



Risk and Vulnerability Analysis in World Bank Analytic Work: FY2000—FY2007

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Abstract

This paper takes stock of the World Bank's risk and vulnerability analysis from FY00 to FY07. It complements recent assessments of Social Protection and Labor (SP&L) sector's lending and analytic activities on labor markets, pensions, social safety nets, and social funds. The review of 155 papers shows how risk and vulnerability have become part of the Bank's understanding of poverty as a "dynamic" concept, which considers not only the characteristics of poor households at a specific point in time but also of those at risk of becoming poor following specific shocks (e.g., from a sickness in the family to the effect of a natural disaster). In terms of policy, the paper highlights the importance of measures to prevent vulnerable groups from falling into poverty and to help them cope with the aftermaths of shocks. The *Social Risk Management* (SRM) strategy provides a conceptual and methodological framework for the paper, which highlights the richness and diversity of risk and vulnerability practices in the Bank's work by region and presents a variety of best practices. It points to rising levels of insecurity among poor and vulnerable groups despite global progress in reducing poverty, and it identifies strong linkages between extreme poverty and risk in low income countries. Addressing risks for vulnerable groups hence emerges as a key concern for inclusive and sustainable globalization. It concludes by calling for continuously improving the treatment of risk and vulnerability in poverty assessments, for complementing these analyses with free-standing studies of specific risks, for improving the collection of relevant data, and for developing the policy use of the analyses conducted.

JEL Classification: I32 - Measurement and Analysis of Poverty

Keywords: Poverty, Risk, Vulnerability

Acronyms

AAA	<i>Analytical and Advisory Activities</i>
AFR	<i>Africa</i>
CCT	<i>Conditional Cash Transfer</i>
EAP	<i>East Asia and Pacific</i>
ECA	<i>Europe and Central Asia</i>
ESW	<i>Economic and Sector Work</i>
HD	<i>Human Development</i>
LAC	<i>Latin America and the Caribbean</i>
LIC	<i>Low Income Country</i>
MEER	<i>Marmara Earthquake Emergency Reconstruction Project</i>
MIC	<i>Middle Income Country</i>
PA	<i>Poverty Assessment</i>
PREM	<i>Poverty Reduction and Economic Management</i>
PSNP	<i>Productive Safety Net Program</i>
PVA	<i>Poverty and Vulnerability Assessment</i>
R&V analysis	<i>Risk and Vulnerability Analysis work</i>
RVA	<i>Risk and Vulnerability Assessment</i>
SAR	<i>South Asia Region</i>
SDV	<i>Social Development Department</i>
SP	<i>Social Protection</i>
SP&L	<i>Social Protection and Labor</i>
SPAL	<i>Social Protection Adjustment Loan</i>
SRM	<i>Social Risk Management</i>
SRMP	<i>Social Risk Mitigation Project</i>
TTL	<i>Task Team Leader</i>
WDR	<i>World Development Report</i>

Risk and Vulnerability Analysis in World Bank Analytic Work 2000-2007

1. Introduction

A. Objectives

The World Bank recently completed a review of progress at implementing its *Social Protection and Labor* (SP&L) strategy¹. As a part of this review, a series of thematic papers were prepared to assess the breadth and coverage of lending and analytic work in key areas of SP&L focus: labor markets, pensions, social safety nets, and social funds. The *Social Risk Management* (SRM) framework underpins the SP&L strategy (Robert Holzmann & Jørgensen, 2000), and analytic work on risk and vulnerability has made important contributions to the implementation of the strategy. This review of the Bank's analytic work on risk and vulnerability has been prepared as a complement to the thematic papers. Its objective is to take stock of the substantial body of risk and vulnerability analysis undertaken since the advent of the SP&L strategy in 2000.²

Section 1 identifies the defining features of risk and vulnerability analysis and the type of questions typically addressed. The methodology used to compile this inventory of relevant Bank work is presented in Section 2. Section 3 assesses the breadth of the risk and vulnerability analysis portfolio, in aggregate and by region; summarizes key components and examples of good practice; highlights some broad lessons that have been learned; and discusses specific examples of how risk and vulnerability analysis has helped to shape the Bank's country assistance programs and led to better country strategies and policies. Future challenges and implications of the review's major findings are discussed briefly in the fourth and final section of the paper.

B. Definition of key terms

The Bank has produced a substantial amount of work on individual and household-level risk and vulnerability, in particular since the advent of the SRM framework in 2000. In some cases, this work has taken the form of free-standing reports, often referred to as *Risk and Vulnerability Assessments* (RVAs). In other cases, risk and vulnerability

¹ The SP Sector Strategy Implementation Update was discussed at World Bank's Committee on Development Effectiveness (CODE) on September 17, 2007 (World Bank, 2007f).

² The SP Sector Strategy was approved by the World Bank board in September 2000 and published in early 2001 (World Bank, 2001)

analysis has been included in *Poverty Assessments* (PAs),³ safety net assessments, and in broader reports on social protection policies and programs. Formal *Economic and Sector Work* (ESW) has been complemented by informal background papers, including research papers as well as operational policy notes. For purposes of this report we use the term *R&V analysis* to refer to this broad body of work.

R&V analysis has several defining features:

- R&V analysis focuses explicitly on poor and other vulnerable groups, who are generally seen to be more exposed to uninsured risk, more likely to suffer shocks, and less able to manage these effectively.
- The poor consist of those who are always poor (at any point in time) and those who move in and out of poverty. Accordingly, a static estimate of poverty (measured at a specific point in time) is likely to underestimate those who are at risk of falling into poverty (at some other point in time). R&V analysis looks at poverty explicitly as a dynamic process. It focuses on vulnerability as a forward looking concept, capturing the possibility that an individual will have a level of welfare (e.g., consumption) below some benchmark (e.g., the poverty line) at a given time in the future.
- R&V analysis examines the links between risk and shocks on the one hand, and welfare and poverty on the other. It identifies the most important downside risks and shocks in a particular setting:
 - Risk refers to potential fluctuations in the circumstances of a household which affect its income and/or welfare. In particular, risk refers to *states of the world* that an individual or household faces, coupled with the likelihood that each of these states will occur.
 - Shocks refer to the realization of different states of the world. Examples of shocks include the occurrence of an earthquake, substantial terms of trade movement, or the death of a household member.
- Given risk profiles, R&V analysis identifies *ex ante* and *ex post* risk management strategies that can be used by individuals, households and communities to protect welfare, and it identifies policy measures to promote effective management of risk.

³ Though *Poverty and Vulnerability Assessments* (PVAs) have been conducted, they are mainly an informal subset of the official *Poverty Assessments* (PAs). We hence classify them under PAs.

C. Links between SRM and R&V analysis

In recent decades, profound economic, social, and political changes have taken place in the developing world. These changes include market and political liberalization, economic and social restructuring, vast technological changes and growing market integration and globalization (Canagarajah, Siegel, & Heitzmann, 2002). In parallel with these changes, and in some cases directly linked to change processes, low- and middle-income countries have been struggling to cope with a range of shocks e.g., natural disasters, economic shocks, political and social crises, and global health threats. Uninsured risk and shocks have an adverse impact on development, both globally and at the national level. For example, the oil crises in 1973, 1979, and 1990 had far reaching impacts on the global economy; they hit particularly hard some developing countries.

The decade of the 1990s brought risk sharply into focus in the international policy arena. Countries in Latin America suffered a series of economic shocks and financial crises in the 1990s, as did East Asian countries beginning in 1997. In both cases, contagion effects were widespread. Evidence suggests that the frequency and severity of climate shocks increased in Sub-Saharan Africa in the 1990s, and many countries on the sub-continent are struggling to cope with HIV/AIDS, malaria, and other widespread infectious diseases. Armed conflict is pervasive in parts of Africa and the Middle East.

SRM framework

Against this backdrop the SP&L sector launched its Social Risk Management framework in 2000-2001 as an analytical and prescriptive model. The premise behind SRM is that individuals, households and communities are vulnerable to multiple risks from different sources which may impact welfare levels. Unpredictable or unpreventable shocks coupled with an inability to adequately cushion these shocks may both cause and deepen poverty. Since the poor typically have higher levels of exposure to risk than the non-poor, are more averse to risk and have fewer means for managing these risks, they are among the most vulnerable in society and would benefit from greater access to ex-post and ex-ante risk management instruments. By focusing on (i) assisting individuals, households and communities to better manage risk and (ii) providing support for the critically poor, the SRM approach recognizes the importance of risk management instruments for protecting the poor from shocks and allowing them to engage in higher return/risk activities.

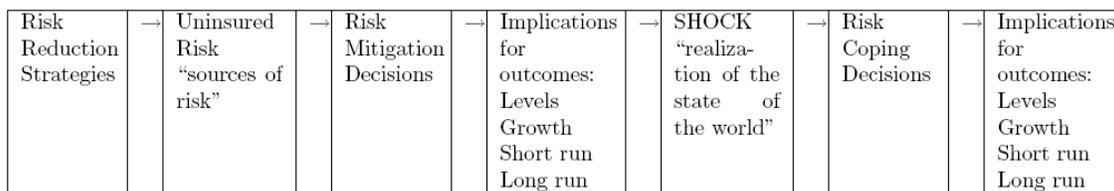
The importance of security, and the role of risk and shocks as fundamental determinants of poverty were highlighted in the World Bank's 2000/1 *World Development Report* (WDR) "Attacking Poverty", which laid out a three-pronged strategy for poverty reduction, focusing on opportunities, security, and empowerment (see Box 1).

Box 1: Opportunities, Empowerment, and Security – a new strategy for poverty reduction

According to the 2000/2001 WDR on poverty, “the approach to reducing poverty has evolved over the past 50 years in response to a deepened understanding of the complexity of development. [...] In the 1990s governance and institutions moved toward center stage, as did issues of vulnerability at local and national levels. The WDR proposes a strategy to attack poverty in three ways: promoting opportunity, facilitating empowerment, and enhancing security.”

