



HARDSHIP AND VULNERABILITY IN THE PACIFIC ISLAND COUNTRIES



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Hardship and Vulnerability in the Pacific Island Countries



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Acronyms

CBN	Cost of Basic Needs
CIF	Consolidated Investment Fund
GDP	Gross Domestic Product
GER	Gross Enrollment Rate
HIES	Household Income and Expenditure Survey
NCD	Noncommunicable Disease
OMTV	Overseas Medical Treatment Visits
PIC	Pacific Island Country
PPP	Purchasing Power Parity
REP	Rapid Employment Project
TTF	Tuvalu Trust Fund
TYPSS	Ten Year Pacific Statistics Strategy
UNDP	United Nations Development Programme

Executive Summary

In many Pacific Island Countries (PICs), meeting nonfood basic needs is a growing challenge and further complicated by substantial economic and environmental risks. Of the 11 PICs that are members of the World Bank, six are lower middle income countries, with gross national income per capita of less than \$4,085 in 2012. The incidence of extreme deprivation (hunger) is traditionally low throughout the Pacific region, but urbanization and monetization of the economy are creating new forms of hardship, particularly for meeting the costs of nonfood needs. Small populations and remoteness limit economic diversification and increase the impacts of economic shocks, while location and topography expose Pacific Islanders to a range of natural shocks, which will likely be exacerbated by climate change. In addition, many PICs are heavily reliant on external inflows of money and goods, and this further exposes them to the volatility in neighboring large economies and global markets.

Hardship and vulnerability are increasingly prominent concerns in PICs, but the knowledge base to guide policy making is limited.¹ Household Income and Expenditure Surveys have been conducted in many PICs, but internationally comparable statistics on hardship and vulnerability are available for only a few. Although the aggregate or macroeconomic impacts of negative shocks have been relatively well studied, much less is known about the impacts on household well-being, in large part because of data limitations. In addition, the effectiveness of prevailing risk management mechanisms is not well understood.

1. In several PICs, the label of poverty is considered culturally inappropriate because it is viewed as implying a failure of traditional, community-based safety nets. As such, it is not discussed on political platforms, although it is viewed as a concern by relevant government departments and agencies. Therefore, in this study, the term “hardship” will be used to refer to the welfare concept commonly termed “poverty.”

Family and community networks are central to life in most PICs, providing critical support to members in need and acting as safety nets when individuals or households experience losses from shocks. However, in many PICs, people are moving away from isolated areas and islands and coalescing in urban centers. These changes may put strain on traditional networks and reduce access to land for subsistence. In addition, when shocks are “covariate,” affecting entire communities or countries, traditional networks may be less able to mitigate their impacts.

The primary objective of this report is to present solid empirical evidence of hardship, vulnerability to shocks, and risk management in the Pacific region. The report is primarily a stocktaking exercise that brings together existing evidence and new analysis of available data using a consistent framework. The report takes a “micro-” perspective—that of the individual and household—but accounts for the important role of communities, the state, and international partners. As such, it is a complement to the studies that analyze the macroeconomic context of the Pacific or that analyze rich subnational data. The purpose of building this solid evidentiary base is to catalyze needed future work, including new data collection, rather than to provide the final answer to any of the important questions addressed in the report.

Many People across the Pacific Are Living in Hardship, Many Others Are Vulnerable to Hardship in the Future

Across the Pacific, many people are living in hardship, meaning they are unable to meet their basic needs. The evidence presented in the first two sections of chapter 2 shows that more than 20 percent of people in most PICs live in hardship, meaning they are unable to meet their basic food and nonfood needs. The

incidence of hardship is highest in Papua New Guinea, where 40 percent of the population lives in hardship. These results accord with many other measures of well-being that have been made for the Pacific. PICs have had mixed success with making progress toward the Millennium Development Goals, and the United Nations Development Programme categorizes all the included PICs as having either “medium” or “low” human development. Taken together, all of these results show that hardship is a real challenge that merits the attention of policy makers in the Pacific.

Within countries, many factors have a bearing on hardship, including location, educational attainment, work status, gender, and age. In Fiji and Papua New Guinea, people living in urban areas are much less likely to live in hardship. In general, households headed by individuals who have limited education or who do not work are more likely to live in hardship. Households headed by the elderly are more likely to live in hardship than those headed by younger people, and households with more children are also more likely to live in hardship. The relationships between these characteristics and hardship vary in strength and are driven by many underlying factors. However, identifying these relationships is an important first step in understanding the challenge of hardship across the Pacific.

Many people not currently in hardship remain vulnerable to it, and levels of inequality in the Pacific are comparable to those in East Asian countries. Across PICs, much of the population that lives above their respective national poverty lines does not consume much more than those in hardship, meaning they are vulnerable to falling into hardship in the future. In all countries, the most well-off people (the top 20 percent) consume many times more than the least well-off. As measured by the Gini coefficient, inequality is highest in the Solomon Islands, Papua New Guinea, and Fiji. Moreover, within most countries, inequality in rural areas is equal to or higher than inequality in urban areas (Fiji is the prominent exception). When considered in a global context, Pacific levels of inequality are not extremely high, but to the extent that inequality affects economic growth and social cohesion, they may still be a matter of concern for policy makers.

Infrequent surveys, significant methodological variation, and cultural rejection mean that hardship currently plays a limited role in policy making. Unfortunately, across the Pacific, representative household surveys are infrequent. This lack of data

leaves policy makers and development partners without timely information about people’s well-being that could help them make the best use of limited public resources. Even when data exist, significantly different methodological choices in the poverty measurement and analysis as well as limited sharing of data makes it difficult to clearly interpret and communicate the results. In a context in which the notion of “poverty” is already controversial, these challenges mean that measures of hardship too often end up being ignored in policy making.

People in the Pacific Are Uniquely Vulnerable to Aggregate Shocks

People in the Pacific are uniquely vulnerable to aggregate economic and natural shocks because of their countries’ combination of small size, isolation, and other geographic features. The location and topography of PICs exposes them to a disproportionate number of natural shocks, and several are among the most vulnerable countries in the world in terms of relative natural disaster losses. Fuel and food imports, tourism, remittances, and international aid all contribute to the well-being of Pacific islanders and help countries overcome the limitations on development caused by geography. However, PIC economies are still small and undiversified, so negative shocks to these external flows can have very large impacts.

Commonly occurring price shocks to commodity imports and exports increase hardship substantially. People in the small countries of the Pacific are highly exposed to high and volatile global commodity prices. Microsimulation analysis for Kiribati, Papua New Guinea, and Tonga finds that shocks to the prices of imported food and fuel, agricultural commodity exports, and remittances push many people into hardship and deepen the severity of hardship for many others. The impacts of import price shocks are particularly severe in the small atoll nations that rely heavily on imports for staple foods and fuel. For example, in Kiribati, simultaneous spikes in the prices of rice, wheat, and oil are estimated to push 6 percent of the country’s entire population into hardship. This impact of a commonly occurring set of shocks (20 to 30 percent price increases, with a likelihood of about 33 percent in any given year) is close to the estimated impacts of the 2007 global food and fuel crisis on 20 of the worst affected countries in the world.

The growing epidemic of noncommunicable diseases (NCDs) is an aggregate health shock with significant consequences for the well-being of people in the Pacific. NCDs reduce productivity and quality of life and are very expensive to treat. Increase in NCDs has already eroded life expectancy in Tonga. Most PICs are facing this epidemic while also dealing with continued threats from communicable diseases and maternal and child mortality. With limited fiscal resources, trying to manage this “double burden” of disease is a major challenge for Pacific governments.

In addition to aggregate shocks, people in the Pacific face many idiosyncratic and local shocks, but little data are available to identify their frequency and impacts. Crop failure, job loss, violence, and many other idiosyncratic or localized shocks are likely to occur in the Pacific, as they do around the world. Some striking evidence on the prevalence of domestic violence and unwanted pregnancy shows that these personal shocks are much more common in the Pacific than in neighboring East Asian countries. However, existing national household surveys are not designed to capture information on the full range of shocks that occur or their impacts. Much more could be learned if future surveys asked specific questions about shocks and followed households over time to measure the impacts of shocks.

Traditional Systems and Government Responses Help but Are Not Enough

Traditional systems do not eliminate hardship and can provide only partial insurance. Although traditional systems of resource sharing and self-subsistence are important to the well-being of many Pacific islanders, hardship and vulnerability are still major challenges. Traditional systems do not reach everyone, and evidence from household surveys suggest that those in deepest hardship may be the least likely to be part of gift-giving networks. In addition, cultural and social pressures seem to require greater generosity than many households feel they can truly afford. At the same time, traditional systems cannot insure against the many aggregate shocks that are common in the Pacific. Governments therefore have a role to play in complementing traditional systems with hardship reduction and risk management efforts.

Households have limited access to market instruments that can help them manage risks. In particular, access to formal financial instruments is limited in most

PICs. Evidence from household surveys shows that a minority of households hold savings accounts, loans, or insurance policies. Without access to these risk management tools, households are likely relying too much on coping—for example, by drawing down on productive assets such as livestock or reducing their investments in human capital. At the same time, growth in financial access without effective regulation and consumer education can lead households into excessive debt, which is a concern in some countries including Fiji.

Governments provide little social insurance, but some programs show promise within country constraints. Across the Pacific, Fiji is the only country with a national hardship-targeted cash transfer program. However, many other countries provide transfers or subsidies to small groups of people identified as being in need. Broader measures to support those in hardship or experiencing shocks are generally not in place because of fiscal and capacity constraints, as well as lack of information, particularly in the smaller islands. Two programs that have been tried by some governments and development partners in the Pacific are funds for the elderly and cash for work schemes. These show promise in part because of their lower information requirements for targeting participants.

Government funding for basic services is under fiscal pressure because of rapidly rising costs of coping with NCDs. Health care expenditures in the Pacific largely go to coping with health shocks: curative, palliative, and rehabilitation care absorbs 80 to 90 percent of national health expenditures. This focus on coping is fiscally unsustainable because of NCDs, which are spreading quickly and are costly to treat. Greater emphasis is needed on knowledge and protection measures to slow their increase, but changing people’s behavior is difficult. In addition, funding both ex-ante knowledge and protection measures for the future, while dealing with the present costs of coping, is a major fiscal challenge.

Managing aggregate economic shocks through coping actions has limited effectiveness, and more protective measures hold promise. Few ex-post responses to economic shocks in the Pacific have proven to be effective in reducing the negative impacts on households while also being fiscally sustainable. Some ex-ante measures that provide protection or insurance against shocks are being explored, but shocks will continue to be part of the Pacific landscape. Therefore, some of the most important actions governments can take are to pursue

prudent macroeconomic policy, including building up savings in good times and actively mobilizing revenue to have resources to deploy during shocks.

The Way Forward: Govern Prudently, Invest in Data, and Enable Households and Communities

Govern Prudently

Governments and development partners have important roles to play in managing risk through sound policy, particularly in managing risks from aggregate shocks. Broadly speaking, government policy should aim to avoid being a source of instability itself and should actively recognize and account for risks in all areas. For the aggregate economic and natural risks described in this report, households and communities cannot fully manage on their own and need systematic support.

Good government policy in all areas should factor in risks. For example, urbanization is changing risk profiles and presenting new challenges, as well as opportunities. Active planning can help to address the challenges, and maximize the opportunities, by identifying and managing the associated risks. Strengthening the ties and coordination between government bodies responsible for infrastructure provision and building codes and those responsible for disaster risk management and climate change adaptation is one important step in this area. In addition, given the importance of land in the social, cultural, and economic life of people in the Pacific, governments should aim to support good land management, including enabling communities to use it as a resource to manage the risks they face.

Development partner activities should also factor in risks and seek to reduce rather than add to volatility. Flexible funding arrangements that are responsive to changed expenditure priorities in the light of major shocks can help. PIC governments with stretched implementation capacity would also benefit from a focus on the practicalities of implementation support following natural disasters.

Invest in Data

Governments and their development partners should invest in fielding regular household surveys for all countries. Some countries have conducted two or

more household surveys in the past decade, which is a promising start toward regular data collection. For the countries with more sporadic surveys and where reliance on external financing is greater, funding regular surveys, including the technical capacity to implement and analyze them, should be a priority for development partners. Additional consideration of survey methods and the content of surveys could help increase data quality and lower costs, which would increase the financial feasibility of regular surveys. For example, the use of local market price surveys, shorter consumption diary data collection periods, and technology-assisted survey methods could all be considered.

Conducting surveys is not enough: Public access to data and analysis is equally critical to getting it used by policy makers and partners. When data are made accessible, researchers and others use it to provide policy-relevant insights and also often help improve the quality of the data by pointing out problems that might not have been recognized. Several Pacific countries and their regional partners have restricted access to the collected data and to the analysis conducted with the data, including poverty measurement. In general, only summary statistics are available to the public, and no established processes are in place for obtaining access. Consequently, little use is made of Pacific data outside of the few groups that have access to it, and Pacific countries are often excluded from external databases and analyses. Increased data accessibility is one of the objectives of the Ten Year Pacific Statistics Strategy, and this accessibility should go beyond summary statistics.

In addition, active communication about the meaning and implications of poverty measurement is needed to get hardship on the policy agenda. Poverty measurement has been carried out using household survey data in many Pacific countries. However, government and the general public are often unfamiliar with the analysis and its implications, so the information receives limited consideration in policy making. Active communication led by national statistics offices and supported by development partners is needed to help clarify what poverty measurement actually measures and to increase awareness of its implications about hardship.

Enable Households and Communities

Identify the important roles of governments and development partners in supporting the efforts of households and communities to reduce hardship and vulnerability: In particular, selective investments

in social programs are needed to provide safety nets and relief from hardship. Governments in the Pacific are also well placed to effectively build human capital by improving the quality of education that often is already publically provided and by creating productive economic opportunities. In addition, governments have an important role to play in increasing people's access to a broader set of risk management tools.

Strongly consider expanding the role of government and development partners in social protection programs: Households and communities in the Pacific are not able to fully manage the risks they face or to eliminate hardship. In particular, traditional networks do not reach many households experiencing the deepest hardship and appear to provide only partial insurance to households suffering shocks. In addition, traditional networks cannot manage local or aggregate shocks that affect most of their members. These findings make it clear that Pacific governments, and their development partners, need to consider an expanded role in social protection that takes into account traditional networks and is mindful of fiscal and capacity constraints.

Increase the quality, accessibility, and portability of education and create more opportunities for migration: High-quality education equips people

to do their work more productively, whatever their work may be, and therefore earn more. Given the challenges to private sector growth in the Pacific, education that is "portable" is likely to be the most valuable. For example, governments can work with development partners (who often receive migrants as well) to adopt education qualifications that will be recognized in major migrant-receiving countries. Simultaneously, regulatory barriers that restrict opportunities for migration should be removed to provide greater numbers of people in the Pacific the opportunity to access overseas labor markets.

Foster more opportunities for productive work at home, but only where it makes economic sense: Jobs and increased income not only raise living standards in good times but also enable households to better manage the risks they face. Given the unique challenges in the Pacific, realistic expectations about the potential for job growth led by the private sector are needed. While remaining supportive of viable economic growth sectors, expenditure should be carefully focused on investments with high expected economic returns and relatively low risks, given the limited means of most Pacific governments. Development partners can play a role in financing these investments and in sharing experiences on what works from other parts of the world.

Chapter 1

Concepts and Context

Basic Concepts

Hardship and vulnerability are related, but distinct, concepts: Hardship is about having low current well-being, and vulnerability is about expectations of reductions in future well-being. People can be said to experience hardship based on many different measures, such as lacking access to services or living in low-quality housing. A common measure of hardship around the world, which this report applies to the Pacific, is the inability to meet the basic needs of life as measured by consumption. On the other hand, vulnerability is based on expectations about the future. Specifically, vulnerable people face high risk, or a high probability, of a reduction in their well-being in the future, possibly to the point of experiencing hardship or deepening existing hardship.

Many people in the Pacific experience hardship, for many different reasons. Global or national factors, such as commodity prices or natural resource endowments, can affect hardship and are discussed in the next section. In addition, local, household, and individual characteristics are often important determinants of who faces difficulties in meeting the basic needs of life. For example, people with limited education may be unable to earn a living, whereas people who live in remote, rural areas may be unable

to obtain basic services. The characteristics of people experiencing hardship will be explored in chapter 2.

