uptake and further reducing costs.

Credit, safety nets, or insurance?

Microcredit subsidies?

As discussed in "A simple framework," asset creation programs based on transfers and safety nets can be usefully seen as part of a continuum of measures to alleviate the problems created by constrained credit and insurance markets. Safety nets are an insurance substitute for which no premium had to be paid; transfers provide access to capital without any requirement to repay.

To introduce the discussion on whether subsidized insurance is to be preferred to safety nets, it is instructive to revisit the subsidy issue in relation to microcredit. The experience with microcredit schemes is such that they are rarely profitable without subsidies. Armendariz de Aghion and Morduch (2005) cite a few examples of profitable microfinance schemes (e.g. ASA in Bangladesh), but most still rely on donor funding, hidden subsidies, or cross subsidies from other

activities, particularly when serving poor clients. Arguably, with the current cost of technology and expertise, microfinance for the very poorest will never be profitable: The costs are just too high. However, despite this, there is every reason to suspect that subsidizing microcredit may be a cost-efficient way of improving the lives of the poor. Grameen and other pioneers have developed loan contracts that do not adversely distort incentives or decisions but still manage to serve the poor. Subsidies for microcredit institutions may be a permanent fixture if the poor are to continue to be served. Karlan and Zinman (2007a) show that raising prices is unlikely to be able to negate the need for subsidies, using experimental evidence from South Africa: higher rates increase profits but only by tiny amounts.

Subsidized insurance or safety nets?

Superficially, safety nets may be seen as insurance schemes with zero premium. If safety nets work well, then they should be able to offer protection against a wide range of risks, not least the catastrophic risks that are difficult to protect against using other methods, such as loan facilities, savings, or informal mutual support systems. The key practical difference between private insurance and public safety nets is the presence, or lack thereof, of an enforceable contract with clear payout terms. Safety nets do not tend to have such a clear enforceable right, even if support is legally guaranteed. In rural Ethiopia, for example, food aid is widely distributed but, nevertheless, access remains rationed. For example, Dercon and Krishnan (2004) finds that although food aid delivery was correlated with rainfall, many poor in drought-affected areas did not receive any support in certain years. Sometimes they got support, sometimes they did not. Safety net support may not be enforceable in general; it is definitely not in Ethiopia.

Reliable safety nets that are set at a universal level for everyone usually automatically target the poor. First, the closer you start to the net, the smaller the shock that is needed for the individual to draw on the safety net. Poor individuals might be expected to start closer to and be more likely to need support from the net. Second, the safety net may make risky behavior more attractive by limiting any downside risk, particularly for those that are already close to the net. This behavioral response to safety nets is similar to the idea of gambling for resurrection by limited liability firms in which firms close to liability floors take large risks, having little to lose and much to gain (Stiglitz 1972; Merton 1977). However, if a safety net is not reliable or universal, it may not automatically target the poor.

Subsidized private insurance has the potential to avoid some of the problems of weak safety nets, because, if properly designed, everyone can acquire a policy covering themselves against the serious risks one faces, such as drought. Rainfall insurance is an example of a policy that could even be offered to nonfarmers; for instance it could be purchased by landless laborers whose livelihood depends on rain even if they have no crops of their own. Insurance is also offered by groups such as funeral societies, known to be offering insurance to most or all members of the community, without exclusion, at least for those risks they can insure.

If widespread insurance is being offered, the onus is put on those requiring more security to acquire insurance. Private insurance has a nonzero cost, usually paid by a single upfront premium or regular premiums. It has been suggested that a single upfront premium could be difficult for households facing liquidity constraints to pay, thereby affecting uptake. For example, Giné et al. (2007), on the basis of the rainfall insurance scheme piloted in Andhra Pradesh, suggested that in order to overcome the relatively high cost of the premiums, subsidies should be given to encourage uptake, for example allowing the premiums to be paid in arrears (effectively offering them on credit). Given that current uptake was only about 5 percent of eligible farmers, this may not be enough, and an *ad hoc* incrementalist innovation has the potential to adversely distort incentives and behavior if not carefully thought through. If the most vulnerable are not purchasing the insurance, then they remain exposed to serious risks.[11] Working with informal insurance groups that have experience of offering and communicating insurance to its members could help. Subsidies could help inclusion and uptake, but they are perhaps better targeted at trialing and evaluating innovative microinsurance products instead of directly subsidizing existing microinsurance products.

There is nevertheless a leap of faith required to suggest that private insurance systems could ever replace wide-ranging social safety nets. At least three serious problems have to be recognized. First, given that insurance products are relatively complicated to comprehend, underinsurance is likely to remain present in any voluntary system.[12] Second, private insurance is only possible for defined perils but many perils are difficult to specify in advance. Third, many risks are not easily quantified, and data does not exist to accurately price policies, hindering the development of effective insurance for those risks. Wide-ranging public safety nets, guaranteed in a credible way, will continue to be required for protection as a last resort. Nevertheless, this should not stop one from using public funds to support the wider development of insurance schemes targeted at the poor.

Conclusion

Risk remains a serious problem in the developing world, and private insurance provision is one of many different mechanisms that should be developed to offer broader protection and reduce poverty and vulnerability. This chapter has argued that insurance is just one of the many ways in which households can try to avoid welfare fluctuations and hardship. Credit provision, asset creation programs, and safety nets, as well as household saving, accumulation, risk coping, and risk-management strategies are all alternative ways of reducing vulnerability. Any analysis of whether private insurance provision should be the focus of policy needs to take into account the role and interactions of these different ways of potentially coping with risk.

Underlying market imperfections make it difficult to stimulate the growth of insurance markets in the developing world. Information asymmetries, enforcement problems, transactions costs, and ambiguity aversion of insurers all suppress the development of insurance markets, and any public action to improve insurance is also bound to be affected by these problems.

This has implications for the type of products that can be developed, and has inspired innovations with intuitively desirable properties, such as rainfall insurance. However, the experience of rainfall insurance trials has been disappointing so far, with very low uptake in trial areas, and difficulty in reaching the most vulnerable. The suggested explanation is that insurance is complex; trials incorporating innovations are costly; and substantial time and education are necessary to encourage uptake for a given project.

Microcredit is well placed to offer an insurance function, and evidence for access to microfinance helping to smooth income and consumption was discussed. However, as punishment on default in most schemes is harsh, microcredit is only useful as insurance for small risks; microcredit can actually magnify large shocks. Informal mechanisms could similarly offer protection against small risks, leaving large or catastrophic risks a clear focus for insurance schemes.

Besides the obvious complementarities between insurance, credit, and informal insurance schemes, their interactions are important and can have substantial effects on optimal policy. In particular, we argued that insurance for perils subject to moral hazard where insurance payouts cannot be pledged to lenders could potentially crowd out credit markets. However, there are strong incentives for microcredit providers to provide insurance for specific perils,

and interlinked contracts may well be beneficial, effectively suggesting a role for collusion in these markets.

When developing formal insurance (or safety nets), one should also not ignore informal insurance systems. Both theory and evidence are presented on how formal insurance could crowd out existing informal mutual support systems. The lesson is that it will often make sense to build on existing systems, both in terms of products and in methods of delivery. Providing insurance for risks that the local network could not provide, particularly catastrophic and covariate risks, is obvious target for formal insurance providers. Furthermore, as in many poor settings, semiformal groups engage in insurance (for instance through funeral societies), entering the community in collaboration with these groups may be the best option. Working with existing informal insurance groups cuts informational and other costs, reduces adverse selection issues, while offers means of reaching larger numbers of people more rapidly. As it was in the early development phase of Western financial markets, mutuality seems the most promising economic structure for formal insurers.

It is also argued that the boundaries between safety nets and socially provided microinsurance are potentially blurred. Safety nets are bound to stay, but the enforceable nature of an insurance contract offers additional rights that a safety net typically cannot offer. Private insurance allows the household to choose its ideal insurance package, but by allowing individuals to adversely select against insurers, it may lead to higher costs and sparse coverage compared to universal public insurance.

In "Introduction," it was argued that risk not only causes costly fluctuations in welfare but also contributes to the persistence of poverty, as risk-avoiding actions have to be taken suppressing returns to activities and assets, while assets may have to be sold off when serious shocks take place, undermining the future scope for accumulation. Well-designed insurance schemes, building on existing informal systems, and focusing on catastrophic and covariate risks, could offer protection against risk and contribute to a sustained reduction in poverty beyond the combined impact of microcredit programs, safety nets, and existing informal mutual support systems.

Notes

1 Much more evidence can be found in Morduch (1995) or Dercon (2006).

2 For instance, see Morduch (1995) or Dercon (2002) for reviews.

3 Carter and Barrett (2006) is an exception.
4 Armendariz de Aghion and Morduch (2005) offer a detailed discussion of this and other models of providing microcredit. They also discuss the Grameen Bank II approach that removed some of the harsher features, arguably acknowledging that things can go wrong and allowing debt rescheduling with more ease.
5 Rescheduling appears to be the main innovation in the new Grameen Bank II model of lending (Yunus 2002).
6 Ambiguity aversion, sometimes referred to as uncertainty aversion, refers to the preference for known risks over unknown risks (Ellsberg 1961).
7 Another problem with rainfall insurance is basis risk, the lack of correlation between the insured interest (here, the income loss induced by crop failure), and the actual observed rainfall. In all these pilots, and elsewhere, there is substantial basis risk affecting the usefulness of the policy. While a dislike of basis risk was not found to be behind the low uptake of the policies piloted, it is bound to limit the spread of the insurance product.
8 Note that this result is not even consistent with a view that insurance does not matter: There is less uptake, not the same level of uptake for the credit-cum-insurance product compared to the credit product.
9 This ability of a microfinance institution to structure contracts to delegate costly monitoring to group members was shown for microcredit by Armendariz de Aghion (1999).
10 It can be shown in the theoretical models of, for example, Attanasio and Rıos-Rull (2000) that internalizing the formal insurance provision to the group rather than to individuals within the group will avoid the crowding-out problems referred to earlier, as the individuals are only covered for the formal insurance on the condition that they remain a member of the group.
11 This is somewhat concerning. As noted by Morduch (2006), if only some individuals buy rainfall insurance we might expect price effects in the event of poor rainfall similar to those as analyzed in Sen's (1981) work on the Great Bengal Famine: In the event of poor rainfall, individuals with rainfall insurance may drive consumer prices beyond affordability for others accentuating the effect of the poor rainfall.
12 Health insurance in the United States is still far from universal despite sophisticated insurance companies and high levels of education, even among the uninsured.

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5

Assessing the Success of Microinsurance Programs in Meeting the Insurance Needs of the Poor

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Introduction

Risk and vulnerability to risk are fundamental causes of underdevelopment (World Bank 2000; Dercon 2006; Islam 2009). Shocks, in the shape of sudden misfortunes causing a loss of income and productive potential, typically force poor people exposed to them to dispose of productive assets, which may force them into lower productivity, lower income, and higher vulnerability in the future—a process known as the poverty–vulnerability vicious circle. In addition, the expectation of such shocks motivates the vulnerable to invest their resources in low-yield activities, such as production of drought-resistant subsistence crops, to protect themselves against those shocks, and thus depresses the potential income of the poor below what it would be if they were not exposed to shocks. For both reasons, the costs of risk to the livelihoods of poor people are severe. Stefan Dercon, in his survey of income shocks suffered by individuals covered by the Ethiopian Rural Household Survey between 1999 and 2004, estimates that "if these shocks had been insured and smoothed, poverty would have been lower by about a third" (Dercon 2006: 123). The specific shock of the Ethiopian drought of 2002 is estimated to have pushed 1 million additional people below the poverty line into destitution (Hess et al. 2006: 3). And drought is only one of the many sources of vulnerability which poor people encounter.

Insurance, potentially, is one of the basic institutions which can provide a defense against social and financial exclusion for people whose existing coping strategies are failing. And if people's livelihoods are effectively protected, that

should encourage investment among lower-income groups and raise overall investment and growth rates. And yet, as the *2000 World Development Report* on poverty puts it, "there are almost no insurance markets in developing countries because of problems of contract enforcement and asymmetric information" (World Bank 2000: 143). Slightly over the top though this description of the situation is, there is no doubt that the provision of one of the potentially most poverty-reducing services is seriously deficient—especially at the bottom end of the market where risk-coping capacity is at its worst. Thus the spotlight is thrown on what the microfinance movement, so dynamic in other parts of the financial spectrum, is able to do to redeem this deficiency. In this chapter, we examine what this contribution might be, and how its effectiveness might be optimized in the light of experiments with insurance for the poor so far.

Insurance, everywhere, is traded in a highly imperfect market. The research which has been done on microfinance customers' expressed need for risk management and insurance services (Alderman and Paxson 1993; World Bank 2000: chapter 8; Sebstad and Cohen 2001) suggests a substantial thwarted demand for insurance services, a demand which probably increases in intensity as one moves down the income scale, and substantial use of informal emergency loans, rotating savings, and credit associations and other insurance substitutes. A component of this repressed demand appears to be gender specific: as Elson (1999: 616) argues, "in general, risk-reducing mechanisms have been much more a feature of male forms of market participation—such mechanisms include trade unions, job security rights, social insurance benefit, business and professional associations."[1] But for all poor people, information asymmetries are extremely serious, with too many people on the demand side of the insurance market quite unaware not only of the quality of the product they are buying, but also of its nature.[2] Finally, we may note, and it is a key theme of this chapter, that much of the benefit from insurance—and therefore the demand for it—accrues to persons other than those who buy the insurance contract. This is not only because the reduction of poverty and inequality is a public good, benefiting the community as a whole, but also because insurance, if it works, stabilizes income and thus saves *financial institutions* the costs of chasing unpaid loans; protects *human capital* by enabling households hit by a shock to continue to make school fee payments and seek medical treatment for their families;[3] and protects *social capital* by preventing groups of all kinds (including families) from breaking up because one of their member has a debt which is unpaid as the consequence of an insurable shock. This combination of externality and hidden information

creates a compelling case for external agency to fill the gaps in financial markets referred to earlier.

External agency has indeed entered the market for risks to low-income people in the past, often in the form of crop yield guarantee schemes for smallholders. The results however have often been disastrous, which explains much of the skepticism still currently expressed toward microinsurance.[4] A review from the 1980s (Hazell et al. 1986: chapter 1) reported that "multiple-hazard insurance has proved costly, and governments would be well advised to stop and look carefully before entering this market." The message from these studies is of course not that the demand for insurance is not there, but rather that the supply side needs reconfiguring. The lessons usually drawn (e.g. ibid.; Hazell 1992) have been that the supply should be of insurance against *one insurable hazard only*, such as hail, death of the insured, or burglary; that it should be protected against the moral hazard and adverse selection problems which render insurance so vulnerable to financial collapse; and that the provision of insurance should move from the state to the private sector or an NGO.

What has actually emerged in developing countries after that first wave of failure is the cluster of activities known as microinsurance, within which agriculture and insurance against climatic risk currently play a lagging role, and the leading role is played by life and health insurance. Microinsurance has been defined by Churchill as "the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and risk of cost involved" (Churchill 2006: 11). The microinsurance movement has, essentially, three components, each of which springs from a distinctive historical root. The first is experimental schemes setup by NGOs (or, uncommonly these days, the state) to insure against *single perils* such as property, health, and life insurance risks; the scheme operated by FINCA Uganda, to be discussed later, is a good example of these. These attempt to draw on the lessons from the failure of multiple-risk schemes, and aim at financial sustainability over the medium term; often they are connected with microlending operations, and originate in "emergency fund" life insurance schemes which repay the outstanding balance of a loan in the event that the borrower dies.[5] The second strand is profit-making schemes set up by the private sector (*Gono Bima* of Bangladesh is one of the largest examples), not specifically to cater for the bottom end of the market, but willing to offer small insurance contracts (especially to cover personal effects, etc.) to low-income borrowers; these derive essentially from a movement downmarket by commercial insurance businesses observing the profits to be made out of microfinance. The third strand, which overlaps with the first, is

schemes operated by not-for-profit organizations which explicitly on behalf of disadvantaged groups insure a range of social functions, generally beginning with family health but often extending into a range of personal asset insurances. One of the oldest and most famous of these, for example—SEWA of north-western India—is also a registered trade union, and has aimed since the 1970s to provide "work and income security, food security and social security" (Sinha 2002: xi); and to supply many of the functions of social protection conventionally supplied by the welfare state in industrialized countries. As a women's organization, it addresses the asymmetry of risk between men and women described by Elson. A similar gender bias characterizes the *Grameen Kalyan* (Grameen Welfare Organisation) established in 1996 to handle the health insurance business of the Grameen Bank, arising from the realization that "illness was the major reason for 44% of our defaults" (Daiyan 2001: 1). Other schemes of this type, such as BRAC's rural health scheme, are less strongly focused on women clients, but share the same social objectives. The crux however is that at least in this third sector of microinsurance what is going on is not at all a neoliberal retreat, but rather an expansion into areas of social protection not covered by conventional loan-based microfinance.[6] Indeed, rather than the private sector expanding at the expense of the public, the NGO sector is expanding at the expense of both—motivated both by the potential synergies between different elements in microfinance programs and by the deficiencies in developing-country social protection systems. We discuss the synergies in detail later and the overall social protection dimension of microinsurance is covered in more detail in chapter 8 of Mosley (2003).

Illustrations of the distribution of microinsurance institutions by region and type are provided in Table 5.1. As discussed by Brown and Churchill (2000) and by Churchill (2006), progress during the recent phase of microinsurance development has been most marked in the fields of life and health insurance, with agricultural and climatic risks a long way down the list. This ordering, and in particular the salience of health, only in a limited way reflects the ordering of specific risks by the respondents to the *2000 World Development Report*.[7] Notable among the differences is the deficiency in insurance schemes to cover drought and flood risks, mentioned by Dercon (2006) as the most severe risk faced by low-income Ethiopian rural people. In addition, the supply of insurance schemes, relative to their demand, to cover against damage to and theft of assets (e.g. livestock, equipment, local infrastructural assets), can be considered to be deficient especially in poor developing countries. A major theme of this chapter will be that the current supply of microinsurance does not meet the demand

Table 5.1 Classification of microinsurance organizations (number of persons covered in 2004 in brackets)

	Group 1 **Not-for-profit, single risk**	**Group 2** **Not-for-profit, multiple risk**	**Group 3** **Private sector for-profit**
Asia	*Life* Grameen Life, Bangladesh (58,000) *Health* BRAC Health, Bangladesh (12,000) ASA, Bangladesh (55,000) Society for Social Services, Bangladesh (27,000) Mutuelles de sante (francophone West Africa) *Climatic/agricultural* BASIX Agricultural, India (c. 500)	VimoSEWA, India (120,000) Groupe de Recherche et d'Echanges technologiques (GRET), Cambodia	Gono Bima, Bangladesh National Life, Bangladesh
Latin America		IPTK, Bolivia Seguro Basico de Salud, Bolivia Servi Peru (94,000)	COLUMNA de Seguros, Guatemala (500,000) La Equidad Seguros, Colombia (30,000)
Africa	*Health* FINCA Health, Uganda Christian Enterprise Trust (CETZAM), Zambia Bima ya Afya, Tanzania *Climatic/agricultural* Centenary Rural Development Bank weather insurance, Uganda (in preparation) World Bank Ethiopia schemes (pilots) (200) World Bank Malawi scheme (pilot) (200)		King Finance, South Africa
Elsewhere	TUW SKOK (Poland)		

Source: Churchill (2006), in conjunction with other sources.

from the poorest people, and to ask what can be done to right the balance. (For more details, see Mosley 2009.)

Our task in this chapter is, therefore, to examine how well, in the light of the experience so far, the sector is reconciling the requirements of viability and poverty reduction, and where possible to make proposals for how this could be done better. In "Basic principles: organization, pricing, and incentives," we initially examine design issues at the level of risks to cover. In "What does microfinance achieve? Some preliminary findings," we examine the performance of some microinsurance schemes to date, and present a small selection of some quantitative impact assessment results. We next consider whether the insurance function can be performed by what we call "quasi-insurance," or close substitutes for insurance, rather than by insurance proper. The "Conclusions for policy and institutional design" presents a "map" of tentative policy recommendations.

Basic principles: Organization, pricing, and incentives

Underlying principles

Our approach, following Siegel et al. (2001), is that microinsurance should be seen as one possible instrument of *social risk management*, that is, the control of risk in the interests of low-income people. In other words, it is one possible instrument of risk management which may be useful and practicable in some contexts and places, but not in others. In determining whether insurance is to be the selected instrument for the control of risk, it is important to acknowledge that the effectiveness of any risk management instrument depends on the nature of risks, household and group characteristics and dynamics, and the availability of alternative risk management options. It is possible to distinguish between *risk anticipation*, *risk mitigation*, and *risk-coping* strategies: the many possible varieties of insurance mechanisms (listed in bold in Table 5.2) are just one possible strategy for the mitigation of risk, which is just one of three different options for risk management. Some of these alternative risk management options are illustrated in Table 5.2.

In this chapter, we are interested in the links between the approaches to risk defined in the three parts of the table (risk-anticipating, risk-mitigating, and risk-coping strategies), and especially interested in the comparative advantage, or otherwise, of insurance, within the category of risk-mitigating strategies. It

Table 5.2 Instruments available for rural households to manage risk

	Micro (household level)	Meso (community level)	Macro (extra-community level)
Risk anticipation	Investment to protect, maintain, and enhance assets Adopt new technology Adjust asset portfolio and income-generating activities Permanent migration	Investments in physical and social infrastructure Social ties and networks Participation in community institutions and decision-making Rights and security	Information on risk and risk reduction Rules and regulations Guaranteed rights and security Stable macro-economy, policy regime, and political system Functioning markets Investments in public goods, physical and social infrastructure
Risk mitigation			
Asset portfolio management	Adjust asset portfolio and income-generating activities Hold financial or nonfinancial assets (e.g. livestock, food stocks, jewelry) for precautionary savings Seasonal migration	Markets for household assets Physical and social infrastructure	Markets for household assets Market information Investments in physical and social infrastructure
Insurance	Formal insurance Informal insurance based on intra-household social capital claims Interlinked contracts	Informal insurance based on community social capital claims Formal community insurance pooling associations	Formal insurance, private and public sector, and international organizations (e.g. crop insurance, health insurance) Disaster aid funds
Finance	Formal and informal credit Interlinked contracts	Community credit unions and savings clubs, and "banks" for other asset stocks	Financial systems, national and international Intercommunity credit associations and "banks" for other stocks
Risk coping			
	Draw down assets (e.g. skip meals, mine soil, not pay school fees) Use underemployed assets (e.g. off farm employment, child labor) Sell assets Encroach on assets of others Illegal activities Formal and informal credit Depend on charity	Draw down community assets (e.g. reduce maintenance, harvest, or mine natural resources) Depend on charity or aid from outside community	Targeted safety nets (transfers, public works)—*cf. IGVGD Bangladesh* Social investment projects (e.g. social funds) Depend on charity or aid from national or international organizations International food aid Donor assistance

Source: Adapted from Siegel et al. (2001).

has often been noted that microfinance institutions which offer *some insurance function* (savings, insurance, or emergency loans) within their portfolio are more effective both in cost recovery and in downreach to the poorest than institutions which do not (see, e.g. Hulme and Mosley 1996: table 3.3; also Hulme and Mosley 1998), but the question of whether the insurance component should be supplied by microinsurance has not been researched. Indeed, in the known cases where a breakthrough has been made to incorporate extremely poor people previously out of reach of financial services, of which the classic example is the Income Generation for Vulnerable Groups Development (IGVGD) schemes of BRAC, Bangladesh, this has not been achieved by microinsurance as such, but rather by the provision of microsavings and food aid in kind, both of which make feasible, for some clients, a low-risk transition from the relatively non-risky environment of the subsistence economy to the risky environment of the cash economy (Matin and Hulme 2003; Halder and Mosley 2004). All of this forces us to consider both the question of how microinsurance institutions can make this transition possible, and how non-microinsurance institutions can best fulfill a risk mitigation function. After a discussion of microinsurance proper through the remainder of "Basic principles: organization, pricing, and incentives" and "What does microfinance achieve? Some preliminary findings" we then return to the second question in Section discussing "quasi-insurance."

Coverage and incentives

If risk mitigation is the chosen instrument of risk management, and insurance is the chosen instrument of risk mitigation, then in order to reconcile the objectives of viability and poverty reduction, the hurdles which have to be overcome are the following:

Moral hazard—the tendency for the existence of insurance to create perverse incentives to claim spuriously and behave carelessly, causing resource costs which may wipe out the benefits of insurance.

Adverse selection—the tendency for the demand for insurance to concentrate among the worst risks.

Effective targeting—the possibility that poor clients may not opt, or be able to opt, for insurance.

Administrative cost—the risk that the overcoming of all the above problems may bankrupt the insurer.

As mentioned earlier, the current generation of microinsurance institutions has been engaged in a strenuous process of learning from the failures of

previous insurance experiments in order to try and achieve some reasonably satisfactory solution to these problems. This process has been improvisatory, and we begin by enumerating (in Table 5.3) the solutions which have been adopted to these design problems by a group of six microfinance institutions in Africa and South Asia. The criterion for inclusion is that the schemes are in intention explicitly poverty related, and that we have some performance data on them which go beyond financial ratios and look also at social impact, although the data we have under this heading have been collected by several different hands for different purposes and are therefore for many evaluation criteria not conformable. Of the schemes described, four (Grameen, BRAC, SEWA, and FINCA) fit within the "not-for-profit multiple risk" and two (BASIX, and the World Bank Ethiopia and Malawi weather insurance schemes) fit within the "not-for-profit single risk" classification.[8] Information on weather insurance schemes is mainly unpublished, and a more detailed summary of these is given at Appendix 1. We note, in particular, the following points of common experience:

1. All these schemes are typically confined to named insurable risks such as life, funeral expenses, hospitalization, accidental damage, theft, and drought—insurable in the sense that their likelihood of occurrence can be predicted within reasonable limits. The exception is BASIX agricultural insurance, which in the old Indian tradition guarantees a minimum return; but even here there are exclusions to defend against moral hazard.[9]
2. Premiums are set by these nonprofit organizations in order to broadly cover costs, already marking a huge advance on the old generation of hugely loss-making insurance schemes. In addition, in the health schemes the indemnity payout is limited by confining payments to a fixed sum, which can be visualized as the cost of the risk, less an "excess" designed to discourage excessive or improper claims.[10]
3. Additional controls against fraud and moral hazard consist of ex-post checking of claims in the case of the medical schemes, and a payout based on *rainfall deficiency* (not on a short crop) in the case of the World Bank Ethiopia micro and macro weather-insurance schemes, which are of particular importance to this chapter since they insure against the hazard which for the poorest people in the world is the greatest hazard to livelihood, namely drought. In the Ethiopia micro scheme, like other pilots, based on the model set out by Gautam et al. (1994), the defense against moral hazard is exceptionally powerful because payouts are based not on information provided by claimants but purely on the weather, which neither

claimants nor anybody else can influence.[11] In the BASIX crop-insurance scheme, the payout is based on the deficiency in the value of the harvest, which would appear to invite moral hazard, but the defense remains, by contrast with the old Indian crop insurance schemes, that this payout—see (1) earlier—is based on evidence of good husbandry during the planting and growing season.

4. Of the schemes mentioned, only FINCA health employs an explicit defense against adverse selection, which is to require at least two-thirds of all group members to be members of the insurance scheme.
5. None of the insurance schemes listed later is free standing, except the World Bank "Ethiopia micro" weather insurance scheme; all are layered on top of an existing microfinance operation (and in the case of SEWA, a number of trade union and social welfare functions also). This has multiple implications:

    - There is cost saving on the administration and in particular the salesmanship of insurance, since the infrastructure with which to disseminate information about the scheme is already in position.
    - Specifically, many clients join insurance schemes because of their existing bond with the "parent" microfinance organization. This often, sometimes in conjunction with an external shock (see later), acts as a recruiting device for a new and unfamiliar microinsurance scheme that overcomes, for new members, the barriers of cost, unfamiliarity, and distrust associated with membership. Often preexisting *groups* of microfinance members have joined the scheme together.
    - In this sense, social capital is an input into, as well as hopefully an output of, the microinsurance scheme.
    - Over and above the "social" benefits of a lower disaster risk for a given level of assets and income, the sponsoring microfinance organization, in all of these cases, reaps the benefits of lower default rates (this was precisely the purpose of the scheme in Grameen Bank, as we saw).