The security pillar highlights the importance of addressing risk and shocks in the context of poverty reduction: “Enhancing Security: Reducing vulnerability – to economic shocks, natural disasters, ill health, disability, and personal violence – is an intrinsic part of enhancing well-being and encourages investment in human capital and in higher-risk, higher-return activities. This requires effective national action to manage the risk of economy-wide shocks and effective mechanisms to reduce the risk faced by poor people, including health- and weather-related risks. It also requires building the assets of poor people, diversifying household activities, and providing a range of insurance mechanisms to cope with adverse shocks.” (World Bank, 2000a).

Risk management strategies are important before and after shocks occur. Measures taken before a shock aim to reduce the likelihood that the shock will occur or, if it cannot be prevented (e.g., bad weather), to mitigate the effects of the shock. These measures are classified in the SRM framework as risk reduction or risk mitigation strategies. Measures taken after the shock has occurred aim to help households cope with the impacts of the shock. The following schematic (Dercon, 2007) depicts the sequencing of risk management strategies and shocks for a household in a given risk environment.



Preventative strategies address the underlying sources of risk by trying to decrease the probability that adverse states of the world occur. Reducing the probability of an adverse risk typically increases expected incomes and reduces income variability. Some important preventative strategies fall outside SP&L, such as sound macro policies, or well-functioning public policies for health, education, and training. Other strategies are central to the SP&L strategy; they include policies that reduce risks in the labor market, such as the risk of unemployment or underemployment, or malfunctioning labor markets.

Mitigation strategies aim to alter the outcome experienced by a household in a given state of the world. They are also taken prior to the occurrence of a shock. Households have various strategies available to them to reduce the potential impact of given shocks. For example, when faced with uncertainty about the weather, a household may cultivate crops which are less sensitive to weather variability, thereby altering yields and reducing income variability when bad weather occurs. Or a household may choose to join a

savings group or rely upon informal, community-based insurance in order to ensure that they have access to resources if a shock hits the household.

Coping strategies are used to relieve the impact of the shock once it has occurred. Among the most common coping strategies are reducing consumption, selling assets, seeking help from friends and family, borrowing, working longer hours, and relying on support from government programs. Clearly not every strategy is available to all households, and some strategies have graver consequences for long-term outcomes than others. A household that sells critical productive assets such as farm equipment, livestock or land to meet short-run needs may have a difficult time recovering from a shock in the longer run. Since damaging coping strategies may make a household more susceptible to future adverse shocks or incidents of poverty (by decreasing the stock of future coping strategies to which they have access) interventions which decrease a household's reliance on damaging coping strategies are particularly important.

Prevention, mitigation, and coping strategies can be organized into:

- *Informal arrangements*, including help from family or friends, community organizations, and self-insurance for informal borrowing and lending, crop diversification, transfers and gifts in times of need.
- *Market-based arrangements*, including market-based institutions such as currency, banks and insurance systems. The institutional requirements for formal financial institutions to be effective are substantial, since well-functioning financial markets as well as a financially literate population are required. Since collateral requirements and asymmetric information are likely to be high in the generic banking sector, microfinance institutions are likely to play an important role in providing access to credit, savings, and adapted micro-insurance services.
- *Public arrangements*, such as social insurance for risks including old-age, death or illness of family members, injuries, and disabilities. Since these forms of social insurance programs are often linked to formal sector employment, they are unlikely to cover the most poor and/or vulnerable portions of the population. Additionally, government programs may better target the poor/vulnerable groups by helping households cope with the aftermath of a shock through social assistance, subsidies on basic goods and services, and public works programs.

While each arrangement has its merits, each has a different role and no arrangement is likely to be preferred in all circumstances. In a given country, the most effective means of implementing SRM interventions will depend on the policy environment and strengths of existing institutions. Public interventions should complement informal and market-based arrangements, and are particularly important in circumstances where these other

arrangements are inadequate or lead to adverse outcomes for certain segments of the population.

SRM diagnostics are operationalized through R&V analysis

R&V analysis has played an important diagnostic and policy role in operationalizing the SRM framework. The definitive papers that framed future R&V analysis were prepared by Holzmann and Jørgensen (1999) and Holzmann (2001). Specific guidelines were prepared for undertaking Risk and Vulnerability Assessments (Canagarajah et al., 2002), as well as good practice papers on data and methods for measuring vulnerability (Hoddinott & Quisumbing, 2003a, 2003b).

R&V analysis may take different forms, depending on country conditions. However at the heart of all R&V analysis lies a set of core questions:

- Do households or individuals in the country or region face major risks? What are these risks, and how frequent and widespread are they? Are certain groups (e.g., the poor, widows, or young children) more exposed to risk than others? Which risks have the greatest impact on welfare?
- Which populations are at risk of falling into (deeper) poverty? What is the profile of these populations and how does their profile compare to that of the poor as conventionally defined (based on static poverty indicators)? For households at risk of poverty, how important are structural factors as compared to volatility in consumption and other measures of well-being?
- How does risk affect welfare? What types of ex-ante risk management strategies are used by households, at what cost and to what effect? What types of ex-post risk coping mechanisms are used, at what cost, how effective are they? What are the welfare implications of existing strategies? What role is played by informal institutions? Markets? Public policy and government programs?
- In the event of inadequate coping strategies, what are the short run and longer run implications for well-being? Do households trade off short-run gains at the cost of persistent and longer-run adverse impacts? How persistent are adverse welfare impacts and how are they evidenced?
- How do we incorporate risk into policy directions? Do existing public policies and programs adequately deal with the impact of risk? How can these be improved – with respect to which groups and which specific categories of risk? What are the requirements for programs to provide an adequate cushion against shocks? What is the role for SP&L?

2. Methodology for compiling the inventory of R&V analyses

A. How the Bank accounts for R&V analysis

Since December 2001, task team leaders have assigned thematic codes to activities and internal reporting and assessment is done on the basis of these codes. In the case of *Analytical and Advisory Activities* (AAA) and ESW, report types are also coded. Two types of codes are directly relevant for identifying R&V analyses: Report Type “Risk and Vulnerability Assessment” (SOP) and Thematic Code “Vulnerability Assessment and Monitoring” (55). Unfortunately, however, neither code does a good job of capturing the extent and breadth of R&V analysis in the Bank, first because the report type definition is not consistent with the defining features and questions addressed by R&V analysis, and second because *Task Team Leaders* (TTLs) have used the relevant thematic code (55) very broadly for many different types of SP and non-SP related work.

Risk and Vulnerability Assessment (SOP) is defined as reports that *analyze how the social sector affects living standards and productivity, income generation, social development, and mobility*. It also defines broad principles for *guiding public expenditures ensuring the access of poor people to basic social services, and increasing project impact on health, nutrition, population, and education indicators*. This definition has little bearing on the defining characteristics of R&V analysis described in Section 1(B) above, and in any case is far too general to define a concrete product line. Since 2001 only 19 reports were coded as SOP in Bank’s system, and only about half of them conform to the definition of R&V analysis used in this paper.

In contrast, the definition of the thematic code **Vulnerability Assessment and Monitoring (55)**⁴ is more consistent with the intent of R&V analysis viz. *programs that help identify the vulnerable and their monitoring, and build capacity to reduce vulnerability, including (i) identification of vulnerable groups through both quantitative and qualitative means; (ii) capacity building to address vulnerability; (iii) institutional reforms to better address vulnerability concerns; and (iv) monitoring conditions of the vulnerable*. Unfortunately the thematic code also is applicable to a substantial amount of the Bank’s work on safety nets, labor markets, SP strategy notes, etc., and has been used extensively both by SP and non-SP TTLs across the Bank. More than 200 products were identified in Business Warehouse that had a primary or secondary thematic code of 55, but only a subset of these are consistent with our definition of R&V analysis.

More recently, R&V analysis has been codified into practice in Poverty Assessments through the Bank’s **Guidance Note on Poverty Assessments** (July 2004), which

⁴ Thematic Code 55 was only created in July 2001 and thus applies only to FY02-FY07 products.

accompanies **OP 1.0 Operational Policy on Poverty Assessments**. Para 11 of the Guidance Note identifies the need to assess *the main sources of vulnerability at the individual, household, community and national levels; to assess food security, health risks, conflict and environmental risks; and to assess the risk of loss of income due to poor harvests, terms of trade shocks, unemployment, and or declines in real wages*. With these additions to the Bank's good practice guidance for Poverty Assessment, R&V analysis has been mainstreamed into practice in the World Bank. The review undertaken for this paper shows that most PAs completed after 2004 include some discussion of vulnerability and risk.

This paper aims to capture the full scope of the World Bank's R&V analysis, as defined by the list of defining features in Section 1(B). Such work includes both formal and informal ESW. Formal diagnostic reports typically include Risk and Vulnerability Assessments (RVAs), risk-focused Poverty Assessments, a growing body of work on safety nets that use vulnerability diagnostics,⁵ and SP strategy papers. A large body of research that focus on different aspects of risk, vulnerability and poverty reduction has also been included here from the SP discussion paper series, regional series, and various journals and research publications. Although other aid agencies and research institutes are beginning to use R&V analytic approaches, only work financed or led by the World Bank is included.

B. Data sources

We used several strategies to identify the universe of R&V analysis work:

- Business Warehouse provided a list of all Bank-supported ESW with Theme 55 and Report Type SOP. All that fit the criteria described in Section 1(B) were included.
- An early R&V analysis list that was compiled by the SRM Team in the network anchor was used, as well as papers presented in various workshops on risk and poverty,⁶ and found through key word searches in Business Warehouse and the Bank's intranet.
- In addition, a review was carried out to identify all Poverty Assessments that include substantial analysis of risk and vulnerability (e.g., a section or chapter that examines the links between risk and poverty, calculation of vulnerability-to-poverty indicators).