People in the Pacific are vulnerable to many shocks, meaning they face high risks to well-being. Shocks are occurrences, often difficult to predict, that have positive or negative impacts on well-being. Risks are the expected negative impacts from shocks, which depend on both the likelihood of shocks occurring and the impacts they have if they do occur. On the other hand, opportunities are the expected positive impacts that some shocks can have (World Bank 2013a). This report focuses on risks but accounts for the role of opportunities when possible. Experiencing hardship in the present may increase vulnerability by limiting the ability to avoid negative shocks or guard against their impacts. Table 1.1 provides explicit definitions for these concepts, which will be utilized repeatedly throughout this report. Because it deals with the uncertain future, vulnerability cannot be easily measured without data that follow the same individuals or households over time. This type of data, also representative at the national level, does not exist in the Pacific. In chapter 3, proxies for vulnerability are used instead, including the frequency of different types of shocks among households and the magnitudes of the impacts of shocks.

TABLE 1.1: Definitions of Key Concepts

Term	Definition
Hardship	Low level of current well-being
Vulnerability	Facing high risks to future well-being
Risk	Expected negative impact of shock = probability of shock occurring × impact given occurrence
Opportunity	Expected positive impact of shock
Shock	Events or occurrences that are difficult to predict
Uncertainty	Lack of knowledge about future outcomes (including shocks, risks, and opportunities)

Source: Adapted from World Bank 2013a.

TABLE 1.2: Shocks Defined by Source and Level of Covariance

Source	Covariance		
	Idiosyncratic (Individual or Household)	Local (Community or Region)	Aggregate (National or International)
Natural	Death of livestock	Harvest failures, floods, landslides	Cyclones, earthquakes, droughts
Economic	Job loss	Sector collapse	Commodity price shock, foreign aid reduction
Health	Injury, illness	Epidemic	Pandemic
Sociopolitical or personal	Theft, abandonment	Community disputes	Ethnic conflict, political violence, coups

Source: Adapted from World Bank 2012a.

Shocks are defined by four main sources (what causes them): natural, economic, health, and sociopolitical. Natural shocks include disaster events (such as volcanic eruptions and tsunamis), ongoing environmental damage (such as erosion and salination), and other natural events that are difficult to predict (such as pestilence and excessive rainfall). Economic shocks include unpredictable changes in employment, income streams, prices, and other factors. Health shocks are equally wide-ranging and include injury, illness, and death. Finally, sociopolitical shocks include theft, violence, and ethnic conflict.

Shocks are also defined by their level of covariance (how widespread their impacts are): from idiosyncratic, to local, to aggregate.¹ Idiosyncratic shocks strike particular individuals or households, but not entire communities or countries at the same time. The death of a household member, the loss of a job, and the failure of a household's crop are all examples of idiosyncratic shocks. Local shocks, such as flooding or community disputes, strike entire communities at the same time. Aggregate shocks have the broadest reach, striking many communities, islands, or countries simultaneously. Some idiosyncratic and local shocks can expand to become national, for example, an illness that first strikes only a few households, but then spreads, or a community dispute that grows into broader civil unrest. Table 1.2 presents a typology of shocks, by both source and level of covariance, and provides additional examples of each type. Because of data limitations, the evidence presented in chapter 3 focuses on idiosyncratic and aggregate shocks.

Shocks also differ in their rate of onset, intensity of impacts, and probability of occurring. Along with

1. More specifically, the covariance of a shock can be defined as how closely related the probability of a shock impacting a single individual or household is to the probability that the same shock impacts other individuals, households, or communities.

source and level of covariance, these characteristics determine both the risks associated with shocks and the best approaches to managing those risks. Even among shocks from the same source and at the same level of covariance, large differences can be found in the rate of onset, intensity of impacts, or expected probability of occurring. For example, a transient illness striking a household member may be a health shock that occurs fairly frequently in a household but with relatively small impacts, while a permanently disabling injury to a household member is a health shock that is more rare but also more severe. All these characteristics determine the risks to well-being that shocks present, but in many cases, substantial uncertainty surrounds shocks and their associated risks. Such uncertainty can limit the attempts individuals (or communities or countries) make to address risks, as well as the effectiveness of any attempts that are made, thereby increasing vulnerability. A systematic approach to managing risks effectively that begins with increasing knowledge is discussed later in this chapter.

Hardship and vulnerability are closely linked concepts, and experiencing hardship can increase vulnerability. Households experiencing hardship often do not have the resources to effectively prepare for shocks or may be forced to make decisions that increase their vulnerability. For example, some households in hardship may consume everything that they earn or produce, leaving little or nothing for savings that could be used in response to future negative shocks. Others may decide to live on unsafe land because it is the most affordable option: In Fiji, for example, the least well-off migrants to urban areas tend to settle on some of the most undesirable lands—waste dumping sites, flood-prone areas, and unstable hillsides (Mohanty 2006).

Vulnerability can also increase hardship. Vulnerable households face substantial negative impacts when shocks occur, such as the loss of assets or access

to income production. These impacts can push households deep into hardship that can be difficult to recover from. In addition, actions taken by vulnerable households to manage risk can indirectly increase hardship. For example, many households around the world without access to insurance try to reduce the risks to their incomes, by choosing safer but less productive crops, or by diversifying into many income-generating activities, which can lower not only risk but also opportunity (Morduch 2004). After shocks occur, the coping responses of households with few options can also increase hardship, for example, if households have to draw down on their productive assets like livestock or reduce their investments in human capital.

A Unique Set of Features in the Pacific Shape Hardship and Vulnerability

Geographic features common to most Pacific island countries (PICs), including small size, large distances, and topography, contribute to the hardship and vulnerability of people in several ways (see figure 1.1). With the exception of Papua New Guinea, PICs all have populations under 1 million, with many populations numbering in the tens of thousands. These countries are scattered across the equivalent of over 15 percent of the earth’s surface, far from

centers of economic activity and from each other (see figure 1.2). For example, the 100,000 or so inhabitants of Kiribati are scattered across islands that are spread over an area larger than India. In addition to isolation, the location and topography of many Pacific islands create both risks, in the form of natural disasters, and opportunities, in the form of natural resources.

Smallness and isolation contribute to hardship and vulnerability by limiting the size and diversity of the private sector. Private enterprises face significant challenges in achieving economies of scale, specialization, and innovation needed to grow, because domestic supply chains, labor markets, and consumer demand are limited (World Bank 2013b). Geographic isolation exacerbates these challenges: The movement of goods and people across long distances is costly and thus makes most production in Pacific island countries uncompetitive in world markets (Winters and Martins 2004). Therefore, jobs in the private sector, and the opportunities they provide to reduce hardship, are limited (see figure 1.3). In addition, these constraints on private sector growth can lead to one or two sectors dominating the economy, making households vulnerable to downturns in these sectors. For example, in Palau, where tourism accounts for almost half of gross domestic product (GDP), the 2008 bankruptcy of one Taiwanese airline caused a 17 percent contraction in tourism between 2008 and 2010 (Colmer and Wood 2012).

FIGURE 1.1 DISTRIBUTION OF PICs

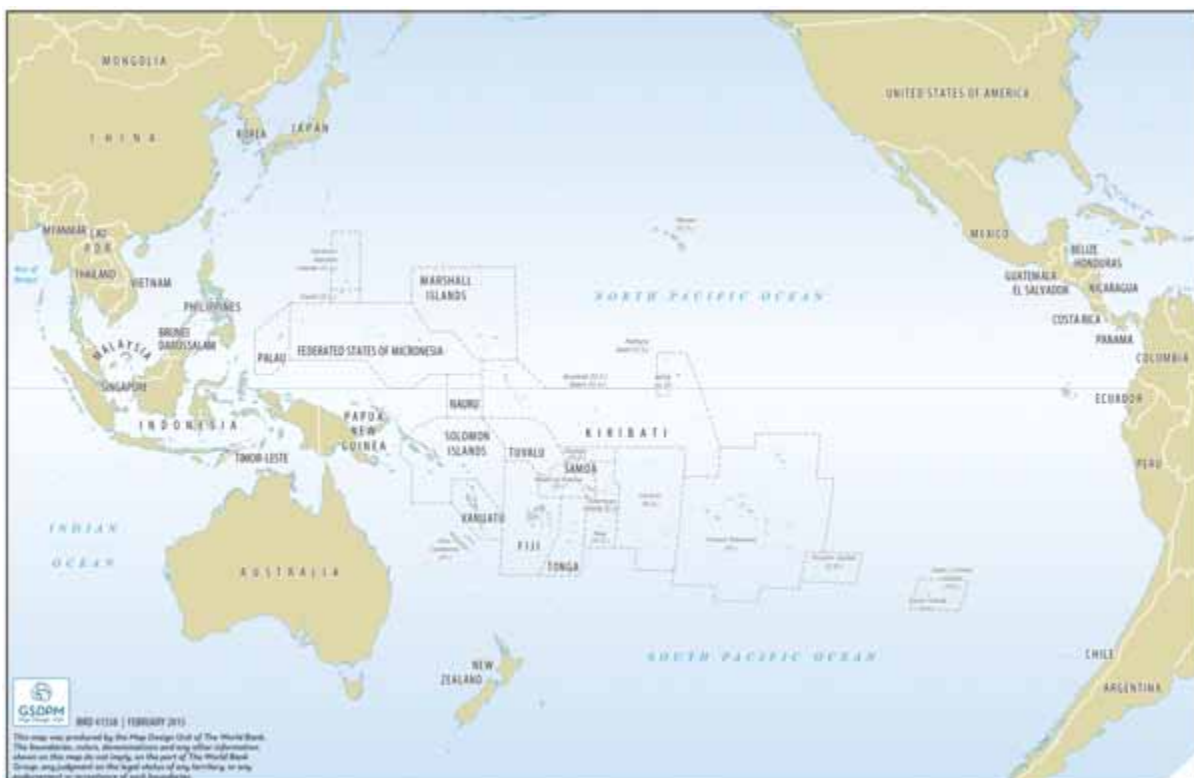
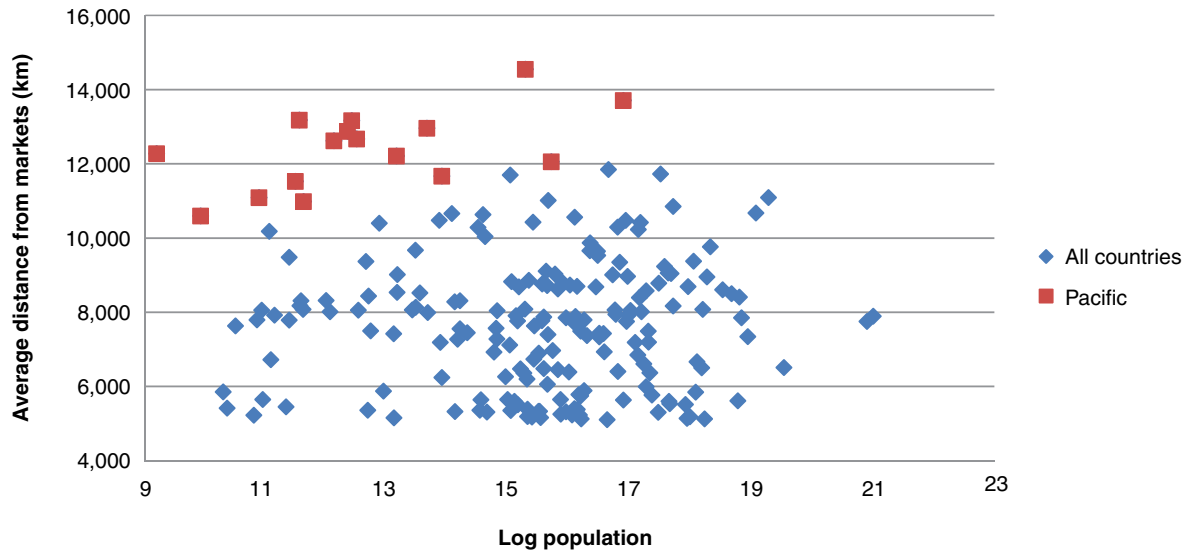
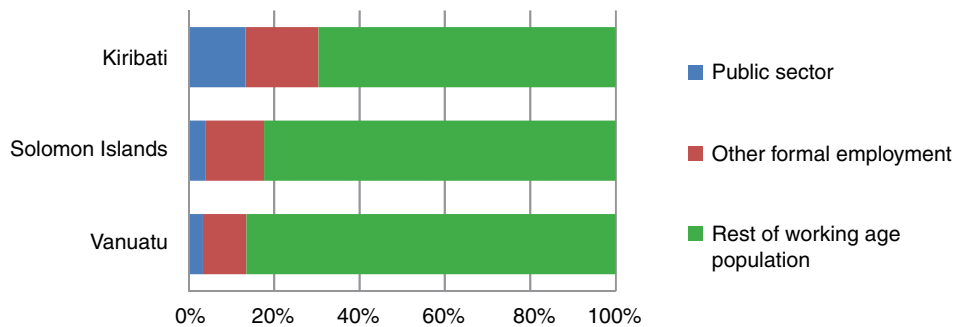


FIGURE 1.2 SIZE AND DISTANCE FROM MARKETS OF PICS VERSUS OTHER COUNTRIES



Source: Cororaton and Knight 2013.

FIGURE 1.3 WORKING-AGE POPULATION BY SECTOR OF EMPLOYMENT IN KIRIBATI, SOLOMON ISLANDS, AND VANUATU



Source: World Bank 2013b.

Economic openness, while needed to mitigate the effects of smallness and geography, contributes to vulnerability by exposing Pacific islanders to the vicissitudes of global markets. This vulnerability is most pronounced in the coral atoll islands, including Kiribati, the Marshall Islands, and Tuvalu, where limited land mass and underdevelopment constrain agricultural productivity. Households are consequently dependent on imports of basic foods and vulnerable to rising and volatile global prices. In these countries, the ratio of food imports to GDP is three to five times the global average for developing countries (Cororaton and Knight 2013). Households in most PICs are also highly vulnerable to global energy prices, both directly through their reliance on fuel imports

and indirectly through the transport costs that make up a large part of import and export costs.

Smallness and distance also affect hardship and vulnerability through their impacts on the public sector. In small countries, the functions of government (including administration, service delivery, and infrastructure) are provided to small populations and paid for by a small number of taxpayers, making it difficult to realize economies of scale (World Bank 2011). The dispersion of populations across large swathes of ocean (as in Kiribati) or across difficult terrain (as in Papua New Guinea) increases expenses even further. In addition, the specialized capacities required for administration are relatively scarce

because of small population sizes and may be difficult to obtain in part because of geography. Weakness in public provision of services and infrastructure contribute to hardship by limiting the ability of household members to build their human capital (through schooling and health care) and by limiting households' access to economically productive infrastructure like roads and telecommunications. Public sector efforts to reduce risks and manage opportunities are often weak, increasing the vulnerability of households.

Location and topography make many Pacific islanders vulnerable to natural shocks. Several PICs are located along the Pacific Ring of Fire, the area along the edge of the Pacific Ocean where tectonic plates collide, or in areas of high typhoon activity. Eight of the 20 countries in the world with the highest annual average losses (as a share of GDP) from disasters are PICs (World Bank 2012b). Many of the coral atoll islands are also facing existential threats from the long-run shocks of rising sea levels and ocean acidification.

On the other hand, geography (natural resources) combined with traditional practices helps to limit extreme hardship, while offering significant opportunities in some PICs. Most Pacific islanders have access to and practice subsistence agriculture or aquaculture, obtaining at least some of their households' food from cultivated gardens, wild vegetation, and the ocean. Coupled with traditions of communal support, these resources help to limit the prevalence of hunger in the Pacific, although nutrition and obesity are significant problems (WHO 2010). In addition to food resources for household use, some PICs are endowed with large amounts of resources. For example, Papua New Guinea is rich in natural gas and minerals, and the waters of Kiribati's exclusive economic zone provide valuable fishing license revenues. However, governments still face challenges in effectively realizing the benefits of natural endowments while minimizing damage to local livelihoods.