6. All of the schemes have negotiated reinsurance for themselves on local or international markets—somewhat in contradiction of Brown and Churchill's (2000: xiii) claim that "reinsurance is largely unavailable for microinsurers."
7. Explicit targeting on the poor, in the sense of concessional benefits for those below a certain income level, is practiced only by the Bangladesh institutions—Grameen and BRAC—each of whom offer lower premiums to the "ultra-poor"—and by the Ethiopia macro scheme, which has the advantage of being available to landless workers and other vulnerable

individuals who are damaged by drought indirectly rather than directly. There may also be a certain amount of self-targeting, in the sense that it may be particularly the most vulnerable who are risk averse, and the risk averse who opt for insurance. As an additional offset, it seems to be that the fraud/moral hazard problem may be less with low-income customers—as there is some evidence from the insurance trade that moral hazard risk declines along with income. As the general manager of the COLUMNA insurance company in Guatemala put it, "Thinking about how to take advantage of an insurance policy seems to be something that declines with income and education" (cited in Brown and Churchill 2000: 69). In other words, targeting on poor clients acts as a multiplier—as an additional defense against moral hazard, as in the case of microfinance.

The question now for discussion is whether some further learning may be possible from the experience of these schemes which may make possible an enlargement and a diffusion of their benefits. This must be placed in context: microinsurance is by no means the only instrument of poverty reduction or even of risk reduction. *Prima facie* there is a great deal to commend Brown and Churchill's (2000: xii) observation that "savings are more effective than insurance for providing protection against common stresses (whereas insurance provides protection against larger losses that occur more infrequently)." The role of savings and other noninsurance forms of microfinance is discussed in the Section on "quasi-insurance."

The experience shows that the solution to the twin challenge of serving the poor while being financially viable has typically been found either in the form of subsidy from an external sponsor, or in the form of support from a "parent" microfinance organization—often, as in the case of BRAC and Grameen, an organization with an established reputation which expects insurance to be able to confer financial and other synergies to it. Luckily, such external or internal support can be justified by the external benefits which insurance confers, and does not have to be justified on purely pragmatic grounds.

These external benefits of microinsurance are essentially of four kinds:

1. *Knowledge achieved by experimentation*. By experimenting with different institutional designs, "pioneer" insurers create for their successors ideas and information concerning what will and will not work in a particular environment. They also provide support for other parts of the organization, as in the case of Grameen Kalyan discussed earlier. This information is free to the beneficiaries, inside and outside the microinsurance organization, and thus confers an external benefit on them. But it can only exist if the

Table 5.3 Six "new-generation" microinsurance schemes: summary description

Scheme	**SEWA, Gujarat Multiple: life, health, and housing**	**FINCA Health**	**Grameen Kalyan, Bangladesh Health**	**BRAC Health, Bangladesh**	**World Bank pilots Weather, Ethiopia and elsewhere**	**BASIX, Hyderabad, India Weather/agricultural production**
Location	Multiple within Gujarat state, India	Urban Kampala, Uganda	Multiple within Bangladesh	Multiple within Bangladesh	Alaba wereda, South Ethiopía; Malawi; Ukraine; others in preparation	Multiple within Andhra Pradesh, South India
Date established	1992 (parent organization established in 1975)	1998 as health insurance scheme	1993 as Rural Health Programme (reconstituted as Grameen Kalyan, 1997)	2001 (parent organization established in 1973)	Pilot established in 2005	Initiated as trial scheme in 1999, remodeled in 2000, remodeled again in 2002
Organizational type	Registered trade union involved in political and organizational support to self-employed women This operates a bank and an autonomous social insurance scheme	Company limited by guarantee and NGO *Operates partner-agent model*, with insurance services provided by a specialist health insurance company (MicroCare) and reinsurance by DFID	Health insurance offshoot of microfinance NGO. Operates *full-service model*: Grameen Kalyan is the insurer	Health insurance offshoot of microfinance NGO. Operates *full-service model*: BRAC is the insurer	Commercial bank. *Proposed scheme operates full-service model*, with insurance being provided by the Ethiopian Insurance Corporation	NGO. *Now operates partner-agent model*: as of 2003, insurance is provided by a separate insurance company
Customers	Any self-employed woman, whether member of parent SEWA organization or not. Insurance of husbands' lives and hospital charges available at additional charge	Patients of six named hospitals who hold an "insurance card" (some of them FINCA customers)	Any, but Grameen Bank customers pay a discounted premium	Any, but BRAC customers pay a discounted premium	Any: voluntary participation	BASIX members only
Risks covered	Health, life, and asset insurance against fire, flood, and natural calamities; husband's death and hospitalization	Hospital costs	Maternal and child health, checkups, subsidized drugs	Maternal and child health, checkups, subsidized drugs, hospitalization partly paid for	Rainfall more than 20% below moving average	Original scheme: shortfall of yield below specified level

Defenses against moral hazard		Co-payment (registration fee), exclusions, payments limited to cases where patients hospitalized	Single risk which the insured cannot influence	Single risk which the insured cannot influence	Single risk which the insured cannot easily influence	Peer monitoring of claims; claims assessed and verified by a village committee which includes a BASIX representative. At least 50% of indemnity value must come from member's own deposit in village fund
Defenses against adverse selection		1. Life insurance compulsory for all borrowers 2. More than 60% of all members must enroll before coverage is extended to a village bank	Hospitalization claims reviewed by doctor		Under rainfall insurance the risk suffered by all claim holders is uniform in the event of deficient rainfall, and individuals with low yields do not have a superior incentive to seek insurance in relation to individuals with high yields	
Premium (US$/annum)	Three options: I: US$1.53 II: US$3.67 III: US$7.44	US$46 (Ushs 69,000) per four family members	Taka 100–120/ US$2.50 (nonmembers); Taka 50/US$1 (members)	100 taka plus 2taka/ visit (members); 250 taka plus 5 taka/visit (nonmembers)	6% of basic loan amount for rainfall insurance	Charged on a per acre basis, link the product to total agricultural activity rather than loan size and giving the farmer the flexibility to buy multiple units based on affordability
Targeting devices and other special features	Richer members can become life members of scheme through fixed deposit of Rs. 700; these payments cross-subsidize poorer members. Two-thirds of premium is subsidized by grants from GTZ and Ministry of Labour		Discounts for ultra-poor	Discounts for ultra-poor		Village self-management—of the 20% mentioned above, 10% goes to a village fund, 5% to an inter-village fund (which finances payouts) and 5% to BASIX

FINCA exclusions: The scheme will not cover—complex dental surgery other than as a result of accident; optical appliances; hearing aids; cosmetic surgery; intentional self-inflicted injury or illness; injury or illness arising out of intentional involvement in riot, civil commotion, affray, political, or illegal act by a member; alcoholism or drug addiction.

pioneer is able to survive for long enough to develop and test the original design. The issue of complementarity and positive interaction between different parts of a microfinance organization is potentially important, and not much discussed within the vast microfinance literature (see, e.g. Hermes and Lensink 2007).

2. *"Bonding social capital" benefits achieved through lower individual and group vulnerability*. An insured group of microfinance clients is less vulnerable than an uninsured group (providing that payouts happen reliably and on time).[12] Similarly, the variability of income within the group is in principle less and the likelihood that clients will be stopped from making loan repayment installments by a sudden negative shock is reduced, enabling trust between clients within groups ("bonding social capital") to increase.[13] This improvement in social capital is an external benefit to the group—a reduction in its costs of doing business, caused by the insurance, for which it does not pay.
3. *"Linking social capital" benefits achieved through an improvement in clients' awareness of service quality*. Evidence from BRAC (discussed later) suggests that the consumption of insurance, in combination with training, acts as an empowering mechanism: clients meet more often and as a consequence discuss more frequently the quality of the healthcare they are receiving, putting pressure on the provider to improve that service. In this way, the introduction of the insurance appears to trigger social capital between group members and health service provider—benefits for which, again, the group members do not pay, so that they constitute an external benefit of the scheme.
4. "Beneficial contagion" in which benefits acquired by the insured by virtue of their insurance then increase the utility of the uninsured—cures from a contagious disease which the sick seek only because they are insured are an obvious example.

How can a microinsurance organization increase its coverage while not eschewing the poor? Churchill and Frankiewicz (2006: 564–582) suggest two particular routes by which this can be done:

1. *Limit the benefits offered* (one practical suggestion made is to stick to life insurance or credit protection, as "safe," predictable-risk insurance instruments. Another idea, used in practice by SEWA and other organizations, is to put an upper limit on the payout that can be made. A third is to focus on major perils, such as hospitalization in the case of health insurance).

2. *Focus on cost efficiency* (e.g. use low-cost premium payment methods, such as automatic deductions from a member's savings account, and low-cost distribution systems, such as microfinance institutions themselves. Churchill et al. (2006) argue that, as in microfinance, minimizing "default" on premium payments is also crucial; and subsidies obtained from government and inside the parent organization can also help).

Based on further consideration of the issue, we suggest the following four ways in which a microinsurance agency can attempt to make sure that its expansion path is pro-poor:

1. The organization can diversify its product in a poverty-oriented direction. Thus Grameen and BRAC of Bangladesh have diversified from life insurance into health insurance; BASIX from agricultural insurance, which it has now given up, into livestock and weather insurance; and SEWA, which began by offering only a basic life insurance product, into insuring healthcare for clients, their spouses and (from 2003) their children. Even more exciting, it may be possible to diversify, as the World Bank is seeking to do in Ethiopia and other African countries, into weather insurance at the macro level in support of the national "productive safety net," which potentially may be supportive of people at a level of poverty not covered by previous insurance schemes.
2. The organization can seek to make itself more accessible to the poorest, by a range of routes:
   Direct subsidy, as practiced by the Grameen Bank and BRAC through charging lower premiums to the ultra-poor;
   Savings linkages, to make a safe savings instrument available to the insured person and provide additional protection both for the client and the insurer;
   Direct targeting of client *organizations with high impact on the poorest* (these will not necessarily be the poorest entrepreneurs, as it is often possible to achieve indirect impact on poor members of the labor force by targeting the nonpoor individuals who employ them—see Mosley and Rock (2004));
   Marketing to overcome misperception by poor clients of the risks to which they are exposed.[14] Imaginative marketing strategies have been used by some organizations to overcome this blockage.[15] But often what has caused a big surge in demand has nothing to do with marketing policy, but rather was an extraneous event which has made individuals only too well aware of the risks to which they are exposed—such as the Gujarat earthquake of January 2001, following which membership of the SEWA insurance scheme rose.

3. The organization can subsidize the provision of those external impacts mentioned earlier which are pro-poor.
4. The organization can use methods of what we call quasi-insurance, social protection delivered by an instrument which formally is not insurance, to supplement the poverty-reducing impact of its microinsurance measures.

We now turn to some impact assessment studies of microinsurance.

What does microfinance achieve? Some preliminary findings

We have impact data for five microinsurance schemes, four of them in the general field of health and one in the field of weather insurance; however, the evaluations have been carried out by different people, and therefore are of only limited comparability. All of the evaluations use "classical" control-group methods on a group of insurance clients and non-clients in both institutions. The schemes in question are the health insurance schemes of the giant Bangladeshi microfinance conglomerates, such as BRAC, Grameen, and Society for Social Services (SSS), plus FINCA Uganda, another health microinsurance scheme, and the World Bank's Ethiopia weather schemes. The results are recorded in Table 5.4, and they are divided into four groups: indicators of *operational performance*; indicators of *client-level impact*; indicators of *wider impact* which go beyond the individual client; and *side effects*. Only in the second and third cases, we can get any clear picture of the poverty dimension of impact.

We may briefly summarize the general thrust of these impacts as follows. All the insurance schemes are quite close to being viable in their own right, and there is some, at this stage very mild, evidence that they improve loan repayment rates; insurance appears to have a positive impact on physical and human capital expenditures, apparently mediated via higher absorptive capacity for loans; insurance clients perceive themselves as less vulnerable than non-clients;[16] and several of the "wider impacts" on which we speculated earlier do indeed materialize, as we discuss later.

Focusing on the poverty reduction impacts, both client level and "wider," the effects in Table 5.4 (except in the World Bank Ethiopia scheme) are measured separately for clients falling below the poverty line and others, and only the effects for clients below the poverty line are recorded in the table. These effects fall, as discussed earlier, into five distinct categories:

1. Effects operating via *individual well-being*—for example, all the Bangladesh schemes—Grameen, BRAC, and SSS—improve self-reported health in relation to that of a control group.

2. Effects operating via *stability of income and expenditure*, which transmitted scheme benefits from clients to the wider community of non-clients. These appear, in both countries, to have raised physical investment, often in the business,[17] but even more typically in the home. Investment in business equipment (such as a motor cycle necessary to deliver product or service) was prevalent. Land purchase was the most commonly cited form of investment under this heading. Sometimes insurance raised human capital investment. There were also, in Uganda, minor effects on labor hiring, and this had a small multiplier effect on poverty reduction. It should be noted that the persons reporting the positive impact on human capital investment were members of the control group, that is, *non-clients* who benefited from the scheme as a consequence of local expenditure patterns becoming more stable and clients investing more. For this impact to happen what is vital is that insurance have the effect of making people's expenditures more stable and predictable.

3. Effects operating via *social capital and interpersonal relations*. These are both positive and negative. Within local communities there is compelling evidence that "bonding" social capital, in the sense of trust, has indeed been strengthened as a consequence of the advent of insurance. In many cases, this was as a consequence of expenditures, and liabilities, becoming more predictable, so that individuals had an increased incentive to trust one another. A particular aspect of this predictability was reduced reliance on informal emergency borrowing.

The effect of insurance on "linking" social capital—between those local communities and other organizations—is much more complex: in Bangladesh, there is evidence that the insurance scheme has incentivized clients to find out more about, and improve, the quality of the medical service, but among nearly half of the Ugandan clients who answered our questionnaire it was clear that they felt service had deteriorated and that they were not in possession of any levers by which they could improve it. Many of them were responding based on *actual or perceived exclusions from the scheme*. What has happened is that FINCA (by contrast with BRAC) has become a junior partner with a rapidly growing insurance enterprise to whom low-income microfinance clients are "nothing special," and as described earlier, feel they are being exploited. This suggests that the often-praised "partner-agent" model of microinsurance,[18] under which a

Table 5.4 Microinsurance institutions: indicators of targeting and impact

	Health schemes				Weather schemes
	FINCA Uganda	**BRAC Bangladesh**	**Grameen Kalyan**	**SSS**	**BASIX, India**
Activities supported	Health insurance in support of microfinance activities	Health insurance in support of multiple development activities	Health insurance in support of multiple development activities	Health insurance in support of microfinance activities	Index-based weather insurance, free-standing
1. *Operational* indicators					
Profitability	About 73% of costs of claims plus operations currently covered from premiums	About 80% of costs of claims plus operations currently covered from premiums	100% costs are being recovered from revenue generation in the old health centers	45% costs are being recovered from revenue generation	More than 100% costs recovered; no subsidy
Arrears rates	1.6% of insured, 1.4% for uninsured (i.e. difference "positive" but insignificant)[1]		No difference in the arrears rate between program and control areas	Arrears rate in the program area is 1.5%, but it is zero in control areas	Minimal
2. Indicators of *direct* impact					
Savings	Positive (significant at 5% level)[2]		Mean difference between program and control areas is positive (significant at 1% level)	Mean difference between program and control areas is negative, but not significant	
Investment	Positive (significant at 1% level)[2]	Positive	Mean difference between program and control area is positive (significant at 1% level)	Mean difference between program and control area is positive (significant at 9% level)	Substantially higher among clients than among a control group of non-clients
Educational expenditure	Positive* (significant at 5% level)[2]	Positive	Mean difference is negative (not significant)	Mean difference between program and control area is positive (not significant)	
Loan growth	Positive (significant at 1% level)[1]		—	—	
Vulnerability	83% of respondents say that membership of the scheme gives "more peace of mind"		88% of the microentrepreneurs in program area compared 12% in control area say that they do not have any anxiety in managing medical expenditure	81% of the microentrepreneurs in program area compared 19% in control area say that they do not have any anxiety in managing medical expenditure	

Health indicators			Mean difference of ADL index between program and control area is positive (significant at 5% level)	Mean difference of ADL index between program and control area is positive (insignificant)	
Income	Scheme members are better off than nonscheme members)[2]	The scheme has been extended to a number of ultra-poor clients			Average beneficiary income range Rs. 12,000–30,000 pa (i.e. below US$1/day)
Assets					80% have land holding less than 2 hectares
3. Indicators of *indirect* (wider) impact					
Financial risk to sponsor	71% of respondents feel "less likely to get into financial trouble since joining the scheme"[2]				
Stability of income	Insignificant difference between treatment and control group[2]	Positive*	Positive but insignificant difference between program and control areas	No difference between program and control areas	Higher among clients than in control group
Social capital and intra-group relations	Improved levels of trust within solidarity groups[2]	"The scheme has encouraged us to take more interest in the quality of healthcare we are receiving"			
Incorporation of socially excluded	Little evidence (indeed, scheme members are better off than nonscheme members)[2]	The scheme has been extended to a number of ultra-poor clients			Generally progressive (e.g. average beneficiary income below US$1/day)
4. Side effects					
Relations with project staff	Became more neglectful in some cases[2]				
Care for personal health (moral hazard)	No evidence of moral hazard (DPT vaccination and malaria protection rates same between treatment and control group)[2]				

Sources: BRAC: field tests, Sultanpur, April 2002. FINCA: 1 Survey of 200 clients, January 2003, from FINCA records; 2 Survey of 62 clients from Nsambya and Mukisa branches, Kampala, interviewed February 2003. Data for survey (2) available from p.mosley@sheffield.ac.uk and more detailed results are provided in Mosley (2003: chapter 6). Ethiopia results from World Bank (2006). BASIX: from BASIX (2007) and Manuamorn (2007). Malawi and Ethiopia micro: from World Bank (2006). Ethiopia macro: from Syroka and Willcox (2006).

microfinance provider buys insurance from a third party for its clients, may have its problems if the insurance provider, as here, grows too large to care about the quality of service provided to a poor and ill-favored group of clients.

In the World Bank Ethiopian weather schemes, the social impact was limited, in the case of the microscheme, by the choice of partner NGOs. The Bank was only willing, in their pilot scheme, to work with NGOs and with financial institutions linked to the ruling coalition party—and hence forfeited the opportunity to penetrate to the ultra-poor (Stefan Dercon, private communication). This limited the downreach of the Ethiopian micro crop insurance scheme in Alaba Wereda, in contrast with several crop insurance schemes in India, notably the BASIX scheme, which have been implemented by NGOs independent of government and were better able to reach the poor.

4. There are also effects operating via *the downward extension of the market for financial services*. Especially in Bangladesh, pressure has been exerted to make sure that some ultra-poor clients join the scheme, and so a social inclusion impact has been deliberately engineered into the implementation of the scheme. Again, this effect is not guaranteed. In Uganda, for example, in spite of our prior hypothesis that the demand for insurance would be greatest among the poorest, insurance scheme members are actually richer than the control group of nonmembers.

5. Finally, there are effects operating through the provision of *an institutional model* (we have not attempted to quantify these in Table 5.4). For example, information on the design of the existing, pioneering, microinsurance institutions and the lessons which can be learned from their experience can be transmitted almost costlessly—via the internet and other means—to those wishing to emulate and improve on the precedents.

The crux of our argument is that since the beneficiaries of nearly all these impacts are not those who pay the premium, there will be underinvestment in a state of nature at the bottom end of the microinsurance market (as the World Bank eloquently noted) and there is a case for institutional intervention to remedy a situation which is still not very far away from total market failure. One way of doing this is by means of a subsidy which enables the scheme to break even on economic, rather than on financial criteria; but what needs to be subsidized is not only the level of premium, but also the creativity that enables institutional models that are properly adapted to local environments to be brought into being. So far, just a very few NGOs have managed this, but at least their number is growing.

"Quasi-insurance": Financial substitutes for microinsurance proper

As discussed earlier (Table 5.1), many organizations which are not insurers, including lenders, nonetheless provide an insurance function. As Morduch (1999: 1605–1606) notes, "microfinance borrowing is shown to improve the ability to smooth consumption across seasons, and entry into the programs is driven in part by insurance concerns . . ." Substantively, the results suggest that benefits from risk reduction may be as important (or more important) than direct impacts on average levels of consumption. In every case where a choice has to be made concerning risk management strategies, it is desirable to assess whether such noninsurance options offer a lower-cost or more effective method of protecting the poor than microinsurance. We call this approach "quasi-insurance." The ways in which microfinancial services may be able to achieve this function are multiple. For illustration, we consider here just four outstanding cases:

1. *"Risk*-minimizing" *credits for the ultra-poor*: The very poorest, who are most exposed to risk, do not often take advantage of microfinancial services, or a fortiori of microinsurance; and yet, precisely because they are most exposed to shocks, they are most in need of support services—essentially fulfilling an insurance function, as above—which may help them smooth consumption. The Bangladeshi NGO BRAC (formerly Bangladesh Rural Advancement Committee) sought to break into this vicious circle by providing under its IGVGD (Income Generation for Vulnerable Groups Development) and CFP (Challenging the Frontiers of Poverty) schemes for ultra-poor single women, by first providing food aid on its own, requesting that a part of that food aid be converted into small cash savings, then linking the savings to training in a low-capital low-risk enterprise (such as poultry raising, goat-keeping, small-scale fish-farming, or sericulture), and finally providing conventional microfinance loans to those who wished to receive. For the ultra-poor and risk-averse client, an "escalator" was thus established, beginning at minimal levels of risk—as appropriate for destitute people frightened of the cash economy—providing them with insurance via savings, and then gradually increasing both risk and potential return via a loan facility. It is the escalator that provides the insurance, therefore, rather than a stand-alone microinsurance institution.

2. *Emergency* loans *from "village banks"*: The Bolivian NGOs *Promujer* and CRECER (which cater for a lower stratum of the population than any others in the country) practice a "village bank" model, in which training, maternal and child health, and legal advice services are provided alongside group credit for those desiring them. They also offer an emergency loan facility. Essentially this loan facility (known in Bolivia as a *cuenta interna* or "internal account") functions like a rotating savings and credit association—it takes a fortnightly or monthly subscription from clients, which goes into a common pool from which, in case of need such as a sudden income shock, members are entitled to draw emergency loans supplementary to their existing borrowings, if approved by a vote of the members of their borrower group. Such emergency loans, alongside progressive lending relating loan size to loan repayment, protect clients against the risk of ejection from the credit market due to unanticipated shocks (Lenton and Mosley 2007). This facility therefore provides a form of quasi-insurance: it shelters those most prone to shocks, financing the shelter by means of a subscription which is not called an insurance premium but nonetheless acts as one. When put under pressure in the civil emergencies in Bolivia of October 2003 and June 2005, it protected not only the livelihoods of clients but also repayment rates—and it was supplemented by additional improvised measures to protect repayment rates, such as emergency in-kind food donations and "home collections" of loans from clients who were apprehensive of having to cross a barricade to make their repayments (Aliaga and Mosley 2007).
3. *Microsavings* schemes: Savings, classically, enable the "protection" function of insurance to be performed by enabling the low-income household to draw on a cash reserve, rather than an insurance policy, at times of crisis. As described in Hulme et al. (2009 and Chapter 6), microsavings remain a neglected element in microfinance, historically of great importance since the nineteenth century as an instrument by which poor households buffered themselves against shocks, and in the twenty-first century, at least in potential, fulfilling the role, since the consequences of shocks are worst for the poorest, as a highly progressive component of the microfinance operation. This potential however is not fulfilled at present. A majority of microfinance schemes do not offer any savings facility. Of the 336 microfinance institutions (MFIs) globally for which 2006 data were available, two-thirds (215 institutions) showed no savers at all, and of the remaining 121, 45 had fewer savers than active borrowers (ibid.). These

institutions' data on client poverty status are very limited, but given that the function of savings is principally of protection, and that protection against shock is needed by people in inverse proportion to their wealth, it seems probable that the narrow scope of savings institutions acts, like the constraints on formal microinsurance, as a limitation on the antipoverty leverage of the microfinance sector as a whole. Part of this undersupply of savings services is caused by regulatory restrictions that prevent microfinance NGOs from taking deposits (and, at the same time, from offering insurance facilities, except in the form of informal emergency funds or loan facilities). Even those MFIs that offer savings facilities are often unsympathetic to the savings needs of the poor (e.g. *BancoSol* of Bolivia will not accept deposits less than $10). A way around these restrictions is offered by the kind of linkage arrangements described next.

4. *Loan-savings linkages:* In a number of countries, NGOs, which are the dominant form of microfinance organization, are not authorized to take savings deposits, which as discussed earlier represent the least risky mode of contact with the financial system. Consequently, in the assumed absence of microinsurance, individuals who wish to receive financial services are obliged to take loans, and are not able to protect themselves by savings against the risk of decapitalization caused by the combination of overborrowing and external shock (see Hulme et al. 2009 and Chapter 6). One important potential way around this problem is by the formation of linkages between microfinance NGOs and banks or nonbank financial intermediaries. Under this approach, savings services and their associated quasi-insurance function are supplied to customers of microfinance NGOs via such linkages rather than directly. These linkages provide a buffer against the risk of decapitalization, and in industrialized countries, where much microfinance takes the form of small loans to unemployed people caught in the "debt trap," such linkages may enable an improvement in the debt management capacity of people previously unable to save, and enable them to utilize the "savings buffer" previously referred to in case of emergency (Mosley et al. 2007).

Especially in environments where microinsurance is not available but even in environments where it is, it may therefore be appropriate to consider quasi-insurance options as a strategy for protecting the poor—these may be able to provide particular forms of protection against risk at lower cost than microinsurance proper.

Conclusions for policy and institutional design

Microinsurance organizations can pursue the quest for viability either in a poverty-reducing or in a non-poverty-reducing way. The impact analysis of the previous section has presented some findings concerning the extent to which different institutional development strategies may impact favorably on the poor, and these are presented in Table 5.4. In the light of the table, we can now recapitulate the lessons of this chapter concerning how microinsurance and substitutes for it can help to move in the right way to reduce poverty, in the light of the empirical evidence just presented.

As mentioned earlier, we may take six possible approaches, either separately or in combination, to making microinsurance more poverty focused. The following is the sequence in which these have been presented in our argument earlier:

1. Lower the cost of microinsurance by enabling microinsurance firms to *move down their cost curve*. This is essentially the approach taken by Churchill (2006) in his final chapter. It is vital, because if microinsurance is not viable it cannot supply services to the poor or anyone else. In our judgment, however, it can usefully be supplemented by the following pro-poor options.
2. *Vary the microinsurance product-mix*. As indicated by our previous argument, the availability of insurance types does not match well to the needs of the poorest: those most vulnerable to risks either cannot insure at all or cannot insure against the risks which matter most to them. Ultimately, this requires ingenuity both in designing insurance against risks which are crucial but historically have proved hard to insure against—such as weather risk—and in making potential clients aware of the options which exist. This has been successfully achieved, on the available evaluation evidence, by BASIX and SEWA, both of which have broadened their basic insurance product so that it reaches further down the income scale. In principle, the World Bank's experimental weather insurance schemes also achieve this, but we do not yet have hard data on whether this is happening.
3. *Make microinsurance services more affordable by the ultra-poor*. This may be done by a range of methods:
   (i) Interest-rate subsidy (as practiced by BRAC, Bangladesh), which has been successful in bringing a number of ultra-poor clients into the fold of microinsurance.
   (ii) By offering a savings facility which gradually enables the poor to pay their premiums (as in SEWA, India). The compendium by Churchill

(section 2.3: 111–130) also mentions a number of schemes which link insurance to savings so as to make premiums easier to repay.

(iii) By bending the design of the microinsurance scheme so that it focuses on services especially consumed by the poor (such as maternal and child health). This was successfully achieved by BRAC and SSS.

4. Design microinsurance schemes so that they maximize spillovers to *the very poor*. Table 5.4 showed that for FINCA, Uganda, BRAC Bangladesh, and SSS Bangladesh, there are substantial spillovers to non-borrowers through income stabilization, through health, and through empowerment (Effects 3 and 4 can be supplemented by sponsors providing a results-based subsidy). (Another crucial element is lobbying and persistence. Any number of regulatory obstacles can be invented by an obstructionist person or environment.)
5. Where microinsurance is not available or not suitable, provide "quasi-*insurance*" *services which provide protection against shocks even though not labeled as insurance*. Illustrations of how this may be approached have been provided in the previous section.
6. Where the option exists of anticipating rather than simply providing *insurance against shocks, use that as a complementary approach*. One approach to this is to incentivize, via agricultural extension, the planting of drought-resistant varieties.