⁵ Primarily for countries in Latin America and South Asia.

⁶ See Box 2 for a list of these workshops, beginning with the 1999 Summer Stiglitz Workshop organized in preparation for the 2000/1 WDR on Poverty

The resulting inventory includes 155 documents:⁷ 132 have a specific country focus, while 23 have a broader focus (e.g., on R&V methodologies and approaches). These are listed in Annex 1. Taken in total, the Bank's R&V analysis portfolio comprises a substantive body of global knowledge about the links between risk and poverty, and the nature of vulnerability as a forward-looking concept. The various studies highlight the importance of security, and of social protection policies in a range of settings e.g., poor countries suffering from droughts and other natural disasters, fragile states beset with conflict, rapidly changing transition economies, or middle income countries struggling with economic shocks and potential financial crises.

⁷ The current R&V analysis inventory does not include Bank documents that are still under preparation or have not been finalized and put in the public domain. This is for two reasons: first, draft documents can be difficult to locate and second, many have been explicitly distributed only to a limited audience. This exclusion has the largest impact on the Africa R&V analysis portfolio: a number of Poverty Assessments for francophone countries have not been finalized for public distribution, nor has the Malawi PVA, which includes a comprehensive treatment of risk and risk management instruments.

3. Overview of the R&V analysis portfolio

A. Description of the Bank-wide portfolio

As noted above, 132 country-specific R&V analyses, were completed between FY00 and FY07, spread across all six regions. (Table 1 describes the stock of R&V analysis by year and region.) An additional 23 background papers were prepared, primarily under the auspices of the SP Anchor. These focus on analytic methods and approaches, good practice guidelines, and discussion of cross-regional and cross-country experiences.

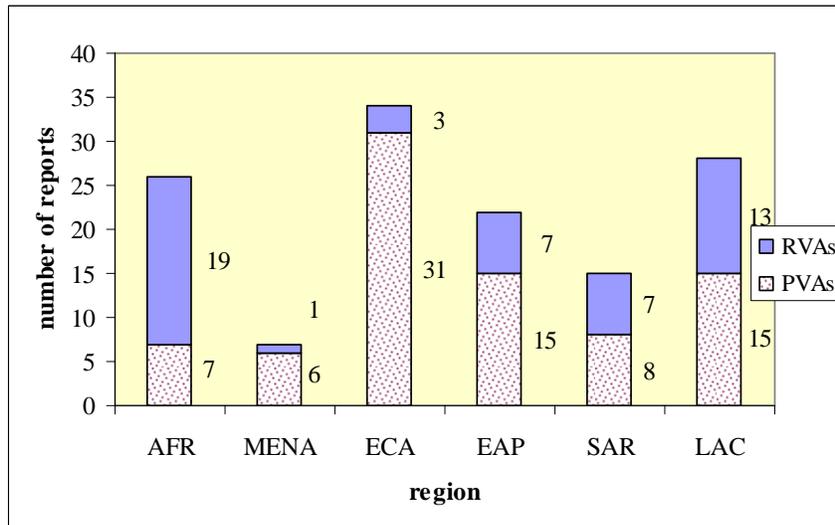
R&V analysis has been applied throughout the developing world. Analysis of risk, shocks, and poverty began early in the *East Asia and Pacific* region (EAP), primarily in response to the 1997 financial crisis. There was also a substantial body of early work undertaken in *Latin America and the Caribbean* (LAC) and in *Europe and Central Asia* (ECA), initially driven by concerns about macro-volatility but over time focusing more on vulnerability of the poor and related micro concerns. In contrast, R&V analysis came on line more slowly in *Africa* (AFR) and the *South Asia Region* (SAR), and much of this later work has had a strong focus on human development and SP policies. The focus and coverage of R&V analysis has varied substantially by region and is still evolving. An overview of regional approaches and findings is provided in Section B.

One-third of the FY00-FY07 portfolio covers free standing RVA reports and papers, and the remaining two-thirds comprise risk-focused Poverty Assessments and poverty policy notes. AFR accounts for the majority of free-standing RVAs, followed closely by the Latin America region. In contrast, a significant majority of the ECA portfolio (31 out of 34 products) and of the MENA portfolio (6 out of 7 products) are comprised of poverty assessments that integrate analysis of vulnerability and the impact of risk and shocks with more conventional poverty analyses. (see Figure 1).

Table 1: R&V Analysis by Region, FY00-FY07

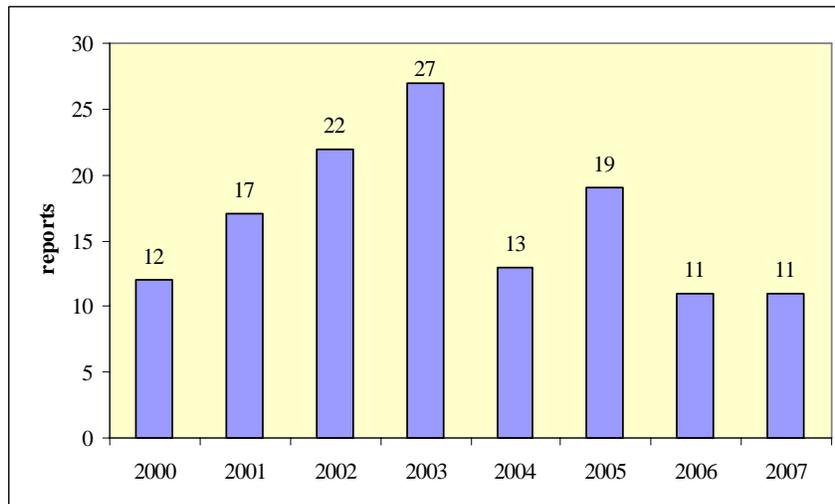
	<i>AFR</i>	<i>MENA</i>	<i>ECA</i>	<i>EAP</i>	<i>SAR</i>	<i>LAC</i>	
Year							Σ
2000	2	0	3	5	1	1	12
2001	1	2	4	5	0	5	17
2002	1	3	5	3	6	4	22
2003	7	1	8	3	1	7	27
2004	2	1	4	0	0	6	13
2005	6	0	6	0	3	4	19
2006	3	0	0	6	1	1	11
2007	4	0	4	0	3	0	11
	Σ	26	7	34	22	15	28
							132

Figure 1 : RVAs versus PAs, FY00-FY07



R&V analysis had a particularly high profile in the early years of 2000, in response to economic shocks and financial crises in a number of countries. Natural disasters of global proportion e.g., Hurricane Mitch, the 2004 tsunami, Hurricane Katrina in 2005, and repeated droughts in southern Africa, gave new impetus to work on risk and risk coping in the middle of the decade. The distribution of R&V analysis over time mimics the frequency and types of shocks experienced (see Figure 2).

Figure 2 : Combined R&V analysis products by year



In addition to many reports, working papers and research studies, R&V analysis has been the subject of several major conferences and a number of workshops in recent years, beginning with the Stiglitz Summer Workshop in 1999, carried out in preparation for the 2000/1 WDR on Poverty (Box 2).

Box 2: Key Workshops on Risk, Vulnerability and Poverty FY00-FY07

In 1999, World Bank Chief Economist Joe Stiglitz began a summer research series to discuss leading issues in development economics. The first workshop was devoted to poverty, inequality, and development, the topic of the 2000/2001 WDR. Two full sessions were devoted to issues of risk and poverty: Session 5: *Risk and Vulnerability and Safety Nets*, and Session 6: *Coping with National Shocks*, and the various links between security and poverty were discussed in a number of other sessions (security is one of the three pillars of the WDR poverty reduction strategy)

IFPRI and the World Bank jointly hosted a major conference on *Risk and Vulnerability: Estimation and Policy Implications* in September 2002. The objectives of the two-day conference were to (1) review the current approaches to estimate vulnerability and their value-added in terms of policy recommendations compared to the traditional approach to understanding poverty ; and (2) to brainstorm on the information needed for micro econometric risk and vulnerability assessment. Fifteen research papers were presented and discussed at the conference.

The IFPRI/World Bank conference was followed by several internal events at the World Bank, including a research workshop on *Poverty, Risk and Vulnerability in Sub-Saharan Africa* (November 2003) and a training workshop on *Measuring, Understanding, and Alleviating Household Vulnerability: Data Needs and Policy Implications* (February 2004). Africa workshop papers were published in the *Journal of African Economics* (Vol. 14, No. 4, 2005).

The Bank's Poverty Reduction Anchor hosted a workshop on *Frontiers in Practice: Reducing Poverty Better Diagnostics* in March 2006, which had four sessions, including a session on data and methodological advances in Risk and Poverty.

Recent years have witnessed a reduction in free-standing work on R&V at the Bank accompanied by a slight increase in risk-focused Poverty Assessments. On the basis of these numbers, one is tempted to say that the Bank's interests in R&V concerns has been falling. However, R&V analysis portfolio numbers capture only a part of the Bank's rich body of work on risk, shocks, and natural disasters. The SRM framework has influenced the work of other sectors in the Bank. For example, risk assessment tools have been developed by the Infrastructure Network for hazard risk management and a substantial number of Hazard Risk Management Assessments have recently been finalized or are under preparation. Many new Bank operations are designed in response to natural and man-made disasters. the *Social Development Department* (SDV) has developed conflict assessment tools and these have been applied in a large number of countries over the years, including in the preparation of free-standing Conflict Assessments as well as Social Assessments⁸. Note that a number of R&V reports included in the stocktake – particularly for Africa – include work on climate shocks and related natural disasters (e.g., in Ethiopia: World Bank, 2005e), and on conflict risks e.g. for Guinea and in Guinea-Bissau (World Bank, 2006b, 2007e).

B. Overview of regional approaches

⁸ See CPR, "CPR and Related Publications on Conflict and Development", undated.