Reducing Hardship and Vulnerability through Risk Management

Because hardship and vulnerability are closely linked, reducing one can reduce the other. For example, targeted programs that provide support or services for those experiencing hardship also can reduce vulnerability by serving as safety nets, expanding to serve individuals or entire communities experiencing

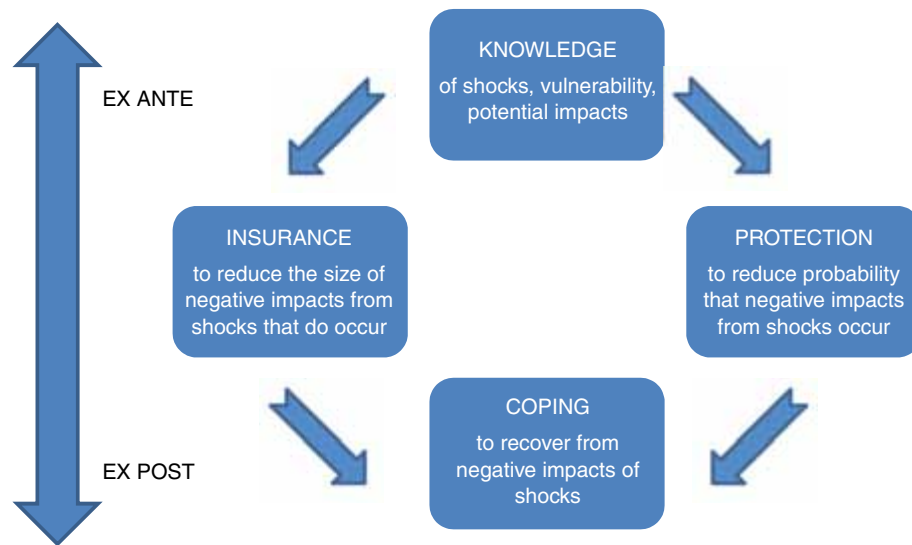
a shock. At the same time, the existence of such programs can reduce the hardship-perpetuating impacts of vulnerability, by reducing the need for people to cope in destructive ways. Examples of such programs, established well ahead of crises and effectively serving both roles, are starting to emerge around the world.

A systematic approach to risk management is needed to effectively reduce the vulnerability of Pacific islanders. As detailed in the preceding sections, Pacific peoples are vulnerable to many risks. Every risk cannot be removed, so how can households, governments, and international partners decide which risks to address and how? The 2014 World Development Report, *Risk and Opportunity: Managing Risk for Development*, provides a framework for risk management consisting of four components: knowledge, insurance, protection, and coping (figure 1.4). The characteristics of the shocks experienced and the relative costs and benefits of these components, as well as how they interact, all help determine the best approach to risk management. Each component of the framework is described in detail below.

Knowledge, of both the shocks that may occur and ways to reduce the associated risks, is the critical first step toward reducing vulnerability, but it is not enough. The first barrier to managing risks is uncertainty: Without knowledge about the types of shocks that are possible and the nature of the risks associated with these shocks, little effective action can be taken. In addition, knowledge of measures to reduce risks and the capacity to assess and implement these measures is needed. For example, across the Pacific, only about half of households have access to improved (protected and sanitized) drinking water, putting populations at risk for a range of diseases and even death, particularly for young children (WHO 2008). Providing households with information about the dangers of contaminated water and the ways in which they can manage the risks is important, but research from around the world has found that even with this knowledge, households often do not take action. Costs and behavioral factors, such as the effort associated with remembering to take extra steps to purify water, can have large effects on whether or not households utilize their knowledge (Ahuja, Kremer, and Zwane 2010).

Based on the right knowledge, protection measures reduce risks by lowering the probability that negative impacts from shocks occur. Protection can take many forms, depending on the types of shocks that are faced. The probability of some shocks occurring,

FIGURE 1.4 KEY COMPONENTS OF RISK MANAGEMENT



Source: Adapted from World Bank 2013a.

such as cyclones or global commodity price spikes, cannot be directly changed by protection measures. However, the probability that these shocks will cause negative impacts can be reduced: Wind-resistant construction and early warning systems can lessen the probability of damage and loss of life from cyclones, and purchasing agreements and domestic agricultural production can limit the impacts of commodity price spikes. For other shocks, the probability of occurrence can be directly reduced through protection. For example, appropriate chlorination of drinking water, which has low financial costs, drastically reduces bacterial contamination and illnesses.

Insurance, also implemented prior to shocks occurring, reduces the size of negative impacts from shocks by transferring resources across time or people. Two forms of insurance exist, self-insurance and pooling, and the optimal use of each depends on many factors, including the types of shocks faced. Self-insurance means transferring one's own resources over time (through savings or borrowing) to the time after a shock occurs. Households self-insure by accumulating cash savings, storing food, having lines of credit, and a range of other actions that will help them reduce the negative impacts of shocks. On the other hand, pooling means sharing risks with others, and it can occur at multiple levels, from informal pooling within a family network to formal insurance purchased in the private market. Pooling across households, communities, or nations that face

different probabilities of a shock occurring reduces the overall risks and makes insurance less costly. For example, small island nations may not be able to afford disaster insurance individually, but pooling initiatives in which nations join together to purchase regional insurance have shown early success in the Caribbean and promise in the Pacific.²

After a shock occurs, coping encompasses the actions that are taken in response. Coping can include many different actions, such as taking out loans or increasing the amount of time spent working. Such actions are common and can be relatively benign. However, in many cases detrimental coping actions must be taken because households were unable to manage risks ex ante. These actions, such as selling productive assets or taking out high-interest loans, can increase hardship in the long run.

The optimal mix of components depends on the characteristics of the shocks experienced. The probability of shocks occurring, the intensity of impacts when they do occur, and the level of covariance are important for determining the best risk management approach (Ehrlich and Becker 1972; Gill and Ilahi

2. The Caribbean Catastrophe Risk Insurance Facility made its first payouts in 2007 and currently has 16 member countries. The Pacific Disaster Risk Financing Program pilot was launched in January 2013.

2000). For example, coping may be the best response to rare shocks with minimal impacts, because the costs of additional risk management would outweigh the benefit of reducing the small risks. On the other hand, likely shocks with large impacts may be too costly to insure through market pooling insurance. Many other factors are also critical to determining the best approach, including the availability, costs, and characteristics of each component and how they interact with each other. For example, protection is complementary to insurance purchased in the private market when the price of insurance responds to protection measures. A common instance of this is private automobile insurance providers offering reduced prices for those with alarm systems or other safety features in their cars.

Shock characteristics also help determine who should take the lead in risk management. Although households actively manage the idiosyncratic risks they face, large, covarying shocks may require government or international assistance to manage, because households and communities often can do little prevention and cannot afford to insure themselves. Even when shocks do not covary, a role is often still found for the broader community and government to play because of many challenges to risk management, including those discussed above.³

Pacific Approaches to Reducing Hardship and Vulnerability

In the Pacific, extended kinship networks play the largest role in supporting people experiencing hardship and are believed to both help equalize welfare and act as insurance. Traditional expectations of reciprocity and generosity in the exchange of food and other items, culturally specified and formalized in different ways across the Pacific, help to minimize hunger and severe deprivation (Ratuva 2010). Few quantitative studies of the effectiveness of traditional systems have been conducted because of lack of data. In one of the few, Gibson (2006) utilizes data from Papua New Guinea and Tonga in the 1980s and 1990s and finds that interhousehold transfers and

remittances do help to reduce inequality in urban Papua New Guinea and Tonga, but not in rural Papua New Guinea. Gibson also finds some evidence that transfers act as insurance: In Papua New Guinea, net transfers increase when households experience a loss of cash income or a birth. Interwoven with these traditional networks, churches are at the heart of many communities across the Pacific: Many churches provide various forms of support to their members but also require substantial commitments of time and money (Barker 1996).

However, traditional networks may be less effective in responding to local or aggregate shocks. When many households within the same network are affected by the same shock, such as a community experiencing disputes, the ability of households to assist one another can be significantly reduced. When Tuvalu suffered a drought in 2011, for example, international partners had to airlift in desalination equipment and water. International migration can increase the ability of these networks to respond to covariate shocks by diversifying the shocks to which network members are exposed. For example, after the 2009 tsunami in Samoa, remittances surged by more than \$10 million above their historical levels (Gibson 2010).

In addition, traditional networks and churches may also place burdens on people that perpetuate hardship, and shifts toward urbanization and monetization may leave some households without support. The traditional systems in the Pacific require exchange and contribution for many reasons other than helping the less well-off, including for ceremonial events and support of communal activities. In qualitative participatory assessments conducted across dozens of Pacific communities in the early 2000s, participants in Samoa, Tonga, and Tuvalu cited the burdens of meeting community and church obligations as one of the top causes of hardship (Abbott and Pollard 2004). In addition to these pressures, migration out of rural areas into cities and overseas may be weakening traditional ties, while increasing use of cash for purchasing necessities reduces the role of food and material exchange in reducing hardship.

Most Pacific governments are not involved in direct transfer programs to the less well-off but focus on providing free or low-cost social services to the population. Governments are often reluctant to become involved in direct transfer programs to those experiencing hardship, for fear of undermining traditional systems. In addition, the egalitarian ethos of most Pacific societies makes means-targeted

3. This report focuses on the roles of households, communities, governments, and international partners in managing risks. The 2014 World Development Report (World Bank 2013a) reviews the roles of all these actors, as well as the enterprise sector and the financial system, and provides additional guidance on who is best placed to manage different types of risks.

programs unattractive to policy makers and viewed as potentially unfair. As a consequence, most Pacific governments focus on providing free or low-cost health, education, and other services to the broader population. The quality and accessibility of these public services vary across the Pacific, and private alternatives may be of better or worse quality, if they exist. For example, in Kiribati, the government provides free education through the junior secondary level, but the eight church-run schools offering junior secondary education are generally considered of higher quality than the 24 government-run junior secondary schools. Families therefore often make concerted efforts to place their children in the church schools, such as finding the cash needed to pay fees and sending children to live with relatives on Tarawa, where most church-run schools are located (Republic of Kiribati MOE 2011). Chapter 4 will describe in further detail both current approaches to hardship reduction as well as what is known about risk management in the Pacific.

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Chapter 2

A Snapshot of Hardship in the Pacific

Background

Across the Pacific, many people are unable to meet their basic needs. The purpose of this chapter is to shed light on the well-being of people in the Pacific and the incidence of and characteristics related to being unable to meet basic needs. Over the past decade, most PICs have conducted household surveys and used the data to analyze the well-being of their populations. However, little attempt has been made to consider this analysis and its implications in a comparable manner across countries.

“Hardship” is the preferred concept in the Pacific, because “poverty” is considered culturally inappropriate in several countries. Hardship refers to the same condition that is called poverty in other regions: having a low level of current well-being or, more specifically, being unable to meet one’s basic needs. However, the term “poverty” is not well accepted by many governments and societies in the Pacific, for three main reasons detailed below.

First, understanding is often limited on the part of policy makers and the public of the meaning of poverty measures. Across PICs, the analysis carried out using household survey data has established poverty lines and poverty rates, but these results have had limited acceptance or impact on policy making. Poverty measurement is technically demanding, and the details of the analysis not easily accessible to nonexperts. National statistical offices that produce the measures (often with the assistance of development partners) have limited resources to invest in the communication that would be needed to familiarize both policy makers and the public with the measures and their meaning.

Second, “poverty” in many PICs has been associated with hunger or extreme deprivation. Received wisdom

is that extreme deprivation is not widespread in the Pacific, and the data presented in this chapter support this. In addition, the existence of such deprivation would imply the failure of the traditional networks of support that exist across the Pacific, making it a culturally sensitive topic. In addition, networks are considered to still be strong and active in most countries.

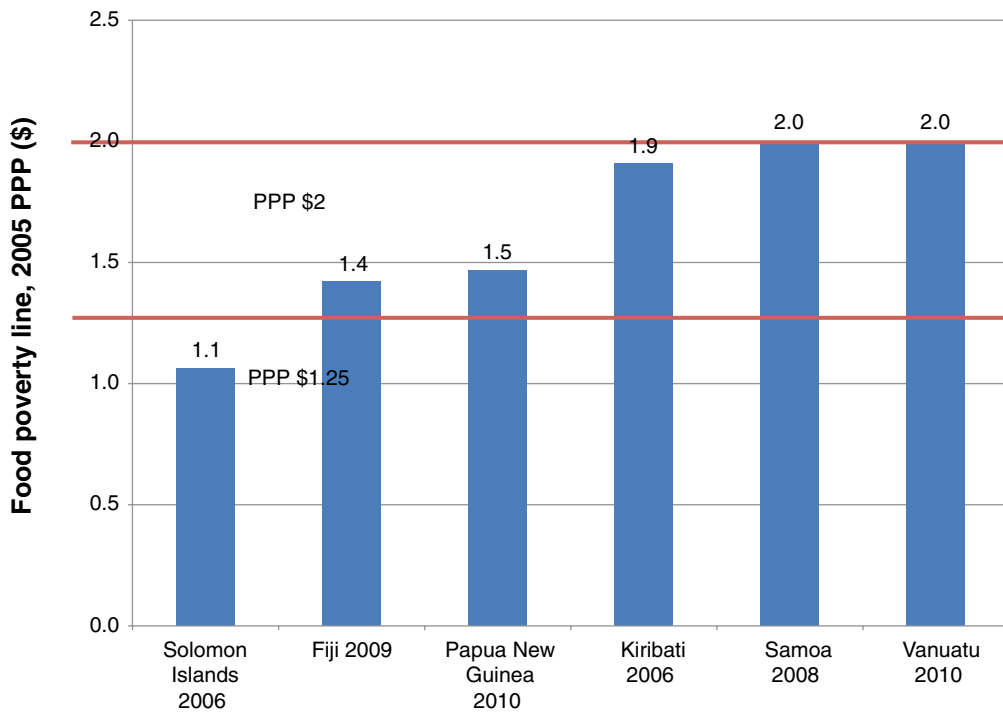
Finally, the notion of measuring well-being in monetary terms through consumption or income is still relatively foreign because a significant share of the population still relies on self-produced or procured resources from land (often communal) and sea. In addition, interhousehold transfers of goods and services are widespread. However, the share of cash transactions has been rising, driven by urbanization and the need to pay for things such as school fees and telephones. This renders the population increasingly accepting of the notion of “monetary” poverty.¹

This chapter is structured as follows. The second section discusses the results of the poverty measurement carried out in several PICs, focusing on the use of consumption as the measure of welfare and the setting of poverty lines.² The next section presents the hardship rates resulting from these analyses, and the fourth section considers how hardship rates are related to various factors within countries. The fifth section analyzes the level of inequality within

1. Although hardship is a multidimensional concept, the emphasis for this report is on monetary measures of hardship because they are increasingly relevant and yet poorly understood and underutilized in the Pacific at present.

2. Published reports containing the results of this poverty measurement are not all explicitly cited in this chapter but are included in the reference list of this chapter.

FIGURE 2.1 DAILY FOOD POVERTY LINES



Sources: World Bank staff estimates based on Household Income and Expenditure Surveys (HIESs) and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).
 Note: PPP = purchasing power parity.

countries, and the final one concludes with a summary of the key findings.

Poverty Measurement in the Pacific

Poverty measurement in PICs has been based on the Cost of Basic Needs approach. The Cost of Basic Needs approach is a commonly used method that attempts to define the minimum resources needed for long-term physical well-being, usually in terms of consumption (Haughton and Khandker 2009). Using this approach, a poverty line is defined as the amount of spending required to obtain those resources. A list of “basic needs” defines the minimum resources and consists of food and nonfood (clothing, shelter, services) items.³ The poverty line reflecting food needs is called a food or “extreme” poverty line. The poverty line reflecting both food and nonfood needs is called a total poverty line.

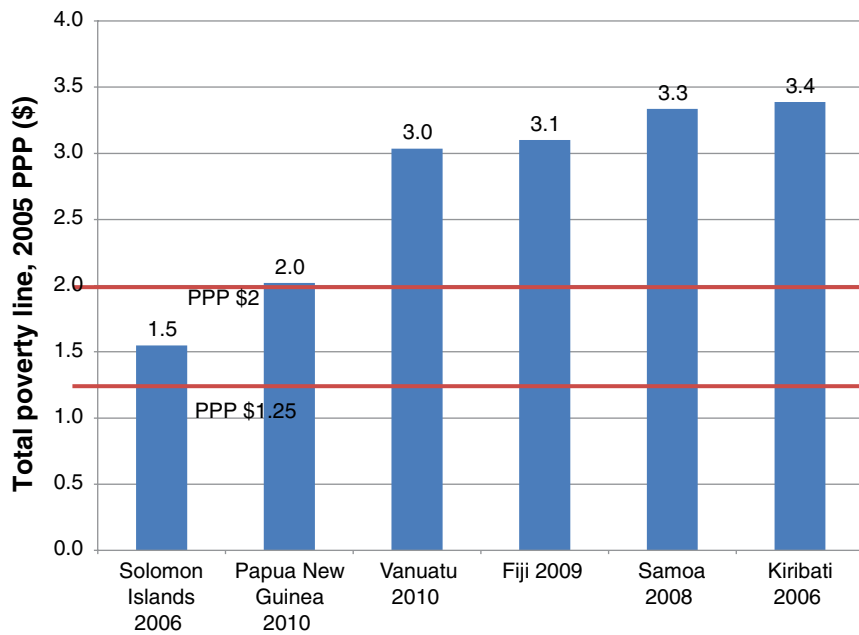
3. It is this list of items and their treatment (i.e., how they are aggregated) in household surveys that often differs greatly across countries and makes consistent comparisons across countries challenging.