It is of course feasible for both local and national branches of government to support pro-poor actions at the local level by maintaining an appropriate regulatory and policy framework—in particular through support for informal and labor-intensive activities.

Thus there is substantial empirical evidence already to back the proposition that microinsurance, if the appropriate complementary policies and design features are embedded into it, may be a powerful instrument against poverty. Substantial additional research is however needed both to validate the tentative and incomplete impact assessments provided in Table 5.4, and, above all, creativity and experimentation are needed to devise and locally test new poverty-focused insurance instruments, and dedication and courage are needed to pursue the case for these in face of inevitable opposition from those who see radical designs as "not fitting into the box." Insurance is, of its nature, a conservative profession, dedicated to the minimization of risks, and what is needed in the present case is to combine that conservatism in the control of costs and risks with extreme daring and perseverance in the process of including the very poor and vulnerable in design and implementation.

Appendix 1: Weather insurance schemes

Globally, drought and weather-related disturbances are a major cause of poverty, specifically in Africa. Syroka and Willcox argue that "the predominant risks faced by vulnerable populations in sub-Saharan Africa are meteorological in nature" (2006: 203). When a drought occurs, it occurs across a wide range of communities and often over most of Africa (as in 1992 and 2002)—so that risks co-vary, and thus informal insurance mechanisms cannot cope. Yet very little formal insurance is available against these risks, especially for the protection of poor people, and most of the literature on the experimental schemes which exist is unpublished. Thus we provide here some background data on what is known about these schemes, and their potential ability to provide "insurance against poverty."

As discussed in the text, early agricultural insurance schemes in developing countries were a disaster, partly because they were operated by parastatal organizations not subject to rigorous financial discipline and partly because they were not able to overcome the moral hazard problem: they typically offered "area yield guarantees" which were an invitation to slack husbandry because they paid out the same indemnity however large or small was the effort put into the care of the crop. An important practical breakthrough was made by Gautam et al. (1994), who showed that an ideal defense against moral hazard was to insure not against *deficiency of income*, which was an invitation to reduce effort in face of the protection provided by insurance, but rather against *deficiency of rainfall*, which was exempt from moral hazard, because nobody can influence rainfall. Even better, rainfall-deficiency insurance economizes on scarce administrative

resources, because no expenditure is required on checking of claims: the payout of indemnities can be made as soon as the size of the local rainfall deficiency is known. Gautam et al. thus proposed that the problem of drought losses should be dealt with by inviting *all* individuals in the drought-prone country (not only those subject to drought) to participate in a lottery: tickets could be bought (premiums could be paid) by anyone, and payouts proportionate to the extent of likely crop losses would be made if the rainfall index fell below (say) 80 percent of its moving average value. Over and above the advantages mentioned earlier, this way of designing the scheme had the merit that it potentially provided benefits to low-income individuals who were affected indirectly, rather than directly, by drought—for example, landless laborers, who are often the poorest and most vulnerable people of all.

For all its merits, this idea did not begin to be implemented until the beginning of the 2000s. Several proposals for complementing microfinance in agricultural areas with weather index-based insurance were made on the basis of the Gautam et al.'s approach,[19] but the honor of the first commercially viable rainfall insurance model belongs to the South Indian NGO BASIX in 2003, as described later. Pilot insurance projects to insure a target population in a particular area against rainfall deficiency have also been completed by the World Bank, for Ethiopia, Malawi, and Ukraine, with forthcoming pilots in other countries. Finally, in Ethiopia in the wake of the severe drought of 2002–2003 the UN World Food Programme has sponsored a form of rainfall insurance which covers the whole country rather than a particular locality: it activates the food aid social safety net *across the country* in immediate response to evidence of rainfall deficiency *averaged across the country*, and thus combines the approach of a Gautam–Hazell–Alderman rainfall-based payout with the new and powerful idea of anticipating *ex ante*, rather than responding to *ex post*, suffering due to drought.

We now discuss and compare the experience of each of these schemes to date. Table A5.1 summarizes the comparison in a tabular form.

"Micro" (farmer-based) schemes

BASIX and others, India

India is the country where modern-style weather insurance has gone furthest. In June 2007, some 500,000 Indian farmers were covered by weather-index insurance contracts (see Manuamorn 2007). The breakthrough with this new form of microinsurance was made at the bottom end of the market by a

nongovernmental organization, BASIX, which since its foundation in the 1990s has provided a range of rural development services to low-income farmers,[20] including microfinance and microinsurance. Its approach to insurance has been experimental and evolutionary, beginning with life insurance, progressing in the later 1990s into agricultural insurance (administered on the traditional Indian "area yield guarantee" model) and livestock insurance, and initiating a pilot weather index insurance scheme in 2003 in Mahboobnagar district of Andhra Pradesh, in collaboration with the commercial insurance company ICICI-Lombard. Following the success of this pilot, BASIX began selling weather-index insurance outside its home state of Andhra Pradesh. By 2006, 11,500 farmers in six states of India were buying rainfall insurance from BASIX—and these, notably, were low-income farmers, with an income range of 12,000 to 30,000 rupees per annum, that is, less than US$1 a day.

BASIX's weather insurance product has been sold throughout without subsidy, and over the 4 years 2003–2006, the ratio of claims to payouts is only 70 percent, so that the scheme has been able to build up reserves.

The structure of trust relationships which BASIX had developed with its clients over the years acted as a strong pedestal on which to ground the new experimental structure of microinsurance, and BASIX provides an important illustration of the principle that microinsurance often works better if it can provide synergies to, and receive them, other parts of the organization (see further). What was also crucial was that BASIX had the creativity and the patience to experiment, over the 10 year period from 1995 to 2005, with several microinsurance models, rather than commit itself by premature salesmanship to a fixed blueprint and then lose credibility by having to retreat from it.

World Bank pilot, Ethiopia

A pilot rainfall insurance scheme, operating on essentially the same principles as BASIX, was executed in Alaba Wereda (a high-productivity smallholder region of southern Ethiopia) in 2006, using a state-owned insurance company, the Ethiopia Insurance Corporation, as intermediary distribution agent, but with totally different results to those achieved in BASIX. The key problem was that the pilot, in the words of the evaluation, "failed to identify any organisations that could be used to reach clients effectively and provide the necessary capacity building and product education to farmer clients." No bank was willing to

become involved, since banks' fertilizer loans were already fully guaranteed by the government (hence more lucrative than insurance). *Faute de mieux*, the Ethiopia Insurance Corporation agreed to fill the gap, but the results were predictable. It proved hard to sell any policies, and only 30 farmers took up the offer of insurance.

This is the only case reviewed here where microinsurance has been offered on a stand-alone basis, rather than being layered onto the efforts of an existing organization; and the consequences were disastrous, since the organization retailing the insurance (the Ethiopia Insurance Corporation) did not believe in, and therefore was not able to inspire trust among skeptical farmers in its own insurance product. It had no existing goodwill in the region, and being able only to entice a few farmers into the scheme had to charge a proportionately high premium, which deterred any potential customer wavering on the brink. The Alaba pilot experiment has now been abandoned.

World Bank pilot, Malawi

By contrast with the "Ethiopia micro" case reviewed earlier, in Malawi the World Bank offered microinsurance alongside something farmers badly wanted, namely credit, in an environment where commercial banks were refusing to lend to smallholders. For the pilot in 2005, the offer of rainfall-based insurance was made only on one crop, namely hybrid groundnuts, and by the following year, 2006, 892 insurance contracts had been sold, with the National Smallholder Farmers' Association of Malawi (NASFAM) acting as agent. The growth of the scheme was inhibited, ironically, by a good harvest in 2006, which pushed down the price of groundnuts to the point where farmers found it hard to afford their insurance premiums; but for now, the Malawi pilot continues, having achieved take-off neither like BASIX nor oblivion like the parallel Ethiopia pilot.

"Macro" (social safety net-linked) schemes

World Food Programme (WFP) pilot, Ethiopia

The origins of the WFP scheme go back to the 2002 drought, which was the worst in Ethiopia since the catastrophic famine of 1984–1985, a repetition of which

Table A5.1 Weather insurance schemes compared

	Micro (farmer-level) schemes			Macro (country-level) schemes
	BASIX, India	**World Bank pilot, Alaba, South Ethiopia**	**World Bank pilot, Malawi**	**Social safety net project, Ethiopia (countrywide)**
Initiated	2003 in present form, after experimentation with life, agricultural, and livestock insurance	Pilot, 2006	Pilot, 2005	Pilot, 2006
Distribution agent	BASIX (NGO)	Ethiopia Insurance Corporation	National Smallholder Farmers' Association of Malawi	WFP
Payment trigger	Weather index	Weather index	Weather index	Weather index
Beneficiary income/impact	Average beneficiary income range Rs. 12,000–30,000 pa (i.e. below US$1/day)	Not measured	Not measured	None as yet: potentially massive, since benefits of food for work become more timely
Beneficiary resource allocation/ impact	By comparison with uninsured farmers, less shifts into lower-yield crops	Not measured	Not measured	Not measured
Current status	Being scaled up	Abandoned	Continuing	Being scaled up

was only prevented by massive disbursements of responsive food aid through the national social safety net program. Much of this food aid, as always, arrived late, and the thought occurred to many that "prevention" of the food shortage would have been not only more dignified than "cure" based on food shipments in response to disturbing images of malnutrition, but also productively far more efficient, because it would have equipped vulnerable households with the means to cope *before* they lapsed into destitution. The truly innovative idea was to combine this anticipatory approach with Gautam–Hazell–Alderman rainfall insurance so as to construct the beginnings of a weather insurance-based social safety net. Reinsurance cover was arranged for the 2006 season from Africa

Re, which would have provided deficiency food aid payments for 62,000 low-income individuals if the 2006 rains had failed. However, in the event, the 2006 rains were abundant in all parts of Ethiopia, and no payouts were made. Because of this, it was not possible to see the *ex-post* impacts of the scheme; however, it is possible to be excited by the potential of the idea. The key to it is that the Productive Safety Net (food-for-work) schemes developed by the Ethiopian government for the chronically food insecure in partnership with donors still, in spite of current political troubles, command substantial farmer-level support, because they are increasingly depended on it for subsistence (Hess et al. 2006: 3) and the insurance pilot was able to build on this support. It was intended to develop the scheme gradually so that it was in full production by the 2009/2010 season, protecting 5 million food-insecure individuals—a scheme which dwarfs in size all microinsurance schemes put together.

Key lessons

All of the weather insurance schemes discussed here are "new model" schemes which have learned the lessons of previous unhappy experience, as spelled out in the main text. But beyond this, the following lessons can be learned specifically from the handful of weather insurance schemes we have examined:

1. A reliable and trusted distribution channel (which typically is but does not have to be an existing MFO) is absolutely vital. Without this, there is no hope of building up a clientele.
2. To work, all microinsurance, and especially innovative forms of it such as weather insurance, need to be bundled together with something which clients really value (e.g. credit; healthcare). Indeed, stand-alone insurance schemes may not work: microinsurance is synergistic with other elements in the microfinance program.
3. Ownership is key. The organization which pioneered commercial weather insurance, BASIX, believed in its product, knew that its customers would desert it if it did not keep them regularly supplied with weather information and the opportunity to provide feedback, and thus was able to move down along the cost curve while preserving the access for the poor.
4. Experimentation is extremely valuable—the right technical solution may not and, in microinsurance, typically does not seem to come first time. Again the

experience of BASIX is relevant—they experimentally tried old-style crop and livestock insurance linked to village-bank lending, failed with it, but rather than give up hope tried again with the different model weather insurance, and the second time were rewarded. Success often depends on willingness to modify rather than jettison a good idea which fails to work in practice.

Notes

1 Elson continues: "Labour market institutions have typically been constructed on the assumption that women employees were secondary earners who could draw upon the assets and earnings of men (male partners, husbands, fathers, brothers, etc.) to cushion them against risk. That is, labour market institutions have assumed that men have 'extended entitlements' which do not have the force of law, but are sanctioned by accepted norms about what is a legitimate claim. Women's very act of participating in the labour market, however, may weaken their extended entitlements, if it involves stepping outside what have been accepted as the normal roles for women. The possibility of earning an income of their own may empower them to take more decision about their own lives—but it may also cut them off from support by male kin, leaving them on their own, and newly vulnerable to market forces."

2 As one SEWA loan supervisor explained, "They put money in, as with savings, so they do not understand when they cannot draw out the whole of the money they have put in whenever they want . . . so they ask for their money back, and they are surprised when in the early days of the insurance contact it is less than they put in" (interview, April 4, 2002). This kind of unawareness is not confined to India, or to developing countries.

3 As McCord (2000: 24) comments, "Illness often creates a downward financial spiral in a household where ineffective measures are used and paid for until the illness becomes a crisis and the patient requires hospitalisation. With hospitalisation, the patient then needs continuous care, usually by the mother/wife/daughter. The family experiences a liquidation of available resources, climbing debt and a reduced ability to earn money since the woman is not at her business. Business assets are then sold to generate the needed funds to pay the medical bills. This cycle often returns reducing households to poverty . . ."

4 State-financed agricultural insurance schemes have operated at a large loss in the United States, India, the Philippines, Brazil, and Mexico (leading to the closure of the insurer in the last three cases; Mosley and Krishnamurthy (1995)). Often this has been because they insure against deficient crop yield or even deficient crop income—thereby inviting moral hazard and deficient husbandry.

5 An example is the original "emergency fund" of the Grameen Bank of Bangladesh, which since inception in 1983 has imposed a surcharge of 25 percent on the standard interest rate—essentially a life insurance premium—as a contribution to an "emergency fund" which pays out only in the event of the member's death. (The Grameen Health Insurance Scheme is a separate operation developed much later, in 1996.)

6 For more illustrations of this "social welfare and employment protection" model of microinsurance from Asia, Latin America, and Africa, see Lund and Srinivas (2000).

7 Of 120 (mostly urban) Bolivian microfinance clients asked "What do you perceive as the main risk to your livelihood?" in 1999 and 2000, 105 (85%) mentioned health and accidents, 59 (49%) mentioned competition and market collapse, and 41 (34%) mentioned crime and theft. See Mosley (2001b): table 7, p. 122. By contrast, in rural Ethiopia health problems were the third most salient risk (at 40% of households affected) after harvest failure (78%) and policy problems such as resettlement or taxation (42%). After this came oxen problems (39%), land problems (17%), asset losses (16%), and war/civil disturbance risks (7%). See Dercon and Krishnan (2000: table 5).

8 In Ethiopia, the World Bank operates two types of pilot scheme: a microscheme in which payouts are made to farmers if rainfall at local weather stations falls below its target level, and a macro scheme in which a social safety net of food-for-work schemes is activated on a national basis if rainfall falls below its target level. Details of these schemes, and other experimental weather index schemes within the World Bank portfolio, are provided in the Appendix.

9 In particular, payouts for crop losses have been conditional on proof of good husbandry.

10 In the appendix to chapter 4 of Mosley (2003), we examine how the value of this excess should be computed.

11 For other attempts to apply the Gautam, Hazell, and Alderman model in Africa, see Skees et al. (2005) and Mosley (2001a), also the Appendix.

12 From the point of view of making microfinance schemes work, a lot depends on the practicalities of whether this is in fact the case. For the case of the Indian Comprehensive Crop Insurance scheme of the early 1990s, where payouts were restricted to so few individuals and happened so late that the variance of the incomes of the insured was actually greater than the variance of the incomes of the uninsured, see Mosley and Krishnamurthy (1995).

13 For a general discussion of the social capital concept in relation to the data from our institutions, see Mosley et al. (2003), Chapter 6.

14 As the director of Grameen Kalyan put it, "people are not aware of their health before they become bedridden": Interview, Sheikh Abdud Daiyan, Dhaka, January 8, 2002.

15 The Peruvian microinsurance organization IFOCC "created simple figures to help clients understand the benefit and the relative cost of the insurance. In addition, IFOCC helped clients to understand the relative size of the premium payments by asking them to think of the funds received from a loan as a jaguar, the interest paid on the loan as a rabbit, and the insurance premium as a guinea pig" (Brown and Churchill 2000: 20). More broadly rapid diffusion of insurance membership may be used by imaginative use of local opinion leaders, see the case of BRAC later.
16 As movingly described by an insurance scheme member: "My children were sickly and I used to spend so much at a time I wasn't expecting, but now I have a plan to spend I get enough time to look for the money (because) when illness comes it doesn't give you time to first look around for money."
17 It was a very common observation that availability of insurance reduced the need to deplete investment by raiding the business to finance working capital.
18 See, for example, McCord (2000) and Brown and Churchill (2000).
19 Including one by the present author, working with Centenary Bank of Uganda (Mosley 2001) which was aborted when the chief executive of Centenary died in May 2001.
20 Eighty percent of these have a landholding of less then 2 hectares (BASIX 2007).

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6

Assessing the Insurance Role of Microsavings

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Many borrow, more save, and all insure

Zeller and Sharma (2000)

Introduction

Microfinance is one of the development policy successes of our time. In just over three decades, experimentation, action research, advocacy, and expansion by NGOs, international organizations, and donors have led to almost 100 million previously "unbanked" poor households gaining access to some form of financial service, as well as to an important paradigm shift. The capacity of poor people—particularly poor women—to manage their own economic affairs, and to "lift" themselves and their families out of poverty using microfinance is increasingly recognized. Finance is now often considered a basic service, and some argue that access to financial services is a human right.

Until relatively recently, however, this has largely been a micro*credit* success. Vogel's characterization of savings mobilization as the "forgotten half of rural finance" in 1986 largely still rings true today (Vogel 1984). In part, this is due to an ongoing misperception that the poor do not, and cannot, save—despite a long and global history of community-based savings groups and other informal savings systems, as well as the findings from a substantial amount of research.[2] In part, regulations against mobilizing deposits from nonmembers continue to restrict microfinance institutions (MFIs) throughout much of the developing world, and the availability of subsidized credit and grants from donors reduces the compulsion for mobilization of savings. These factors have led to a notable historical shift from *thrift* (microsavings) as the foundation

of finance for the poor in the early twentieth century, to *debt* (microcredit) in early twenty-first century.

Yet we know that poor people *do* save, that they save in a range of ways, that their savings are important to how they manage their households and to their sense of well-being, that they would like to save more, and that they often would like to have access to formal savings institutions. Thus, in the last few years, recognition of the multiple benefits to both customers—particularly the poorest, often missed out by microcredit—and MFIs of offering flexible, appropriate, and voluntary savings services has grown substantially. This is reflected by both the range of services provided, and the emergence of microsavings-focused research initiatives.

Development policy and research are also increasingly focusing on the role of insecurity, risk, and vulnerability in pushing people into poverty and keeping them poor. As such, attention to the role that microfinance can play in reducing and mitigating the vulnerability experienced by poor people has grown; that microinsurance is increasingly included in the service portfolios of MFIs is evidence of this trend. But there is also a concern with how the other components of microfinance can reduce—or increase—vulnerability.

This chapter is intended to extend knowledge about the insurance role of microsavings services. It posits that access to microsavings services can help the poor manage vulnerability, both through savings' *protective* function (using accumulated savings to ameliorate the impact of shocks) as well as through its *promotive* role (using accumulated savings to build an asset base, which can be then used to lessen the risk of some hazards and mitigate others). For more details, see Hulme et al. (2009).

This chapter is organized as follows. In the remainder of this introductory section, a review of key working definitions is presented, alongside an overview of the ways in which microsavings programs are hypothesized to play an insurance role. Part A reviews the various types of microsavings practices and programs in existence, along with an attempt to evaluate the extent and nature of outreach as well as the order of magnitude of savings generated. In order to attempt to quantify their insurance role, the second section of this chapter draws upon data from three microfinance programs in India, Peru, and Zimbabwe to assess the ways in which households use savings for consumption smoothing and avoiding disinvestment (Part B), and for investment purposes (Part C). Part D identifies shortcomings in terms of the ways in which microsavings programs currently operate, and suggests ways to overcome these weaknesses in order to

strengthen microsavings' insurance role. The final section reviews, focusing on policy implications, suggests further questions for research, and concludes.

Microsavings and vulnerability—definitions and relationships

Defining *microsaving* for the purpose of measuring stocks, flows, and impact is challenging. There are several possible approaches depending on whether one focuses on the *people* saving, the *amounts* saved, or the *institutions* in which the saving takes place. Thus, microsavings can be thought of as savings made by low-income or poor people, as small amounts of savings (the challenge here is to provide a threshold for saving deposits or balances that would distinguish between micro- and non-microsavings), or as savings held at institutions that specialize in microsavings. Table 6.1 describes how one would measure microsaving depending on the approach taken.

Table 6.1 Defining "microsavings"

Approach to identifying microsaving	**Microsaving measure (measured at the household level)**	**Issues**
Savings by low-income groups	Microsaving = income minus consumption	• Income and consumption measured with error in household surveys (under reporting of income) • Is debt/credit *ex ante* microsaving? • From client's perspective, savings may include some forms of consumption or productive investment (e.g. jewelry)
Low level of deposits and balances in saving accounts	Microsaving = aggregate balances in cash and liquid saving schemes below a defined threshold	• Defining threshold • Includes the never poor with small amounts of savings
Savings in institutions specializing in microfinance	Microsaving = balances in microfinance institutions	• Continuum of institutions—the reach of formal, large-scale institutions (e.g. banks, credit unions, post offices) to low-income groups makes this measure problematic

While from the perspective of most poor savers microsavings can consist of a large variety of informal, semiformal, and formal practices (see later), in this chapter we have adopted a pragmatic approach and defined microsavings as the mobilization of savings through deposit services run by MFIs. In large part this is because in the survey data on which we draw in Parts B and C, the information on income and consumption is not sufficiently detailed to provide a reliable measure of saving as the residual (i.e. income minus consumption). Further, two of the three datasets do not provide disaggregated measures of saving amounts, or information on stocks and flows, such that we have not been able to use levels of saving as an indicator to identify microsavings. Thus, we have used self-reported saving status with a range of financial institutions (including MFIs) as our main instrument for the identification of microsaving and microsavers.

Microsavers include not only microentrepreneurs or the working poor, but also those poor people relying on remittances, pensions, and other forms of support. Even poor children often have access to small amounts of cash and are increasingly being encouraged to "develop the savings habit" by NGOs (e.g. Aflatoun Child Savings International). However, while evidence shows that most poor people can and do save, some cannot—the destitute may be better off investing in their health by consistently spending on food than saving an occasional penny.

Vulnerability can be understood as the likelihood that individuals, households, or communities will fall into or continue to experience poverty in the future. A great deal of recent research addresses the extent to which, how, and under what conditions vulnerability generates persistent poverty of households and communities. The need for poor households to reduce vulnerability can limit their ability to pursue strategies for the economic and social improvement of household members. No less real to the sufferer, subjective feelings of insecurity, anxiety, and fear also can have important behavioral effects, and practices such as savings that can make people feel more secure can foster their capacity to take the small risks necessary to improve their livelihoods.

Vulnerability results from the interplay of two key components: (1) hazards and stresses and (2) buffers. The poor are especially vulnerable, because they face a higher risk of the former, while lacking sufficient access to the latter. *Hazards* are relatively sudden events (e.g. job loss, sickness, drought, conflict), while *stresses* are typically continuous and cumulative pressures (e.g. low wage rates, poor working conditions), both of which can adversely affect the consumption, investment plans, and thus the living standards and well-being of households. *Risk* is the probability that hazards will materialize, and a hazard that has materialized is known as a *shock*.

In addition to attempting to reduce the risk of incidence of hazards, through, for example, investment in health care and skills, individuals, households, and communities deploy a large range of *buffers* to protect their present and future well-being against hazards and stresses. These strategies include building up and drawing down savings, but also taking loans; making insurance claims; accumulating, selling, or mortgaging assets; drawing on support from social networks; and claiming public entitlements. Savings is only one aspect of a portfolio of financial and other options poor people have for managing vulnerability.

Indeed, in considering the relationships between the management of vulnerability among the poor and microsavings practices and services, it is first useful to take a step back and think through how savings relate to financial practices and services as a whole. Rutherford (2001) provides a useful way of doing this, by considering that the purpose of all financial practices is to be able to access a usefully large lump sum of money:

- "Saving up"—this is what we usually think of as saving, and entails converting a series of savings (deposits) now into a usefully large lump sum later on.
- "Saving down"—this is what we usually think of as borrowing, and entails getting a usefully large lump sum (credit) now against future savings (repayment installments).
- "Saving through"—this means making a continuous set of deposits that are converted into a lump sum at some point in time during the flow; this includes informal practices such as Rotating and Accumulating Savings and Credit Associations (ROSCAs and ASCAs).

In addition, there is insurance. *Microinsurance*, according to Churchill (2006), "is the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved."[3] And, of course, within each category there are a range of options offering, in the case of "saving up" and "saving through," different levels of security, liquidity, flexibility (particularly in terms of timing of deposits or withdrawals), and returns or costs.

So, while in this chapter we are chiefly concerned with "saving up," it is important to recognize that these are only some of the many "swaps" poor people have to choose between when attempting to manage vulnerability; and, as Table 6.2 describes, each strategy has its own strengths and weaknesses in a particular context.

Table 6.2 Advantages and disadvantages of different strategies/instruments for addressing vulnerability

Strategy and description	Advantages	Disadvantages
Self-protection • Reduce the probability of a hazard materializing through, e.g. diversifying livelihoods, developing assets (e.g. making housing weather and crime proof), building human capital (gaining qualifications, protecting health)	• Household control • Assets have multiple benefits beyond addressing vulnerability	• Ineffective against many hazards (especially covariant "natural" hazards) • Requires information about relative risks of different hazards • Health/education effects are in medium to long term
Self insurance—**s**avings • Make *savings* (*ex ante*) to ameliorate the loss from a hazard	• Can be used against any hazard[4] • Household control and predictability • Does not require external approval • Can also be used as collateral for credit	• Only covers small hazards for the poor • Lack of effective savings instruments • If excessive, may tie up much needed resources
Self-insurance—debt/advances • *Borrow* (*ex post*) to ameliorate the loss from a hazard	• Can be used against different types of hazard • Speed of access	• Not predictable • May have high costs/conditions • May not be available for covariant hazards • May require collateral
Insurance private or social • Exchange of regular premiums, or payroll contributions, to secure entitlements to financial protection against specified contingencies	• Pools risk • Small premiums can protect against large losses	• Only covers specified hazards • Rarely available to the poor • Complex and requires external approval
Informal networks • Develop social relationships that can help ameliorate the loss from a hazard by transfers	• Can be used against different types of hazard • Speed of access	• Only predictable for small losses • May not be available for covariant risks • Variable costs—may be high • May involve adverse incorporation
Social assistance entitlements • *Social transfers* to ameliorate losses and to facilitate self-protection, including employment guarantees, transfers focused on poor households, or categorical transfers (see Barrientos et al. 2006)	• Low/no cost for the household • May encourage long-term gains in protection, e.g. education	• Often not available • Access may require bribes, etc. • Possibility of moral hazard

Part A: Microsavings in global perspective

There is an increasingly wide range of microsavings services on offer to poor people, from an equally wide range of service providers. In this section, we review available evidence suggesting that there is both a large and growing number of poor people saving with formal and semiformal institutions, and that there is a much larger group of poor people with no such access.

However, while data on microcredit services are increasingly collected and made available in a more-or-less coherent and comparable manner across countries and organizations—such that progress against the key goal of the Microcredit Summit can be monitored—reliable and complete data on savings services remain much harder to come by. This issue will be returned to.

Types of microsavings and microsavings services

The decision on where and how to save always involves making trade-offs between the perceived security, liquidity, and returns or cost of each strategy, and depends on the purpose for saving and the context in which one lives. This pertains as much to coins stuffed in a mattress as to foreign currency placed as a term deposit with an international bank. Box 6.1 reviews some of the many ways in which low-income people in developing countries save.

Box 6.1: Informal, Formal, and Semiformal Savings Practices from Around the World

Informal:

- Saving at home/on the person, in cash, and in kind (gold, goat, handful of rice, tin roof, trees, etc., any physical asset with a [productive, protective, or social] use value, that can be sold)—thus the line between savings, investment, and consumption can be unclear
- Simple savings clubs, ROSCAs and ASCAs
- Informal insurance schemes such as burial societies—not always "true" savings, but often treated as such
- Deposit collectors and money guards (often relatives, employers [wage retention], shopkeepers)
- Reciprocal lending
- Moneylenders and pawnbrokers ("saving down")
- Supplier credit, wage advances ("saving down")

Formal: (see Table 6.2)

- Range of savings products from banks, cooperatives, post offices, insurance companies, and so on—these often require minimum deposits/balances and exclude poor people in other ways (physical and social distances)
- Can include compulsory savings acting as loan collateral

Semiformal: (see Table 6.2)

- Range of savings products from NGOs and other MFIs, both voluntary and involuntary (compulsory savings acting as loan collateral)

On the one hand, the prevalence in some communities, particularly in West Africa, of money collectors who charge a fee to collect frequently and then return savings at the end of a period of time shows that for many poor people, perceived security and the opportunity to "choose to be forced" to make regular small deposits are more significant than returns or liquidity. On the other hand, saving in assets—some, like a goat, productive, and others, like jewelry or a tin roof, with other benefits—suggests that proximity and control are more crucial than extreme liquidity. Different strategies can help manage different forms of vulnerability, and savings services that recognize poor people's multiple vulnerabilities and priorities are more likely to find clients.