The Bank's overall SP strategy "*Social Protection Strategy Paper: From Safety Net to Springboard*" (World Bank, 2001m) was extended and refined by a series of regional SP strategy papers, beginning with East Asia in 1999 and ending with the LAC strategy paper in 2003:

- *Toward an East Asia Social Protection Strategy* (World Bank, 1999a)
- *Balancing Protection and Opportunity: A Strategy for Social Protection in Transition Economies* (World Bank, 2000b)
- *Dynamic Risk Management and the Poor: Developing a Social Protection Strategy for Africa* (World Bank, 2001c)
- *Reducing Vulnerability and Increasing Opportunity: Social Protection in Middle East and North Africa* (World Bank, 2002n)
- *Poverty and Vulnerability in South Asia* (World Bank, 2002m)
- *The World Bank and Social Protection in Latin American and the Caribbean* (World Bank, 2003q).

Each region has taken a different approach, in large part determined by differences in country settings – the level of development, current social protection systems, the nature of the risks faced by poor households, the country policy environment, and capacity for institutional response.

The organization of the Bank's regional teams also has had some bearing on SP analytic and diagnostic work: e.g., until 2003, there were no dedicated SP staff in South Asia and little R&V analysis was done outside the context of Poverty Assessments. Much of the extensive R&V analysis for ECA was also done in the context of Poverty Assessments, many led by ECA's well-staffed SP team. Similarly the Africa region developed a very rich body of work on poverty in the 1990s, led jointly by SP and PREM staff. However the impetus for poverty work in AFR had slowed by the late 1990s, and few new poverty assessments were then being carried out. In lieu of PAs, SP launched a number of free-standing RVA reports for African countries. More recently, a new series of risk-focused PAs have been initiated for Africa.

The remainder of the section briefly discusses the primary issues and type and coverage of R&V analysis undertaken in each region.

R&V analysis in Latin America and the Caribbean

Issues addressed. Countries in Latin America face a common set of challenges that shape future priorities for social protection. Shocks due to economic volatility widely affect incomes, frequent natural disasters impact large populations, and political volatility prevents public policies from being sustained in the long-run. Inequalities in redistributing the benefits of growth continue to widen, and existing social protection systems mostly cover workers in the formal sector and better off households.

The SP regional strategy paper identified three key challenges for social protection in LAC: (i) to reduce the vulnerability of low-income households and ensure they can meet basic consumption needs; (ii) to help households effectively manage income over their full lifecycle; and (iii) to improve equity, particularly in response to the effects of shocks.

RVA coverage. Risk and vulnerability are an important part of the poverty debate in Latin America. Most of the region's poverty assessment work also addresses vulnerability issues, looking not only at the number of poor people and the evolution of poverty but also at the impacts of shocks, and at responses to them. Diagnostic work in vulnerability, poverty and risk is often complemented by specific assessments, e.g., of social security programs.

The Region also experimented with different methods to measure vulnerability – e.g. life-cycle approaches or vulnerability-to-poverty indicators – as well as qualitative approaches. The 2003 Guatemala poverty assessment hence included a very detailed treatment of vulnerability, based on innovative qualitative methods and estimation of vulnerability-to-poverty indicators (see World Bank, 2003j). It provided a strong basis for informed discussions in Guatemala on poverty and social protection policies, and brought concerns about risk and shocks to the forefront of policy discussions.

Much of the Region's R&V analysis has focused on a specific shock or crisis. Argentina's 2003 poverty assessment (World Bank, 2003b) looked at the impact of the 2002 economic crisis, and at local policy responses. It highlighted the limitations of formal social protection mechanisms in reaching the poorest, and discussed the need to develop long-term poverty alleviation strategies to reduce the number of vulnerable persons. Similar analyses and conclusions are shared in poverty diagnoses for Bolivia (World Bank, 2002d, 2005c), and Uruguay (World Bank, 2003n). Analyses of the 1999-2000 "Coffee Crisis" on poverty in Central America's economies further point to the impacts and limitations of formal and informal social protection mechanisms that were intended to assist the poor who face economic shocks. The study notes the positive effects of conditional cash transfer programs in Nicaragua, and of informal strategies of income diversification by poor households before the crisis (Maluccio, 2005; Vakis, Kruger, & Mason, 2004; World Bank, 2001i).

Other R&V analysis highlights the growing needs of poor populations not reached by formal social protection programs, such as the youth, and the unemployed in Uruguay (World Bank, 2001o). In Ecuador and Peru, poverty is attributed to governments' inability to promote the creation of better-paying jobs for poor people, while they instead focus mainly on the extraction of natural resources and on agriculture (World Bank, 2004d, 2005j). More generic poverty assessments call for relatively similar public policies to reduce macro-economic vulnerabilities, to reform formal protection mechanisms so they better reach the poor, and to invest in the youth by improving their access to education and health services. These include PAs for Nicaragua (World Bank,

2000d, 2004d), Venezuela (World Bank, 2001a), Colombia (World Bank, 2002f, 2002g), Costa Rica (World Bank, 2002h) and Brazil (World Bank, 2003f).

R&V analysis in Europe and Central Asia

Issues addressed. The Bank's work on poverty and vulnerability divides Europe and Central Asia in three groups: (i) a "European" group of Southeast European nations and of countries about to join or having recently joined the European Union; (ii) a "Eurasian" group comprising members of the Commonwealth of Independent States; and (iii) a group of nations emerging from conflict. Each group reached different levels of development and of institutional capacity to analyze and respond to poverty and vulnerability. Most countries in the European group have formal systems of social protection; their key challenges relate to adapting these systems to the rules and constraints of a market economy. The Eurasian nations tend to have weaker government systems and to rely on informal structures of social protection. Their governments need help in analyzing risk and poverty and in finding ways to bridge gaps between formal and informal systems of protection. Post-conflict countries have lost their capacities to generate wealth; conflicts have further destroyed their formal and informal systems of protection against risk, and their governments' capacities to plan. Their needs start with basic assessments of poverty situations, and with integrated national development plans.

R&V analysis coverage. ECA has carried out two comprehensive regional studies of growth, poverty, and inequality (Alam, 2005; Jones & Revenga, 2000), and is in the process of finalizing a third 'flagship' study. All studies highlight the importance of social risk management and the need for fundamental improvements in social protection policies. They assess trends in poverty and in vulnerability,⁹ and are complemented by 32 country-level R&V analysis pieces: primarily PVAs, and only two free-standing RVAs. Broken down by country groups, they can be characterized as follows.

In the *European group*, most work aims to develop governments' capacities to analyze the evolution of social indicators as a basis for policymaking, and to improve existing systems of social protection so they adapt to a market economy and better reach vulnerable groups. Most then lay directions for Poverty Reduction Strategy Papers or National Poverty Reduction Strategies. Key examples of such work are the poverty assessment for Albania (de Soto, Gordon, Gedeshi, & Sinoimeri, 2002; World Bank, 2003a), Belarus (World Bank, 2004a), Poland (World Bank, 2004g), and the Russian Federation (World Bank, 2005l). The assessments for Romania (World Bank, 2003k), Bulgaria (World Bank, 2002e), and Hungary (World Bank, 2001d) provide good examples of in-depth work on particularly vulnerable groups. The assessments for the Slovak Republic highlight the continuing concerns about equity, concerns that must be

⁹ Vulnerability is not measured using stochastic methods viz. vulnerability to poverty, but defined as having consumption levels that close to the poverty line.

addressed for a former centrally-planned economy to fully integrate in the European Union (World Bank, 2001l, 2005m). A series of poverty assessments and RVAs for Armenia (World Bank, 2002b, 2003c) highlight continuing levels of poverty and vulnerability linked to transition processes, and discusses the key reforms needed for Armenia's social protection system to become more effective and better targeted to the needs of the poorest and most vulnerable. More typical poverty assessments and updates were conducted for Croatia (World Bank, 2001b), Georgia (World Bank, 2002i), and Macedonia (World Bank, 2005g).

In the *Eurasian group*, analytical work is more generic; it focuses on developing recommendations for policy-makers as governments tend to have less capacity in analyzing poverty trends, in developing national poverty reduction strategies, and in providing formal social protection to the poor. On the other hand, strong traditional mechanisms of mutual-help provide bases to develop social protection programs. In this group, poverty analyses rely more on qualitative consultations than on statistical data alone, as these are often not readily available. Particularly interesting in providing a well-rounded understanding of poverty and vulnerability using qualitative methods to complement limited quantitative data are the poverty assessment for Uzbekistan (World Bank, 2003o, 2007d), Azerbaijan (World Bank, 2003d), and Kazakhstan (World Bank, 2004e). Similar assessments were conducted for Moldova (World Bank, 2004h), the Kyrgyz Republic (World Bank, 2003h, 2005i, 2007b), Latvia (World Bank, 2007c), and Serbia and Montenegro (World Bank, 2003l).

Post-conflict countries have suffered extensive destruction of their government systems and their social fabric. There, the Bank's poverty and vulnerability work has focused on determinants of growth and security, and on the importance of providing basic services to the most vulnerable groups. These assessments—which provide directions to develop national poverty reduction strategies—cover Bosnia and Herzegovina, Kosovo (World Bank, 2001g, 2005h, 2007a), and Tajikistan (World Bank, 2000e). Other assessments look at recovery after crises, such as the earthquake that affected Turkey in 1999 and that was followed by a financial crisis (World Bank, 2000f, 2003m).

R&V analysis in East Asia and the Pacific

Issues Addressed. The EAP region prepared its social protection strategy in 1999, on the heels of the 1997 financial crisis. Fueled by concerns about the crisis, the strategy highlighted the need to strengthen social protection mechanisms with reference to labor markets and labor policies, pensions, and safety nets. Subsequent analyses focused on the impacts of economic growth, on equity in the distribution of wealth, and on the coverage of public services. They underscored that a focus on risk was essential to understand the evolution of poverty over time, and highlighted how risk especially affected some of the most vulnerable populations. As the financial crisis receded, natural

disasters and global health threats (e.g., the avian flu) have become an increasing focus in East Asia's R&V analysis.