The daily values of food poverty lines vary substantially across countries but are mostly above the extreme poverty line of \$1.25 used for international comparisons. To make international comparisons, national poverty lines in local currencies can be converted to purchasing power parity (PPP) dollar terms for each country for which a PPP conversion factor has been calculated. These conversion factors are from 2005 and are regression-based estimates, rather than price-based, in all PICs except Fiji (ICP 2005).⁴ Across countries included in this analysis, the Solomon Islands has the lowest food poverty line, slightly below the international line of \$1.25 per day in PPP terms (see figure 2.1). Other PICs set their daily food poverty lines above this level, with Samoa and Vanuatu having the highest lines at \$2.20 and \$2.30, respectively. This pattern is consistent with the expectation that lower income countries would have lower costs for similar amounts of food.

Daily values of total poverty lines also vary substantially. Figure 2.2 shows that the value of basic

4. Some PICs, including Tuvalu, do not have PPP conversion factor estimates and are therefore not included in this section.

FIGURE 2.2 DAILY TOTAL POVERTY LINES



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: PPP = purchasing power parity.

needs poverty lines range from the Solomon Islands at \$1.50 up to Samoa and Kiribati at \$3.30–\$3.40. These lines were derived using a similar methodology across countries: The cost of essential nonfood needs is estimated using a reference group of households, and this cost is added to the value of the food poverty line. Across the countries analyzed, food costs constitute about 60 to 70 percent of the total costs required to meet basic needs. Fiji, at 46 percent, is substantially lower than the other countries, possibly because it is more urbanized, and food costs as a share of total costs tend to shrink in urban areas. Overall wealth also plays a role, with a lower share of food costs in total costs an outcome of Fiji's higher average income.

What do the poverty lines measure? The methodological approach to defining both food and basic needs poverty lines is similar across the Pacific, but important differences are found. The definition of a sufficient amount of energy, the group of households used to determine typical food and nonfood needs, and the prices used to determine the costs of food and nonfood needs all vary substantially. For example, the definition of a sufficient amount of energy ranges from 2,100 calories per person in Samoa, the Solomon Islands, and Vanuatu, to 2,200 calories per adult in Papua New Guinea. These types of differences exist across all countries in the world but should be kept in mind when comparing the values of the poverty lines

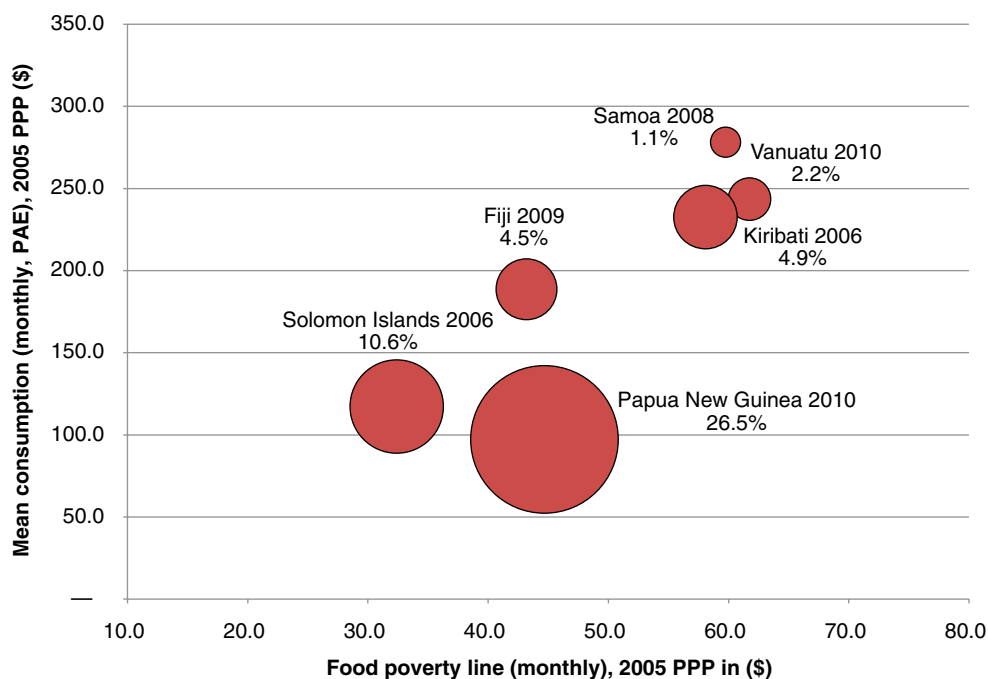
across countries. Additional detail on these differences is provided in the technical annex to this chapter.

The Incidence of Hardship Based on National Poverty Lines

The incidence of food hardship ranges from 2 percent of the population in Vanuatu to 27 percent in Papua New Guinea. Using the national food poverty lines described in the previous section, 5 percent or less of the population is living below these lines in Fiji, Samoa, and Vanuatu. These countries also have relatively high average consumption compared to other countries in the region. On the other hand, in Papua New Guinea and the Solomon Islands, where average consumption is relatively low, the percentages of population living below the food poverty lines are substantially higher. Figure 2.3 illustrates this relationship, with an additional dimension: Countries with higher average consumption set their food poverty lines at higher levels and also have relatively low shares of their populations living below the food poverty lines.

The incidence of total hardship, including food and other basic needs, is high in most PICs. The share of the population unable to meet their total basic needs, including food and nonfood, is over 20 percent in all

FIGURE 2.3 FOOD HARDSHIP RATES IN SELECTED PICs, PERCENTAGE OF POPULATION



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Bubble size = the share of the population below the food poverty line. PAE = per adult equivalent; PPP = purchasing power parity.

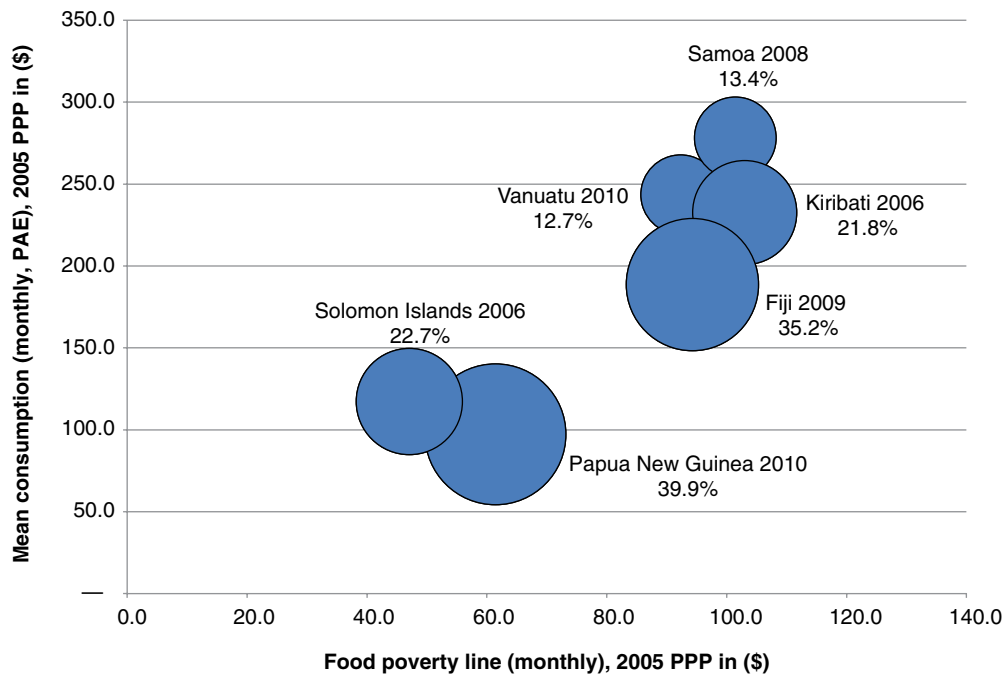
the countries included in the analysis except Vanuatu. Figure 2.4 highlights a similar relationship as seen with the food poverty lines: Countries with higher average consumption have total poverty lines set at higher levels, but the shares of the population living below the total poverty line are more similar to countries with lower average consumption. This may reflect in part the greater demands for nonfood expenses on households in more urbanized countries such as Fiji, where housing, school fees, and other costs are important needs that require cash and may not easily be met through traditional methods.

There may be a sizeable portion of the population that is consuming only marginally more than those in hardship, and they are especially vulnerable to hardship in the future. The hardship rates illustrated in figures 2.3 and 2.4 describe who is living in hardship at present, as defined by the national poverty lines. However, numerous people may be consuming enough to only hover above the poverty line. Such people are often among the most vulnerable to

falling into hardship as a result of the idiosyncratic and aggregate shocks that will be discussed in chapter 3.

In recent years, hardship has decreased in Fiji, but less is known about hardship over time in other countries. Poverty measurement was carried out in a similar fashion on the two most recent nationally representative household surveys conducted in Fiji (2002/2003 and 2008/2009). This analysis shows that total hardship declined from nearly 40 percent of the population in 2003 to 35 percent in 2009 (World Bank 2011). Before the 2010 survey in Papua New Guinea, a nationally representative household survey had not been carried out since 1996. Little is known about how the well-being of the population changed during that 14-year interval, but the incidence of total hardship in Papua New Guinea in 2010 was 40 percent, almost equal to the incidence in 1996. In other PICs, methodological questions make it less straightforward to compare hardship rates over time. Detail on these questions is provided in the technical annex to this chapter.

FIGURE 2.4 TOTAL HARDSHIP RATES IN SELECTED PICs, PERCENTAGE OF POPULATION



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Bubble size = the share of the population below the total poverty line. PAE = per adult equivalent; PPP = purchasing power parity.

Hardship Differentials across Households

Within countries, whether or not a household experiences hardship is influenced by various factors. The following analysis presents a “hardship differential”⁵ that compares the incidence of total hardship in a country to the incidence of total hardship among households with a specific characteristic. This analysis simply identifies household characteristics that correlate with hardship and does not attempt to identify

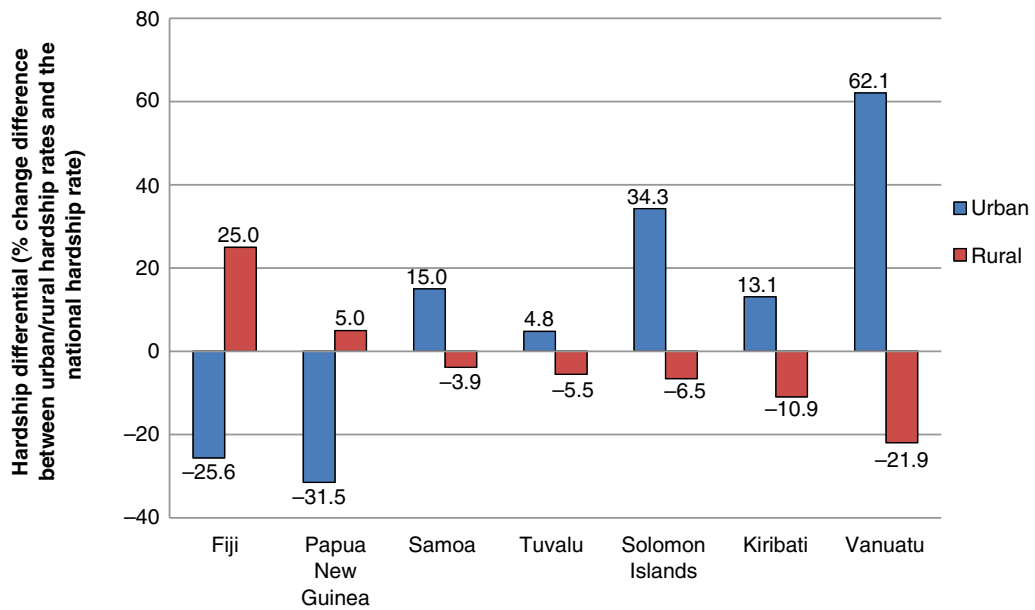
5. *Hardship differential*: the difference between the national incidence of total hardship (presented in the previous section) and the incidence of total hardship among households with a specific characteristic, expressed as a percentage difference. A percentage difference is used to move the analysis away from differences in hardship incidence between countries and focus instead on differences between households within countries, in a way that allows for comparison between countries.

characteristics that cause hardship. Characteristics are also considered one at a time when, in reality, they are likely to be related to each other, as well as to hardship. As such, caution must be used in the interpretation of these bivariate relationships.

Hardship Differentials across Places

Households in rural areas of Fiji and Papua New Guinea are more likely to live in hardship than households in urban areas; the opposite is true in other PICs, but methodology affects interpretation of these results. Figure 2.5 shows the hardship differential between urban and rural areas by country. In Papua New Guinea, the incidence of hardship in urban areas is 35 percent lower than the national average, and in Fiji’s urban areas it is 26 percent lower than the national average. A very different picture of rural-urban differences emerges for other countries: In Kiribati, Vanuatu, and the Solomon Islands, the incidence of hardship in urban areas is substantially higher than in rural areas. For example, in Vanuatu, the incidence of hardship in urban areas is 62 percent

FIGURE 2.5 URBAN-RURAL DIFFERENCES IN HARDSHIP RATES IN SELECTED PICs



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between urban/rural hardship rates and the national hardship rate. Refer to box 2.1 for a discussion of the methodological issues in data collection that may have influenced the urban/rural variation in hardship.

BOX 2.1 Measurement Matters: Reference Households and Spatial Differences in Hardship

Another important consideration in poverty measurement is how to define a reference group of households to estimate the cost of basic nonfood needs. This estimate of nonfood needs is added to the cost of basic food needs to arrive at a total poverty line. Countries around the world define this reference group in different ways, but a key principle helps to guide this choice. When measuring poverty in a country, the poverty lines used should represent the same level of well-being across all the places being compared within that country (Ravallion 1992; Haughton and Khandker 2009).¹

In many countries in the Pacific, including Kiribati, Samoa, the Solomon Islands, Tonga, Tuvalu, and Vanuatu, this principle does not hold. In these countries, the reference group of households is defined as all the households in the bottom 30 percent of the consumption distribution in every region of the country. This means that in less well-off regions, the consumption of the reference group of households represents a lower level of well-being than the consumption of the reference group of households in wealthier regions. In other words, the bottom 30 percent of households in a region with low consumption are less well-off than the bottom 30 percent of households in a region with high consumption. Note that this is different from the practice of setting different poverty lines across regions

This methodological approach means that the incidence of hardship in rural areas, where consumption is usually lower, is likely estimated to be lower than it would be if the same level of well-being across regions were being measured. This should be kept in mind when considering the urban-rural differences and spatial variation in hardship presented in this chapter. In addition, using a relative measure affects the interpretation of hardship incidence over time, because as populations become better or worse off, the value of the poverty line will also automatically change.