Table 6.3 reviews the main types of products available, and notes their strengths and weaknesses from both client and institutional perspectives. Some products are combinations of those listed—for example, contractual time deposits. Many organizations (e.g. the Self-Employed Women's Association, or SEWA, discussed in Parts B and C) offer many different products within the same general type, with maturities of time deposits to match different needs such as marriage, education, or housing repairs.

Scale of microsavings

Despite the increasing recognition of the importance of savings services, particularly for reaching the poorest with financial services, MFIs as a whole are still largely credit focused, and/or the data that they collect and share with international bodies is still credit focused and does not disaggregate different types of savings service to any degree. In particular, there is no differentiation

Table 6.3 Microsavings products available from formal and semiformal providers

Product type	Client perspective	MFI perspective
Involuntary deposits	• Imposed by institution; client saves to be member/ get loan • Low interest • Highly inaccessible (sometimes only available upon loan repayment or account closure) • May discourage voluntary savings	• Provides funds and loan collateral • Significant but predictable demands on staff • Low interest rate
Demand/voluntary deposits	• Unexpected needs or opportunities • Consumption smoothing • Store windfalls and remittances • Low/no interest • Does not require regular income	• Large number of accounts, administratively intensive, and potentially low profit • Heavy demands on staff, monitoring and information systems, liquidity management • Stable costs
Contractual savings	• Expected needs or opportunities • Encourages discipline • Higher interest • Problematic if irregular income	• Provides long-term funds, larger balances, more profitable despite higher interest • Low administrative intensity • More volatile costs
Time deposits	• Expected needs or opportunities • Storage of lump sums • Highest interest • Requires larger deposit/s • Inaccessible before term without penalty	• Provides long-term funds • Few accounts, high balances, most profitable • Low administrative intensity but needs asset liability management

Source: Adapted from Hirschland (2005).

between voluntary and compulsory (credit-linked) savings, making it difficult to determine the level of timely liquidity, and therefore scope for managing vulnerability.

Even compared to microcredit, it is difficult to discern the scale of microsavings with any accuracy for several reasons (see also disclaimer in Box 6.2):

- First, the poverty status of clients is generally unclear. This is the case even for MFIs (only 18 of 335 MIX MFIs with available data even report income status of the clients[5]), but more so for most banks, credit unions,

cooperatives, and post offices. Depending on the country context, these institutions may extend services to some or many clients who would not be able to access regular commercial banking—although many would—but it is difficult to assess the extent to which they are poor by national or international standards.

- Second, while the average deposit or account size is important, the extent to which it indicates how "micro" the account is, is nationally context dependent. Only 124 of 335 MIX MFIs report this information, with average account balances ranging from 0 to US$5,514.
- Third, most institutions report accounts, not clients. Because there are both many inactive accounts and many multiple accounts, the numbers of clients are likely overestimated.

Box 6.2: Savings Accounts in Alternative Financial Institutions

	MFIs*	Co-ops/ credit unions	Rural banks	State/ agricultural/ development banks	Postal banks	Total
Total	103,568,000	33,553,000	18,675,000	98,930,000	318,450,000	573,176,000
% of total	18%	6%	3%	17%	56%	100%

Source: Christen et al. (2004).

** Includes NGOs, banks, and non-bank financial institutions that specialize in microfinance, as well as microfinance programs in full-service commercial banks.*

Authors' disclaimer:

This study reports a surprisingly large number of savings and loan accounts—probably well over 750 million—in financial institutions that focus on a clientele that is generally below the level served by commercial banks. Even before publication, it has become clear that repetition of this finding invites serious misinterpretation when the nuances of the data are not understood and explained. The large numbers being reported can lead to a facile impression that the task of reaching lower-income clients, especially poor clients, has been accomplished, because so many people are already being served. No such conclusion is justified by this data. The institutions studied here serve many clients who are not poor or near-poor, probably including some people who could also use a commercial

bank. (There is usually no information available on the socioeconomic distribution of these institutions' clients.) Further, four-fifths of the accounts reported are savings accounts, and access-to-service problems may be greater for loans than for savings.

A correct statement of this chapter's main conclusion is that there are over 750 million accounts in various classes of financial institutions that are generally aimed at markets below the level of commercial banks, and that some substantial fraction of these institutions' clients are probably poor or near-poor. The message is not that the task is nearly done (anyone with field experience knows this to be untrue), but rather that these institutions represent an important potential opportunity.

For instance, there are some 390 million accounts in postal banks (including about 190 million in China Post and 130 million in India Post), holding US$94.1 billion in savings. The fact that there are at least 500,000 post offices in the developing world, with greater outreach into remote, rural, and poor areas than the 275,000 bank branches, combined with the high numbers of Indian and Chinese accounts, suggests that the poverty outreach of postal banks is already strong (World Bank 2006). Yet evidence of actual client poverty status, and of the extent of account dormancy, are limited.

Nevertheless, information from various sources suggests that there are tens (Boxes 6.3 and 6.4) if not hundreds (Box 6.2) of millions of microsavings accounts. The market is much, much larger (Christen et al. 2004): for example, the Microcredit Summit planners say it should be possible to raise US$2 billion from borrowers' savings alone.[6]

Box 6.3: Savings Accounts in Credit Unions

- *World Council of Credit Unions*
  - WOCCU project credit unions serve:
  - 2,168,000 member-clients
  - With a total savings volume of US$345,755,916.
- The weighted average passbook deposit per member-client is US$97.
- In many credit unions that have mature savings offerings, net savers outnumber net borrowers by seven to one.

- The savings deposits mobilized by credit unions represent significant depth of outreach (vast numbers of small accounts) and diversity of outreach (accounts of every size from savers with diverse income levels). For example, the savings account distribution from credit unions in Ecuador, Kenya, Romania, and Rwanda reveals that:
  - At least 78 percent of deposits are less than US$100 and comprise no more than 20 percent of the volume of accounts.
  - Over 80 percent of the total volume is found in deposits larger than US$100, comprising no more than 22 percent of the number of accounts.
  - These country examples reinforce the fact that credit unions offer microsavings to large numbers of poor people and service fewer large-deposit savers in order to mitigate fixed costs and fund the loan portfolio for poor, low, and middle income borrowers.

  Source: WOCCU website.

  The *Asian Confederation of Credit Unions* (ACCU) website suggests "16,000 credit unions with 20.5 million individual members in 26 countries in the region along with 17 affiliates promoting credit unionism in Asia"—but provides no specific data pertaining to savers. If true, this suggests that the table in Box 6.2 for credit union savings entails serious underestimation.

Box 6.4: Microfinance Information Exchange Inc (MIX) Data

Around half of all MIX MFIs (including the Grameen Bank) have not provided complete reports, or not reported in the way that MIX specifies, so that they can't be included in the analysis of savings services. Of the 335 MFIs for which data was available in the 2006 MIX data:

- 218 showed no savers at all,
- 41 had fewer savers than active borrowers, and
- 76 had as many or more savers than active borrowers.

While on average there are almost 1.5 times the number of savers than borrowers overall, this is only when the Bank Rakyat Indonesia (BRI), with its huge number of savers and enormous saver-to-borrower ratio of close to 9:1, is included. As the following table shows, without BRI, the saver-to-borrower ratio is less than 3:5.

		Number of active borrowers	Number of savers	Savers/ borrowers
Bank Rakyat Indonesia	Total	3,455,894	30,907,566	894%
335 MFIs	Average	98,841	142,412	144%
	Total	33,111,573	47,708,149	144%
334 MFIs—without BRI	Average	88,789	50,301	57%
	Total	29,655,679	16,800,583	57%

Region	Number of MFIs	Number of MFIs with savers	Proportion of MFIs with savers	Number of MFIs with as many or more savers than borrowers	Proportion with as many or more savers	Average saver/ borrower ratio	Average saver/ borrower ratio (of MFIs with savers)
Europe/ Central Asia	96	4	4%	3	3%	2%	67%
Latin America/ Caribbean	94	41	44%	25	27%	82%	120%
Sub-Saharan Africa	60	43	72%	35	58%	165%	193%
Asia-Pacific	30	20	67%	8	27%	341% (12% without BRI)	731% (82% without BRI)
South Asia	28	9	32%	5	18%	52%	69%
Middle East/ North Africa	27	0	0%	0	0%	0%	0%
Total	335	117	35%	76	23%	144% (57% without BRI)	168% (141% without BRI)

Source: Update of Roth et al. (2006), using MIX data (2006) available from their website.

It is difficult to make a judgment regarding the extent to which region affects the availability of savings services, because it is clear that some regions (especially South Asia) are significantly underrepresented compared to the overall global distribution of MFIs. (Estimates suggest that there may be 1,500–2,000 MFIs in Bangladesh alone, and around one-third of MFIs "verified" by the CGAP are Bangladeshi (Hulme and Moore 2007b).) However, it does seem that sub-Saharan African institutions may be doing rather well on the savings front.

Source: MIX data (2006) available from their website.

Data from the Consultative Group to Assist the Poor (CGAP)'s Country Level Savings Assessments (CLSA) supports this conjecture (Deshpande 2006). CLSAs are financial-sector studies that identify opportunities for, and obstacles to, increasing poor people's access to formal-sector deposit services. CGAP developed and refined the CLSA methodology over the course of savings assessments in Benin, Bosnia, Mexico, the Philippines, and Uganda. By studying low-income people's savings behaviors and needs within national contexts, CLSA's hope is to fill the "savings gap" in international data. Data gathered via the CLSA process shows that a high proportion of both rural and urban households presently have no bank accounts—for example, only 25 percent and 6 percent of urban and rural Mexicans have money in any financial institution; in small cities of the Philippines, only 12 percent of survey respondents kept money in a bank; in rural Uganda, only 10 percent of residents report using a financial institution; in Bosnia, a region with relatively advanced financial system, only 26 percent of survey respondents had a bank account. The evidence also suggests an enormous market for deposit services among poor clients—most respondents report keeping savings in cash or in other informal and semiformal institutions, and in Bosnia, almost 40 percent of survey respondents said they wanted, but did not have, a bank; in Mexico City, demand for interest-bearing accounts among the unbanked was almost unanimous. Newly established MFIs, and improved savings products, were found to lead to very rapid and large increases in numbers of savers and deposits.

Part B: Household utilization of microsaving—consumption smoothing and disinvestment avoidance[7]

There is a large body of evidence emerging from qualitative studies focused on low-income groups in developing countries confirming that microsavings constitute an important strategy to address vulnerability. In terms of the *ex ante* use of microsavings in order to smooth consumption and avoid disinvestment or distress sales when unexpected shocks materialize, it is clear that timely liquidity is required, although this can also undermine the saving habit. In addition to demand deposits (current accounts) in formal banks and MFIs, most forms of informal savings can be accessed quickly when the need hits. Many ROSCAs and ASCAs are also designed to be used this way, as well as to meet expected needs and opportunities. In Tanzania,

there is an ASCA run by members of an MFI called *kibindo* ("last resort") that allows members to take very short-term loans at high interest from a fund into which they have made weekly deposits when an emergency strikes (generally in order not to default on an MFI loan installment) (Mutesasira 1999 in Wright 1999).

The *ex ante* use of microsavings for asset accumulation, in order to build buffers to cope with shocks and reduce the risk of hazards materializing, is extremely common—poor people particularly "save up" for investments in productive assets, education, and housing. For example, in rural Bangladesh, a chronically poor widowed woman and her disabled son "saved up," through reciprocal lending with a daughter and a workplace-based moneyguard, respectively, so that a new house could be built (Hulme and Moore 2007a). This significantly reduced the probability of a range of shocks, including house damage during storms; ill health due to improper shelter; and theft and physical insecurity.[8]

A recent, in-depth, "Q-squared" (quantitative and qualitative data collection and analysis) microstudy of the financial landscape of a Mexico City slum (Niño-Zarozua 2006) focuses in part on *why* and *how* individuals use/do not use different financial services, and the effects this had on their vulnerability and resource profiles; but the author was only able to analyze this aspect qualitatively. He found that informal (and to a much lesser extent, semiformal and formal) savings ("up," "through," and "down") in all forms were commonly drawn upon to cope with a range of crises (e.g. illness, unemployment). He found that the interaction of a large range of "capitals"—social, cultural, attitudinal, human (particularly financial education), material—as well as the nature of financial products, affected this process. He concluded that

> Convenient and secure savings facilities as well as cheaper and flexible credit services helped individuals with different resource profiles to meet needs and cope with shocks, hazards and economic stress. (ibid.: 298)

The quantitative evidence of the insurance and investment roles of microsavings is far more limited (Devaney 2006), in part because the extreme fungibility of savings makes it difficult to pinpoint the motives for and use of savings, and in part because of the data deficiencies discussed later. Box 6.5 describes the survey data we use before turning to the results of the analysis.

Box 6.5: Survey Data and the Role of Microsavings

An extensive search of possible data sources to support the empirical work produced very few leads. Ideally, an analysis of the use and impact of microsaving would benefit from data collected at the household level, focused on low income groups, providing detailed information on saving institutions and schemes, enabling a comparison of savers and non-savers, and with a panel construction to identify changes over time. The datasets we use approximate to this ideal in several respects, but also fall short in other respects.

We use three datasets on India, Peru, and Zimbabwe collected as part of a USAID project on "Assets and the Impact of Microenterprise Finance Programmes" (AIMS).[9] The data contain detailed information on saving institutions and schemes, as well as other MFIs; a quasi-experimental feature is that information was collected on clients of a specified MFI (treatment group) and at the same time from a sample of microentrepreneurs and savers not participating in an MFI (control group); the data has a panel structure as surveys were collected 2 years apart making it possible to track changes over time. The data were not collected to inform on poor and poorest groups, and are geographically specific (Metropolitan Lima in Peru, urban Ahmedabad in India, Greater Harare, Bulawayo, and Mutare in Zimbabwe). The focus of the surveys is on microfinance, and on their use by microentrepreneurs. There are therefore important caveats that apply to the findings reported, especially in terms of generalizing the results to broader population groups. With these caveats in mind, the analysis emphasizes the qualitative relations suggested by the data, as opposed to a precise quantification of relationships and effects.

Using the survey data, it is possible to map out self-reported strategies by households to address shocks (realization of hazards), and identify the incidence and potential effectiveness of saving strategies. The data sets for the three countries provide information on whether households were affected by financial crises in 2 years spanning the surveys, and also on the strategies used.[10] For the purposes of comparing these across the three countries and simplifying the presentation, we have grouped these strategies into five: (i) reducing consumption; (ii) adjusting assets through sale or mortgaging; (iii) increasing employment; (iv) borrowing from financial institutions or others; and (v) using savings.

Table 6.4 Saver status and incidence of strategies to address shocks (proportion of the group who reported having used the relevant strategy)

Strategy	Peru		Zimbabwe		India	
	Non-savers	Savers	Non-savers	Savers	Non-savers	Savers
Reduced consumption	23.9	20.7	12.5	1.7*	5.4	6.2
Adjusted assets	10.6	12.9	0.0	0.1	4.6	2.3
Increased employment	19.8	22.0	0.0	0.2	1.5	4.3
Borrowed	22.6	31.1	20.8	13.5	75.0	68.6
Used saving	18.4	29.7*	33.3	65.4*	17.1	32.7*
N	217	77	24	405	128	434

* Difference in means significant at 1 percent.

"Savers" are defined as those respondents reporting balances in formal (e.g. banks, building societies, post offices, MFIs, and large/established credit unions and cooperatives) and informal (small-scale community level schemes like ROSCAs and ASCAs) savings schemes. "Non-savers" do not report having such balances.

Note that the surveys allowed respondents to identify several strategies, so frequencies do not add to 100.

The frequencies for respondents who experienced a shock in the previous 2 years are shown separately for savers and non-savers in each survey in Table 6.4. "Savers" are defined as those respondents reporting balances in formal (e.g. banks, building societies, post offices, MFIs, and large/established credit unions and cooperatives) and informal (small-scale community level schemes like ROSCAs and ASCAs) savings schemes. "Non-savers" include those without reported savings balances, although some in this group may have cash kept at home or could draw in the savings of relatives.

The table shows that using savings to address hazards is a very common strategy among the respondents in the sample: it is the dominant strategy in the Zimbabwe sample, and the second most important in the other two samples. The fact that these are samples with a high proportion of microentrepreneurs living in urban areas helps explain the importance of strategies relying on financial institutions, saving, and borrowing. In the Peruvian sample, a wider and more dispersed range of strategies are utilized than in the other two samples, and a smaller fraction of the sample are savers.

The table provides only small grains of information on the extent to which microsavings is effective in protecting consumption and preventing asset depletion in the event of shocks. Unsurprisingly, in all three countries, respondents with balances in saving schemes are significantly more likely to have relied on saving to cope with the shock, than those without them. Those

"non-savers" who reported having used savings to address shocks are likely to have drawn on cash or other highly liquid assets, or perhaps to have accessed savings from other household members.[11] It is surmised that microsavings schemes both foster the capacity to save and offer the flexibility to withdraw when required, offering savers more choice as to how to cope with shocks than those without funds in microsavings schemes.

In general, differences in means across groups are not, with few exceptions, significant. Only in the Indian sample, savers are more likely to reduce consumption in the event of a shock than non-savers. The fact that few differences in means are significant reflects, to an important extent, the samples being purposively collected to capture relatively homogeneous groups of entrepreneurs.

The Indian panel dataset can support a more detailed analysis of the role of microsaving schemes in protecting consumption from shocks. The sample was constructed as follows: in a defined geographical area in urban Ahmedabad, a sample of 300 SEWA borrowers and 300 SEWA savers[12] were identified randomly from administrative records; for each of these households, a further 50 similar households were identified in the neighborhood who were not SEWA members. This resulted in a list of 15,000 non-SEWA households, from which 300 households were identified randomly. A household and enterprise survey was conducted in early 1998 from the sample. A second survey of the same households was conducted in early 2000. In this second wave 786 households were reinterviewed, including 264 SEWA borrowers, 260 SEWA savers, and 262 nonmembers. Chen and Snodgrass (2001) confirm that attrition did not appear to have introduced biases in the sample.

The advantage of the way the data was collected is that we can explore the differences existing across the three groups identified in the sample. This is explored in a multivariate setting, to control for potential differences across the groups which may have independent bearing on the use of different strategies. Table 6.5 reports on the findings.

The Logit and Probit models were estimated using the earlier data to test for significant differences across the groups of microentrepreneurs and wage workers in Ahmedabad as regards their use of savings as a strategy to address shocks, controlling for other influencing factors. The sample includes all respondents who experienced a shock in the previous 2 years. The models include variables capturing age, household size, religion (Hindu = 1, Muslim or Christian = 0), and self-employment (self-employed = 1; waged worker = 0). The main finding is that having controlled for these factors, there are significant differences in the use of saving across the groups, with SEWA members showing a higher likelihood of using saving compared to non-SEWA members. In the

Table 6.5 Saving status and use of savings as a strategy to address shocks, Ahmedabad sample who experienced a shock in the last 2 years

	Multinomial Logit		Probit	
	SEWA borrower + saver	SEWA saver only	SEWA member	
Variables	**Parameter**	**Parameter**	**Parameter**	**Means**
Constant	−6.81*	−1.68	−1.90*	
Age	0.26*	0.78	0.09*	38.38
Age squared	−0.002*	−0.001	−0.002*	1,569.0
Household size	0.07	−0.02	0.01	5.77
Religion (Hindu = 1)	−0.14	0.06	−0.02	0.76
Self-employed	0.64*	0.20	0.26**	0.35
Borrowed	0.35	0.35	0.20	0.70
Adjusted assets	−0.17	−0.38	−0.17	0.02
Adjusted consumption	−0.29	−0.12	−0.13	0.06
Used saving	0.39	0.56**	0.28**	0.29

N = 562
* significant at 1%
** significant at 5%
LL(0) − 617.2; LL(1) − 591.0; Pseudo R2 = 0.042
LL(0) − 356.7 ; LL(1) − 345.2; Pseudo R2 = 0.04
Control group is non-SEWA members

Logit model, we were able to test for differences across the three groups in the sample, and SEWA savers appeared to have a significantly higher likelihood of using savings as a strategy to address shocks. In the Probit model, we focused on differences between SEWA members and nonmembers and again we find that SEWA members have a significantly higher likelihood of using savings as a strategy to address shocks. The findings need to be taken with caution, as the model fit statistics suggest that the variables in the model, especially in the Probit, explain only a fraction of the variation in the sample. At face value, the results suggest that SEWA membership enhances the strategies available to the sampled households to address shocks.

Part C: Household utilization of microsaving—investment in fixed assets

The same data allow us to explore whether saving status is associated with investment in fixed productive assets.[13] The analysis will focus on the Indian dataset, as it includes information on whether households have invested in fixed

Table 6.6 Investment in fixed assets and savings/earnings as a source of finance—SEWA sample

	SEWA borrowers	SEWA savers	Non-SEWA members
Invested in fixed assets in last 2 years?	14.0 (%)	15.7 (%)	12.2 (%)
	N = 264	*N* = 260	*N* = 262
Of respondents who did invest:			
Financed investment from savings/earnings?	70.2 (%)	75.5 (%)	78.1 (%)
	N = 37	*N* = 41	*N* = 32

assets (equipment, installations, machinery, tools) in the last 2 years (the interval between rounds), and on the source used to finance this investment.[14] Two variables were constructed to explore this issue. One is a discrete variable that identifies respondents who report having invested in fixed assets in the last 2 years. The second is another discrete variable that identifies respondents who had financed this investment from savings or earnings (these two categories are lumped together in the question so that it is not possible to distinguish one source of financing from the other, but analytically they are very similar).[15] The first row of Table 6.6 shows the incidence of investment in fixed assets across the three groups.

The table further shows (in the second row) that saving/earnings is the dominant source of financing investment among those respondents who did invest in the period spanning the two samples, but that the differences across the three groups are not significant.[16] This was explored further by considering conditional differences across the three groups using multinomial logit and probit models along the lines of the analysis in Part B, but the parameter estimates associated with the use of saving/earnings as a financing instrument were not significant. In sum, the data indicates that saving/earning is the dominant source of finance for investment in fixed productive assets among the sampled households, but that membership of SEWA does not make a significant difference with respect to either the propensity or source of financing investment.

Part D: Microsavings from an insurance perspective: Shortcomings and solutions

It is clear from both qualitative and quantitative studies that poor people use microsavings to reduce vulnerability, smooth consumption and reduce the

likelihood of having to make asset sales under duress. It is also clear that the microsavings of the poor are held predominantly in the informal sector. The formal sector—banks, MFIs, cooperatives, postal savings banks, and others—has only a limited capacity to meet the savings needs of the poor.[17]

However, microsavings are only one component of the portfolios that poor people seek to develop to cope with the uncertainties of their lives. Each of these different instruments offer different mixes of advantages and disadvantages for those who use them, particularly in terms of accessibility, security, and the types of shock or stress they can help deal with (Table 6.2). Detailed interviews with households in poor communities[18] reveal that poor people, like most better-off people, do not seek to identify a single optimal insurance instrument to deal with their multiple vulnerabilities. Rather, poor people develop portfolios that utilize a range of different instruments in order to have the flexibility to deal with many different types and scale of hazard, and they attempt to diversify these portfolios so that they are not excessively dependent on any single instrument or institution or individual.

Qualitative research shows that microsavings can be used to manage potential and actual shocks and stresses both *ex ante* and *ex post*, along with other forms of insurance and insurance surrogates. Yet, as discussed in Part A, an overwhelming body of quantitative and qualitative evidence reveals that access to formal microsavings services is very low for poor people (and for many near poor and non-poor people) in developing countries. Increasing poor people's access to microsavings services thus has to be an essential element of any strategy to reduce their vulnerability. While theoreticians may strive to specify optimal instruments, in practical terms this means making secure microsavings services more accessible for poor people in rural and urban areas so that they have greater choice.

Before examining the shortcomings of present-day formal microsavings, we should recall some of their advantages:

- They can be used to deal with many different types of hazard or stress both *ex ante* and *ex post*. This is an advantage over many forms of insurance which only cover a specific type of shock.
- Their use can usually be sanctioned by the saver and does not require application to insurance agents who will determine whether or not a claim is valid.
- Microsavings are a means of further diversifying a household's insurance portfolio and this helps further to spread risk.

The main shortcomings of microsavings may be summarized as follows:

- First, for the vast majority of people in developing countries, formal microsavings services are not available. The main reasons for this are lack of proximity, the high costs of access to such services, and the organizational cultures of formal institutions (whose procedures and staff attitudes often deter poor people).
- In cases where such services have been provided, their role as an insurance device has sometimes been weakened by product design features that reduce accessibility. An outstanding example comes from Bangladesh where the Grameen Bank, BRAC, and other agencies used client savings as a form of quasi-collateral.[19] As a result, clients were only permitted to access their savings if they repaid their loans and left the MFI. Rather than supporting clients in times of need, these agencies added to their insecurity.
- Third, where services are available, many poor people do not use formal microsaving services because of doubts about the security of such institutions. In countries where retail banks have gone bust, such as Uganda, faith in the formal system takes several years to recover.
- Fourth, even when formal microsaving services are available and used by poor people, the level of savings households can amass is only sufficient to help prevent or cope with or recover from small shocks. Major shocks—chronic illness, disablement, loss of employment, loss of main assets—need to be covered by other instruments such as risk-pooling insurance or social protection.

How might such shortcomings, especially the first three listed earlier,[20] be overcome? Recent work by CGAP (2006) reviewing evidence from Benin, Bosnia, Mexico, the Philippines, and Uganda attempted to identify the policies and actions that are required to expand formal microsavings services and permit them to compete with the informal sector. These can be summarized as: improving coverage and proximity; making savings services more affordable/less costly; strengthening the security of savings services (both in real terms and in terms of public perceptions); and making formal institutions more user-friendly to poor people.

1. *Improving proximity*—Being distant from financial institutions and/or having to spend a lot of time getting to an institution is a problem for poor people in most parts of the world and particularly in rural areas (where access might require several hours or even days travel). Clearly, there is no blanket prescription

for how to improve proximity—answers need to be country and context specific. However, some strategic directions can be identified as follows:

(a) Existing organizations must be encouraged to improve their outreach. In many circumstances, this may mean a focus on cooperatives, rural banking structures, and postal savings banks. The classic example of a vast increase in outreach is BRI in Indonesia. In the 1980s, the deregulation of financial services created the opportunity for BRI to develop user-friendly microsavings products and within months the number and volume of savings accounts rose dramatically (Robinson 2002). The SANASA cooperatives in Sri Lanka had a similar "leap" in coverage following their "reawakening" by a visionary leader and social activist (Montgomery et al. 1996).
(b) Policy makers should look for means to encourage centralized financial institutions, such as urban-based "big banks," to reach down for new clients while MFIs and social entrepreneurs are encouraged to experiment with new forms of savings service at the grass-roots level. This may involve new forms of partnership, such as the relationships between commercial banks, NGOs, and self-help groups (SHGs) in India, and new forms of operation, such as SafeSave's fieldworkers visiting clients at their home or workplace on a one-to-one basis each day (Hulme and Moore 2007b).
(c) Support for innovative programs that use new technologies (mobile phones, smart cards, and identification technologies) to provide microsavings services at locations that are most convenient for clients (see CGAP 2006: 11).

2. *Making savings services more affordable/less costly for poor people*—Getting services geographically closer to poor people reduces their transaction costs and makes it easier for them to make deposits or withdrawals. But other reforms can deepen this impact. In particular, designing services so that they have low threshold costs for establishing a savings account—only small opening fees, low minimum balances, or share costs (for cooperatives)—is likely to encourage savers to join formal institutions. Lowering these threshold costs can be compensated by the organization increasing its post-joining charges. Again, SANASA in Sri Lanka illustrates how this might work. In the 1980s, it encouraged primary cooperatives to allow low-income households to purchase their mandatory "share" by installments, rather than as an up-front lump sum. This led to a large expansion in the number of microsavers, which expanded the resources that cooperatives had available to on lend to established clients.