R&V analysis coverage. To date, East Asia's R&V analysis has been integrated within country-led poverty assessments or presented in published research papers and journal articles. In 2007, a regional vulnerability flagship study was launched that will build on the rich body of existing country level R&V analysis and undertake new cross-country analyses. The aim of that study is to highlight the importance of risk and continuing widespread vulnerability in the region, despite substantial reductions in poverty, and to facilitate discussions across countries about the challenges and policy responses.

EAP was home to research and innovations in R&V analysis methods in the early part of the decade, primarily focused on measuring the impacts of the financial crisis. Pritchett et al. (2000) proposed models to quantify vulnerability to poverty in Indonesia, and Chaudhuri (2002) used survey data to empirically demonstrate links between vulnerability and poverty in several countries, reinforcing findings from China (Jalan & Ravallion, 2001). In the countries most affected by the 1997 crisis, Bourguignon and Goh (2002) showed no apparent relation between vulnerability to poverty and openness to international trade, and in the Philippines, a research study in fact demonstrated that the effects of the financial crisis on poverty had been less extensive than these of a natural shock such as El Nino (Datt & Hoogeveen, 2000). The new thinking and analytic work supported Poverty Assessment and country dialogue in a number of countries. In Thailand, the Bank has collaborated with the government and other donors to assess the evolution of poverty and the impacts of social protection following the 1997 crisis; an SP strategy led to a Country Development Partnership mainly focused on developing mechanisms of social protection and social development (World Bank, 2001n).

As the crisis receded, R&V analysis focused on a wider set of issues e.g. natural disasters, climate shocks, on idiosyncratic risks e.g. in the labor market, and on health shocks. A people-centered poverty report prepared in 2002 for Indonesia hence looked at the determinants of the poor's livelihoods, including local livelihood risks, and giving directions on how to improve wellbeing and reduce poverty through empowerment, social protection, pro-poor growth and safety nets (World Bank, 2002l). Indonesia's most recent PA includes an extended analysis of the risks and vulnerabilities of the poor, and the various mechanisms that they use to manage shocks. (World Bank, 2006c). The *Vietnam Development Report 2000* (World Bank, 1999b) showed that the poor were particularly vulnerable to health shocks and to fluctuations in farm revenue. It proposed a poverty reduction strategy focused on (i) increasing employment and productivity, (ii) ensuring that all could equitably benefit from the results of growth, and (iii) reducing the vulnerability of the poorest. The *Development Report 2004* then showed that over 15 years, the country had reduced poverty faster than many other countries starting at the same levels (World Bank, 2003p). The Philippines' PA (World Bank, 2001j) assessed

the impact on poverty levels and trends of the financial crisis as well as climate shocks, and explored a range of policies aimed to reduce vulnerability in the country.

Vulnerability and the role of SP policies have been addressed in poverty assessment for other EAP countries as well. For example, the 2006 Cambodia poverty assessment analyzed poverty from an integrated approach combining income-poverty, measures of inequalities in accessing productive capital, and an analysis of relations between growth, institutions and poverty (World Bank, 2006a). The work was supported by a series of mixed-method studies on social protection issues (e.g., Hahn, 2006; Ridao-Cano, 2006), on access to justice and on the use of public funds to deliver health and education services. A new poverty assessment is just being finalized for China; it has extensive treatment of health shocks and of SP responses.

R&V analysis in Africa

Issues addressed. Countries in Sub-Saharan Africa are characterized by high levels of poverty, inequality, and a broad exposure to a range of risks: repeated drought and frequent food shortages; AIDS, malaria, and other health threats and epidemics; macroeconomic shocks; and conflict, political instability, and corruption. Few countries have effective formal social protection systems, and those systems that do exist (e.g., pension systems) often serve the needs of the better-off rather than the poor. Poor households resort to a range of informal strategies to manage and cope with risk, many of which can have long-run adverse impacts (e.g., reducing food consumption or pulling children out of school).

The Bank developed a rich body of work on poverty in Africa in the 1990s through formal Poverty Assessments (38 completed between 1993 and 2000), poverty notes and updates, Country Economic Memorandums, and related development reports. Poverty reports for Africa were framed around the Bank's 1990 World Development Report's approach to poverty reduction, and all these early PAs included a discussion of vulnerable groups and formal and informal safety nets.

R&V analysis coverage. The Africa SP strategy paper, completed in 2001, highlighted the importance of risk management for Africa's poor and other vulnerable groups. A number of country-level 'risk and vulnerability assessments' were launched following completion of the SP strategy paper, using RVA guidelines prepared by the SP Anchor (Canagarajah et al., 2002; Hoddinott & Quisumbing, 2003a, 2003b). These early RVAs had a strong diagnostic focus, with the aim of enumerating the risks faced by poor men, women, and children, and of identifying formal and informal coping mechanisms. The reports looked at a range of risks in different settings e.g., climate shocks and food security in Ethiopia (World Bank, 2005e); health shocks including malaria in Kenya (Christiaensen & Subbarao, 2005); conflict and ethnic violence e.g., in Guinea (World Bank, 2007e), Guinea-Bissau (World Bank, 2006b), Nigeria (World Bank, 2003i), and

Congo (World Bank, 2003g). A number of these studies used new types of data (e.g. shock modules) and innovative analytic methods (e.g. estimation of “vulnerability-to-poverty” indicators) to look at poverty in a dynamic rather than static context. For example, the Burkina Faso RVA (World Bank, 2004b) experimented new measurement methodologies to better identify the most vulnerable among the poor. The Ethiopia RVA (World Bank, 2005e) is noteworthy in extending its analysis to include a discussion of risk-management strategies, drawing on conceptual distinctions between risk-coping and risk-reduction or mitigation. The work uses data on existing safety net programs, including costs and coverage, as well as household responses to hypothetical questions in a household survey about potential sources of funds to meet unforeseen shocks.

These early RVAs were followed by a series of risk-focused Poverty Assessments e.g for Zambia (World Bank, 2007h), Malawi (under preparation), Uganda (World Bank, 2006f), Benin (World Bank, 2003e), and Burkina Faso¹⁰ (World Bank, 2005d). Many common issues are addressed. For example, PAs for Zambia, Malawi, and Uganda all highlighted the importance of drought and related climate shocks, and households’ limited access to safety nets and other formal risk management instruments. HIV/AIDS and other communicable diseases were identified as major sources of risk poor people in Malawi and Zambia, also linked to risks experienced by elderly persons.

R&V analysis in Middle East and North Africa

Issues addressed. MENA was a high-growth region until the mid-1980s, when oil prices began to fall. Many countries experienced negative economic growth rates and economic and social conditions began to deteriorate. The situation was exacerbated by conflict, civil wars in Algeria, Lebanon, and Yemen, the Iran-Iraq war, the first Gulf War, and the current war in Iraq. According to the MENA SP strategy paper, countries in the region now face economic and social risks that threaten investments in human capital and compromise the welfare of the population. Particularly vulnerable population groups include the poor, children and youth, small farmers, who remain exposed to unanticipated changes in weather and fluctuations in prices; first-time-job seekers and low-skilled workers, who face the risk of unemployment; and the elderly, who may lack access to sustainable health insurance and pension systems.

R&V analysis coverage. There is a substantial body of analytic and policy work on conventional SP themes in MENA countries (i.e., labor markets, children and youth, safety nets, and formal and informal pensions), much of it focused on key sources of risk for vulnerable groups. This work has been augmented by several risk-focused poverty assessments i.e. for Egypt (World Bank, 2002a), Morocco (World Bank, 2001f, 2004f), Yemen (World Bank, 2002o), and West Bank and Gaza (World Bank, 2001k, 2003r).

¹⁰ The Burkina PA drew on an RVA which was prepared in 2003/04 (see World Bank, 2004b).

The impact of growth reversals and deteriorating social conditions are discussed in the Egypt PA, which describes the changing picture of poverty, and highlights growing concerns about regional disparities, lack of opportunities, and high exposure to risk among the poorest and most vulnerable. The report highlights the importance of better targeted safety nets and subsidy programs for them. Poverty Assessments for Morocco and Yemen likewise highlight the importance of good social policies and more effective social spending. Morocco's growth slowdown in the 1990s was accompanied by sharp increases in unemployment and poverty and in the share of the population vulnerable to poverty. In contrast to Egypt and Morocco, Yemen has high levels of poverty (42 percent of the population) and an additional 25 percent of the population are vulnerable to poverty. Vulnerability is primarily driven by idiosyncratic factors, but exacerbated by a series of covariate shocks e.g., drought in 1990/91, war in 1991, and civil war in 1994.

Risks associated with conflict are addressed in Poverty Assessments for the West Bank and Gaza, Algeria, and Lebanon. Conflict plunges economies into crisis and causes dramatic declines in living conditions. West Bank and Gaza provides a classic example: following three years of Intifada, 16 percent of the population were living below the subsistence poverty line and many of the poor and near-poor had exhausted their savings and were vulnerable to malnutrition, ill-health, and permanent poverty traps. RVA in crisis settings highlights the importance of emergency assistance through public works and targeted cash transfers, and of job training once the recovery period begins.

R&V analysis in South Asia

Issues addressed. South Asia's regional SP strategy identifies a wide range of covariate and idiosyncratic risks that increase vulnerability of the poor -- climate shocks and natural disasters, labor market risks, health shocks -- and framed a cross-sectoral strategy for achieving social protection objectives in the region. The strategy highlighted the strong links between poverty and risk, and the importance of improving access to markets and market-based instruments e.g., insurance and credit for ensuring longer-run security and well-being as well as the need for short-run interventions to support risk mitigation and coping. More recently, recent and massive natural disasters e.g., the 2004 tsunami Pakistan's 2005 earthquake have helped focus the attention of policy makers and of the international community on the links between natural disaster risk and poverty, and on vulnerability more generally in the South Asia region.