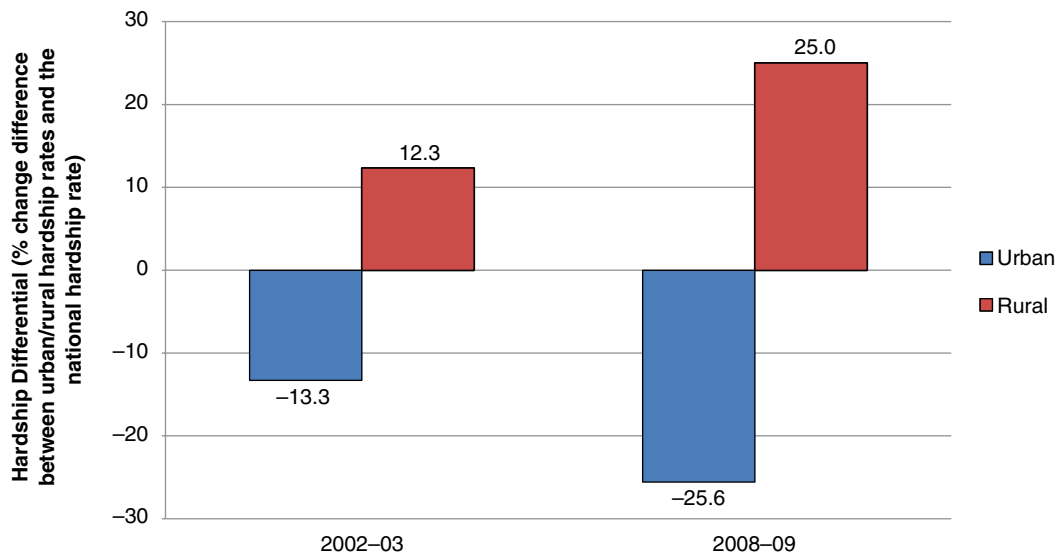
1. This does not apply to relative measures of poverty, which focus on identifying households that are less well-off relative to other households.

higher than the national average. Methodological differences across countries affect how these measures should be interpreted, as detailed in box 2.1.

In Fiji, the hardship differential between rural and urban households is growing over time. The two

household surveys conducted in recent years in Fiji allow for comparisons to be made over time. Figure 2.6 shows that in 2003, the incidence of hardship among rural households was 12 percent higher than the national average. By 2009 the differential had grown to 25 percent, because the

FIGURE 2.6 CHANGE OF URBAN-RURAL DIFFERENCE OVER TIME IN FIJI



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between urban/rural hardship rates and the national hardship rate. Refer to box 2.1 for a discussion of the methodological issues in data collection that may have influenced the urban/rural variation in hardship.

incidence of hardship stayed the same in rural areas but declined in urban areas (World Bank 2011).⁶

In countries with rapidly growing urban centers, the incidence of hardship is higher among urban households. In general, urbanization accompanies economic development and allows for scale economies and thicker markets, and increased specialization. However, urbanization that occurs as a result of poor services in rural areas, food insecurity, or land shortages offers few economic benefits and places people at increased risk of hardship in congested urban slums (World Bank 2013). Figure 2.7 suggests that this has been the case for some PICs, including the Solomon Islands and Vanuatu. These countries are still primarily rural and offer limited economic opportunities in urban areas for those that migrate.

Socioeconomic maps for Vanuatu and Fiji confirm the presence of a significant amount of spatial variation in the incidence of hardship within each country. The spatial dispersion of hardship pictured in these maps provides detail in support of the urban and rural

6. This analysis does not reveal the fact that urban settlement areas have higher hardship incidence than other urban areas. In fact, in those areas the incidence of hardship is often higher than in rural areas.

hardship differentials described above. For example, in Suva, the capital city of Fiji, the incidence of hardship is among the lowest in the country (map 2.1).⁷ Conversely, in Vanuatu, where the incidence of hardship is higher in urban areas than in rural areas, the capital city of Port Vila has one of the highest incidences of hardship in the country (map 2.2).⁸ This depiction of the spatial dispersion of hardship in these PICs highlights the difficulties faced in delivering services to the areas most in need. However, better understanding this variation within a country is a crucial first step in helping policy makers to better target their resources.

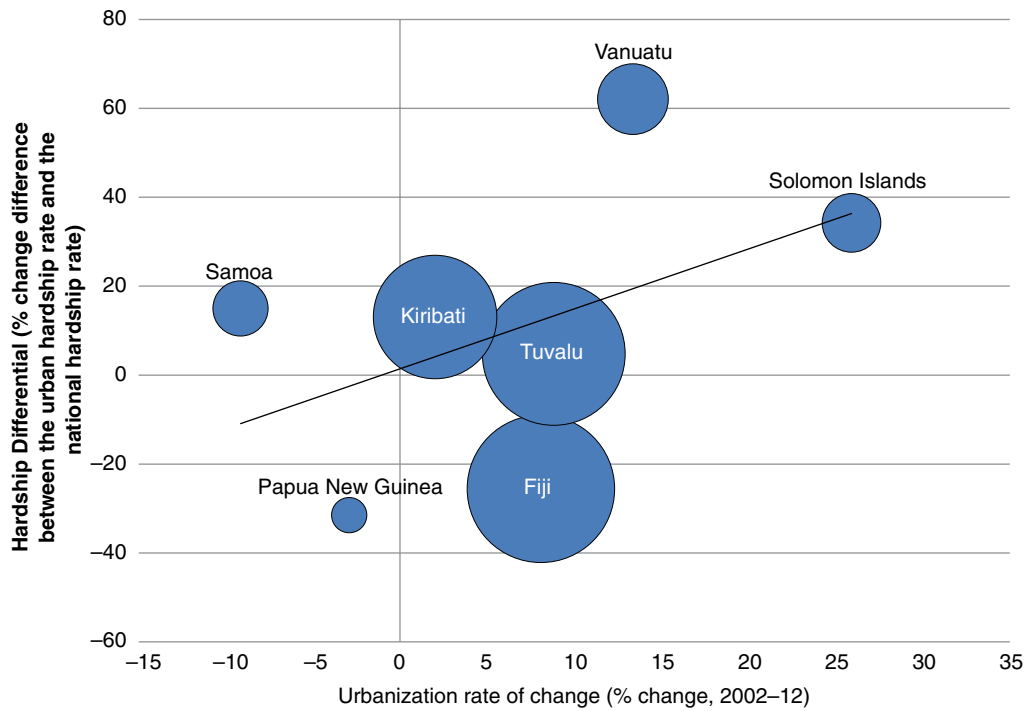
Hardship and Characteristics of the Household Head

Across countries, households with more educated household heads are less likely to live in hardship. Education increases human capital and individual

7. However, the sample frame is likely not wholly representative and undersamples those living in Suva. People living in squatter settlements around Suva, for example, may not have been adequately represented, leading to a degree of underreporting of hardship there.

8. Although the comparison between Fiji and Vanuatu is illustrative, they are not strictly comparable in that the hardship levels are reported as outcomes of different national poverty lines.

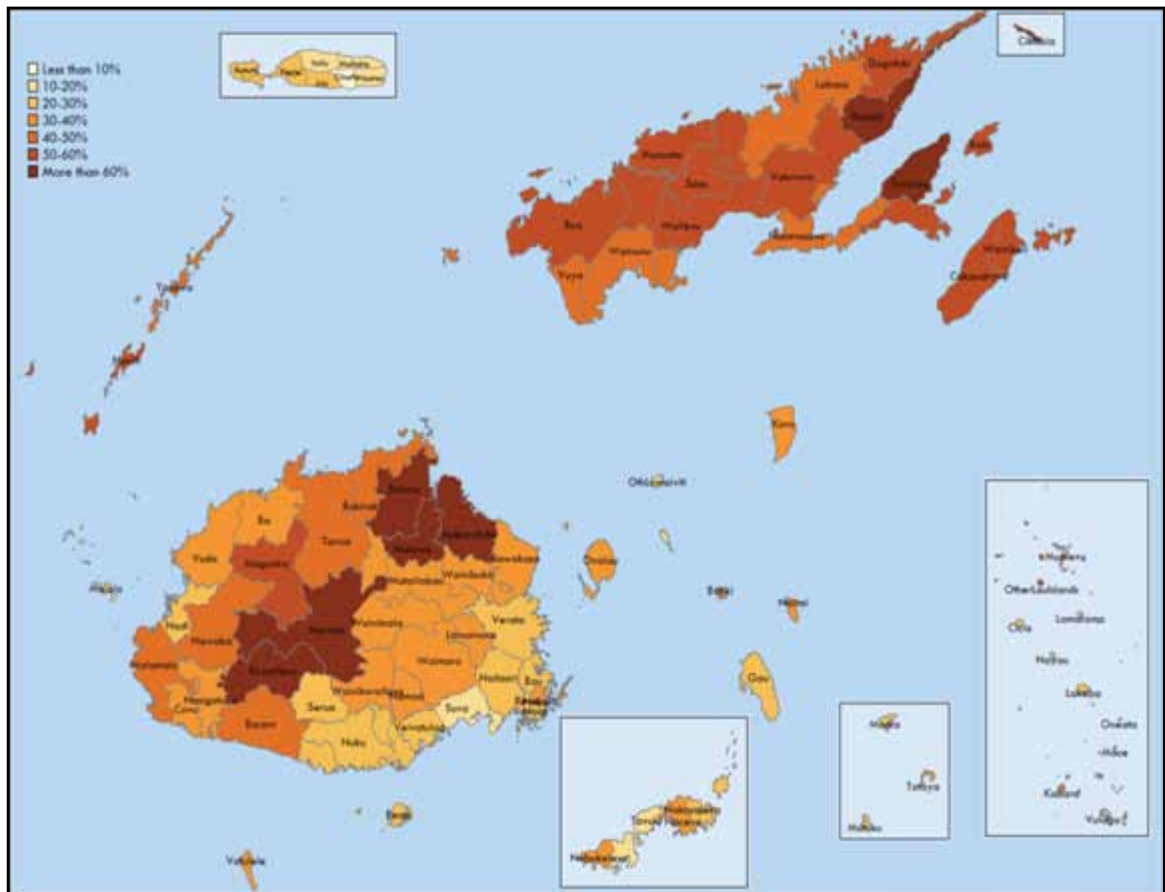
FIGURE 2.7 URBAN HARDSHIP VERSUS RURAL HARDSHIP IN PICs WITH RAPIDLY GROWING URBAN CENTERS



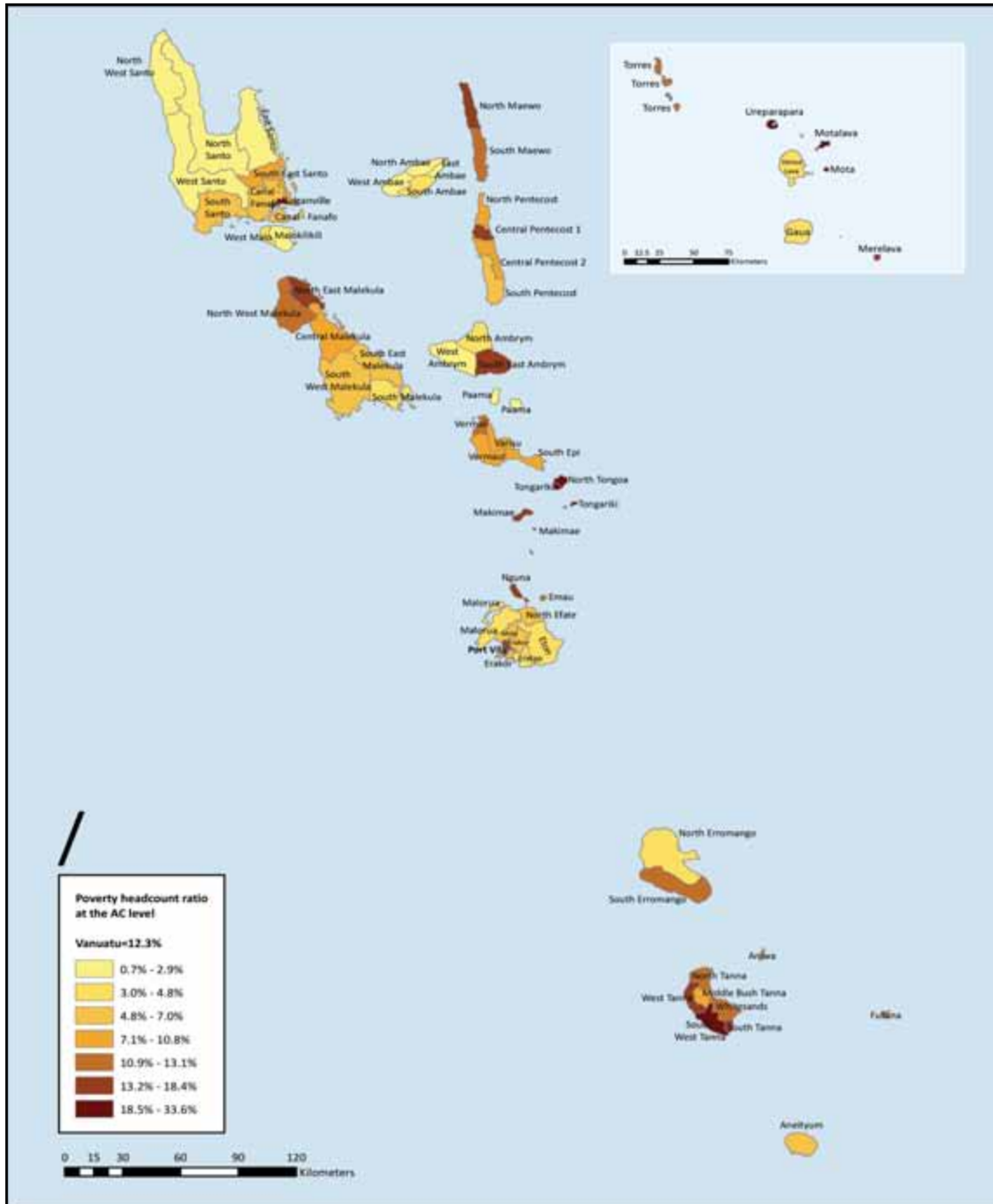
Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between urban hardship rate and the national hardship rate. Bubble size = urban share of total population, 2012 (Fiji, the largest at 52.6 percent; Papua New Guinea, the smallest at 12.6).

MAP 2.1 HARDSHIP RATES IN FIJI: HARDSHIP HEAD-COUNT RATIO AT THE TIKINA LEVEL, 2007



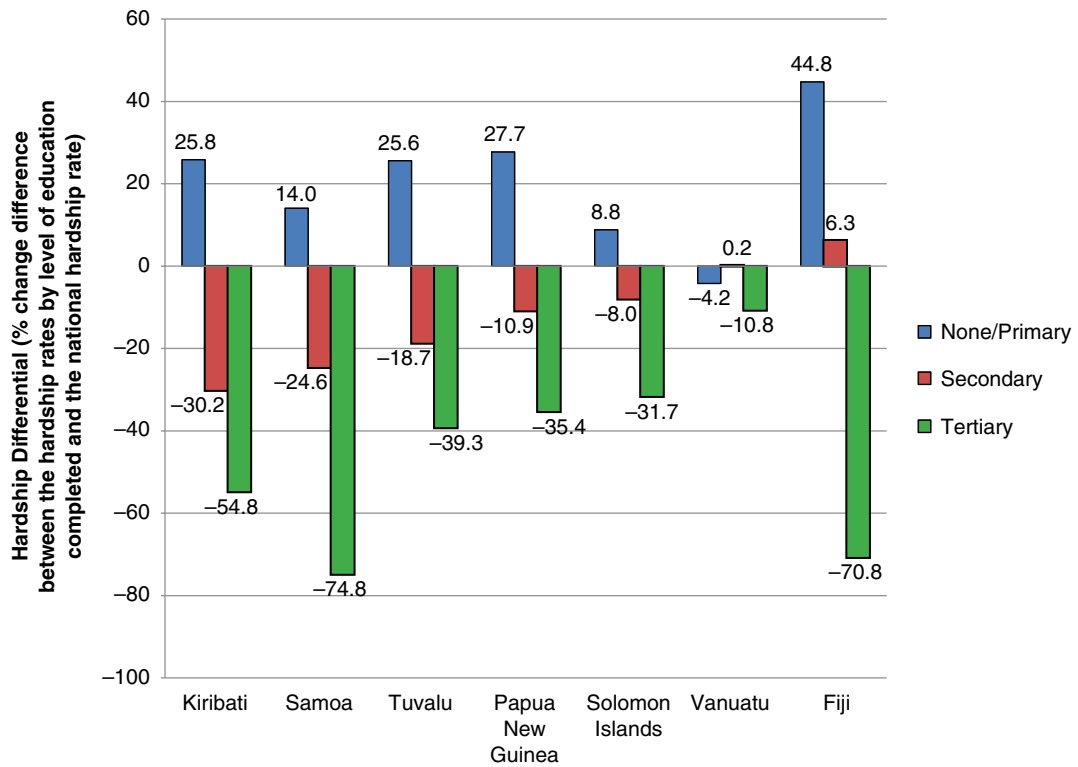
MAP 2.2 AREAS WITH HIGH RATES OF HARDSHIP IN VANUATU: HARDSHIP HEAD-COUNT RATIO AT THE AREA COUNCIL LEVEL, 2010



Sources: Population and Housing Census 2009 and Household Survey 2010.