3. *Improving the security of microsavings in the formal sector*[21]—This is a difficult issue for both analysis and action. Research indicates that savers place security at the top of their priorities. At the same time, they place their savings with informal deposit takers whose reliability is lower than that of alternative institutions. This may be because of a lack of information and perceptions (or rather misperceptions) about the degree of influence or control they have over informal providers. Once "security" becomes a policy issue, there is a danger of politicians and bureaucrats having a knee-jerk reaction pronouncing that ". . . we must regulate all savings institutions so that microsavings are totally secure." Unfortunately, such a response is likely to create a set of incentives for the formal financial sector that will mean avoiding microsavings. Wright and Mutesasira's (2002) finding that relatively unsupervised formal deposit taking institutions are less risky than informal providers should caution policy makers against pursuing regulatory "counsels of perfection" that will discourage formal sector agencies from entering the microsavings market and reduce the competition that might lead to microsavers' needs being more adequately addressed.

4. *Organizational culture, staff attitudes, and user friendliness*—The beliefs, attitudes, and behaviors of formal finance institutions and their staff can be a major obstacle to their providing microsavings services to poorer people. Personal experience from fieldwork in Bangladesh and India over the years (Hulme) has revealed that public and private banks often demand high levels of client literacy (in regions where illiteracy is common), make poor people feel unwelcome, and permit their "frontline" staff (tellers and junior advisers) to behave in a discriminatory way to women, lower castes and/or tribal peoples, and religious minorities. Promoting internal policies and practices more attuned to the idea of financial inclusion (as a component of social inclusion) would help to remove such barriers. Steps in this direction include simplifying forms and procedures and language, providing oral advice to illiterate clients, and stamping out discrimination.

Priorities for policy and action

The earlier discussion leads to a focus on three main areas to make formal microsaving services for poor people more accessible and to strengthen the likelihood of poor people being able to create a portfolio of instruments that is effective in helping them reduce vulnerability, cope with shocks, and engineer a recovery.

1. *Raising the capacity of formal sector institutions to serve the poor*—This entails improving the management capacity of financial institutions through training and new incentives; reducing their cost structures through economies of scale and technological innovation; ensuring that regulatory requirements do not lead to savings mobilization causing excess liquidity; and ensuring that donors and governments do not crowd out the market for microsavings by providing low-cost, wholesale funds (see CGAP 2006 for a full discussion). Country-specific, applied research has a strong role to play in such initiatives. It should also be noted that a focus on low income, poor, and near poor people is more likely to produce viable services than an insistence that formal institutions should start with a focus on the poorest people. However desirable such a goal may seem, providing sustainable microfinancial services to the poorest of the poor is far too difficult a task for inexperienced agencies.

2. *Ensuring that* regulatory *regimes are appropriate*—Countries need effective, nation-specific regulatory regimes. As the CGAP CLSAs (2006: 12) indicate, in some circumstances this will mean reforming supervisory systems so that cooperatives come under light touch regulation that is provided by independent authorities (rather than those tasked with promoting the cooperative movement). In others it will mean ensuring that outreach-discouraging systems, such as Uganda's recent Micro-Deposit taking Institutions (MDI) Act, are challenged. Research is needed to inform policy makers about the prospective and actual consequences of alternative policy choices and move public debates away from the unuseful dichotomy of "all regulation is dysfunctional" (of neoliberals) versus "total security must be guaranteed" (of populist politicians and lawyers).

3. *Advocacy for microsavings*—Public advocacy to promote microcredit has been a major component of development debates for almost 20 years. Such advocacy has been lacking for microsavings and, as a result, politicians, policymakers, and the public have only a limited or no understanding of the role that microsavings can play in poverty reduction and helping poor people manage vulnerability. As CGAP (2006: 1) points out, many policymakers and bankers still assume that poor people are "too poor to save" despite the vast literature that shows this is not the case. While further research on microsavings is needed (see 1 and 2 earlier), *the most pressing need is for a high-profile advocacy campaign to educate politicians, bankers, and public about the role of microsavings in poverty reduction*. Ideally, this should be led by a high-profile public figure such as Professor Yunus (whose Grameen Bank

has shifted to a focus on microsavings in the last few years—the Grameen Pension Scheme), or Bill Clinton, or Kofi Annan, or the Microcredit Summit, or some such famous person, organization, or congregation. At the present time, the need for effective global advocacy for microsavings is far greater than the need for more research on impact assessment. Research findings about microsavings and poverty reduction are knocking on closed doors—a major advocacy initiative is required to open those doors so that existing knowledge about the high value that poor people place on microsaving services is heard in policymaking circles.

Conclusions

Microsavings are not a substitute for microinsurance or social protection. Despite our highlighting of their role in this chapter, microsavings are also not automatically preferable to microcredit. What they are, however, is the neglected element of microfinancial services. We know that there is a vast unmet demand for formal microsavings services from the poor—but microcredit has long dominated this field and microinsurance is now the "new kid on the block" that is getting attention. In contrast, microsavings remain neglected and there is much less concerted effort to experiment and innovate with microsavings services and regulation than for microcredit and microinsurance. This is a serious error, given the capacity for microsavings to serve as both a quasi-insurance mechanism for all sorts of shock and vulnerability and as a means of creating lump sums for investment.

National governments and donors have fueled this neglect by highlighting microcredit in their Poverty Reduction Strategies, policies, and practices—when microfinancial services (credit, savings, and insurance) are needed. Researchers and think tanks have abetted them by neglecting to develop datasets on microsavings and allocate sufficient priority to examine the impacts and design of microsavings initiatives.

Whether we look at microsavings from an insurance or an investment perspective we have to agree with Hirschland (2005): "We know how to reach large numbers of small savers. Our challenge now is to extend these services—on a massive scale to poor and rural markets." Research has a role in this; but, the pressing priority today is national and international campaigning for microsaving service delivery and microsaving friendly regulation.

Notes

1 This chapter has been commissioned by the United Nations' Department of Economic and Social Affairs, Development Policy and Analysis Division (UN DESA/DPAD), as a background paper for their 2008 World Economic and Social Survey. We gratefully acknowledge their financial and thematic support. A very early draft was presented by David Hulme to the WIDER Conference on "Fragile States—Fragile Groups: Tackling Economic and Social Vulnerability" (Helsinki, June 15–16, 2007), and we acknowledge helpful contributions by participants. A large number of colleagues have helpfully suggested resources and contacts; thanks to James Copestake, Jasmina Glisovic-Mezieres, Paul Mosley, Max Niño-Zarazua, James Roth, Stuart Rutherford, Jennefer Sebstad, and Graham Wright. All errors of fact or interpretation remain our own.

2 In recent years, this has included research undertaken via the Financial Diaries project in India, Bangladesh, and South Africa (www.financialdiaries.com); MicroSave in eastern and western Africa (www.microsave.org); FinScope in 11 African countries and Pakistan (www.finscope.co.za); International Food Policy Research Institute's research on Rural Finance Policies for Food Security of the Poor in 12 countries (www.ifpri.org/themes/mp05.htm); and, most recently, the Consultative Group to Assist the Poor's Country-Level Savings Assessments (see later).

3 From the institution's perspective, the difference between microsavings and microinsurance is straightforward: True savings has a time dimension—you're holding savers' deposits for them to access at a later time. True insurance does not—you're pooling risk across individuals, and using savers' premiums to pay any concurrent claims. From the client's perspective, it can sometimes be difficult to differentiate microinsurance from "saving through" microsavings, especially in informal insurance setups like burial societies and emergency group funds (where the amount returned upon death or emergency is sometimes related to the total amount deposited), or when there is an insurance component of a savings product. From the client's perspective, it is important to think of premiums as a fee for access to a large lump sum of cash when it is needed, rather than as a savings deposit per se. True savings, on the one hand, are when you can always get back your own (past or future) savings (plus interest, if it has been invested on your behalf, minus any fees). True insurance, on the other hand, is when you can potentially get back more than your own (past or future) money (plus interest, if it has been invested on your behalf, minus any fees), because risk has been pooled. But if the insured-against event doesn't happen to you, you won't get your premiums back.

4 These are "ideal" characteristics of savings. As discussed later, many savings products, particularly those provided by MFIs, restrict the liquidity of accumulated deposits (even when the savers have not chosen such conditions themselves), and

require savers to justify withdrawals (although fungibility means that a reason given often does not need to be followed through).

5 MIX, http://www.themix.org/, is "the leading business information provider dedicated to strengthening the microfinance sector," providing "detailed financial and social performance information from leading microfinance institutions and market facilitators as well as from leading donor organizations and investors in microfinance."

6 Microcredit and Microfinance Virtual Library—http://www.gdrc.org/icm/data/d-snapshot.html. At the same time, while the Microcredit Summit does ask savings-related questions of its member institutions and peppers its report with savings anecdotes, it does not report average balances. Similarly, savings is not even mentioned on ACCION's "key statistics" webpage, and savings is near bottom of the list of products although noted as "equally as important."

7 The Terms of Reference for this chapter singled out two issues to explore in the empirical work:". . . in quantifying the insurance role of the saving program, the paper should provide information about how the households utilized their savings, paying special attention to the use of saving for consumption smoothing purposes and the role of savings play in helping avoid disinvestment under duress . . ."; ". . . the paper should reveal information about the use of saving for investment purposes and on the subsequent income effects of these investments. . . ."

8 ". . . Mofizul was able to set aside a significant portion of his earnings each day with a money-guard at the brickfield—a supervisor he described as an 'uncle,' possibly a maternal cousin. When work at the brickfields is unavailable during the rainy season, or when he felt too unwell to work there, Mofizul was able to find casual work in shops and as a houseboy. Mofizul's savings grew, and in mid-2003 Mofizul and Maymana used this money, along with between Tk. 500 and 1,500 Maymana was 'minding' for her elder daughter (or, possibly, her daughter was minding for Maymana), to build their new house. Their previous house was falling into a poor state, and Mofizul explained, 'What would happen to my mother if I should die? She needs to live in a good house'" (Hulme and Moore, 2007, forthcoming).

9 Detailed information on AIMS and the datasets, and access to the data, is available at http://www.microlinks.org/ev_En.php?ID=4678_201&ID2=DO_TOPIC.

10 The surveys asked respondents to identify whether their households had been affected by hazards in the last 2 years. Respondents were asked to select hazards from a long list (death or family member, job loss, asset loss, lump sum expenses, etc.), and then to provide information on the three main ones. The surveys asked respondents about the strategies used in the household to cope with shocks, up to three. In the analysis later, all reported strategies have been used.

11 The questionnaires asked respondents to report on *household* financial shocks and strategies, but only on *their own* saving arrangements.

12 All SEWA members must save a minimum. "SEWA savers" are those who have saved but never borrowed. "SEWA borrowers" are those who have taken SEWA loans; they also will have saved in order to join SEWA and take loans, and they may have saved additionally as well.
13 While recognizing that housing has consumption and investment dimensions, we have excluded housing improvements from the analysis in order to try to focus on investment in fixed productive assets, including equipment, machinery, tools, and so on.
14 The Peru and Zimbabwe surveys did not ask respondents to identify the source of any investment in productive assets.
15 The financing options offered to respondents are: savings/earnings, SEWA bank loan, other loan, other.
16 This was confirmed by a Tukey test.
17 The classic example of this was provided by BRI in Indonesia in the 1980s. As soon as it provided an effective service, it was swamped with rural savings that had been held informally. More recently, there has been rapid growth in deposits for institutions in Benin, the Philippines, and Bosnia that have targeted microsavings (CGAP 2006: 2).
18 See the Financial Diaries project at www.financialdiaries.com.
19 These agencies have now modified their policies and encourage voluntary and accessible savings.
20 Clearly the problem of providing formal microinsurance and social protection are outside of microsavings.
21 It must be noted that there are trade-offs between regulatory requirements and creating incentives for organizations to develop and promote savings services. Excessively strong regulation will discourage financial institutions from the field of microsavings. Light or nonexistent regulation will create the opportunity for financial crises within financial organizations (see CGAP 2006: 8–9).

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7

Can Microfinance Reduce Economic Insecurity and Poverty? By How Much and How?

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Introduction

Although economic insecurity has now come to characterize life in developed countries too, it is the chronic insecurity rooted in poverty and widespread in developing countries that is more damaging from the viewpoint of the overall human welfare. Because of the interconnections between them, economic insecurity and poverty form a vicious circle.

Since World War II, a variety of ideas and strategies have been tried to break this circle, with however limited success. While most of these ideas and strategies were donor-supported public sector efforts, microfinance arose in late 1970s as a novel private sector idea advocating collateral free lending to the poor organized in groups in order to let peer pressure to substitute for collateral and also reduce transaction costs. Since its modest beginning in Bangladesh, microfinance has now spread to far corners of the globe, including some developed ones, and in the process has expanded to include microsavings and microinsurance programs too.

A detailed examination of the impact of the various types of microfinance programs indicates that each of them hold significant potential for reducing insecurity and poverty, though an exact quantification of the impact of microfinance has remained difficult and contentious. The examination in this chapter also reveals important complementariness among the roles of different types of microfinance programs and the possibility for these programs to benefit from the complementariness to overcome many weaknesses they have and criticisms they face in operating separately.

Scholars of microfinance have generally taken two opposing views. On the one hand are those enthusiastic about the potential of microfinance and arguing for

subsidies for it. On the other hand are those taking a critical view and discounting the potentiality of microfinance. The difficulty in quantification of the impact of microfinance programs makes it hard to judge the relative merits of these two opposing viewpoints, though the remarkable and continuing expansion of microfinance programs provides strong *prima facie* evidence of its appeal. At the same time, the international experience showing that countries with significant presence of microfinance have not been the leaders in poverty and insecurity reduction, while East Asian countries that had little or no microfinance have had dramatic success in this regard, suggests that the poverty and insecurity reduction impact of microfinance might not have been of first-order importance.

In considering the overall impact of microfinance, this chapter therefore draws a distinction between its narrow impact in terms of the direct financial outcome for the clients, and the broader impact with regard to the general socioeconomic position of the poor and their access to private and public sector opportunities. This chapter suggests that, rather than in its direct impact, a more potent role of microfinance may be seen in its indirect broader impact conducing to a more egalitarian initial endowment distribution that is necessary for the take off of an equitable growth process.

This chapter is organized as follows. "The vicious circle of insecurity and poverty" presents the poverty–insecurity vicious circle and presents the policy dilemma concerning from which side to attack this circle. "Poverty and insecurity in development thinking and policies" provides the historical and policy backdrops against which to examine microfinance's role. "Some general features of microfinance" discusses some of the general features of microfinance. "Microcredit programs and economic insecurity," "Microsavings programs and economic insecurity," and "Microinsurance programs and economic insecurity" examine the poverty and insecurity reduction role of microcredit, microsavings, and microinsurance programs, respectively. "Complementarities among various microfinance programs" discusses the complementariness among these three types of programs. "Role of microfinance as a whole" takes up the issue of overall impact of microfinance. The final section concludes.[1]

The vicious circle of insecurity and poverty

It is generally agreed that economic insecurity has increased over the last few decades, despite the attendant rise in the average income. Broadly speaking, economic insecurity in the contemporary world has two faces. One is the

insecurity faced by the relatively well off part of the world's population. For them it is mainly an issue of risk of downward movement in income, while the average level remains far above the poverty level. This type of insecurity may therefore be termed as *episodic insecurity*, because such downward movements occur only occasionally. Nevertheless, episodic insecurity is welfare reducing, and hence appropriate measures need to be taken to reduce it as much as possible.[2]

However, people facing episodic insecurity are lucky compared to the other part of the world's population who suffer from *chronic insecurity*. These are people who are either already below the poverty line or so close to it that even small negative income shocks push them below it.[3] For them poverty, deprivation, and insecurity are a constant factor of life.[4] According to the recent estimates of Chen and Ravallion (2008), about 1.4 billion people (25.7% of the population) were poor in 2005 as measured by the international poverty line of US$1.25 per day per person in purchasing power parity (PPP) terms. According to the same study, another 1.751 billion people (32.1% of the population) were between US$1.25 and US$2.50 income lines, who are therefore very much at risk of getting pushed down to poverty by negative income shocks of even small order. Using the US$2.50 yardstick, a total of 3,140.2 million (or 60.1% of the population) are suffering from the scourge of chronic economic insecurity and poverty. The magnitude of the problem of chronic economic insecurity is therefore overwhelming.

Chronic economic insecurity is thus rooted in poverty, and the two are interlinked, reinforcing each other and often forming a vicious circle (Figure 7.1).

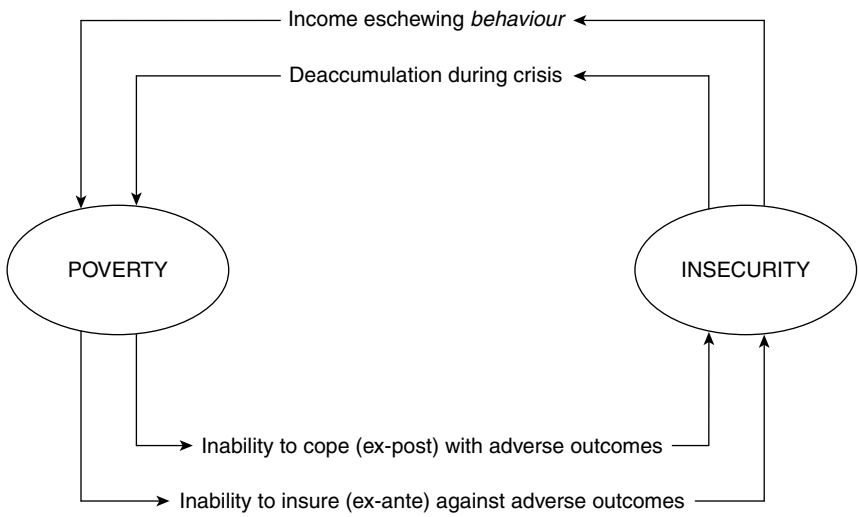

Figure 7.1 Poverty–insecurity vicious cycle.

Why and how poverty causes economic insecurity is quite clear. Poverty makes it difficult for the poor to take *ex ante* measures against possible misfortunes. Poverty also makes it difficult for them to cope with misfortunes *ex post* when these actually befall.

Less clear is how economic insecurity causes poverty. One route of this causality runs through capital de-accumulation that the poor are forced to undertake when misfortunes strike them. The resulting depletion of productive assets worsens their long-run income situation, pushing them often below the poverty line. Another route of this causality passes via income-eschewing behavior, whereby poor households avoid high risk but high average return activities and cling to those which are of low risk but also have low average return. Often the risk avoidance behavior leads the poor to excessive diversification and thus to a failure to reap benefits of specialization. As a result of this risk-avoiding, income-eschewing behavior, the poor remains stuck to low income levels, thus becoming victims of the poverty–insecurity vicious circle.[5]

In view of the close link between poverty and insecurity, many have actually suggested that poverty should be redefined to include the insecurity aspect of a person's situation.[6] There was some reflection of this suggestion in the World Bank's (2000) *World Development Report 2000/2001* that adopted a somewhat expansive view and identified provision of "security" as one of the three lines of attack on poverty.[7]

There is often a debate about from which side to attack the poverty–insecurity vicious circle. Some researchers have offered in this regard a distinction between the "asset approach" and the "risk approach." The "asset approach" refers to attacks from the poverty side using programs aimed primarily at raising income and asset position of the recipients. Proponents of this approach suggest that increased income and asset will allow the poor to deal with insecurity too. By contrast, the "risk approach" refers to attacks from the insecurity side using programs geared primarily to amelioration of risks faced by the poor. Proponents of the "risk approach" argue that once risks are addressed, people will be able to raise income by escaping forced de-accumulation and by avoiding income-eschewing behavior mentioned earlier. They also point out that, unless people are protected against risk, the assets built up can get easily wiped away by downward shocks, nullifying thereby the impact of "asset approach" programs. Furthermore, they observe that without risk minimizing arrangements, "asset approach" programs can in fact make the poor more vulnerable because of the payment liabilities they face when negative shocks actually hit them.[8] The potential trade-off between the "asset" and "risk" approaches remains therefore an important issue.

Poverty and insecurity in development thinking and policies

Since World War II, many different ideas and strategies have been tried out to overcome insecurity and poverty. These efforts, mostly relying on public sector efforts undertaken on the basis of loans and grants from bilateral or multilateral lending agencies, may be said to represent the "official" development thinking. A quick recounting of these ideas can provide the historical and policy perspectives necessary for the discussion of the role of microfinance.

Trickle down benefits

The initial post-World War II development efforts were inspired by the ideas of "Big Push," "Critical Minimum Effort," and "Take off," which focused on raising aggregate growth rate through increased investment in physical capital.[9] Neither poverty nor insecurity appeared as separate objectives in these ideas. The belief was that aggregate growth would create employment, which would in turn address problems of poverty and insecurity *indirectly*. Unfortunately, this "Trickle Down Benefits (TDB)," as the approach later came to be called, did not prove that effective, because, first, the expected high aggregate growth rates did not materialize, and, second, whatever growth was achieved did not create employment sufficient enough to outpace the growth in labor force and to make a significant dent into the problems of poverty and insecurity.[10]

Basic needs strategy

The disappointing experience with TDB strategy led to a second stage of development effort influenced by the Basic Needs Strategy (BNS), which made poverty reduction a separate, distinct goal and urged resources to be channeled more *directly* toward achieving this goal. To the extent that a focus on poverty invariably brings up issues of insecurity, BNS development efforts had to confront the insecurity issue too.[11] Unfortunately, BNS also proved to be disappointing, because, first of all, programs designed to eradicate poverty often failed to reach the poor, and second and more importantly, these programs often failed to provide a durable solution to problems of poverty and insecurity. Third, BNS poverty reduction programs often proved to be a fiscal burden, which became difficult to bear when global economic conditions worsened.

Structural adjustment programs

A combination of oil shocks, inflation, rise in the US interest rates, and economic recession in later half of 1970s and early 1980s led to serious macroeconomic imbalances in many developing countries. Responding to the situation, multilateral lending agencies, such as the World Bank and IMF, opted for deeper interventions in client economies and promoted, what came to be known as Structural Adjustment Programs (SAP), aiming mainly at stabilization, liberalization, and privatization, and constituting another stage of international development efforts. With SAPs, the goals of poverty and insecurity reduction receded from the foreground of policy attention. In fact, concerns for poverty and insecurity even met with some disdain from the SAP enthusiasts who once again thought that aggregate growth would by itself take care of issues of poverty and insecurity.[12] Unfortunately, like the TDB strategy before, SAP also failed to deliver on the promises. First, countries implementing SAP often failed to generate projected aggregate growth rates. Second, actual growth was not associated with desired employment expansion. Third, SAP programs often meant reduction in public programs of investment and welfare, so that poverty and insecurity in many cases increased.

Poverty reduction strategy papers

Responding to the disappointing performance of SAPs, the World Bank and IMF launched in 1990s the idea of Poverty Reduction Strategy Paper (PRSP), the very name of which indicates a return to the recognition of poverty reduction as a distinct policy goal.[13] In addition, PRSPs are supposed to be domestically generated and nationally owned.[14] Critiques have however pointed out that the very fact that WB and IMF made preparation of the PRSP document as a precondition for receiving loans shows that the process is not homegrown. They further maintain that proclamation of poverty reduction in the title of the program is actually an "eye wash," and the main goals of PRSP remain the same as those of SAP. The experience so far does not bode well for PRSPs, as was evidenced by the recent evaluation report by the UN Committee for Development Policy (CDP) stating that "the existing framework of the global partnership, using the Poverty Reduction Strategy Papers (PRSP) as the main instrument, appears to be neither adequate nor effective."[15]

Millennium development goals

Until recently, the world development agenda was dominated by the World Bank and the IMF, as the earlier ideas of SAP and PRSP indicate. The situation in this regard changed somewhat on the eve of the new millennium, when the United Nations entered the scene through the formulation of the Millennium Development Goals (MDG). If BNS and PRSP treat reduction of poverty and insecurity as a separate and independent goal, MDGs move further in this direction and define development goals almost entirely in terms of specific targets regarding reduction of poverty, hunger, malnutrition, and so on, without any reference to income level or aggregate growth rate.[16]

A return to growth orthodoxy?

The TDB-BNS-SAP-PRSP/MDG sequence reviewed earlier shows that development ideas have oscillated between an emphasis on aggregate growth and an emphasis on poverty and insecurity, and it may therefore not be surprising if the pendulum now moves back to a renewed emphasis on aggregate growth and its indirect effect.[17] Recent international experience has indeed vindicated the importance of fast aggregate growth in combating poverty and insecurity. According to Chen and Ravallion (2008), while the total number of world's poor (using US$1.25 poverty line) has *increased* by 113.6 million over 1981–2005, it has *decreased* in China by 627.4 million during this period.[18] Clearly, China's almost 10 percent per year GDP growth rate had much to do in making such wide-scale poverty reduction possible.

However, the international experience also shows that while fast aggregate growth may be a necessary condition for poverty and insecurity reduction, it is not a sufficient condition. Many countries enjoying high aggregate growth rate have not been able to reduce poverty and insecurity to the desired extent, so that a simple return to growth orthodoxy is unwarranted. It is therefore important to know what policies can be more effective in reducing poverty and insecurity.

Typology of policies with regard to poverty and insecurity

Experience so far suggests that policies necessary for reduction of poverty and insecurity may be classified into the following three categories. The first

is "aggregate growth"-enhancing policies, which are aimed at increasing the aggregate growth rate without any particular concern for distribution issues. To the extent that aggregate growth is not sufficient to ensure reduction of poverty and insecurity, two other types of policies are needed. One of these is "within-growth" policies that are geared to make the growth itself pro-poor.[19] An example of such policies is adoption of labor intensive, instead of capital intensive, industrialization in a "labor-surplus" country, so that more income flows into the hands of the poor through employment expansion. Redistribution of assets in order to ensure a more egalitarian endowment structure for an equitable growth process to take off is another example of "within-growth" polices. However, to the extent that even "aggregate-growth" and "within-growth" policies may not be enough to deal with the problems of poverty and insecurity, there is the necessity for "outside-growth" policies, which essentially involve redistribution of income generated by the growth process. Various welfare programs are examples of "outside-growth" policies.[20]

While the earlier classification of policies into "aggregate growth," "within growth," and "outside growth" is conceptually helpful, it is not always easy in practice to compartmentalize actual economic policies neatly into these three different types. First of all, they are themselves closely interconnected through both direct and feedback relationships. For example, the necessity and feasibility of "outside-growth" policies to a large extent depends on the nature and success of "aggregate-growth" and "within-growth" policies. On the one hand, many policies, which are apparently "outside growth," can be, in an extended sense, "within growth" too. For example, welfare policies directed toward education and health care may help to improve the labor input necessary for labor-intensive industrialization. On the other hand, both "within-growth" and "outside-growth" policies can help a country to achieve faster aggregate growth. For example, the choice of the labor-intensive route of industrialization by a labor surplus country may actually help it to attain faster growth than would have been possible if it had chosen the capital-intensive route. Similarly, various redistributive policies may help improve social cohesion and thus conduce to a better investment climate and hence to faster aggregate growth. Second, in many cases, policies may be intrinsically of broader scope, encompassing characteristics of all three types of policies mentioned earlier. For example, many policies regarding trade, aid, remittances, and so on all seem to have such broad scope. In examining the role of microfinance, it will be important to check how it relates to these three different types of policies.

Some general features of microfinance

The historical and policy perspectives discussed in the previous section help to notice the following general features of microfinance and its potential role in reducing insecurity and poverty.

First, as briefly mentioned earlier, from the very beginning microcredit has been a private sector idea, and to this day microfinance remains primarily in the domain of the private or the Non Government Organizations (NGO) sector. This feature of microfinance contrasts sharply with the "official" development ideas and efforts reviewed in the previous section.

Second, looked at from the "asset-versus-risk" controversy noted earlier, it may be noted that microfinance offers the possibility of attacking the poverty–insecurity cycle from both its ends. First of all, microcredit has been generally viewed as an "asset approach" program, as a way of lifting the poor out of poverty by enabling them to acquire assets and engage in income-earning opportunities using those assets. However, as we shall see, even conventional microcredit can play insecurity alleviating role. Second, now that microfinance has expanded to microsaving and microinsurance programs, which are more directly targeted on insecurity, it is clear that microfinance can directly address the "risk" issue too.