Evolution of R&V analysis. Initial R&V analysis was done in the context of Poverty Assessments and poverty updates for Pakistan (World Bank, 2002k), Sri Lanka (World Bank, 2002p, 2005k), Bangladesh (World Bank, 2002c), Uttar Pradesh India (World Bank, 2002j), and Nepal (World Bank, 2006e). The Uttar Pradesh Poverty Assessment highlighted the importance of risk (particularly idiosyncratic risk) in determining levels and trends in poverty in one of India's poorest and largest states. Health shocks were found to be particularly problematic, and a major cause of extreme poverty, particularly

for the elderly and female-headed households. Social identity (caste) also was a major risk factor. A recent social safety net assessment for Uttar Pradesh (Ajwad, 2007) builds on the earlier poverty study, and explores potential SP responses. An all-India Safety Net Assessment is underway; it explores sources of risk, identifies key vulnerable groups, and analyzes the coverage and efficacy of safety net programs nationwide.

Poverty Assessments for Bangladesh and Pakistan discuss the impacts of natural disasters and climate shocks. Bangladesh is flood-prone, and food security is a continuing concern. R&V analysis for Bangladesh focuses on the need for better *ex ante* risk management as well as *ex post* risk coping e.g., through formal safety nets and emergency relief measures (del Ninno, Dorosh, & Smith, 2003; World Bank, 2005b). Poor households in Pakistan also struggle to cope with adverse weather shocks and other agriculture shocks, and many of the near poor and non-poor are at risk of poverty (Mansuri & Healy, 2002; World Bank, 2007g). The massive earthquake in 2005 together with droughts and flooding in earlier years has focused the attention of Pakistani policy makers on the need for a systemic response to large covariate risks e.g., the importance of safety nets and community based systems that can be scaled up in times of need.

A Poverty and Vulnerability Assessment carried out for Afghanistan in 2005 (World Bank, 2005a) likewise discussed the importance of natural disasters, of drought, and of sharp increases in food prices. It also highlighted vulnerability linked to conflict and the potential for an escalation of violence in parts of the country. As a result of this work, vulnerability has become an explicit area of focus in Afghanistan's poverty reduction strategy. Vulnerability linked to conflict also was an important concern in the Sri Lanka poverty assessment as well as in the 2006 poverty work for Nepal. Sri Lanka was particularly hard hit by the 2004 tsunami, and a number of studies have been launched to better understand the long-run impact of the tsunami on living conditions of the poor.

C. Results – Impact on country strategies and approaches

The focus of R&V analysis thus far has been primarily on analytics and good diagnostics. Moving from diagnostics to better and more risk-sensitive policies remains a challenge. There is still debate within the Bank about whether the dynamic focus of R&V analysis leads to a different set of policies (or different policy sequencing) than traditional poverty analysis. There is a strong emerging consensus that analyzing poverty dynamics and assessing vulnerability can lead to different policy recommendations, depending on the country and institutional setting, but more work remains to be done to better understand these critical policy reforms and to promote lesson-sharing across countries and regions.

In a number of countries, R&V analytical work underpinned important policy dialogue on SP&L concerns and helped the Bank do business in a different and more effective way. Good practices examples from Ethiopia, Chile and Turkey are discussed below.

Ethiopia – Country experience and results

A recent Poverty Assessment for Ethiopia (World Bank, 2005f) estimated that 44 percent of the population lived below the national poverty line. Half of these were chronically poor and lived below the food poverty line of 1650 kcals per day. Using these same data, the Ethiopia Risk and Vulnerability Assessment (World Bank, 2005e) estimated vulnerability-to-poverty to be very high, with 70 percent of the population predicted to have more than a 50 percent chance of falling into poverty at some point in the future. This implies that nearly a quarter of the non-poor population (based on static poverty measures) face a high probability of being poor at some point in the future.

The RVA highlighted considerable scope for improving the welfare of households through SRM instruments. High levels of vulnerability in Ethiopia are due to a combination of a high risk environment and inadequate coping mechanisms. The majority of rural households are affected by drought, which results in harvest failure, livestock losses, and food and water insecurity. Furthermore households commonly face large movements in prices, particularly of grains, which constitute an important dietary source, and coffee, the main export crop. Because rainfall and price risks are locally covariate, they tend to affect entire communities, reducing the potential for risk sharing using localized mutual insurance. Idiosyncratic health shocks are so pervasive that they have begun to deteriorate into community wide shocks – exposure to malaria and HIV/AIDS in Ethiopia exacerbates the vulnerability of the poor. In 2000, 6.4 percent of the adult population overall and 15 percent of the urban adult population were diagnosed as HIV positive and 40 percent of the population was estimated to be at risk of malaria.

Inadequate market mechanisms and public strategies for coping with these high risks have resulted in a large fraction of the population being subject to food insecurity. Household strategies to deal with risk do not provide them with adequate protection, particularly in the face of locally covariate risk.

The RVA identified gaps and difficulties with several public risk management programs (e.g., supplemental irrigation, water harvesting, agro-ecological packages and resettlements) which only reached a fraction of the poor and vulnerable and were, in many cases, poorly designed. Unpredictable policy changes were also highlighted as having contributed to the volatility of the environment.

The primary focus of Ethiopia's SP programs for coping with the after-effects of a shock is on drought protection and food security, leaving households to cope on their own with other risks such as HIV/AIDS or malaria. Over two decades, the government has relied heavily on the international community to provide emergency assistance to meet the consumption needs of both the chronic and transitory poor. Although these programs have helped to reduce poverty, at least temporarily, unpredictable and often delayed responses meant that they did little to prevent environmental degradation, protect

livelihoods, community or household assets. As such, the programs were designed to provide short-term relief rather supporting a broader framework for providing households with reliable risk management strategies. In addition, the national food security program had a narrow coverage leaving a substantial proportion of the population at risk of food insecurity. Despite large food aid flows, chronic food insecurity has continued to rise in the aftermath of repeated droughts as vulnerable households without adequate risk management mechanisms fall deeper into poverty.

In recognition of the substantial shortcomings of the emergency aid regime, in 2003 the Government launched the new Coalition for Food Security initiative with the aim of developing a food security framework. Given its extensive work on vulnerability and poverty and ongoing discussions with Government, the World Bank was asked to lead the design of the national safety net framework and to be one of the major financing partners.

In 2005, the Ethiopian Government initiated the *Productive Safety Nets Program* (PSNP), which replaced the emergency humanitarian appeal system as the chief means of assisting chronically poor households. The objective of the PSNP is to reduce household vulnerability and increase resilience to shocks. These aims would be achieved through reforming the humanitarian emergency system to a development-orientated program.

The PSNP has three primary components:

- Safety net activities that support chronically poor households through labor intensive public works and grants for households who cannot participate in public works projects (e.g., orphans, pregnant women, elderly or sick individuals).
- Timely resources for transient food insecure households in response to shocks.
- Strengthening program implementation through capacity building, improved monitoring, evaluation, transparency and accountability.

Chile – Country experience and results¹¹

The most recent Poverty Assessment for Chile (World Bank, 2001) identified a period of growth between 1987 and 1998, demarcated by increasing average incomes and a drop in poverty. A follow-on RVA conducted in 2004 suggests that, while poverty continued to fall between 1998 and 2000, the level of extreme poverty stagnated during this latter period (World Bank, 2004c). Building on the earlier poverty analysis, the RVA examined household risk management and social protection strategies to assess the efficiency and efficacy of instruments available to manage risk. It indicated that the poorest households had high exposure to a range of risks, and were characterized by high levels of malnutrition, low levels of schooling, unemployment, ill-health, and disability.

¹¹ This section draws heavily on “Taking Stock of the Bank’s Operational Experience in Risk Management” by Subbarao, Tesliuc, Hugo-Blunch and Weigand (mimeo).

Despite having a number of social protection programs, substantial gaps in coverage were identified, particularly for the poorest households and in rural areas. The RVA identified a set of reforms to SP policies and institutions that would help to close the gap in coverage between the formal and informal sector. To improve outreach to Chile's poorest groups, the RVA suggested that less reliance be placed on contributory social insurance and greater weight be given to social assistance. Furthermore, it recommended that the social assistance programs be financed through value-added taxes rather than pay-roll taxes, in order to ensure a more reliable source of contributory financing.

Responding to the interests of the Chilean government, the RVA ultimately provided a diagnostic and framework for Chile's *Social Protection Sector Adjustment Loan* (SPAL). Chile's social fund (FOSIS) experimented with applying different SRM approaches to its investment decisions, prioritized according to risk indicators. The PUENTE program was piloted in response for indigent households. In addition, the Government was implementing a broad legislative and institutional reform to reach the poorest of the poor. The *Chile Solidario* initiative, announced in May 2002, included a package of legislative reforms to Chile's poverty reduction and social protection policies.

Chile's SPAL supported government actions in five key areas: (i) reforms to poverty reduction and social protection policies targeted to the poorest households; (ii) integration of databases and service provision and improvements to key information systems, including the country's primary tool to target the poor; (iii) better monitoring and evaluation of social programs and policies, including a greater role for civil society in conducting participatory evaluations; and (iv) expanding the roles of the evaluation of social programs and policies, including a greater role for civil society in conducting participatory evaluations and (iv) expanding the roles of municipal authorities and civil society in implementing social policy. It ultimately improved the access of the poorest households to Chile's social protection system and increased the effectiveness of the system in reducing extreme poverty and protecting the living conditions of the poorest.