Note: The median values for each category are 1.5, 4.3, 5.8, 10.2, 12.0, 16.0, and 24.9 percent, respectively.

FIGURE 2.8 HARDSHIP BY LEVEL OF EDUCATION



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between hardship rates by level of education completed and the national hardship rate.

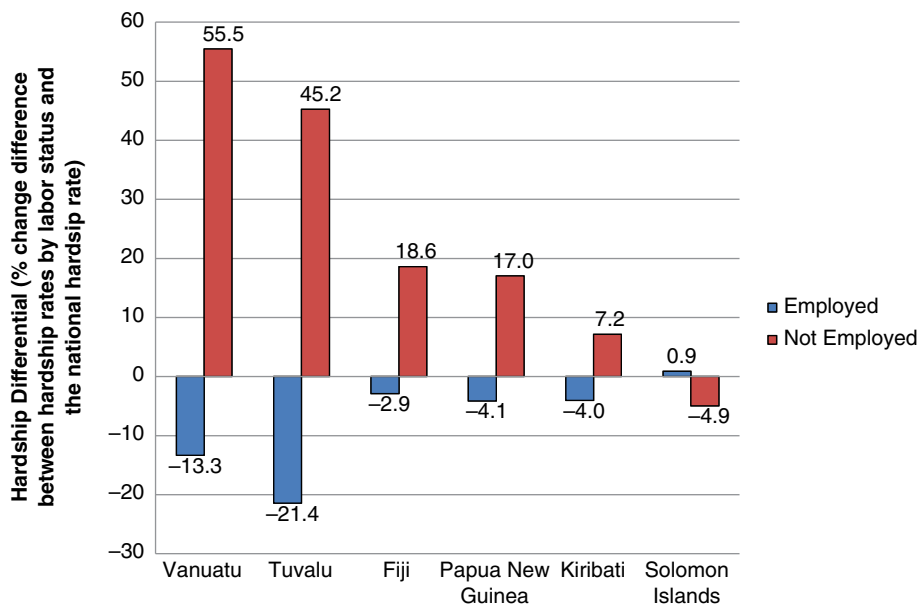
productivity and in the Pacific is often required for access to formal sector jobs that pay well (World Bank 2012a). Figure 2.8 shows that each level of education that the household head completes is associated with decreasing hardship differentials, to varying degrees, across countries. In particular, households with heads who have completed primary school or less are much more likely to live in hardship. For example, in Tuvalu, the incidence of hardship among these households is nearly 26 percent higher than the national incidence, whereas households with a tertiary-educated head are 39 percent less likely to live in hardship.

However, few household heads have completed secondary or tertiary schooling. Across most countries, primary school gross enrollment rates exceed 100 percent, with the exception of Papua

New Guinea at 60 percent.⁹ Yet relatively few students continue to secondary and tertiary education. This is in part because of lack of access to secondary schools in rural areas and high costs of attendance. In addition, the low quality of primary education in most countries leads to high failure rates on secondary school entrance exams and reduces the human capital gained from attending school. For example,

⁹ Gross enrollment rate (GER) retrieved from the World Development Indicators. GER is the number of pupils enrolled in a given level of education regardless of age expressed as a percentage of the population in the theoretical age group for that level of education. The GER may be greater than 100 percent when students younger or older than the official age for a given level of education are enrolled in that level.

FIGURE 2.9 HARDSHIP LEVEL BY HEAD OF HOUSEHOLD EMPLOYMENT STATUS



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between hardship rates by labor status and the national hardship rate.

in the Solomon Islands, a recent analysis found that only 22 percent of students in primary school are functionally literate (World Bank 2012c).

Households with a working household head are less likely to live in hardship. Although the definitions of work differ, in all countries except the Solomon Islands the incidence of hardship is much higher among households with a head who is not working (figure 2.9).¹⁰ For example, in Vanuatu, among

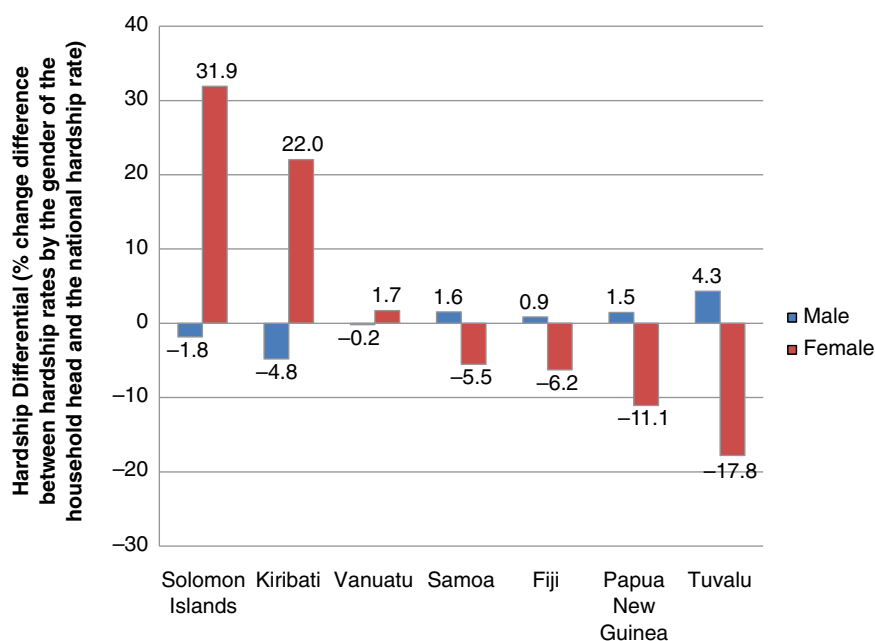
10. Definitions of “employed” are taken from the Household Survey questionnaires, with questions asking the following: “Did you do any work in the last 7 days? yes or no” (Kiribati, Papua New Guinea, Tuvalu)/“Did you do any work in the last 30 days? yes or no (Vanuatu)/“Is anyone in this household currently working for pay in a job, business or profession? yes or no, OR Did any member of the household receive regular income from any of the following commercial activities during the last 12 months?” (Samoa and Solomon Islands).

households with a head who did not work in the 30 days preceding the survey, the incidence of hardship is 56 percent higher than the national incidence. Among household heads who do work, hardship incidence varies by the type of work done. In Fiji, households headed by informal sector workers (unpaid family workers or self-employed workers) have a hardship incidence 15 to 40 percent higher than the national incidence.

Demographic Characteristics: Gender, Age, and Exposure to Hardship

Households headed by women are more likely to live in hardship in Kiribati and the Solomon Islands but not in other countries. Across the Pacific, the share of households headed by women is typically very low: from the Solomon Islands at 5.4 percent to Tuvalu at 18.7 percent. With this in mind, figure 2.10 shows that

FIGURE 2.10 HARDNESS LEVEL BY HEAD OF HOUSEHOLD GENDER



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between hardship rates by gender of head of household and the national hardship rate.

female-headed households have a lower likelihood of hardship in four countries and a higher likelihood in two. Over time, the hardship differential for female-headed households has fallen substantially in Fiji, from 18.6 percent higher than the national average in 2003 to 6.2 percent lower in 2009. These differing relationships between gender of the household head and hardship across countries merit further study, because they could be related to many factors. These factors include the existence of economic opportunities for women and rates of migration and remittance sending.

Households headed by the elderly are more likely to live in hardship. The share of households headed by a person age 65 and over varies substantially across countries, from 6 percent in Papua New Guinea to 29 percent in Samoa. However, in all countries, the incidence of hardship is substantially higher for elderly-headed households compared with the national average. Figure 2.11 illustrates the relationship between age of household head and hardship differential for three countries.¹¹ In Kiribati and Tuvalu, the incidence of hardship among

elderly-headed households is about 77 percent and 66 percent, respectively, higher than the national averages. The hardship differential is about half as large in Vanuatu, at 33 percent. These differences across countries are likely to be related to social insurance systems for the elderly. Most PICs have contribution-based pension schemes that cover only the small number of people working in government or the formal private sector. This topic will be revisited in chapter 4.

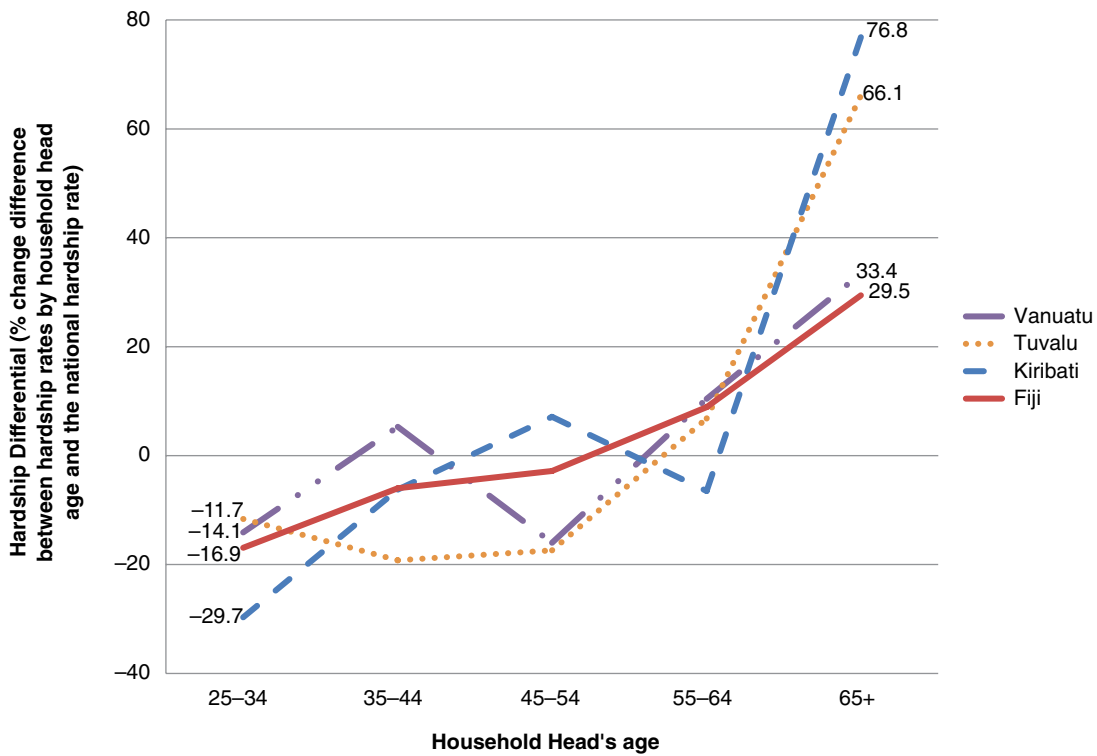
The Effect of Household Size on the Hardship Differential

It is worrisome that households with more children are more likely to live in hardship. As is observed in most countries around the world, larger households in the Pacific are more likely to live in hardship. Of great concern is the fact across PICs, the incidence of hardship is higher for households with more children. Figure 2.12 traces how the hardship differential changes with each additional child for four of the countries in the sample.¹² In each of the countries, the incidence of hardship among households with no children is 17 to 50 percent lower than the national

11. Similar results are found for the other countries in the sample and have been removed from the figure for ease of presentation.

12. Similar results are found for the other countries in the sample and have been removed from the figure for ease of presentation.

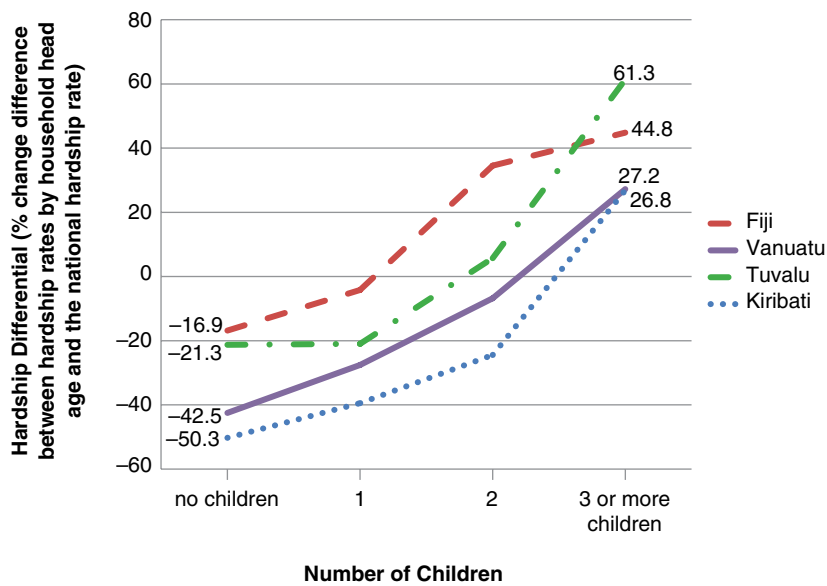
FIGURE 2.11 HARDNESS LEVEL BY HEAD OF HOUSEHOLD AGE



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between hardship rates by age of head of household and the national hardship rate.

FIGURE 2.12 HARDNESS LEVEL BY NUMBER OF CHILDREN IN HOUSEHOLD



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Note: Hardship differential is the percentage change difference between hardship rates by number of children and the national hardship rate.

average. For households with three or more children, the incidence of hardship is substantially higher than the national average in all countries.

High fertility rates and young populations mean that many households have large numbers of children. Across the Pacific, 33 to 41 percent of country populations are age 14 or younger. Fiji has the lowest fertility rate among the countries considered here, at 2.6 children per woman (World Development Indicators, data from 2011). In other countries, fertility rates are much higher, ranging from 3.5 in Kiribati to 4.2 in the Solomon Islands (*ibid.*). If the observed relationships continue to hold, large numbers of children will continue to grow up in hardship.

Inequality in the Pacific Island Countries

Prosperity is not widely shared in most PICs. This section examines how consumption is distributed across the populations of several countries, utilizing several measures of inequality. These measures all suggest that inequality is substantial, particularly in Fiji, Papua New Guinea, and the Solomon Islands. The extent to which prosperity is shared is important, because high levels of inequality may hamper economic growth and efforts to reduce hardship. In addition, high levels of inequality can threaten social cohesion, a particular concern for ethnically diverse countries that have histories of conflict (World Bank 2013).

Across countries, the top 20 percent of the population consumes 6 to 12 times as much as the bottom 20 percent. Figure 2.13 shows the share of total consumption that goes to each quintile of the population by country. The patterns are strikingly similar across countries, with the bottom 20 percent accounting for very little of total consumption (from less than 5 percent in Papua New Guinea to about 7 percent in Vanuatu). Interestingly, in most countries, each of the quintiles consumes about 1.5 times as much as the quintile below it, except for the top quintile, which consumes more than two times more than the next quintile down. The largest differences between the bottom and top quintiles are in Papua New Guinea and the Solomon Islands.