Third, it may be noted that microfinance programs encompass all three different types of policies mentioned earlier. First of all, to the extent that microcredit finances production activities, it may be "aggregate growth" enhancing. Second, to the extent that microcredit finances production processes which are generally labor intensive, it can be regarded as a type of "within-growth" measures. Third, to the extent that microsaving and microinsurance programs help the poor in dealing with risks and situations of distress, these may be viewed as "outside growth" measures too.

Fourth, because microfinance is by and large a private and NGO sector activity, it does not pose any financial burden on the government, making it easy for the government to include microfinance in its overall development and poverty and insecurity reduction strategy.

Fifth, although microcredit emerged and spread during the SAP phase of the official development thinking, it did not have much of a role in SAP. By the time of PRSP, however, the situation changed, at least in two aspects. First, microcredit by that time has acquired a much larger role. Second, because of PRSP's explicit focus, at least formally, on poverty, it was difficult to ignore microfinance, a program that was firmly grounded among the poor. As a result,

PRSPs now try to co-opt microfinance as a component of the official strategy for alleviation of poverty and economic insecurity. Of course, the earlier mentioned nongovernment financing feature of microfinance is also a reason of its recent popularity with PRSPs.

While different types of microfinance program share the above general features, each of them have its unique features, niche, and role to play. In order to assess the role of microfinance as a whole, it is first necessary to understand these specific roles.

Microcredit programs and economic insecurity

Since its beginning in Bangladesh, microcredit has expanded to scores of other developing countries and even to some developed countries. According to the Consultative Group to Assist the Poor (CGAP)'s microfinance gateway (www.microfinancegateway.com), there were more than 7,000 microcredit institutions in 2006, serving about 500 million people in more than 50 countries, including some developed countries. Clearly, the role of microcredit is an important issue.

Insurance role of microcredit programs

Although microcredit programs are not insurance programs per se, the poverty–insecurity vicious circle already implies that they can play an insurance role too. In fact, according to some researchers, the insurance role of microcredit outweighs its income generation role.

There are several channels through which the insurance role of microcredit works. The first is through the *timing effect*. Because the loan is provided in the form of cash, recipients can easily divert it toward consumption purposes, if times are bad. Of course, such diversions cause reductions in the investments planned to be carried out under the loans. However, as long as the diverted money is reimbursed at a later point in time, the planned investments can still be carried out, and meanwhile the households may avoid serious consumption deprivation, forced de-accumulation, and/or traps of pernicious borrowing.[21]

Certain aspects of microcredit *modus operandi* facilitate its insurance role via the timing effect. Usually the link between credit, planned investment, and repayment is not that tight under microcredit as it is under conventional bank credit. For example, the repayment process under microcredit programs usually

starts even before the investment has had time to yield income, indicating that switches of funds for other purposes are actually assumed by lenders.[22]

However, microcredit can also serve an insurance role via the *income effect*. First, by raising its mean income level, microcredit may make a household more capable of withstanding shocks on the basis of its current income. Second, a higher average income may enable a household to build up savings, which it may then draw upon in coping with risks, if it cannot do so out of its current income. Third, a rise in income may also help a household to abandon income-eschewing behavior, and thus raise its income further. Fourth, a higher income level may make it easier for a household to access other insurance services too, allowing it to avoid usurious borrowing and to escape forced de-accumulation of assets. Thus a virtuous cycle may result, whereby a slight rise in income leads to further rise in income and decrease in insecurity, enabling a household to ultimately break the poverty–insecurity circle.

Evidence of the insurance role of microcredit

Empirical research has generally supported the earlier noted insurance role of microcredit. Major studies of microcredit programs carried out by researchers not belonging directly to the MFIs themselves include Khandker (1998) and Pitt and Khandker (1998). Reviewing these studies, Morduch (1999b: 1606), an eminent microfinance scholar, concludes that "Microfinance borrowing is shown to improve the ability to smooth consumption across seasons, and *entry into the programs is partly driven by insurance concerns* (italics added)." Morduch further reports that his own investigation vindicates the consumption smoothing effect of microcredit programs and concludes that "Substantively, the results suggest that benefits from *risk reduction may be as important (or more important) than direct impacts on average levels of consumption* (ibid., italics added)." Dercon, another prominent scholar of insecurity and vulnerability issues, concurs with Morduch regarding the insurance role of microcredit, suggesting that while the income effect of microcredit still remains to be documented conclusively, there is no doubt about its insurance role working via the timing effect.[23] Reviewing studies by Hashemi et al. (1996), Montgomery et al. (1996), and Morduch (1998), Clarke and Dercon (2009: 8 and Chapter 4) inform that "most studies do find strong evidence that access to micro credit facilities leads to reduced vulnerability, in the sense of a lower threat of fluctuations in the incomes or consumption." They therefore conclude that "Micro credit may then offer a means for reducing risk exposure, while keeping costs and incentives aligned" (ibid.).

Despite the wide confirmation of the insurance role of microcredit, there are also certain limitations to the insurance role of microcredit. First, as Clarke and Dercon (2009) note, microcredit programs are not primarily geared to be insurance programs, so that their insurance role is only an unintended consequence, so to speak. Second, microcredit does not represent an efficient way to pool risk, because though it allows an individual to spread the effect of a shock over time, she still bears the full brunt of it. The shock is not actually shared by other members of the group, so that microcredit provides only a crude method of risk pooling. Third, microcredit can even aggravate insecurity by requiring the loan repayments be made even when negative shocks hit the borrower.[24]

The presence of and combination with other microfinance programs can help mitigate some of these limitations of the insurance role of microcredit. However, to see how that is possible we need to examine the role of microsavings and microinsurance programs.

Microsavings programs and economic insecurity

Savings needs and potentiality of the poor

The insurance potentiality of savings is not a new discovery. One of the primary motives of savings is "precautionary," and savings have long been identified as a method of "self-insurance." In fact, Hulme et al. (2009 and Chapter 6) are somewhat rueful about the switch of attention from savings to (micro) credit in recent years. They see in this switch a historic shift from thrift as the foundation of finance for the poor in the early twentieth century to debt in early twenty-first century. They point out that, as a result, despite a long and global history of community-based savings groups and other informal savings systems, microcredit organizations and institutions were for a long time barred from accepting savings from their clients beyond what were deductions from loans in order to guarantee the repayment of loans.

With time however things have changed, and more people have come to recognize that even the poor want to and can save, but are prevented from doing so by formalities, distance, costs, indivisibility of available saving instruments, and so on of formal/modern savings/banking institutions. In general, however, the poor have multiple vulnerabilities and multiple priorities, finding reflection in different aspects of their saving behavior.[25]

To the extent that microcredit programs have proven relatively successful in reaching the poor, it is quite natural that the microcredit delivery mechanism is now being used to deliver saving services to the poor. The process has led to the emergence of two types of microsavings-related MFIs. The first consists of those engaging in both microcredit and microsavings, producing thus multiple products, so to speak. An early leader in this regard is Bank Rakayat Indonesia (BRI), which by 1996 was offering saving services to over 16 million households. Although deposits were small, the total volume of savings amounted to over US$3 billion, giving BRI a cheap source of fund for relending.[26] The second type consists of "stand-alone" institutions, engaging in microsavings services only. An example of this type is Bangladesh's MFI named "SafeSave," whose staff solicits savings from members on a daily basis, helping poor households "convert their ability to save in regular but small amounts into a useful lump of money" (Morduch 1999b: 1607).

Advantages of microsavings as an insurance mechanism

There are many desirable properties of savings as a way to cope with economic insecurity. First of all, savings can provide households resources to smooth over bad times without suffering debilitating loss of their productive assets, reflecting thus the "timing effect," mentioned earlier. Second, while insurance can generally be used to cope with only certain prespecified types of risks, savings can be used to deal with any type of risk, so long as damages involved do not exceed the amount of savings. Third, whereas insurance helps only *ex post*, savings can be used to undertake both *ex ante* and *ex post* measures to deal with risks, so that savings can be a much more flexible insurance mechanism. Fourth, the use of savings does not require any approval by anybody, allowing thus independence in deciding about how to deal with risks. Fifth, savings also allow households to engage in productive investment raising their income and thus exert an insurance role via the "income effect," noted earlier.[27] Noting the above, many have termed microsavings programs as *quasi insurance* programs and in fact argued that savings is a superior form of insurance.

Impact of microsavings programs

Quantifying the impact of microsavings programs is however challenging, as is the case for other types of microfinance programs. In their recent attempt at such quantification, Hulme et al. (2009) define microsavings to mean savings

accounts with MFIs, and use the survey data collected as part of the USAID project on "Assets and the Impact of Microenterprise Finance Programmes (AIMS)" from India (urban Ahmedabad), Peru (metropolitan Lima), and Zimbabwe (greater Harare, Bulawayo, and Mutare). Analyzing the data, the authors find that using savings to address hazards is a very common strategy among respondents, providing thus evidence of microsavings programs' insurance role via the "timing effect." To gauge the insurance role via the "income effect," the researchers examine the use of microsavings for investment purposes. The analysis shows that saving/earning was the dominant source of finance for investment in fixed productive assets among the sampled households, providing thereby evidence of robust "income effect."[28] Overall, the study by Hulme et al. (2009) vindicates the insurance potentiality of microsavings.

Huge unmet need of savings services

Despite the advantages of microsavings, evidence suggests that a huge demand for microsavings services remains unmet. For example, Country Level Savings Assessment (CLSA) data gathered by the CGAP show that a high proportion of both rural and urban households presently have no bank accounts, so that many of them keep savings in cash or in other informal and semiformal institutions.

Hulme et al. (2009) in fact think that microsavings is "the neglected element of micro financial services." According to these authors, in response to the vast unmet demand for formal microfinance services from the poor, it is mainly microcredit that is getting the attention, and microinsurance is the "new kid on the block." Microsavings, by contrast, remains neglected, and there is much less concerted effort to experiment and innovate with microsavings services and regulation than for microcredit and microinsurance. The authors further think that national governments and donors have contributed to this neglect by highlighting microcredit in their PRSPs, when in fact a more complete range of microfinancial services, including credit, saving, and insurance, are needed. Hulme et al. view this as a serious error, given the capacity of microsavings to serve as an insurance mechanism for all sorts of shock and vulnerability and as a means for creating lump sums for investment. The authors therefore suggest a vigorous high profile campaign to popularize microsavings programs, similar to the ones done recently to popularize microcredit.

Microinsurance programs and economic insecurity

Extent and types of microinsurance programs

Earlier attempts to provide insurance services to the poor have generally foundered in the face of various problems, including difficulties in administration, high transaction costs, and the usual problems of moral hazard and adverse selection. Yet a "repressed demand" from the poor for insurance was clearly felt.[29] It was therefore not surprising that the organizational innovation that allowed (micro) credit to reach the poor proved attractive as a delivery mechanism for insurance services too. As a result, many microinsurance programs have now emerged.

As noted earlier, there was an insurance element in some microcredit programs from the very beginning. However, it generally took the form of *credit life insurance*, meant to ensure the recovery of the loan in case of death or incapacitating injury suffered by the borrower. Thus, the "credit life insurance" was meant to cover risks of the microlender and not of the borrower. Meanwhile, the poor remained vulnerable to a wide range of risks.

With time, however, microinsurance programs meant to address various risks directly have spread. Churchill (2006), for example, presents a large compendium of microinsurance programs listing 74 programs from across the world. There are many different dimensions along which these programs may be classified. The most straightforward is in terms of the type of risk covered, such as risk related to life, health, funeral–burial, weather, and so on. An important distinction in this regard is between programs focusing on a "single risk" and programs focusing on "multiple risks."[30] So far, the majority of microinsurance programs have focused on life and health risks. Unlike previous attempts to provide crop insurance to the poor and farmers, microinsurance programs have generally shied away from it. Some microinsurance programs have instead tried to address the crop loss risk by focusing on weather variability using objective measures, such as the rainfall index, in order to avoid the informational problems.

Another way to classify microinsurance programs, as was the case with microsavings programs, is to focus on providers, and distinguish between those offering microinsurance as the "single product" and those offering microinsurance as one of its "products." In fact, just as was the case with microsavings programs, many microinsurance programs arose as a side activity of MFIs otherwise focused on microcredit. However with time, "stand-alone" microinsurance organizations have also emerged. Institutions offering microinsurance may also be classified on the basis of their motivation. From this viewpoint, microinsurance programs, as

are microfinance programs in general, may be grouped into either "for profit" or "nonprofit" categories. The former are similar to commercial companies, while the latter may operate either as nonprofit companies or as nongovernment, social, and cooperative organizations.

Evidence of impact of microinsurance

To the extent that microinsurance programs are relatively new, enough evidence on their impact has not yet accumulated. In a preliminary attempt at evaluation of the impact of microinsurance programs, Mosley (2009 and Chapter 5) tabulates findings from case studies of the following five programs: (i) FINCA, (ii) BRAC, (iii) *Grameen Kalyan*, (iv) SSS, and (v) BASIX, India.[31] The first four are health schemes, while the fifth is a weather scheme. The author, in general, finds positive impact of the insurance programs.[32] In assessing the impact of microinsurance, many researchers have emphasized its positive external effects. Mosley (2009) in fact thinks that much of the benefits from insurance programs accrue to those who are not their direct buyers.[33] This externality feature however implies that this is likely to be a "market failure," and microinsurance will be undersupplied relative to the socially optimal level. In view of the positive externalities and the initial (i.e. until they reach the breakeven uptake level) survivability problem of microinsurance programs, many have argued for subsidy to be given to such programs.[34] However, microinsurance is still new as an insecurity alleviation program, so that substantial additional research is needed to validate the tentative and incomplete impact assessments provided by researchers so far.

Hurdles to the spread of microinsurance

Despite its positive impact, the extent of microinsurance still remains very limited, particularly when compared with that of microcredit.[35] There are many reasons for this limited expansion. First of all, insurance is inherently a more complicated service than credit, and hence the uptake is slow.[36] However, as Clarke and Dercon (2009: 9 and Chapter 4) note, low uptake levels increase the cost of insurance, keep the insured risk pools smaller, and make reinsurance costlier. Similarly, Mosley (2009) emphasizes the inverse relationship (or trade-off) between breakeven premium and the portfolio size. This trade-off suggests that there are basically two routes to overcome the problems faced by microinsurance programs. One is to raise premium and thus limit access by the poor. This is however a self-defeating route, so far as providing insurance to the poor is concerned. The other

is to increase participation by the poor by keeping the premium low and reach the uptake level at which the program becomes financially viable. The latter is obviously the more desirable direction to take. The problem, however, is that the programs have to survive until they can reach the breakeven point. How microinsurance programs can expand in a pro-poor direction without meanwhile becoming bankrupt is therefore the crux of the problem.[37]

In face of the hurdles above, microinsurance programs in different parts of the world are experimenting with different options. As noticed earlier, most of them are indeed focusing on single and easily observable risk, such as risk to life and health. Those programs that want to address risk to crop do so via focusing on rainfall index rather than crop loss per se. Similarly, many successful insurance programs are indeed piggybacking on the preexisting infrastructure of MFIs offering microcredit.[38] Further creativity and experimentation are nevertheless needed to devise more successful poverty-focused insurance programs. However, the evidence and analysis in general indicate that microinsurance, if appropriately combined with complementary policies and designed with right features, may be an additional instrument against poverty and insecurity.

Complementarities among various microfinance programs

While showing their specific features and roles, the earlier review of three different types of microfinance programs also pointed to important complementariness, some of important dimensions of which are as follows.

The first is organizational and concerns *economies of scale*. Undertaking of different types of microfinance services by the same MFI helps to economize on overhead costs, which are not only limited to costs of physical setup and logistics, but also extended to costs of establishing a brand name and clientele base, networking, and experience. Such a joint undertaking may also help the new programs to avoid difficult informational problems of moral hazard, adverse selection, enforcement, and so on and to reach the breakeven point with less difficulty. Also, the joint undertaking may generate synergy which may be an extra gain, going beyond the preexisting resources.

The second dimension of the complementariness concerns their distinctive *roles*, allowing their *extensive combinations* to cater the needs of different groups and types of households who need different types of financial services. For example, there may be households not able to benefit from microcredit programs, because they may not have members with necessary entrepreneurial qualities to

make use of the credit. For such households, microsavings or microinsurance may be one of the few options left. Such extensive combination of the roles is possible even to meet the need for the same type of financial service, but of different magnitudes. For example, it was noted earlier that while insurance programs are risk specific, savings can serve as a more general-purpose insurance. Clarke and Dercon (2009: 9) expand the idea further by classifying risks into "small" and "large/catastrophic" and suggesting that while "quasi-insurance" programs, such as microsavings, may be effective in dealing with the former category of risks, specific microinsurance programs can be more effective in dealing with the latter.[39] The actual practice indeed seems to support such a specialization, as was seen in the fact that a large number of microinsurance programs indeed focus on risk to life.

A third dimension of complementariness works via *internalization* of the externality of microfinance programs and pertains to the same individual or household participating in the programs. For example, the availability of microinsurance, on the one hand, can help a household to avoid distress de-accumulation and thus be up-to-date with microcredit repayment schedule. On the other hand, microcredit, by raising the mean income, can help a household afford to pay the insurance premiums. Some researchers have argued for active use of this type of *internal combination* of specific roles of different types of microfinance programs. For example, Clarke and Dercon (2009) note that the "credit life insurance" component of conventional microcredit programs can be designed in such a way that it becomes beneficial to both the lender and the borrower, instead of just the lender. Such a redesigned "credit life insurance" can counteract the increased vulnerability that microcredit may otherwise cause for certain borrowers in certain situations. Clarke and Dercon in fact suggest that signing up for microinsurance may even be made mandatory for microcredit clients. Implementation of this suggestion would however imply the use of complementariness along both organizational and internal dimensions.[40] The internalization of the externalities of various microfinance programs may be helpful not only for the clients, but also for the MFIs themselves. As noticed earlier, savings generated through microsavings programs provided BRI a cheap source of fund to be used for its microcredit programs.

Recognition of the earlier and other possible dimensions of complementariness is important, because their efficient use, as noticed earlier, can help overcome some limitations of different microfinance programs operating separately. At the same time, there are reasons to be cautious about some potential negative consequences of "bundling" of several microfinance programs. For example,

referring to the idea of bundling of microcredit and microinsurance programs, Clarke and Dercon (2009) point out that people who are not interested in microinsurance may now feel discouraged from accessing microcredit, thus resulting in restriction on the expansion of microcredit. In addition, allowing such bundling may also lead to collusion among microfinance service providers and give rise to market power. Judicious decisions are therefore necessary.

Role of microfinance as a whole

Having examined the distinctive roles of microcredit, microsavings, and microinsurance programs, and the complementariness that exists among them, we now turn to the issue of overall impact of microfinance on poverty and insecurity.

Criticisms of microfinance

The fact that microfinance programs are expanding both in their coverage and in the range of services offered can be seen as a *prima facie* evidence of their success and thereby to argue for them an even broader role. However, microfinance has also been dogged by many criticisms, including those concerning microfinance's (i) financial viability, (ii) ability to reach the extreme poor, (iii) propensity to charge high interest rate, (iv) limited macroeconomic impact, (v) difficulty in scaling up of operations, and so on.[41]

However, not all these criticisms can be made simultaneously, because many of them contradict each other. For example, it is difficult to complain about microfinance's inability to reach the extreme poor while at the same time insisting that it remains financially solvent. Similarly, it is not very reasonable to demand that microfinance remains financially solvent and yet complain about high interest rates. In the same vein, it is contradictory to urge microfinance to reach the extreme poor while at the same time demanding that it scaled up the size of its loans, allowing the borrowers to engage in (relatively) large-scale production and marketing operations.

Microfinance scholars may therefore be classified broadly into two groups. On the one hand are those taking a more narrow financial efficiency point of view. They emphasize the necessity for being financially solvent and hence recommend such steps as charging breakeven interest rates, scaling up of operations, and so on. On the other hand are those emphasizing microfinance's

proven capacity to reach those who would otherwise remain outside the orbit of formal financial services (particularly women), and microfinance's various nonfinancial but positive benefits. Accordingly these scholars do not want microfinance to charge high interest rate or service charge and thereby neglect the poor in order to become financially viable. In fact many of them have argued that it is worthwhile providing subsidies to microfinance, at least until it reaches financial viability. Morduch (1999a, b) and Armendariz de Aghion and Morduch (2005), for example, call such subsidies as "smart subsidies." Other researchers, such as Clarke and Dercon (2009), have taken this reasoning one step further and argued that microfinance programs, because of their goal to service the poor, should never be expected to be financially viable, and should therefore always receive subsidy, in particular to help them experiment and innovate.

Responding to the criticism regarding financial viability, some MFIs have claimed that they are already financially solvent, and others have maintained that they were on the way to becoming solvent. Similarly, responding to the issue of macroeconomic impact, many MFIs have conducted studies to show that microfinance does have significant macroeconomic impact. However, as mentioned earlier, independent evaluations of microfinance programs are relatively few, so that there is no consensus regarding the validity of these claims and counterclaims.[42]

Recent trends in the evolution of microfinance

Meanwhile, microfinance itself continues to evolve in response to both the criticisms earlier and propelled by its own internal dynamics. Looking at this evolution, it is clear that different MFIs are moving in different directions, so that the world of microfinance is getting differentiated.

As noticed earlier, some MFIs are trying to make use of various types of complementariness that exist among different types of microfinance programs in order to overcome the limitations of the individual programs. Many MFIs are scaling up their operations. Thus, apart from gradually increasing the size of loan given to existing successful borrowers (a common practice of microcredit programs), many MFIs have introduced entirely new types of loans of much larger size, directed to larger undertakings, such as construction or major repair of houses, setting up of small-scale manufacturing and/or marketing operations, and so on.

Some MFIs, on the one hand, are venturing into pure commercial enterprises in order to diversify their services or to generate higher profit which can be

ploughed back into microfinance operations. Such expansion into commercial operations may therefore help a MFI to be financially solvent as a whole, even if its microfinance part is not. Thus Grameen Bank of Bangladesh, the pioneer of microcredit, has now expanded into manufacturing, trade, cell phone business, and so on. On the other hand, BRAC, another giant MFI of Bangladesh, has even started its own conventional commercial bank.

Some MFIs, on the one hand, are raising their interest rates so high that they are becoming not only financially viable but also so highly profitable to attract private investors. An example is provided by Mexico's *Banco Compartamos* which charges interest rates as high as 90 percent per year on its loans, thus earning attractive profits. As a result, in April 2007, it could easily go to the stock market to both capitalize on its profits and raise capital. Its IPO offering 30 percent of the company's holding was oversubscribed by 13 times, and led to a valuation of the company at US$1.6 billion. *Banco Compartamos* argues that high profitability based on high interest rates has enabled it to expand fast, growing from 60,000 to over 800,000 customers between 2000 and 2007, using largely its own retained earnings. Others microfinance leaders however are very critical of the commercial approach such as of *Banco Compartamos*. They think that the route to profitability via high interest rate amounts to a return to the usury that microfinance intended to eradicate and thus signifies a surrender of the basic purpose of microfinance.[43]

On the other hand, in a move in the opposite direction, some MFIs are taking initiatives to reach the extreme poor. Thus some MFIs have devised special type of loans suitable for the purpose. Others are combining various programs of microfinance and programs of welfare benefits (in cash and kind) and training that can help MFIs to reach even the ultra poor. The Income Generation for Vulnerable Group Development (IGVGD) program of BRAC is an example of such effort.

It is therefore clear that underneath the steady expansion and stability of the world of microfinance there are many important changes going on. The world of microfinance is changing, and it will be interesting to see where these changes lead microfinance to in the coming years.

Direct and indirect impact of microfinance

One thing however is clear: microfinance alone cannot solve the problems of poverty and insecurity. This is evident from the simple fact that countries such as Bangladesh and Bolivia, which have experienced significant expansion

of microfinance, have not been the international leaders in reducing poverty and insecurity. Thus whatever beneficial impact microfinance had has not proved to be of first-order importance in reducing poverty and insecurity. The international leaders in poverty and insecurity reduction have been the East Asian economies, which reduced poverty not through microfinance but through labor-intensive industrialization making use of the international trade opportunities.

The international experience however also shows that fast aggregate growth alone is not sufficient for reduction of poverty and insecurity. Many countries have achieved fast macro economic growth with a lackluster record of poverty reduction. Thus, to reduce poverty, growth also needs to be pro-poor and widely shared.[44] Research has shown that one reason why growth in East Asian economies, such as Japan, Korea, Taiwan, and China, could result in significant poverty reduction is the relatively egalitarian initial distribution, achieved through radical land distribution and shared improvement in education and healthcare. The egalitarian initial distribution of endowment made it possible for people of these economies to participate in the growth process and benefit from it more widely. Countries interested in achieving fast reduction of poverty and insecurity therefore need to pay particular attention to ensuring relatively egalitarian distribution of physical and human capital endowments.

It seems that microfinance can have an important role in the creation of the necessary initial distribution. Evidence and analysis indicate that there are two dimensions of the impact of microfinance. One is the impact in the narrow sense, focusing on the direct financial outcomes of the programs for the clients. The other is the broader impact on the general socioeconomic and political position of the poor, enhancing their access to the opportunities offered by the public and private sectors of the economy, and thus leading to an improvement in their situation with regard to education, health, other social and public services, human rights, voice, awareness, enlightenment, and participation in the political process. Such an enhancement of the poor's position in the society may result in a wider diffusion of physical and human capital, conducing to a more egalitarian initial distribution that is necessary for the "take-off" of a more equitable growth process. Thus, it is the broader, indirect impact of microfinance that may prove to be more important in the long run than its direct financial impact.

Concluding remarks

Chronic economic insecurity is rooted in poverty, and the two together constitute a vicious circle. Since World War II, many different ideas and strategies have been tried, mostly as donor-supported public sector initiatives, to eradicate poverty and insecurity. Unfortunately, these have not had the desired effect. Microfinance, as a private sector idea, arose in the late 1970s and has since been expanding steadily. With time, it has also become diverse in terms of services offered, covering now credit, savings, as well as insurance services.

Microfinance has generated opposite responses and views. On the one hand there are its strong proponents, who think that microfinance almost alone can do the trick, raising billions of people out of poverty and insecurity. On the other hand are the skeptics who discount the claims of microfinance as exaggerated and dismiss any significant role for it in the future.

The analysis offered in this chapter indicates that microfinance does have a significant impact, though it has proved difficult to quantify this impact in a manner that would be precise and acceptable to all. This is the answer to the part of the question put in the title of this chapter, "How Much?"

The analysis further shows that there exist important complementariness among different types of microfinance programs, and creative use of this complementariness offers an important way in which these programs can overcome many of their weaknesses when operating separately.

Analysis and evidence suggest that it is useful to distinguish two types of impact of microfinance programs. One is the narrow and immediate financial impact on the clients, and the other is the broader, indirect impact on the general socioeconomic position of the poor. Microfinance appears to enhance the sociopolitical position of the poor, allowing them to have better access to the opportunities provided by both the private and public sectors.

While the direct impact of microfinance may not be negligible, it has not so far proved to be of first-order importance. This is illustrated by the fact that such countries as Bangladesh and Bolivia, which have seen significant expansion of microfinance, have not witnessed sharp reduction in poverty and insecurity. Leaders of poverty reduction instead have been the East Asian economies, which had no or little microfinance, but could proceed from an egalitarian initial distribution of endowments and thus achieve fast and relatively widely shared economic growth.

It is possible that through its broader impact facilitating a wider diffusion of human and physical capital endowment, microfinance will help to ensure the kind of initial egalitarian distribution that is necessary for a take-off toward equitable growth. Thus, microfinance may play a more important role in poverty and insecurity reduction through its indirect, broader impact rather than its immediate financial impact. This provides the answer to the part of the question put in the title of this chapter, "How?"

Notes

1 For more detailed discussion, see Islam (2009).
2 See the relevant discussion in WESS (2008).
3 If economic insecurity is defined as *the vulnerability to negative income shocks that may reduce the welfare of affected persons to below poverty levels,* then it is clear that for those who are already poor, it is no longer an issue of being vulnerable to reaching the poverty level; they are already at that level.
4 It should also be noted that despite the distinction between chronic and episodic insecurity, there are important connections between the two. First, poor people suffering from chronic insecurity are also impacted by factors that cause episodic insecurity. In such situations, the poor suffer from "double whammy," so to speak. Second, sometimes factors causing episodic insecurity may push affected persons so far below the poverty line that they may find it difficult to rise up, and thus get entrapped in chronic insecurity. Alternatively, quick succession of episodic insecurity may leave affected households too exhausted to bounce back from poverty and thus entrap them in chronic poverty and insecurity. For further discussion of these connections, see Clarke and Dercon (2009) and Dercon (2005).
5 For further elaboration of and empirical evidence regarding poor's income eschewing behavior, see, among others, Clarke and Dercon (2008) and Morduch (1995).
6 See, for example, Morduch (1994: 224).
7 The other two suggested lines of attack were provision of "opportunity" and "empowerment." See Wade (2001) for discussion of *World Development Report 2000/2001*.
8 See Clarke and Dercon (2009) for more on "asset" and "risk" approach to the reduction of economic insecurity.
9 See Rosenstein-Rodan (1943) and Nurkse (1953) for the ideas of "Big Push," "Balanced Growth," and "Critical Minimum Effort," and Rostow (1960) for the idea of "Take-off."