Turkey – Country experience and results

The first PA for Turkey (World Bank, 2000) documented substantial improvements in social indicators and moderate reductions in poverty during the 1990s, despite volatile GDP growth, weak employment, and rising inequality. A follow-on study of poverty and vulnerability, conducted by the World Bank in 2003, found that natural disasters, and in particular earthquakes, were a key source of vulnerability (World Bank, 2003m). Frequent earthquakes combined with a high proportion of the population living in self-constructed masonry houses leaves Turkey's population hard hit when earthquakes occur. The poor had higher levels of exposure and were ill-equipped to cope when natural disasters actually occurred. Moreover vulnerability (defined as the proportion of the population with incomes below twice the food poverty line) was on the rise in Turkey, increasing from 36 percent of the urban population in 1994 to 56 percent by 2001.

On August 17th, 1999 a major earthquake hit the Marmara region of Turkey, leaving 17,000 dead, 200,000 homeless, and seriously damaging Turkey's industrial heartland. The earthquake highlighted the need to upgrade the existing emergency response system, to ameliorate the lack of effective enforcement of Turkey's building sector, and to address the inadequate coverage of earthquake insurance in the housing market.

At the request of Government, the World Bank prepared a two-stage program to help restore living conditions in the Marmara region. In the first stage, the Bank reallocated funds from ongoing Bank projects towards emergency relief and reconstruction. The second stage focused on reconstruction and risk mitigation: the *Marmara Earthquake Emergency Reconstruction Project* (MEER).

The MEER aimed to (i) help restore living conditions in the earthquake affected region; (ii) promote economic recovery and growth and (iii) develop an institutional framework for disaster risk management and mitigation. It supported the government's emergency cash transfer program through immediate cash assistance to victims for accommodations, repairs, death and disability benefits and death benefit, survivor and disability pensions. While the MEER was primarily targeted at the region and population affected by the earthquake, the project's components for the design and implementation of a disaster management system and the establishment of disaster insurance targets the whole country and aims at preventing and mitigating the potential impacts of a recurrent event.

Turkey's RVA supported the development of additional lending instruments to assist poor households manage economic shocks. The Turkey *Social Risk Mitigation Project* (SRMP) was developed in 2001/2002 to reduce the impact of the 2001 economic crisis on the poorest households and to improve their capacity to cope with similar risks in the future. The investment component of the SRMP included a *Conditional Cash Transfer* (CCT) program, which implemented a social assistance program targeted to the poorest 6 percent of the population. Assistance was provided conditional on better use of basic health and education services. The CCT promoted positive behavioral changes in such areas as school attendance, childhood vaccinations, basic health care, and nutrition. A targeting system based on a scoring formula was used to select which households would be eligible for CCT social assistance programs.

4. Lessons and the forward agenda

A. Pulling it all Together: Good Practice in RVA

The Bank has produced a rich body of work on risk and vulnerability since the launch of the Social Risk Management strategy in 2000/01 and building on the 2000/1 *World Development Report* on poverty. R&V analysis has been mainstreamed into the Bank's work on poverty reduction; good PA is PVA and thus includes a careful assessment of sources of household vulnerability and the role of public policy in helping households manage risk and increase security. R&V analysis has had an impact on policy discussions and lending across a broad range of countries, ranging from low income countries in Africa and South Asia to middle income countries e.g., in Latin America and Eastern Europe.

While R&V analysis supports the Bank's work on social protection policies and programs, it is also used by other sectors. Many risks are most appropriately addressed through policies in other sectors. However SRM creates a common platform for looking at risk and R&V analysis provides a flexible set of methodological approaches.

Table 2 summarizes the key components of R&V approaches and highlights good practices and what we have learned in terms of information sources, analytic methods, and the risks faced by poor and other vulnerable households in client countries. The table highlights the richness and diversity of R&V practice at the World Bank.

Table 2: Components of R&V analysis and examples of good practice:

R&V draws on various sources of information	
<p><u>Unit record from consumer expenditure surveys</u> have been widely used to measure vulnerability, to identify poor and vulnerable households, and to analyze the impacts of risk.</p>	<p>Cross-sections repeated over time can be amalgamated to form a pseudo panel as was done for Morocco and Kenya. In Morocco, poverty mapping was used to estimate poverty and vulnerability for small geographic areas using data from cross-sectional household surveys and the population census. The Kenya RVA examines the probability of falling below the poverty line in non-pastoral rural areas using pseudo panel data derived from repeated cross sections augmented with historical information on shocks.</p>
<p><u>Specialized risk modules</u> have been added to these surveys in some cases. This is useful to measure the incidence of shocks, and to understand key risk-management strategies.</p>	<p>Risk modules have been launched in a number of African countries e.g. Zambia (LCMS II and LCMS III), in Afghanistan and in Guatemala. For example, in Guatemala households were asked to report if they had experienced a shock during the previous 12 months, using pre-coded questions for 28 economic, natural, social/political, and life-cycle shocks. These shocks were classified ex ante into covariant and idiosyncratic shocks. In Afghanistan the National Risk and Vulnerability Assessment conducted in 2003 identified key risks faced by rural households such as drought, farming shocks and epidemics.</p>
<p><u>Panel data</u> – repeated observations of individuals, households, and communities – are increasingly available and have substantially improved vulnerability measurement and analysis.</p>	<p>Data which contain repeated observations of the same units provide a more complete view of the dynamics of poverty. Examples of studies that have employed panel data include PA/RVAs for Ethiopia, Nicaragua, and South Africa. The Ethiopia RVA uses panel data from 15 rural villages to provide a detailed depiction of consumption movements; the panel is supplemented with a more nationally representative pseudo-panel of cohorts. The Nicaragua study explores the impact of coffee price shocks on rural households. The authors uses panel data to explore household responses to terms of trade shocks.</p>
<p><u>Qualitative surveys and related information</u> complement standard survey data, and add depth and coverage of different dimensions of poverty and sources of vulnerability</p>	<p>Qualitative studies have been used in several PA/RVAs (e.g. Zambia, Burkina Faso and Guatemala) to derive a more rounded depiction of vulnerability. For example, qualitative and quantitative studies were combined in Zambia to identify key risks facing the population and their ability to cope with these risks. Alongside conducting a quantitative analysis of vulnerability, the Burkina Faso RVA utilized information from a qualitative analysis. Specially designed surveys were administered in 4 villages. Detailed information were collected on shocks faced by households, their effects on income or assets and the period of recovery.</p>

Common analytic methods to measure vulnerability, and identify households and individuals most at risk of falling into poverty	
<p><u>Vulnerability-to-Poverty indicators</u> based on econometric estimates of the probability of becoming poor, sometimes based on expected utilities (cross-section or panel data)</p>	<p>Vulnerability-to-poverty measures were initially calculated for Indonesia to assess the impacts of the 1997 financial crisis. Similar estimates were provided in Thailand and the Philippines. As methodologies improved, vulnerability indicators were used for PA/RVAs. In Burkina Faso for instance household-level survey data were used to estimate a vulnerability-to-poverty indicator; those identified as being vulnerable to poverty were separated into the chronic poor (63%) and the transient poor (37%). Households identified as vulnerable were smaller households, with limited access to land and transportation. In Indonesia, two panel data sets were used to estimate the probability of being poor next period, given current consumption levels. They showed that if the poverty line was set so that the headcount poverty rate was twenty percent, an additional 10-30 percent of the population was at substantial risk of poverty.</p>
<p><u>Proportions of the Poverty Line</u> can be used to identify individuals whose current consumption levels are close to the poverty line, and thus are at-risk of falling into poverty (usually cross-section data)</p>	<p>This indicator has been used to provide an estimate of individuals not classified as currently poor but whose incomes lie near the poverty line and therefore for whom the risk of falling into poverty is likely to be non-negligible. PAs for Morocco, Serbia and Montenegro have used this approach. In Serbia and Montenegro the “vulnerability line” was set at 50% above the poverty line: 33% of the Serbian population and 37% of the Montenegrin were found to be vulnerable to poverty or poor, compared to headcount rates of 10.6% and 9.4% respectively.</p>
<p><u>Lifecycle Risks</u> identify individuals at-risk due to age, gender, and other personal or household characteristics (usually cross-section data)</p>	<p>Life-cycle approaches are used to identify vulnerable groups at particular points in their life cycles or given particular characteristics. Examples of PA/RVAs that use this approach include Argentina, Mexico, Columbia and Benin. The RVA for Benin found that older people, having had time to accumulate agricultural land, fruit tree plantations or other income-generating means, were often considered relatively prosperous. On the other hand, younger people who have not yet accumulated wealth were more likely to be counted among the poorer, especially young women whose productivity is greatly reduced by childbearing and childrearing. In Colombia, individuals displaced due to conflict were found extremely vulnerable to shocks.</p>
<p><u>Heuristic</u> approaches, drawing on empirical information about individuals and households that experienced shocks, those who are poor or badly off (cross-section augmented by risk modules and by administrative information)</p>	<p>Multiple sources are commonly used to derive a more complete view of vulnerability e.g. in Guatemala, Afghanistan, Colombia, or Ethiopia. In Afghanistan a R&V study among rural households identified the key risks they faced, notably: drought, farming shocks resulting in a loss of crops or animals, natural disasters, epidemics, and increases in food prices. For urban areas, various qualitative assessments identified risks, those more vulnerable to poverty and coping strategies used. In Ethiopia, panel data on 15 villages were used alongside a more representative panel of household heads of the same age living in the same administrative zone.</p>