Many people may be vulnerable to falling into hardship. The data to estimate the rates at which people fall into and escape from hardship over time do not exist in the Pacific. However, the relatively low

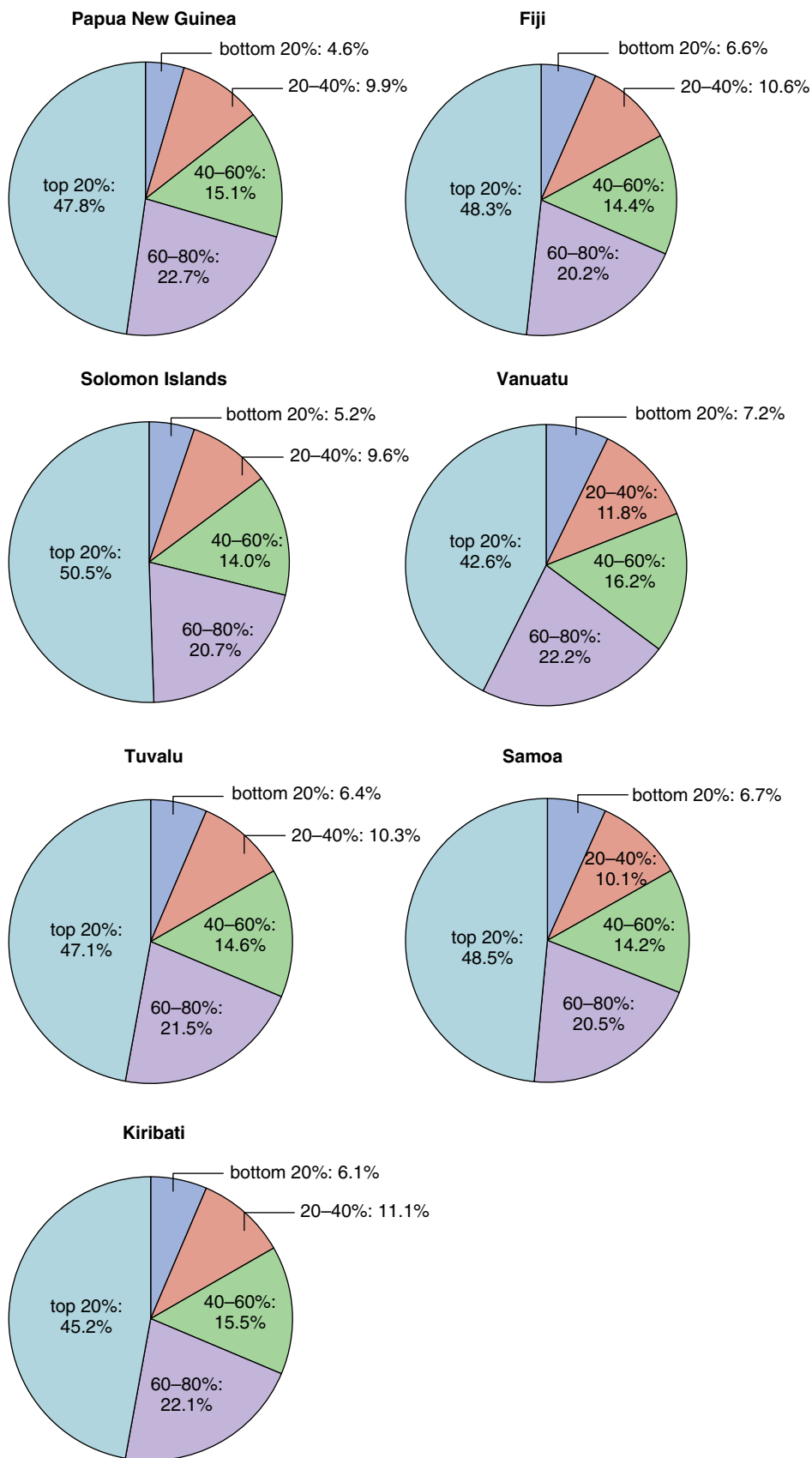
consumption shares of the second and even third quintiles across countries suggests that people in these quintiles are vulnerable, in that negative shocks could push them into hardship in the future. Evidence from other countries supports this possibility. For example, in Indonesia, the poverty rate in 2011 was 12.5 percent, yet between 2008 and 2010, 25 percent of the population was below the poverty line in at least one year (World Bank 2012b).

Gini coefficients for some PICs are relatively high compared to East Asian neighbors.¹³ Figure 2.14 displays the Gini coefficients of several countries, graphed against GDP per capita. East Asian countries, other island nations, and countries known for particularly high or low inequality are also graphed for comparison. Among the PICs, the Solomon Islands, Papua New Guinea, and Fiji have the three highest Gini coefficients. Comparing these three PICs to East Asian countries with similar income per capita levels, the Gini coefficients for the Solomon Islands and PNG are notably higher than in Cambodia, the Lao People's Democratic Republic, and Vietnam. The Gini coefficient in Fiji is also slightly higher than, for example, that of Indonesia. Although the Gini coefficients indicate notable inequality in these three PICs, they are lower than the Gini coefficients for other small island developing states such as São Tomé and Príncipe and Cape Verde, pictured in figure 2.14.

Within countries, inequality tends to be higher in rural areas. Figure 2.15 displays the Gini coefficient separately for rural and urban areas. In many countries around the world, urban inequality is higher, reflecting a widening of outcomes for low- and high-skilled labor in the labor market, as opposed to relatively homogeneous returns to agricultural labor in rural areas. However, it appears that this is not the case for Kiribati, Solomon Islands, and Tuvalu, where inequality is higher in rural areas than it is in urban areas. In Papua New Guinea and Vanuatu, urban and rural inequality are similar. Fiji stands out as the only country analyzed here where urban inequality is substantially higher than rural inequality. As with the hardship rates, this difference in Fiji may be related to its more developed economy.

13. The Gini coefficient is a widely used measure of inequality, comparing the distribution of a variable (in this case, consumption) with a uniform distribution that represents equality. Zero represents perfect equality in the distribution, and 1 complete inequality (here values have been multiplied by 100).

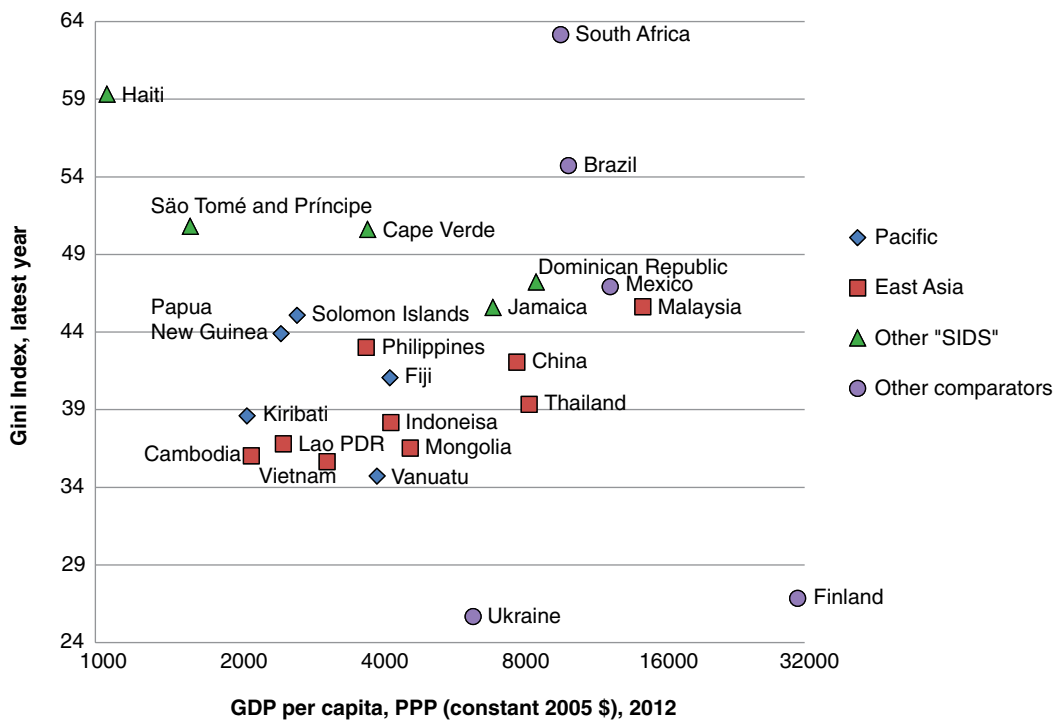
FIGURE 2.13 SHARE OF TOTAL CONSUMPTION FOR EACH QUINTILE WITHIN PICs



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

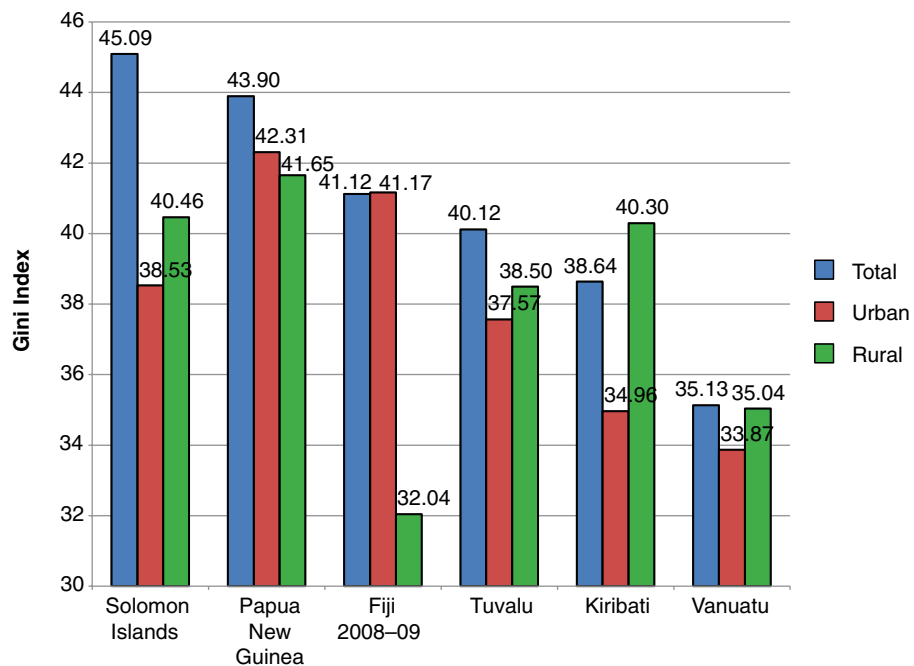
Note: These measures of consumption include gifts of food or other items exchanged between households (given away and received) for all countries except PNG. See the Technical Annex to this chapter and the analysis of gifts in chapter 4.

FIGURE 2.14 GINI COEFFICIENTS FOR PICs VERSUS OTHER COUNTRIES



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).
 Note: PPP = purchasing parity power; SIDS = small island developing states.

FIGURE 2.15 GINI INDEX FOR RURAL VERSUS URBAN AREAS IN PICs



Sources: World Bank staff estimates based on HIESs and existing poverty analysis (SINSO and UNDP 2008; KNSO and UNDP 2010; SBS and UNDP 2010).

Key Messages

Across the Pacific, many people are living in hardship, meaning they are unable to meet their basic needs. The evidence presented in the first two sections of this chapter showed that over 20 percent of people in most PICs analyzed live in hardship, meaning they are unable to meet their basic food and nonfood needs. The incidence of hardship is highest in Papua New Guinea, where 40 percent of the population lives in hardship. These results accord with many other measures of well-being that have been made for the Pacific. PICs have had mixed success with making progress toward the Millennium Development Goals, and the United Nations Development Programme (UNDP) categorizes all the included PICs as having either “medium” or “low” human development (PIFS 2013; UNDP 2013). Taken together, all of these results show that hardship is a real challenge that merits the attention of policy makers in the Pacific.

Within countries, many factors are related to the incidence of hardship, including where people live, their educational attainment, work status, gender, and age. In Fiji and Papua New Guinea, people living in urban areas are much less likely to live in hardship. Households headed by individuals who have limited education or who do not work are more likely to live in hardship. Households headed by the elderly are more likely to live in hardship than those headed by younger people, and households with more children are also more likely to live in hardship. The relationships between these characteristics and hardship vary in strength and are driven by many underlying factors. However, identifying these relationships is an important first step in understanding the challenge of hardship across the Pacific.

Levels of inequality in the Pacific are comparable to those in East Asian countries. Across PICs, the most well-off people (the top 20 percent) consume many times more than the least well-off. As measured by Gini coefficients, inequality is highest in the Solomon Islands, Papua New Guinea, and Fiji. Moreover, within most countries, inequality in rural areas is equal to or higher than inequality in urban areas (Fiji is the prominent exception). When considered in a global context, these levels of inequality are not extremely high but, to the extent that inequality affects economic growth and social cohesion, may still be a matter of concern for policy makers.

Infrequent surveys, significant methodological variation, and cultural rejection mean that hardship

plays little role in policy making. Unfortunately, across the Pacific, many years usually elapse between nationally representative household surveys. This lack of data leaves policy makers and development partners without timely information about people’s well-being that could help them make the best use of limited public resources. Using the existing data, significantly different methodological choices in the poverty measurement and analysis that has been carried out, as well as limited sharing of data, it has been difficult to clearly interpret and communicate the results. In a context in which the notion of “poverty” is already controversial, these challenges mean that measures of hardship have largely been ignored in policy making.

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Technical Annex: Important Cross-Country Differences in Poverty Analysis

All the analysis included in the chapter is based on Household Income and Expenditure Surveys (HIESs) carried out in each country at different points in time. These surveys are representative at the national level and are similar in their structure and content across countries.¹⁴ However, the HIESs are not identical and reflect the variation in country contexts.

This annex focuses on the major differences in the poverty analysis that was carried out by national statistical offices (often in conjunction with development partners) in the countries included in this chapter.¹⁵ In particular, the annex highlights major differences in how consumption aggregates are constructed and how poverty lines are defined.

Although these methodological differences create challenges in interpreting the results of the poverty analysis that has been conducted, particularly across countries, it is important to keep in mind that such differences exist across all countries in the world and are not unique to the Pacific.

Consumption Aggregates

Two major areas of cross-country differences in the Pacific can be identified regarding the construction of consumption aggregates: (1) the set of expenditure categories to be included in the aggregate and (2) the prices used to cost out the consumption.

Two particularly important expenditure categories are treated differently across the Pacific: gifts and rents. Gifts, or interhousehold transfers, are an important part of traditional networks in the Pacific, so their treatment in poverty measurement is important. In general, experts have suggested excluding gifts given from consumption aggregates, because gifts that are given are not consumed by the households that give them, and double-counting should be avoided (Deaton and Zaidi 2002). However, in most of the PICs studied in this chapter (Fiji, Kiribati, Tonga, Tuvalu, and Vanuatu), gifts given are included in the consumption aggregate of the households that give

gifts, whereas gifts received (except cash) are included in the consumption aggregate of the households that receive the gifts. In Papua New Guinea, gifts given are excluded from the consumption aggregate.

The second expenditure category, rents, is also an important issue. In many countries around the world, rents are imputed for households that own their dwellings, to avoid making renters (who spend on rent) look better off than owners. The standard method for imputation is to use a hedonic regression that estimates the rental value of owner-occupied dwellings based on the dwellings' characteristics and the rental price of similar dwellings. This method can be very difficult to implement in areas with thin or nonexistent rental markets, which is the case in much of the Pacific. However, rent imputations have been made in many PICs and included in the consumption aggregates. This is the case in Kiribati, Tonga, and Tuvalu. In Fiji, where rental markets are more active, imputed rent was calculated using the standard method and included in the consumption aggregate. In contrast, in Papua New Guinea, neither imputed rents nor actual rents paid were included in the consumption aggregate.

The prices used to estimate the costs of basic needs also vary across countries. In countries where detailed price surveys exist, they are often used to assign prices to consumption items. However, in much of the Pacific, such surveys are only carried out in urban areas, where prices can be very different from prices in rural areas. The poverty analysis in different countries has dealt with this challenge in different ways. In some countries, the "unit values" (the prices implied in the household survey data) are used instead of actual prices.¹⁶ In others, prices from price surveys are used in urban areas, and unit values are used in rural areas.

Poverty Lines

Across the Pacific, poverty analysis has defined both a food poverty line and a total, or basic needs, poverty line. The food poverty line is based on the cost of a specific basket of foods that is estimated to provide a sufficient number of calories per person. An estimated cost of nonfood basic needs is then added to the food poverty line to arrive at the total poverty line. When conducting this analysis, two important considerations arise: what number of calories constitutes a sufficient

14. In many countries, the surveys are not strictly nationally representative, because extremely remote areas had to be excluded from the sample frames because of costs.

15. These are in addition to the differences highlighted in the box within the chapter.

16. The household surveys record both the amount of each item that households report consuming as well as the amount of money they report spending on the item, if it was purchased.

number per person, and which households will be the reference group for defining the basket of food and the cost of nonfood basic needs.

In Fiji, Tuvalu, and Vanuatu, 2,100 kcal is defined as the minimum sufficient amount of food intake per person, whereas Papua New Guinea uses 2,200 kcal per adult equivalent. For nonfood needs, Kiribati, Tonga, Tuvalu, and Vanuatu use the households in the bottom 30 percent of total consumption as the reference group, whereas Papua New Guinea uses the households whose consumption on food equals the level of the food poverty line.

In addition to the choices highlighted here and in the chapter box, many other choices must be made when conducting poverty analysis, ranging from the use of multiple food baskets to reflect differences within countries to the treatment of other expenditures such as durable goods and health.

Although no universal standards are in place for poverty measurement, general guidelines have been produced by the World Bank for many years. A handbook that includes these guidelines is freely available online at <http://go.worldbank.org/4WJH9JQ350>.