10 It is interesting to note that this debate concerning efficacy of Trickle Down Benefits strategy, once thought to applicable mainly to developing countries, has figured very prominently in the US presidential election of 2008, in which Barrack Obama argued that the economic policies of George W. Bush administration were inspired by the TDB philosophy and that the experience showed that these did not work.

11 For example, Rural Works Program, inspired by BNS, had to decide in which season of the year to time them and thus take into account the fact that the poor were more insecure in the lean season.

12 For example, Banerjee et al. (2006: xxi) note that the "the Washington Consensus reflected an approach *contemptuous of equity issues* popular in Washington D.C. policy circles in the 1980s" (italics added).

13 In this sense PRSPs may appear to be a return to Basic Needs Strategy, which also focused on poverty rather than on aggregate growth. In fact, under PRSP, poverty reduction itself becomes the whole of development strategy. In that sense, the swing is even further in the direction of BSN.

14 Another difference between SAP and PRSP is that while the former was more a name used to refer to a set of policies than a well worked out integrated development strategy, the latter took the form of a single document, preparation of which was a condition set by the World Bank and IMF to receive loans from these institutions.

15 See also Vos and Cabezas (2006) for a more detailed discussion of the PRSP experience.

16 The formulation and announcement by the United Nations of MDGs (with their heavy focus on poverty) might have had some influence on PRSPs' giving primacy (at least in name) to the poverty issue.

17 Put differently, this may also be described as an oscillation between an emphasis on *indirect* route and a *direct* route to eradication of poverty and insecurity.

18 In fact, the study recognizes that while China has achieved the UN MDG regarding reduction of poverty by a great margin, the rest of the developing world is not on track to reaching the MDG.

19 There is a lively debate about the precise definition of pro-poor growth. See, for example, Kakwani et al. (2003), Ravallion (2004a, b), Grinspun (2004), Zepeda (2004), and Osmani (2005) for details.

20 This classification of growth policies is inspired by the environmental economics literature, which distinguishes between "within-process" and "outside-process" measures that may be undertaken to deal with pollution. The former type of measure have an *ex ante* characteristic, though these may not be limited to plant technologies only, but encompass broader issues of production pattern, volume, and so on. By contrast, the latter have an *ex post* characteristic, because these refer

to scrubbing and other efforts undertaken to clean up after pollution has already been created by the production process. Similarly, in macroeconomics, inequality, poverty, and insecurity may be considered as "bad outcomes," analogous to "pollution," and there are two ways in which these problems can be overcome. The first is through "within-growth" policies, which are *ex ante* type policies, geared toward prevention of creation of poverty and insecurity in the first place. The second is through "outside-growth" policies, which are *ex post* and try (through various redistributive mechanisms) to rectify poverty and insecurity after these have been already created by the primary process of growth.

21 This route of microcredit's serving as insurance therefore works via fungibility of resources and relatively loose link between investment carried out under the credit and repayment.

22 Some researchers have however seen ominous signs in the consumption–diversion of microcredit, characterizing the phenomenon as the manifestation of "microcredit trap," whereby client households, in absence of any augmentation of income through productive use of microcredit, need more microcredit just to pay off the installments of the previously received microcredit.

23 On the issue of income effect, referring to (Armendariz de Aghion and Morduch, 2005), Clarke and Dercon (2009: 8) express the view that "It is however still difficult to get reliable empirical justification for the basic assertion that access to microcredit induces any income growth. To date there is no study investigating the effect of access to credit facilities on income levels that has achieved wider consensus as to its reliability."

24 See Clarke and Dercon (2009: 11) for further details.

25 "On the one hand, prevalence in many communities, particularly in West Africa, of money collectors who charge a fee to collect savings frequently and then return savings at the end of a period of time show that for many poor people, perceived security and the opportunity to 'choose to be forced' to make regular small deposits are more significant than *returns* or *liquidity*. On the other hand, the practice of saving in assets—some, like a goat, productive, and others, like jewelry or a tin roof, with other benefits—suggests that proximity and control are more crucial than liquidity" (Hulme et al. 2009: 6).

26 The average savings balance in 1996 was only US$184, suggesting that average depositor was less well off than average borrower, who had an average loan balance of over US$1,000 (see Hulme et al. 2009).

27 Hulme et al. (2009) refer to the above as "protective function" and "promotive function" of savings, respectively.

28 Hulme et al. (2009) however find that membership of SEWA did not make a significant difference to investment propensities.

29 For example, Mosley (2009) mentions about "substantial thwarted demand for insurance services," and the gender aspect of the "repressed demand" for insurance.

30 On the one hand, programs providing benefit only in the event of death of the client are single risk programs. On the other hand, programs providing benefits in the event of either death or disease or accident injuries are multiple risk programs.

31 BRAC: Bangladesh Rural Advancement Committee; FINCA: Foundation for International Community Assistance (Uganda); BASIX: Bharatiya Samruddi Finance Limited (India); SSS: Society for Social Services (Bangladesh).

32 Mosley (2009) distinguishes the following five lines of influence of microinsurance: (i) individual well-being, (ii) stability of income and expenditure, (iii) social capital and interpersonal relations, (iv) downward extension of the market for social services, and (v) provision of an institutional model.

33 In particular, Mosley (2009) provides the following list of channels along which the positive externalities flow: (a) Knowledge achieved by experimentation; (b) "Bonding social capital" benefits achieved through lower individual and group vulnerability; (c) "Linking social capital" benefits achieved through an improvement in clients' awareness of service quality; and (d) 'Beneficial contagion." Mosley (2009) thinks that much of the demand for insurance comes from them (non-buyers) too.

34 Mosely (2009), for example, strongly advocates for subsidy to microinsurance programs.

35 See Clarke and Dercon (2009) and Mosley (2009) for more on the unmet need for insurance demand.

36 As Clarke and Dercon (2009) note, "insurance is always sold, never bought." The general problems with insurance, according to these authors, are: (i) information asymmetry, (ii) transaction costs, (iii) enforcement constraints, and (iv) ambiguity aversion.

37 It may be noted that such a trade-off is true in a generic sense for all microfinance programs. For example, microcredit programs face a similar trade-off between the interest rate charged and the extent of coverage. Similarly, microsavings programs face a trade-off between the service charge and the extent of coverage. In a broader sense, such a trade-off between price and quantity is very general. However, the trade-off is particularly acute for the insurance service because of the relative complicated nature of the service and the lack of familiarity with it on the part of the potential clients.

38 Mosley (2009) thinks that the experience so far points to the following as some of the ways to ensure success: (a) Focus on risks that are concrete and quantifiable; (b) Premiums set to broadly cover costs; (c) Additional controls against fraud and moral hazard; (d) Controls for adverse selection; (e) Piggy backing on existing microfinance operation with multiple beneficial effects, such as (i) lowered admin cost, (ii) avoiding adverse selection, and (iii) generation of externality for the parent microfinance program; (f) Obtaining reinsurance; and (g) Explicit targeting of the poor.

39 Similarly, Mosley (2009: 14) concludes that "microinsurance is by no means the only instrument of poverty reduction or even of risk reduction. Prima facie there is a great deal to commend Brown and Churchill's observation that '*savings are more effective than insurance for providing protection against common stresses (whereas insurance provides protection against larger losses* that occur more (in!)frequently'" (italics added).

40 This amounts to conversion of multiple products into a joint product.

41 The literature on microfinance critique is huge and cannot be referenced here in details. Interested readers may see Morduch (1999a, b) and Armendariz de Aghion and Morduch (2005) and follow the references therein.

42 As Clarke and Dercon (2009) reiterate, the task of quantification of the impact of microfinance programs (for that matter of poverty and insecurity intervention programs in general) has, in general, proved difficult.

43 See Cull et al. (2008) for more details about the debate concerning *Banco Compartamos*.

44 As noticed earlier, there is a lively debate about the precise definition of "pro-poor growth." Our discussion here however does not depend on the precise definition adopted.

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8

Insurance against Losses from Natural Disasters in Developing Countries

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Introduction

The impact of natural hazards—weather variability, climate extremes, and geophysical events—on economic well-being and human sufferings has increased alarmingly. More than three-quarters of recent losses from natural hazards can be attributed to windstorms, floods, droughts, and other climate-related hazards (UNISDR 2007). This trend can be attributed largely to changes in land use and increasing concentration of people and capital in vulnerable areas, for example, in coastal regions exposed to windstorms, in fertile river basins exposed to floods, and in urban areas exposed to earthquakes (Mileti 1999). Climate change is aggravating the situation (Schönwiese et al. 2003; IPCC 2007; Emanuel 2005). The Intergovernmental Panel on Climate Change (IPCC 2007) has predicted that climate change will increase weather variability as well as the intensity and frequency of extreme weather events.

Low- and middle-income countries, and especially the vulnerable within these countries, suffer the most from natural hazards. During the last quarter century (1980–2004), over 95 percent of natural disaster deaths occurred in developing countries and their direct economic losses averaged US$54 billion per annum (Munich Re 2005). As illustrated in Figure 8.1, a sample of large natural disasters over this period showed that fatalities per event were higher by several orders of magnitude in low- and middle-income countries compared with those in high-income countries; and losses as a percentage of gross national income (GNI) across countries were also highly negatively correlated with per capita income.

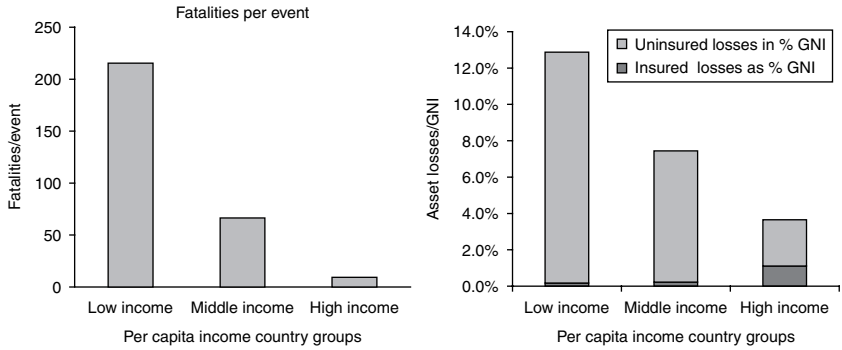

Figure 8.1 Differential burden of natural disasters.

Notes: Graphs depicting (i) fatalities per event and (ii) insured and uninsured losses according to country income groups.

Data source: Munich Re (2005).[1]

Developed and developing countries differ not only in human and economic burden of natural disasters, but also in insurance cover. In rich countries about 30 percent of losses (totaling about 3.7% of GNP) in this period were insured; by contrast, in low-income countries only about 1 percent of total losses (amounting to 12.9% of GNP) were insured.[2] It should be kept in mind that these losses generally do not include long-term indirect losses, which can be very significant, particularly in countries with low capacity to cope. Due to lack of insurance, combined with exhausted tax bases, high levels of indebtedness, and limited donor assistance, many highly exposed developing countries cannot raise sufficient capital to replace or repair damaged assets and restore livelihoods following major disasters, thus exacerbating the impacts of disaster shocks on poverty and development (Gurenko 2004).

The seriousness of the post-disaster capital gap and the emergence of novel insurance instruments for pricing and transferring catastrophe risks to global financial markets have motivated many developing country governments, as well as development institutions, nongovernmental organizations (NGOs), and other donor organizations, to consider pre-disaster financial instruments as a component of disaster risk management (Linnerooth-Bayer et al. 2005). Donor-supported pilot insurance programs are already demonstrating their potential to pool economic losses and smooth incomes of the poor facing weather variability, climate extremes, and geophysical disasters. These schemes provide insurance to farmers, property owners, and small businesses, as well as transfer risks facing governments to global capital markets.

Since many of these and other recent insurance programs are still in the pilot stage, and none have experienced a major and widespread catastrophic event,

it is too early to fully assess their effectiveness in reducing economic insecurity. However, the need for careful examination of their effectiveness and sustainability, even if based on a short operating history, is underscored by the recent experience with disaster insurance systems in developed countries, especially the widespread inefficiencies of agricultural insurance systems and the insurance controversies following Hurricane Katrina's devastation to poor communities in New Orleans. The question arises whether developing countries should follow the path of the developed world in forming public–private partnerships to insure against catastrophic events, and which insurance instruments and modifications may be appropriate for better tackling the developmental dimensions of natural disasters.

The intent of this chapter is to examine recent experience with insurance and other risk-financing instruments in developing countries, informed by that of developed countries, to provide insights into the effectiveness of insurance for reducing economic insecurity.[3] Insurance and other risk-financing strategies should be viewed in the overall context of risk management, including prevention of losses as well as financing the recovery process through risk pooling and transfer strategies. The next section thus briefly reviews the respective cases for risk prevention and risk financing. We then turn to examining insurance and other risk-sharing mechanisms in developing countries: household/business insurance instruments in "Insurance for households and businesses"; agricultural insurance instruments in "Insurance for farmers and herders"; and government risk pooling and transfer mechanisms in "Insurance for governments." Throughout these sections, we discuss relevant experience in industrialized countries. In the final section, we discuss the effectiveness of insurance for providing economic security to vulnerable communities by examining the costs, benefits, and risks, and the appropriate role for donors. Finally, we conclude with general observations about the future role of insurance instruments in developing countries.

Disaster risk management

Insurance instruments are only one of many options in managing risks of natural hazards. The first, and arguably the highest priority in risk management, is to invest in preventing or mitigating human and economic losses. Disaster prevention can take many forms: reducing exposure to risks (e.g. land-use planning); reducing vulnerability (e.g. retrofitting high-risk buildings); or

creating institutions for better response (e.g. emergency planning). The residual risk can then be managed with insurance and other risk-financing strategies for the purpose of providing timely relief and assuring an effective recovery. Disaster risk management thus consists of risk reduction and risk coping.

Disaster risk reduction

While anecdotal evidence shows large benefits to disaster risk reduction in many contexts, there have been only a few systematic cost-benefit analysis (CBA) and other appraisal of prospective investments in disaster risk reduction (Penning-Rowsell et al. 1992; Benson and Twigg 2004; Mechler 2005; Benson et al. 2007; Moench et al. 2007). According to Mechler (2005), available evidence suggests that in many contexts every Euro invested in risk prevention returns roughly 2 to 4 Euros in terms of avoided or reduced disaster impacts on life, property, economy, and environment. In a retrospective analysis of 4,000 mitigation programs, the United States Federal Emergency Management Agency (FEMA) found an average benefit–cost ratio of 4 (Multihazard Mitigation Council [MMC] 2005).

Despite high returns, disasters are very much under-prevented. In the United States, several studies show that only about 10 percent of earthquake- and flood-prone households have adopted loss-reduction measures (Kunreuther 2006). Kunreuther attributes this shortfall mainly to social myopia, which appears hard to influence through public policies. Even with extensive public awareness campaigns in earthquake-prone California, there has been little change in risk perception. Policy makers, faced with myopic voters, also appear reluctant to allocate public resources to reducing disaster risks.[4] This may be especially the case for development and donor organizations. According to some estimates, bilateral and multilateral donors currently allocate 98 percent of their disaster management funds for relief and reconstruction and only 2 percent for proactive disaster risk management (Mechler 2005).[5]

Studies of risk reduction projects generally demonstrate high benefit–cost ratios (see Linnerooth-Bayer and Mechler 2004 for details). However, assessing costs and benefits of disaster risk reduction is complicated especially because of two difficult tasks: (i) evaluating and expressing risk and (ii) monetizing benefits. Since it is misleading to assess benefits of prevention by deterministic means or by average expected gains (avoid loss), CBAs have to express avoided losses in probabilistic terms. Similarly, monetizing key relevant impacts, such as indirect

economic consequences on income and livelihoods, health effects, loss of life, and ecological effects, is also quite challenging.

Despite the earlier methodological difficulties, transparent CBAs of disaster risk reduction can be useful in guiding public policies. An example is provided by Smyth et al. (2004) who estimated (in probabilistic terms) the economic efficiency of different seismic retrofitting measures for a representative apartment building in Istanbul. Based on estimates of the expected direct damages and the costs of selected retrofitting measures, the authors estimated the expected net present value of such measures. The analysis was conducted for different time horizons, with and without including the monetary value of saving lives. Interestingly, as shown in Figure 8.2, the net present value of bracing apartment buildings and other retrofitting measures *without considering the value of saving lives* was negative for all time horizons considered. Only when including fatalities and a value of US$1 million for the life of a person did the projects become cost effective for time horizons longer than 10 years. Such findings are of huge policy interest since most retrofitting decisions are made by absentee landlords, who may consider only the economic value of the retrofitting investment without considering the human losses. The analysis shows the large difference between private and social benefits of retrofitting programs, justifying public intervention and funding for such programs.

Increasing evidence of high returns on investments in prevention throughout highly exposed developing countries makes a clear case for giving priority to

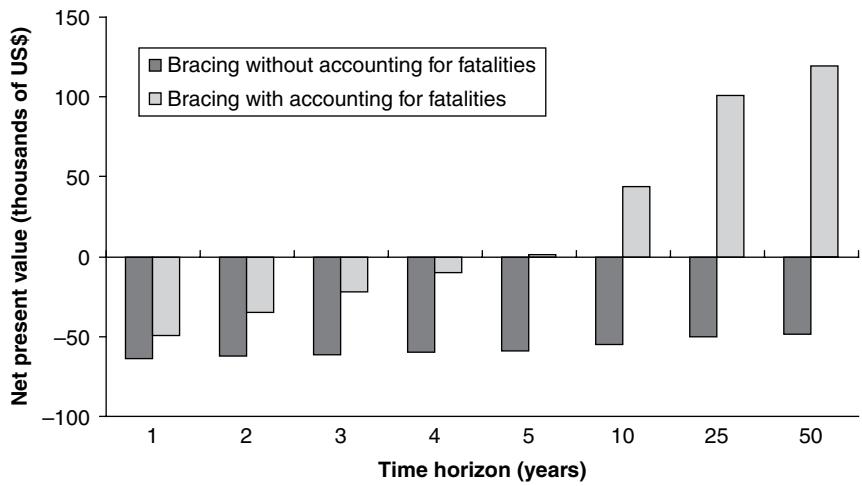

Figure 8.2 Net present value for bracing an apartment house in Istanbul over time.
Source: Smyth et al. (2004).

disaster risk reduction. The major hurdle in this regard appears to lie in the absence of requisite political will, as was eloquently expressed by Kofi Annan and United Nations (1999):

> Building a culture of prevention is not easy. While the costs of prevention have to be paid in the present, its benefits lie in a distant future. Moreover, the benefits are not tangible; they are the disasters that did NOT happen.

Disaster risk coping

Risk coping through insurance and other hedging instruments spreads and pools risks, thus lessening the *variability* of losses, but not directly reducing them. By providing indemnification in exchange for a premium payment, insured victims benefit from the contributions of the many others who are not affected, and thus in the case of a disaster they receive a contribution greater than their premium payment. However, over the long run, insured persons or governments can expect to pay significantly more than their losses. This is due to the costs of insurance transactions and the capital reserved by insurance companies for potential losses (or reinsurance), as well as the financial return required for absorbing the risks. The "load" can be significant, as much as 500 percent of the pure risk (expected losses). Still, people buy insurance, and justifiably so, because of their aversion to large losses. Insurance and other risk-transfer instruments are thus justified by the concept of risk aversion.

While insurance does not directly prevent losses, well-structured contracts can provide incentives for loss reduction. For example, in Istanbul apartment owners pay less for their insurance if they retrofit their buildings. By providing timely post-disaster liquidity, insurance also reduces the long-term indirect losses, which can be as devastating to lives and livelihoods as the direct damages. In addition to reducing direct and indirect losses, insurance provides economic security. For businesses, insurance removes risks from balance sheets, meaning that higher-profit and higher-risk activities can be pursued. For governments, insurance assures timely assistance and recovery, which can attract more investment to the country.

Globally, insurance penetration for disaster risks is varied. As shown in Figure 8.3, in the United States, parts of Europe, and Australia, the average person pays over US$500 annually in premium for nonlife disaster coverage as compared to Africa and parts of Asia where the analogous figure is less than US$5. The averages, however, hide large differences within the regions. In Africa, for instance, there is virtually no coverage at all in a number of countries,

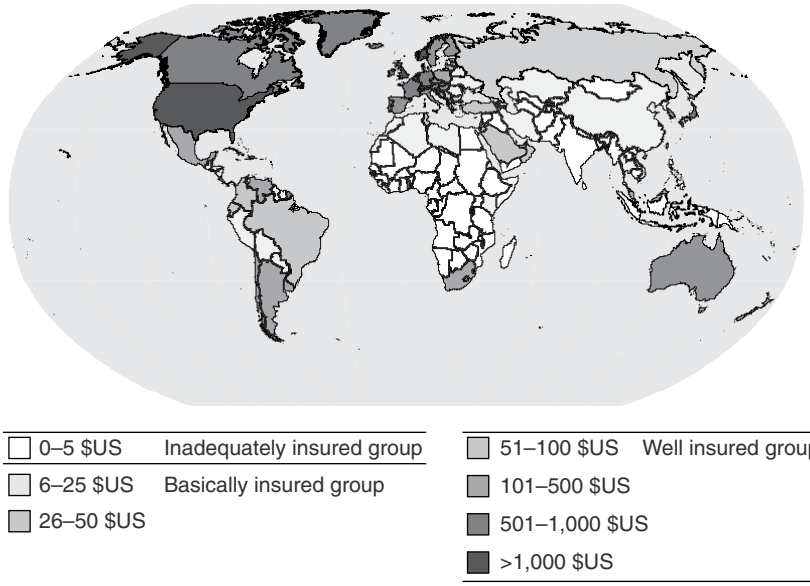

Figure 8.3 Global distribution of nonlife insurance premiums per capita.
Source: Munich Re (2003).

whereas the earlier described per capita premium in South Africa is US$160 (Munich Re 2003; Swiss Re 2007).

The insured share of economic losses has increased globally from approximately 10 percent in the 1970s to about 25 percent in 2004; yet the overall insurance penetration for many hazards remains relatively low (see Figure 8.4). Globally, storm risk (since it is often bundled with property insurance) has the greatest penetration with about 50 percent of losses currently absorbed by insurance, followed distantly by flood, at less than 10 percent. Other hazards, such as earthquake, wildfire, lighting, and so on, have even less penetration.

As recent major disasters show, even in high-income countries, households and businesses rely extensively on public assistance (see Figure 8.5). After the 1995 Kobe earthquake, where only about 4 percent of damaged or destroyed homes were insured despite a national public–private seismic insurance system, the government provided extensive assistance. Taking another example, in the United States, about 30 percent of total direct private and public losses from the 1994 Northridge earthquake were absorbed by private insurance companies, and the federal government provided extensive assistance to private victims, as well as to state governments for repairing public infrastructure. In stark contrast, in the United Kingdom, which claims 75 percent flood insurance penetration,

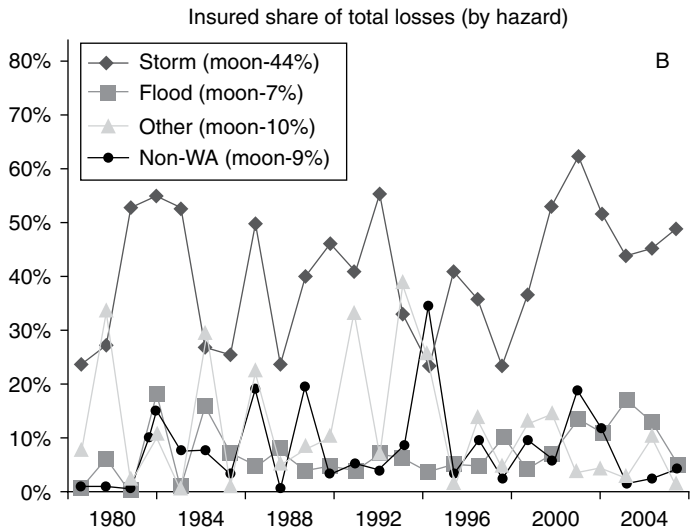

Figure 8.4 Global disaster insurance density for different hazards.

Source: Mills (2005).

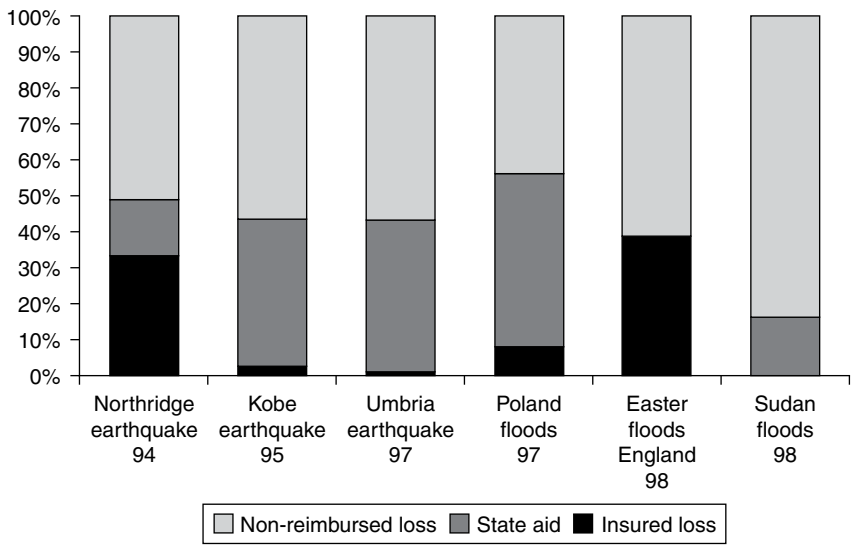

Figure 8.5 Insurance and government assistance for selected disasters as a percentage of direct losses.

Source: Linnerooth-Bayer and Mechler (2007).

the government gave practically no assistance to the private victims after the 1998 Easter floods.

Insurance is practically nonexistent in least developed countries, like Sudan, where the victims absorbed over 80 percent of the losses from the severe flooding in

1998, and the state covered the rest with outside assistance (Linnerooth-Bayer and Mechler 2007). Outside donor aid and financial assistance are volatile, and with the exception of highly publicized disasters (e.g. the 2004 Indian Ocean Tsunami), aid is usually only a small fraction of what is needed. Humanitarian assistance reported by the Organization for Economic Cooperation and Development (OECD) Development Aid Committee in the 1990s was less than 10 percent of disaster losses in recipient countries (Freeman et al. 2002). Post-disaster arrangements not only are often insufficient for meeting needs for relief and reconstruction, but also tend to be ad hoc and inefficient (Cardenas et al. 2007).

In the absence of government assistance and international aid, poor victims rely on an array of (often innovative) pre- and post-disaster arrangements for financing their recovery. As shown in Table 8.1, insurance is only one of many different modalities for this purpose. The most usual financial course is to raise needed capital after a disaster strikes: Individuals take out emergency loans from family, microcredit institutions, or money lenders; sell or mortgage assets and land; or rely on public and international aid. Likewise, governments raise post-disaster capital by diverting funds from other budgeted programs, borrowing money domestically, or taking loans from international financial institutions.

Table 8.1 Examples of pre- and post-disaster risk financing arrangements

	Security for loss of assets (households/ businesses)	**Food security for crops/livestock loss (farms)**	**Security for relief and reconstruction (governments)**
Post-disaster (*ex post*)			
	Emergency loans; money lenders; public assistance	Sale of productive assets, food aid	Diversions; loans from World Bank and other IFIs
Pre-disaster (*ex ante*)			
Nonmarket	Kinship arrangements	Voluntary mutual arrangements	International aid
Inter-temporal	Microsavings	Food storage	Catastrophe reserve funds, regional pools, contingent credit
Market-based risk transfer	Property and life insurance	Crop and livestock insurance (also index based)	Insurance or catastrophe bonds (also index based)

While many locally based funding sources, for example, borrowing from neighbors or family, appear to work reasonably well for small localized events (Cohen and Sebstad 2003), they are problematic for catastrophes that affect large regions or many persons at the same time (so-called covariant or systemic risks). To hedge against covariant risks, households may purposely locate family members outside of harms way or diversify their livelihoods. They may also arrange contingent savings or food supplies, activities that spread risks temporally. Alternatively, households/businesses and farms can purchase property or crop insurance, which spreads risk both temporally and spatially. Insurance can be provided by microinsurance programs, which are distinguished from other types of insurance by their provision of affordable coverage to low-income clients. Like individuals, governments can also spread risks temporarily and spatially by setting up reserve funds or regional pools and by purchasing insurance or hedging instruments (e.g. catastrophe bonds or contingent credit), respectively.