<p><u>Qualitative assessments</u>, subjective assessments of poverty and vulnerability (qualitative field work, surveys)</p>	<p>Qualitative methods (often combined with quantitative assessments) have been incorporated into several PA/RVAs (e.g., for Burkina Faso and Zambia) to identify the set of pivotal factors that perpetuate or exacerbate poverty. The Zambia PVA used a combination of qualitative and quantitative methods to conduct an in-depth analysis of the incidence and impact of those shocks on poverty. It estimated that 20 percent of households were vulnerable whilst almost 40 percent were chronically poor. Ten percent were both vulnerable and chronically poor and therefore at most risk.</p>	
<p>Covariate and idiosyncratic risk that impacts welfare levels and living conditions of poor households</p>		
<p style="text-align: center;">C O V A R I A T E</p>	<p><u>Macro shocks</u>, including terms-of-trade, financial crises</p>	<p>Macroeconomic factors such as terms of trade shocks or financial crises may affect large segments of the population. Examples of studies examining these covariate shocks include Vakis et al (2004) and Bourguignon and Goh (2002), amongst others. The first one examined the impact of terms-of-trade-shocks on rural households showing the impacts of the 2000-2002 “coffee crisis” on the coffee-growing regions of Latin America. The second addressed whether the volatility of workers' hours and incomes increased as a result of increasing trade liberalization, and whether the same has had an impact on vulnerability to poverty.</p>
	<p><u>Climate shocks</u>, including droughts, flooding Other agriculture production shocks, cattle disease, insect infestations</p>	<p>Climatic variation is a common covariate shock that affects rural households throughout the world. For example, the Ethiopia RVA identifies drought as the main shock leading to food insecurity, with famine being a yearly occurrence. The effects of crop damage due to pests, insects, or frosts on consumption were also found substantial. The Senegal RVA lists drought and flooding as the key shocks facing rural households. Drought cycles reduce agricultural production. In addition, insects, and the disease these carry, affect plants and animals.</p>
	<p><u>Natural disasters</u>: storms, earthquakes, etc</p>	<p>Regions prone to natural disasters are likely to be particularly vulnerable to poverty. For example, Turkey experienced severe losses of life and infrastructure in 1999 caused by an earthquake. The earthquake was followed by a period of economic and financial crisis, culminating in a major currency devaluation in February 2001. World Bank (2003m) examined the coping mechanisms households used to cope with the earthquake; the major effect of the subsequent crises has been an increase in poverty in urban areas.</p>
	<p><u>War</u>, civil conflict and violence</p>	<p>The impact of war and conflict on livelihoods and vulnerability is discussed in several studies, for example the PAs for Kosovo, Bosnia and Herzegovina, Yemen, or Guinea-Bissau. In Guinea-Bissau conflict and political instability have considerably weakened the country’s productive tissue. This itself increased the degree of vulnerability of the population - mainly in rural areas where most economic activities take place - and hence impeded economic growth.</p>

I D I O S Y N C R A T I C	<u>Health shocks</u> , including HIV/AIDS, chronic and acute illnesses, deaths	Whilst health shocks are generally considered idiosyncratic shocks, the widespread nature of HIV/AIDS and malaria in some parts of the world implies that these shocks can often be viewed as covariate shocks. In Zambia's PVA, formal and informal coping mechanisms for dealing with shocks have come under increasing stress due to high rates of HIV/AIDS and death. Health risks may also be due to environmental degradation and outmoded industrial practices. For example, the Kosovo PA found that exposure to health risks is widespread, largely resulting from environmental pollution.
	<u>Labor and demographic shocks</u> : job loss, unemployment, death of a breadwinner	Unemployment and underemployment have been identified as major risks faced by households of a certain demographic in Bolivia, Uruguay, Argentina and Colombia for instance. The Columbia 2002 Safety Net Assessment notes that even though economic growth recovered modestly in 2000, poverty and unemployment remained high, and there had been a decline in some human development indicators. This was partly due to Colombia not having an effective safety net in place, capable to address the social consequences of the crisis.
	<u>Other shocks</u> i.e. corruption and violence, theft, fire, loss of property, also local and family disputes	Many studies noted the adverse impacts of corruption and crime and violence. Problems are particularly acute in urban areas e.g. as evidenced in analytic work in Latin American and Caribbean countries such as Haiti, Guyana, and Jamaica. Most R&V analysis has had a rural focus, particularly for low-income countries. Risks associated crime, fire, loss of property were noted in a number of reports for African countries e.g. Senegal, Kenya as well as conflict-affected countries.

B. Key Lessons

The R&V documents reviewed in this paper provide extensive evidence that risk matters for development: shocks are important causes of both transient and extreme poverty. Despite high levels of exposure, in many countries the poor have only limited access to formal and informal risk management instruments.

The situation differs substantially across countries and regions – in terms of the risks identified as well as the nature of formal and informal responses. Differences are particularly notable between low income (LIC) and middle income (MIC) countries. The risks identified in *MICs* are more amenable to traditional SP instruments than those identified in LIC settings. SP systems in MICs are more extensive and better financed. R&V analysis in MICs has focused more on the need for systemic reforms to SP systems, with the aim of improving the design and targeting of programs, also promoting incentives, cost-effectiveness and fiscal sustainability.

In contrast, poor people in *LICs* are exposed to a wide range of covariate and idiosyncratic risks and most have only limited access to formal risk management mechanisms. Informal mechanisms play an important role. However informal family and community-based systems have come under pressure and are breaking down in many low income countries e.g. in Africa, South Asia. Vulnerability is increasing even as poverty levels are falling. Certain *vulnerable groups* are particularly at risk and particularly poorly served by existing policies and programs e.g. the elderly and chronically ill; deserted women and widows; people living with HIV/AIDS; orphans and other vulnerable children; families displaced by conflict or other crises; small-holders struggling with repeated drought.

Taken in aggregate, recent R&V analysis draws attention to rising levels of vulnerability and concerns for those that development has left behind, despite global and regional progress in reducing poverty. Risk not only contributes to transitory episodes of poverty. New analysis, buttressed by findings in a number of R&V studies, identifies strong linkages between chronic, extreme poverty and risk in low income settings. Addressing risks, in particular for vulnerable groups, emerges also a key concern for inclusive and sustainable globalization.

C. The priorities going forward

Important progress has been made in improving the quality, relevance, and application of R&V analysis. However, the Bank faces a number of challenges moving forward.

Although R&V analysis has been mainstreamed into poverty assessment, challenges remain in carrying out good R&V work, including issues of measurement, analytics, and most importantly, developing effective policy responses. **It is essential to continue to improve the quality and relevance of R&V work in the context of Poverty Assessments – PVAs.**

In addition, **PVA should be complemented by free-standing analyses of specific risks, which aim to support specific sectoral responses and strategies.** The existing body of R&V work highlights e.g. the importance of climate shocks and other natural disasters in sub-Saharan Africa and some East Asian countries; the pervasive impacts of HIVAIDS in southern Africa; and health shocks particularly in low income countries. Man-made disasters include conflict and other forms of violence, financial crises, and more recently rising food prices that have led to violence and political upheaval. In this context, it is important to identify the primary risks that affect specific countries and the relevant current and future policy responses at the sector level.

Fragile states and low income countries in Africa are among the Bank's strategic priorities. As noted earlier, risks are widespread in LICs. **More work needs to be done in the context of fragile states and low income countries, to identify highly vulnerable groups and to tailor sectoral strategies to address the risks faced by these groups and their sources of vulnerability.**

In terms of improvements to R&V fundamentals, we would highlight the following:

- **Vulnerability Indicators.** There is still debate regarding how to measure vulnerability and what are the best indicators. Measures of vulnerability-to-poverty are widely acknowledged as conceptually attractive albeit difficult to estimate in a robust and consistent way. Data problems further confound estimation. Do existing approaches represent the best we can do or is this an important priority for future work?
- **Data.** Lack of good data continues to limit how well we measure and monitor vulnerability as well as our ensuing analyses. Good cross-section survey data are widely available; however, progress has been much slower in developing representative panel surveys, particularly among the poorest and most vulnerable countries. Good second-best data sources are being developed e.g. small (non-representative) panels of household and communities are collected with greater frequency, and more use is made of qualitative methods and data. More extensive efforts are needed to improve the data base for R&V analysis.
- **Poverty Dynamics and Drivers of Vulnerability.** Again, although important progress has been made, our understanding of poverty dynamics and the primary causes of vulnerability remains at a general conceptual level. Data and measurement problems are important limiting factors. Better empirical work is clearly needed, with particular focus on high-risk countries and specific shocks.
- **Policy Impacts.** Although the Bank has done extensive analytic work on vulnerability, this work has had only limited impact on country-level policy discussions for SP&L, with some notable exceptions such as Chile, Ethiopia, and Madagascar. There is a lot still to be learned about sectoral responses to risk and vulnerability, and how the Bank can provide better effective support through its country assistance programs. More progress can and should be made on the policy front, also in developing concrete operational responses to R&V findings, even despite imperfections in data and analytic methods.

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6. Appendix 1 – Comprehensive list of – R&V Analysis by region

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Summary Findings

This paper takes stock of the World Bank's risk and vulnerability analysis from FY00 to FY07. It complements recent assessments of Social Protection and Labor (SP&L) sector's lending and analytic activities on labor markets, pensions, social safety nets, and social funds. The review of 155 papers shows how risk and vulnerability have become part of the Bank's understanding of poverty as a dynamic concept, which considers not only the characteristics of poor households at a specific point in time but also of those at risk of becoming poor following specific shocks (e.g., from a sickness in the family to the effect of a natural disaster). In terms of policy, the paper highlights the importance of measures to prevent vulnerable groups from falling into poverty and to help them cope with the aftermaths of shocks. The Social Risk Management (SRM) strategy provides a conceptual and methodological framework for the paper, which highlights the richness and diversity of risk and vulnerability practices in the Bank's work by region and presents a variety of best practices. It points to rising levels of insecurity among poor and vulnerable groups despite global progress in reducing poverty, and it identifies strong linkages between extreme poverty and risk in low income countries. Addressing risks for vulnerable groups hence emerges as a key concern for inclusive and sustainable globalization. It concludes by calling for continuously improving the treatment of risk and vulnerability in poverty assessments, for complementing these analyses with free-standing studies of specific risks, for improving the collection of relevant data, and for developing the policy use of the analyses conducted.

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