Many of these risk financing modalities are conventional; yet, some, most notably index insurance and catastrophe bonds, are rather novel and have been made possible by new developments in modeling risks and financial transactions. Whereas conventional insurance is written against actual losses, index-based (parametric) insurance is written against physical or economic triggers. Index-based insurance is against *events* that cause loss, not against the *loss* itself. For example, crop insurance may be based on measures of insufficient rainfall at key points in the growing season or a loss index determined by the correlation between historical weather events and crop yields in a region. The insurer will pay out if rainfall measured by a rain gauge falls below a specified level regardless of crop damage. The major advantage of index-based insurance is the substantial decrease in transaction costs, which, particularly for developing countries, have impeded the development of insurance mechanisms. The major disadvantage is *basis risk*, which is the lack of correlation of the trigger with the loss incurred. If the rainfall measured at the weather station is sufficient, but for isolated farmers insufficient, they will not receive compensation for crop losses.

As another novel insurance mechanism, a catastrophe bond is an instrument whereby disaster risks are packaged (*securitized*) in the financial markets (they can be parametric or indemnity based). The investor receives an above-market return when a specific catastrophe does not occur in a specified time but sacrifices interest or part of the principal following the event. Disaster risk is thus transferred to international financial markets that have many times the capacity of the reinsurance market. Another advantage accrues to investors. By

adding catastrophic risk to their investment portfolios, needed diversification is increased since natural catastrophes are not correlated with stocks and other investments tied to economic performance. There are also risks to this and other novel financial instruments, especially if they are not subject to national or international regulation and oversight.

Prevention and coping

How much should be invested in the prevention of disaster losses, and how much in insurance? This is a complex question, which ultimately depends on the costs and benefits of both types of activities, as well as on their interaction (e.g. through incentives, financial instruments influence prevention activities). Cost and benefits, in turn, depend on the nature of the hazard and losses (e.g. the occurrence probability and exposure).

One way to think about prevention and insurance is illustrated by the layering approach shown in Figure 8.6. Generally, costs of prevention increase disproportionately with the severity of the consequences. Therefore, for low- to medium-loss events that happen relatively frequently, prevention is likely to be more cost effective in reducing burdens than insurance. Moreover, individuals and governments are generally better able to finance lower consequence events (disasters) using their own means, such as savings or calamity reserve funds; including international assistance.

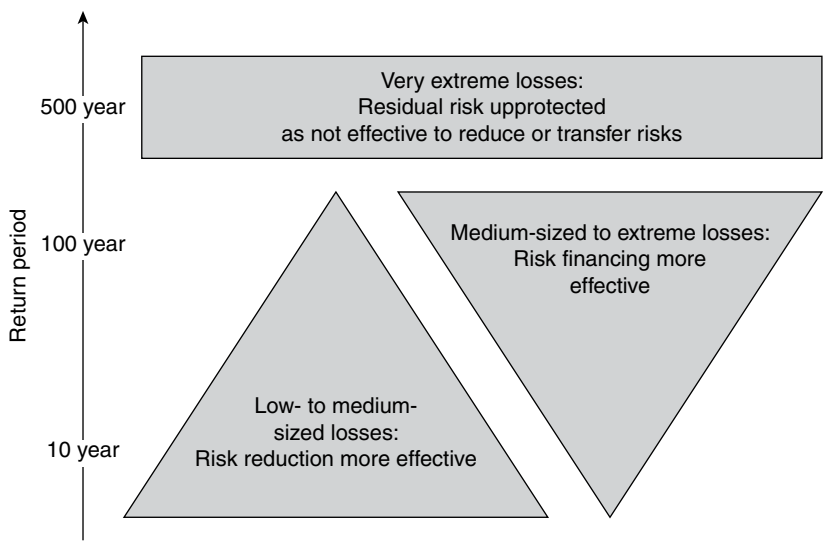

Figure 8.6 The layering approach for risk reduction and risk coping.

The opposite is generally the case for costly risk-coping instruments, including insurance, catastrophe bonds, and contingent credit arrangements Catastrophe insurance premiums fluctuate widely and are often substantially higher than the pure risk premium (average expected loss), mainly because the insurer's cost of backup capital is reflected in the premium. For this reason, it may be advisable to use those instruments mainly for lower probability hazards that have debilitating consequences (catastrophes). Finally, as shown in the uppermost layer of Figure 8.6, most individuals and governments find it too costly to insure against very extreme risks occurring less frequently than, say, every 500 years.

In what follows, we discuss the effectiveness of insurance and other *ex ante* risk-coping schemes that offer security to low-income (i) households and businesses; (ii) farms; and (iii) governments.

Insurance for households and businesses

Microinsurance schemes

Households and businesses in poor countries cannot easily afford commercial insurance to cover their risks, even in the unlikely case that providers exist. Without an insurance culture, or support from family or the government, disasters can lead to a worsening of poverty as victims take out high-interest loans (or default on existing loans), sell assets and livestock, or engage in low-risk, low-yield farming to lessen exposure to extreme events (Varangis et al. 2002).

The intent of microinsurance is to service low-income markets by offering limited coverage and greatly reducing transaction costs (Mechler et al. 2006). Until recently, natural hazards have not been explicitly considered as a niche for microinsurance because they impact large regions with multiple and simultaneous losses, and thus are both more uncertain and have higher potential losses than other types of insurance. The covariant or systemic nature of the risks—and the large capital reserves necessary to avoid insolvency—distinguishes catastrophe coverage from health, accident, and other forms of microinsurance. Given the challenges of providing microinsurance-type coverage for natural disasters, various innovative programs are emerging with the support of governments, NGOs, and international donors.

As identified by Cohen and McCord (2003), there are four institutional models for providing microinsurance-type coverage for catastrophic, covariant risks:

- *Community-based model*: Local communities, MFIs, NGOs, and/or cooperatives develop and distribute the product, manage the risk pool, and absorb the risk, with no involvement on the part of commercial insurers.
- *Full service model*: Commercial or public insurers provide the full range of insurance services.
- *Provider model*: Banks and other providers of microfinance can directly offer or require insurance contracts. These are usually coupled with credit, for example, to insure against default risk.
- *Partner-agent model*: Commercial or public insurers together with microfinance institutions (MFIs) or NGOs collaboratively develop the product. The insurer absorbs the risk, and the MFI/NGO markets the product through its established distribution network. This lowers the cost of distribution and thus promotes affordability.

The microinsurance program offered by *Proshika* in Bangladesh illustrates the community-based model scale. With more than 2 million clients in 20,000 villages and 2,000 slums in 57 districts of the country, Proshika's insurance fund has wide geographic coverage. In 1990 it introduced Participatory Livestock Compensation Fund (PLCF), under which each group of borrowers contributes 3 percent of the purchase value of the animals to this fund and in case of death of the animals the whole purchase value is compensated. However, the scheme experienced wide-scale defaults in years of serious flooding when large part of the country was inundated.

Proshika's experience shows that if insurers with limited capital reserves choose to indemnify large covariant and recurring risks, they must guard against insolvency by diversifying their portfolios geographically, limiting exposure, and/or transferring their risks to the global reinsurance and financial markets. In Bangladesh, large areas of the country can be affected by disasters. For example, normal flooding can affect about 25 percent of the land area whereas extreme events can submerge more than 50 percent of Bangladesh (FAO 2005). Since Proshika's scheme operates without reinsurance or donor support, and without stringent Bangladesh regulations for insurer reserves, its financial viability is questionable. The Proshika scheme is not alone in this respect (Mechler et al. 2006).

The experience of the Proshika scheme and similar other programs have led many observers to recommend the partner-agent model, where commercial insurers play an important role (Linnerooth-Bayer and Mechler 2007). The *Afat Vimo* all-hazard insurance program sponsored by the All India Disaster Mitigation Institute (AIDMI) illustrates this model.[6] This partner-agent scheme appears to be both affordable to poor clients and, with backup capital from public insurers and donors, resilient to large catastrophes. Important features contributing to its expanding client base, according to its sponsors, are the long-standing relationship that AIDMI has with the communities it serves and the trust established through the administration of the Livelihood Relief Fund (LRF) (Linnerooth-Bayer and Mechler 2007). Effectively utilizing such relationships has, however, proven administratively costly. The enlisting of new clients apparently costs about the same as the premium, and the cost of processing claims about three times this amount.

Diversification and reinsurance can add significantly to the costs of providing microinsurance, which raises the challenge of assuring the financial sustainability of microinsurance providers and at the same time providing affordable premiums to poor and high-risk communities. Many support subsidies (in the broadest sense) to meet this challenge and caution against shifting full responsibility to the poor, while others warn against the negative incentives promoted by subsidies and favor limiting support. It is notable that the *Afat Vimo* program does not adjust premiums to award risk-reducing behavior, which introduces moral hazard in the sense that clients may not take cost-effective preventive measures. Despite the advantages of donor-supported public–private partnerships in providing sustainable and affordable insurance, there are thus concerns that excessive public and international support will distort market prices and greatly jeopardize the incentive effects of insurance.

National insurance programs

Microinsurance programs like *Afat Vimo* usually serve only very few clients. Scaling up across regions with uncorrelated risks adds valuable diversification to these schemes (the scaled-up Proshika scheme appears to include covariant risks), but at the same time diminishes the institutional familiarity and trust that both contributes to their success and reduces expense. This raises the question of how insurance can effectively serve large regions or countries exposed to high systemic risks.

Even in industrialized countries, private insurers have been reluctant to offer region- or nation-wide policies covering flood and other hazards because of the systemic nature of the risks, as well as problems of moral hazard and adverse selection (Kunreuther 1998). Especially for large-scale systems, purchasers often have information that is not known to insurers, or costly to obtain. This asymmetric knowledge jeopardizes the insurance pool.

Because private insurers are often not prepared to fully underwrite the risks, many countries, including Japan, France, the United States, Norway, and New Zealand, have legislated public–private national insurance systems for natural perils with mandatory or voluntary participation of the insured as well as single hazard and comprehensive insurance. The United States National Flood Insurance Program (NFIP), created in 1968, is one such program in which the federal government serves as the primary insurer, offering voluntary policies to residential and commercial buildings (mandatory in the case of a mortgage).

However, the aftermath of Hurricanes Katrina, Wilma, and Rita in 2005 revealed large debts in the NFIP and its continuing dependence on taxpayer support. Insurance brokers estimated that these hurricanes could cost global insurance and reinsurance sectors up to US$80 billion. A recent government study claimed that the NFIP is not actuarially sound. It does not collect sufficient premium income to build reserves to meet long-term expected future flood losses, partly because the United States Congress authorized subsidized insurance rates for some properties.

Another example is the French system under which private insurers are required to offer catastrophe insurance in an all hazards policy that is bundled with property insurance. The program is reinsured through a public administered fund, the Caisse Centrale de Réassurance (CCR). If this fund proves insufficient, taxpayers will be called upon to contribute.

In an attempt to exploit the advantages of a national pool for disaster risks, and to avoid the problems that plague systems in high-income countries, World Bank and Turkish experts designed the Turkish Catastrophe Insurance Pool (TCIP). The purposes of this pool were to reduce the government's fiscal exposure (large post-disaster liabilities) by gradually building up capital in an insurance pool funded by affordable private contributions, and to create incentives for retrofitting apartment buildings and reducing risk.

The TCIP would not have been possible without recent advances in catastrophe modeling. In the absence of large sets of historical data, advanced risk modeling simulation techniques have increased the confidence insurers place in risk estimates and greatly enhanced the insurability of catastrophic

risks (Kozlowski and Mathewson 1997; Bier et al. 1999; Clark 2002; Boyle 2002). Although risk assessments can be very resource intensive, by drawing attention to risk and prevention measures they can be useful beyond the pricing of insurance contracts. This is the case in Turkey, where local universities have worked together with government in assessing risks and drawing up a blueprint for prevention.

By making policies mandatory and risk based, and by providing for commercial and donor backup capital, TCIP designers attempted to avoid the problems of insufficient penetration and moral hazard experienced by the US flood and French all-hazards systems, respectively. The ambitions of the designers, however, have not been fully realized. Enforcement of compulsory policies has been weak, and penetration at about 20 percent is far from universal. Even full penetration would not include the large number of illegal dwellings in Istanbul. Nor are premiums fully risk based, and some critics argue that the system should have been more closely linked with public spending for retrofitting high-risk apartments (Smyth et al. 2004). Because of increasing vulnerability and lack of widespread penetration, there is a concern that reinsurance capacity will not be sufficient to cover claims in the event of a major earthquake, creating a risk for the government and the insurance industry, and raising the specter of a post-Katrina-type debacle. Despite these serious issues, the TCIP sets an important precedent as the first nation-wide disaster insurance system in a middle-income developing country.

Insurance for farmers and herders

In 2001, global annual agricultural and forestry insurance premiums amounted to some US$6.5 billion compared with the estimated total value of agricultural production of US$1,400 billion, implying a global coverage rate of 0.5 percent only. This coverage is concentrated in developed countries, with only a minor percentage of global premiums paid in the developing world (Roberts 2005). Still, agricultural insurance programs exist throughout Asia (e.g. India, Malaysia, and the Philippines), Latin America (e.g. Argentina and Brazil), and Africa (e.g. Mauritius). For the most part, they are heavily subsidized, as illustrated by the Philippines's crop insurance program, which is operated by a para-governmental entity, the Philippines Crop Insurance Corporation (PCIC).

There is a great deal of controversy surrounding subsidized agricultural insurance. Subsidized programs in North America and Europe are viewed

by many economists as failed policy. Commenting on the US farm insurance program, Jerry Skees (2001) remarks:

> What was once a good idea—using crop insurance to share risk in agriculture—has become bad public policy in America. What was touted as a "market-based solution" is now very costly, inefficient, and inequitable . . .

Subsidies are a concern for agricultural insurance programs in developing countries, not only because of inefficiencies caused by market distortions, but also because governments cannot afford income transfers given the large segments of the population engaged in farming in these countries.

Index-based crop insurance

Traditionally, insurers have paid claims based on actual losses (indemnity-based insurance), which requires extensive networks of claims adjusters who assess individual losses following an event. It also means investing in controlling moral hazard. Moreover, insurers in low-income countries have far less access to global crop reinsurance markets than do those in developed countries. The low volume of business and large fixed transactions costs means that reinsurers can service these markets only at high cost. Traditional indemnity-based crop insurance programs are thus costly, which is a reason why many such programs have failed in developing countries (World Bank 2005).

To avoid the high transaction costs of indemnity-based insurance systems, index-based or parametric schemes make payouts contingent on a physical trigger, such as rainfall measured at a regional weather station, thus circumventing expensive claims settling. In the case of weather derivatives, farmers collect an insurance payment if the index reaches a certain measure or "trigger" regardless of actual losses. These schemes may offer a less costly and thus more viable alternative to traditional indemnity-based crop insurance.

The World Bank has provided the impetus and technical assistance for implementation of innovative index-based crop insurance schemes, making use of MFIs for promoting and distributing the product in developing countries. As a recent example, in Malawi, where the economy and livelihoods are severely affected by rainfall risk resulting in drought and food insecurity, groundnut farmers can now receive loans that are insured against default with an index-based weather derivative (Hess and Syroka 2005).

Under this scheme, there is no need for expensive individual claims settling, and expedient payments will reduce the need for farmers to sell their assets and

livestock to survive the aftermath of a disaster. Because of the physical trigger, there is no moral hazard; to the contrary, farmers will have an incentive to reduce potential losses, for instance, by diversifying their crops. Because they can access higher yield and higher risk crops, the insurance will promote cost-effective higher-risk activities, thus reducing the chances for moral hazard. In the words of one of the designers of the Malawi program:

> We want farmers to adopt high return technologies that allow them finally to make the leap and accumulate earnings over time. Systemic risk is the factor impeding this and so far banks cannot handle the risk and the high transaction costs in rural areas. This Malawi transaction shows that there is a sustainable way to take the big rocks out of the way—drought risk—and clear the path to development! (Hess 2005)

Although direct premium subsidies are not necessary, the program received assistance from the World Bank for starting up operations. It should be kept in mind, however, that the Malawi program provides only very limited coverage. By reducing loan repayments in the case of drought, the insurance only indirectly protects farmers from loss of livelihood and food insecurity. This is not the case with a similar pilot scheme, BASIX, launched by a rural microfinance organization in the Indian state of Andhra Pradesh, which provides cash payouts—albeit to middle-income farmers—who insure their cash crops (Hess and Syroka 2005; Mechler et al. 2006).

Comparing the two schemes in Malawi and India, neither of which has public assistance from taxpayers, the question arises whether more extensive outside assistance for microinsurance schemes of this type is necessary. Can the private market fulfill the insurance needs of the poor? The answer depends on the ability of clients to afford the requisite coverage. Middle-income farmers in Andhra Pradesh can afford the premiums for insurance that significantly reduces their insecurity; this would not be the case for very low-income farmers in Malawi, who cannot afford such extensive coverage. Unless supported by technical assistance, national subsidies, or international donors, these schemes are out of reach for very low-income smallholder farmers facing high risks.

This explains why international insurers have been reluctant to commit significant capital and underwriting expertise to developing market-based microinsurance programs. Support from international donors can change this situation. As a recent case in point, Swiss Re has insured about 150,000 smallholder farmers in Kenya, Mali, and Ethiopia against drought through

a parametric product. The insurance is purchased by the internationally backed NGO, and other partners are being solicited to provide further financial support.

Enthusiasts point out that the Malawi, BASIX, and Swiss Re programs, if scaled up, could provide the blueprint for insuring more than 40 percent of farmers in developing countries, who face threats to their livelihoods from adverse weather (World Bank 2005). A survey of 168 farmers participating in the 2005–2006 Malawi pilot program provides both optimism and caution for this scenario (Suárez et al. 2007).

The survey results are optimistic in that most stakeholders remain strong supporters of the program. However, low trust in key institutions and lack of understanding of the system raise the question whether the institutional context is sufficiently mature for such schemes to operate on a large scale.

Index-based livestock insurance[7]

In Mongolia, where domestic animals provide sustenance, income, and wealth to protect nearly half the residents, a harsh winter (*dzud*) can have devastating effects even for experienced herders. To protect herders against livelihood losses from extreme weather, an innovative livestock insurance program has recently been developed by the World Bank. It stands in contrast to Mongolia's traditional indemnity-based livestock insurance, which was ineffective for several reasons, such as high costs of settling claims across vast areas, disincentives to reduce losses, and incentives to falsely report animal deaths. The goal of the new public–private system according to its founders (see Mahul and Skees 2006) is to (i) offer insurance coverage that is attractive to herders, (ii) involve the domestic insurance market while protecting it against catastrophic losses, and (iii) limit the fiscal exposure of the government. Under the Index-Based Livestock Insurance (IBLI) system, compensation is based on the overall mortality rate of adult animals in a given county determined by a (long-standing) yearly census. The insurance system is made affordable to herders and viable to insurers by a layered system of responsibility and payment. Herders retain small losses that do not affect the viability of their business. The next layer of losses is transferred to the private insurance industry through risk-based premium payments on the part of herders. A third layer of risk is absorbed by taxpayers, in what Mahul and Skees (2006) refer to as the "social product." Herders who purchase the first layer of protection are automatically registered for the social layer at no additional cost. The financing of the Government's potential losses during the pilot phase

relies on a combination of reserves and—as a fourth layer—a contingent credit provided by the World Bank.

As with other index-based systems, the Mongolian scheme minimizes moral hazard, but since the claim payment is triggered by the event (the *dzud*) rather than individual losses, basis risk is a concern. Since insurance claims depend on overall mortality, IBLI provides strong incentives to individual herders to manage their herds so as to minimize the impact of major *dzud* events. But, the imperfect match between index payouts and individual livestock losses can be a significant issue for extreme winters with large losses, in which case the designers hope that other informal risk sharing measures will be enhanced. Like in Malawi, lack of understanding of the index system may present a problem, and focus groups with herders have already been conducted to help shape educational material. Finally, the potential for fraud in the distribution of the product, and elsewhere in the system, is not negligible despite certification of sales persons, the use of unique identification numbers, and strict accounting systems.

Insurance for governments

Governments usually have responsibility for a large portfolio of public infrastructure assets that are at risk to natural disasters. Moreover, most governments are obligated to provide post-disaster emergency relief and assistance to vulnerable households and businesses. Governments of developing countries typically finance their post-disaster expenses by diverting from their budgets or from already disbursed development loans, as well as by relying on new loans and donations from the international community. In the past, these post-disaster sources of finance have often proven inadequate to assure timely relief and reconstruction in developing countries. For example, 2 years following the 2001 earthquake in Gujarat, India, assistance from a government reserve fund and international sources had reached only 20 percent of original commitments (World Bank 2003). Post-disaster assistance not only is often inadequate, but can also discourage governments and individuals from taking advantage of the high returns to preventive actions.

Insuring governments

In wealthy countries government insurance hardly exists at the national level, although states in the United States, Canada, and Australia often carry

coverage for their public assets. In theory, there is little rationale for insuring public infrastructure risks in large developed countries. It was noted earlier that people buy insurance because of their aversion to large losses. In contrast to individuals, governments are not, in theory, risk averse, and thus in most circumstances should not purchase insurance (in Sweden, insurance for public assets is illegal). This is the result of a well-known theorem by Arrow and Lind (1970), who give two reasons for the risk neutrality of the public sector: If the government spreads its risk over its citizens (most usually by means of taxation), the expected and actual loss to each individual taxpayer is minimal due to the sheer size of the population. Moreover, a government's relative losses from disasters in comparison with its assets may be small if the government possesses a large and diversified portfolio of independent assets.

Neither of these reasons applies to small, low-income and highly exposed countries that have overstretched tax bases and highly correlated infrastructure risks (Linnerooth-Bayer and Mechler 2004). Realizing the shortcomings of after-the-event approaches for coping with disaster losses, sovereign insurance may become an important cornerstone for tackling the substantial and increasing effects of natural disasters (Gurenko 2004). This message became clear to the Mexican authorities after experiencing the 1985 earthquake in Mexico City. Colossal expenses on rehabilitation and reconstruction resulted in an increase in the fiscal deficit of US$1.9 billion over the next 4 years (Cardenas et al. 2007). In 1996, the authorities created a financial risk management program (FONDEN) including a catastrophe reserve fund. In 2005, after the severe hurricane season, the FONDEN fund was exhausted, leading the Finance Ministry to consider hedging against natural disaster shocks. As a result, the authorities recently engaged in an international risk-transfer transaction to provide financial protection to the fund. Mexico has thus become the first transition country to transfer its public sector catastrophe risk to the international reinsurance and capital markets.

This transaction is likely to set an important precedent for protecting highly exposed developing and transition country governments against the financial risks of natural catastrophes. To date, catastrophe bonds have been issued mainly by primary insurance companies as an alternative to reinsurance, and this market has been growing at a considerable pace. Total coverage is currently US$5 billion, up from approximately US$3.5 billion in 2003 (Guy Carpenter 2006).

Since it is held by an independent authority, one major advantage of a catastrophe bond issued by a sovereign state is the avoidance of political risk, or

the risk that the funds will be allocated to other government programs, which plagued FONDEN. There is no guarantee, however, that the post-disaster bond payments reach those most in need after a disaster. Moreover, the catastrophe bond transaction proved to be of very high cost. Specifically, expenses amounted to about 2 percent of the coverage, which is far greater than traditional reinsurance, which normally approximates 1 percent (Lane 2004). The costs included payments to outside consultants for modeling risks, a myriad of legal fees, costs of the rating agency, and other administrative expenses (Cardenas et al. 2007). While it is difficult to standardize the placement of catastrophe bonds in the financial markets and thus reduce legal and other fees, the cost of estimating risks may be reduced by improving public domain data bases and developing internal capacity for risk assessments. For example, the World Bank is currently sponsoring work on creating an openly accessible and verifiable database for Central America, which can potentially provide the basis for risk financing transactions in that region. It should also be possible to substitute outside consultancy firms with internal expertise in estimating risks. In Istanbul, for example, the universities are developing their capacity to carry out sophisticated catastrophe modeling as a basis for risk assessments. Participants at a recent workshop on this topic emphasized the potential contribution of donor organizations to the development of data bases and capacity building (Linnerooth-Bayer et al. 2007).

Pooling small states' sovereign risks

As discussed earlier, larger countries can generally absorb the impact of adverse natural events since the affected region can be subsidized by revenues from unaffected regions. This type of geographic distribution of risk is not possible for many small states, and for this reason they can benefit from pooling arrangements stretching beyond their borders. Only few such vulnerable developing countries, however, have insurance. Exceptions include Colombia, Madagascar, Honduras, and Barbados. A limitation facing small states intent upon transferring their risk is that they pay international prices subject to wide fluctuations. For example, Barbados experienced a ten-fold increase in insurance premiums after Hurricane Andrew in 1992, despite the fact that the island does not lie in a major hurricane path.

Partly to avoid this limitation, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) was recently established to provide the Caribbean Community (CARICOM) governments with limited, but immediate, liquidity in the event of

a major hurricane or earthquake at a significantly lower cost than if they were to purchase insurance separately in the financial markets. Early cash claim payment received after an event will help to overcome the typical post-disaster liquidity crunch. The facility appears well protected against insolvency with reinsurance and pro-rated contracts. Once again, a major concern about the long-term acceptance and viability of the pool is basis risk. For instance, Hurricane Dean (2007) imposed damages on Jamaica, but not sufficient to trigger compensation from the pool.

Concluding remarks

The questions motivating this discussion were whether developing countries should follow the path of the developed world in building public–private partnerships to insure against catastrophic events, and which insurance instruments and modifications may be appropriate for better tackling the developmental dimensions of natural disasters.

While most would agree that private and social insurance systems have provided security against old age and disability, unemployment, and other risks in the developed world, the record of insurance for providing security against floods, earthquakes, and other hazards is more tenuous. Due to the specific nature of covariant risks, insurance penetration is weaker and uneven. Private insurers have been reluctant to commit capital to many types of hazards; adverse selection and moral hazard continue to plague indemnity-based systems; subsidies have proven disruptive to markets; private and national programs alike are often undercapitalized; and climate change appears to be contributing to increased insurance losses and, in some cases, un-insurability. These are problems that will limit the effectiveness of insurance in developing countries as well.

At the same time, recent and innovative insurance programs in developing countries may potentially offer a preferred alternative to reliance on post-disaster donor aid. With this in mind, it is important to closely examine the development of nascent insurance systems throughout Asia, Africa, and Latin America.

A review of the innovative schemes shows that there is a large potential for insurance in the developing world for changing the way development organizations provide disaster assistance, engaging the private sector in vast markets, providing reliable and dignified post-disaster relief, supporting adaptation to climate change and, not least, spurring economic development. There are also many challenges: assuring sustainability and affordability in

light of covariate risks and adverse selection; defining an appropriate role of donors in light of the inefficiencies of subsidies; and assuring that systems avoid moral hazard and contribute to "good" investments. Pilot programs are offering a testing ground that should be carefully monitored and built upon by governments, international development organizations, NGOs, private insurers, and the climate-adaptation community.

Notes

1 Country income groups are according to World Bank classification using GNI per capita. Low income: less than US$760 per year, middle income: US$760–US$9,360 per year, high income: larger than US$9,360 per year in 2005.
2 These losses are mostly direct losses of productive assets and property (*stocks*). Only to a minor extent are *indirect* losses of value added (*flows*), such as business interruption losses, accounted for and insured.
3 For more detailed discussion of the issues, see Linnerooth-Bayer and Mechler (2009).
4 "In the absence of concrete information on net economic and social benefits and faced with limited budgetary resources, many policy *makers* have been reluctant to commit significant funds for risk reduction, although happy to continue pumping considerable funds into high profile, post-disaster response" (Benson and Twigg 2004: 4).
5 This is the topic of an ongoing study sponsored by World Bank and UN-ISDR on "The economics of disaster risk reduction."
6 See Linnerooth-Bayer and Mechler (2009) for description of various concrete cases.
7 This section is based on Mahul and Skees (2006).

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