Chapter 3

Vulnerability and the Impacts of Shocks on Pacific Islanders

People in the Pacific are vulnerable to many different shocks, ranging in type, covariance, and other attributes, and people already experiencing hardship tend to be the most vulnerable. Vulnerability varies across countries and also depends on both personal and household characteristics, but households in the Pacific are among the most vulnerable in the world to certain shocks. This chapter provides an overview of the most common shocks to which people in the Pacific are vulnerable as well as, where possible, estimates of the impacts of these shocks. The first section reviews the different types of aggregate shocks common in the Pacific. The second focuses on aggregate economic shocks, and the third presents estimates of the household-level impacts of such shocks. The fourth section then presents evidence of the evolving nature of health shocks across the Pacific, and the fifth summarizes the limited evidence available on other types of shocks. The last section summarizes the key findings.

Pacific Islanders Are Vulnerable to Many Aggregate Shocks

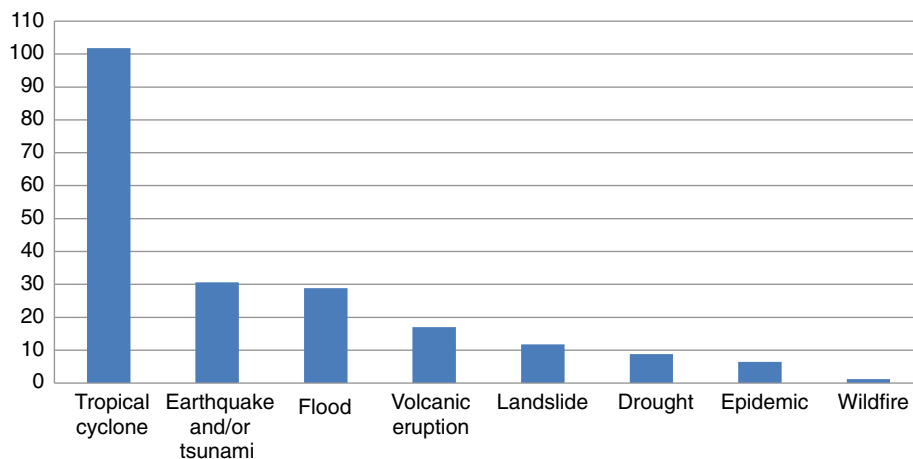
Perhaps the two most important sources of aggregate shocks in the Pacific are natural and economic. Aggregate shocks are those that covary at the regional, national, or international level, affecting large numbers of households at the same time. As detailed in chapter 1, the unique combination of small populations and geography that characterizes many PICs helps shape the vulnerability of their people, by exposing countries to international economic shocks as well as to natural disasters in the short and long term. In addition, health shocks are increasingly affecting the Pacific at the aggregate level and will be discussed in section 4.

Pacific islanders are extremely vulnerable to the effects of natural disasters, which destroy assets and cause physical harm, reducing well-being and possibly increasing hardship. Between 1980 and 2009, 2.3 percent of the world's reported natural disasters occurred in the Pacific islands, which represent only about 0.1 percent of the world's population (EM-DAT 2013). Figure 3.1 details the range of natural shocks that have affected PICs (or areas within countries) since 1980. The impacts of disasters include asset damage or destruction, disruption of economic activity, displacement, injury, and death, any of which can significantly reduce the well-being of households and may push some into, or further into, hardship. In fact, at the country level, Pacific islands are among the most vulnerable to negative impacts from natural disasters. Eight of the top 20 countries by annualized relative losses from natural disasters are PICs, with many experiencing economic losses of several percentage points of GDP (figure 3.2).

People experiencing hardship may be more vulnerable to certain natural disasters. For example, informal or unauthorized settlements around urban centers in the Pacific are often the areas that experience flooding, such as the flooding that occurred after Cyclone Evan hit Samoa in 2012 (Samoa MNRE 2013). Disasters may affect only some regions within countries, for example, a few islands in an archipelago. When disasters hit remote regions, the people living there may receive limited and less timely assistance because of logistical and information challenges.

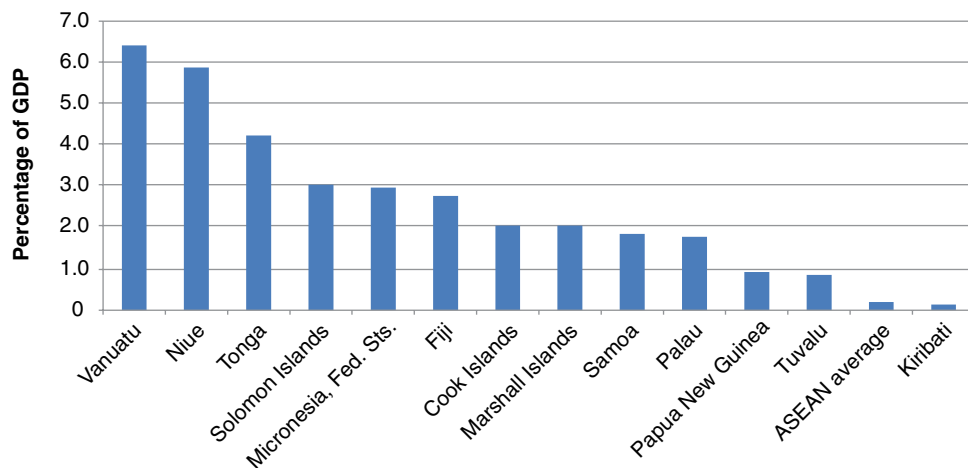
Vulnerability to climate change is a longer-term concern, but negative impacts are already being felt. Rising seas are already encroaching on some islands' freshwater lenses, and coral erosion from warming and acidifying seawater threatens both the food sources

FIGURE 3.1 NATURAL DISASTERS BY TYPE IN PICs, 1980–2009



Source: EM-DAT (the OFDA/CRED International Disaster Database).

FIGURE 3.2 ANNUAL AVERAGE ECONOMIC LOSSES FROM CYCLONES, EARTHQUAKES, AND TSUNAMIS



Source: World Bank 2012a.

Note: ASEAN = Association of Southeast Asian Nations.

Pacific islanders rely on and—for residents of coral atolls in particular—the very land they stand on (World Bank 2013a). Pacific islands are also forecasted to experience unprecedented temperature extremes. Two recent World Bank reports, *Acting Today for Tomorrow* (2012a) and *Strong, Safe, and Resilient* (2013b), extensively review natural disasters in the Pacific and East Asia, and a third, *Turn Down the Heat* (2013a), reviews the forecasts and expected impacts of climate change globally.

Households in the Pacific are heavily dependent on external flows (of money and goods) for their well-being. Large proportions of households in the Pacific rely on external financial flows, including tourism, remittances, and international aid. These flows help provide jobs, support household consumption, and contribute to government budgets. At the same time, many Pacific households are deeply dependent on international commodity markets. Some are heavily reliant on commodity imports, including for

basic foods, and others are exporters of agricultural commodities and natural resources. These economic features are critical to the well-being of people in the Pacific, given the constraints on growth caused by the unique features of the region discussed in chapter 1. At the same time, the smallness and geography of the Pacific mean that people are exposed to external volatility via these routes.

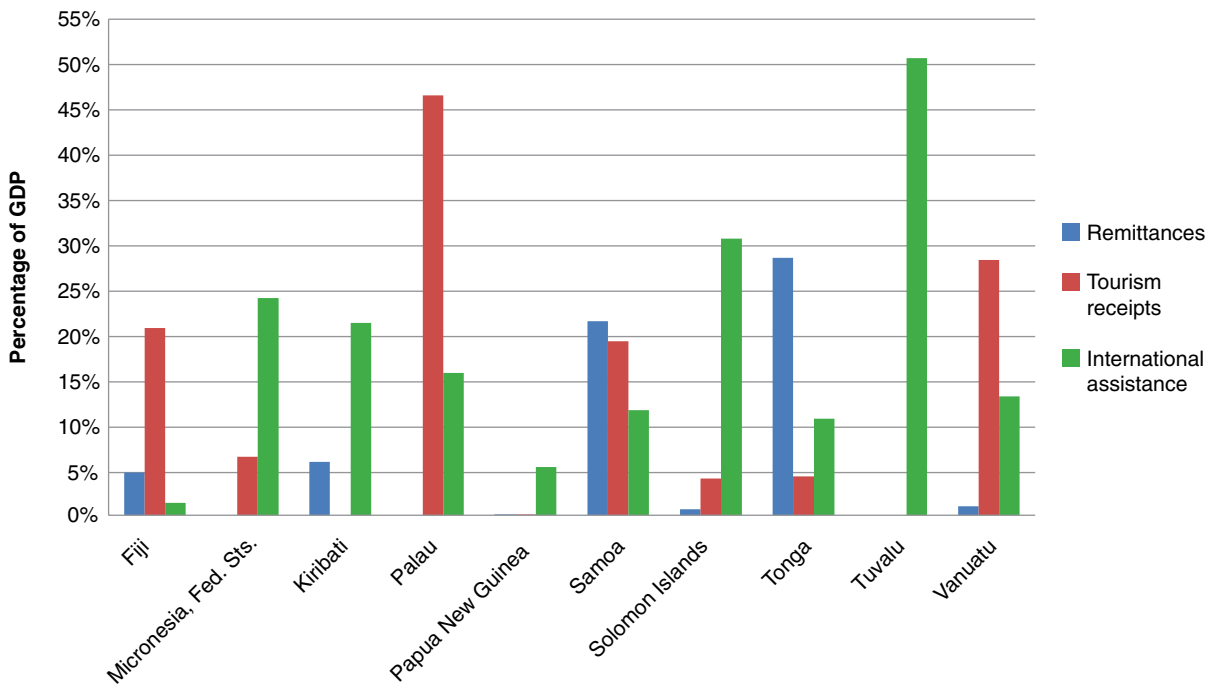
The smallness and geography of the Pacific mean that people are particularly vulnerable to shocks to these sources of well-being. External financial flows tend to be concentrated both by type and source country, in part because PICs are so small. This concentration makes people in the Pacific more vulnerable to shocks to these flows. For example, a shock to a single export commodity can have large effects on government revenues and economic activity and affect a wide section of society. In countries that are reliant on commodity imports, domestic alternatives are limited, and price shocks can have significant effects on consumer price inflation, eroding people’s buying power. In addition, governments tend to lack the financial capacity to reduce such negative

impacts. The next section goes into further detail about these types of shocks and their effects on people.

Aggregate Economic Shocks Are Particularly Important

External financial flows, including tourism, remittances, and aid, are important sources of funding for most PICs. People in the Federated States of Micronesia and Polynesia benefit most from remittances, because of bilateral migration agreements or histories of labor agreements with specific industries. Tourism is important in another set of countries: Figure 3.3 shows that in Fiji, Palau, Samoa, and Vanuatu international tourism receipts accounts for 20 to nearly 50 percent of GDP. Finally, aid from international development partners is an important source of funding for government budgets, particularly in the smallest and most isolated PICs. Each of these sources of external income can be volatile and present risks for households. However, these risks are often worth taking and need to be

FIGURE 3.3 REMITTANCE INFLOWS, TOURISM RECEIPTS, AND AID, 2000–2010 AVERAGE



Sources: World Development Indicators; World Bank, data for 2011.

managed as well as possible, rather than avoided. This is discussed further in chapter 4.

External financial flows in each Pacific country tend to come from a small number of sources, with households in each country vulnerable to shocks transmitted along these lines. International migrants from individual PICs tend to concentrate in a limited number of countries and sectors. For example, more than 95 percent of Tongans overseas (a group that is estimated to account for about half the total Tongan population) live in one of three countries: Australia, New Zealand, or the United States (Taufatofua 2011). This type of exposure means that slowdowns or political changes in receiving countries and downturns in specific sectors can have large impacts on the

flow of remittances (figure 3.4a). For example, the recent global economic downturn has reduced the employment and remittances sent from I-Kiribati and Tuvaluan seafarers, who mostly work in the global shipping industry. Development assistance can also be influenced by domestic conditions of donor countries, and PICs tend to be dependent on a small number of donors—the majority receive more than 70 percent of aid from one or two bilateral donors. Most tourism and international aid originates from the same few countries that receive migrants—Australia, New Zealand, and the United States—meaning that households in some PICs are particularly vulnerable to the economic performance and policy choices in these countries (figure 3.4b).

FIGURE 3.4 A. REMITTANCE INFLOWS

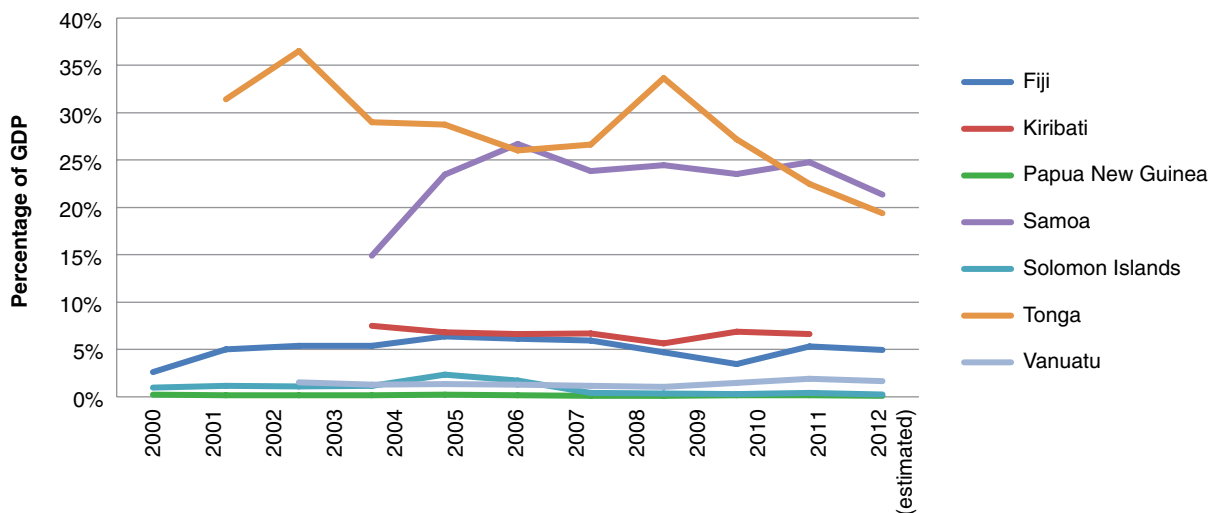
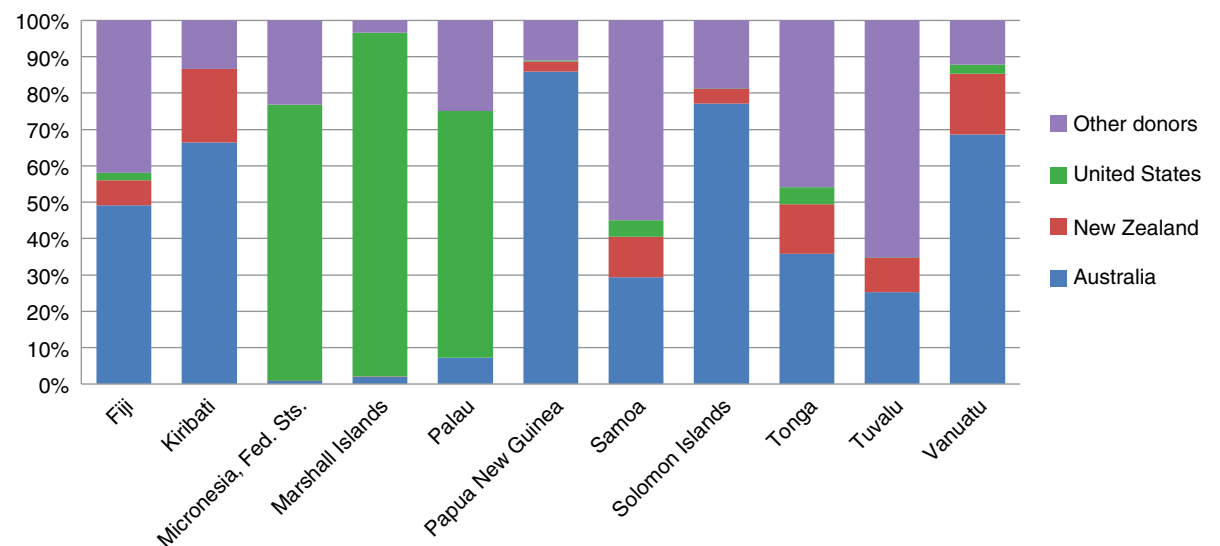
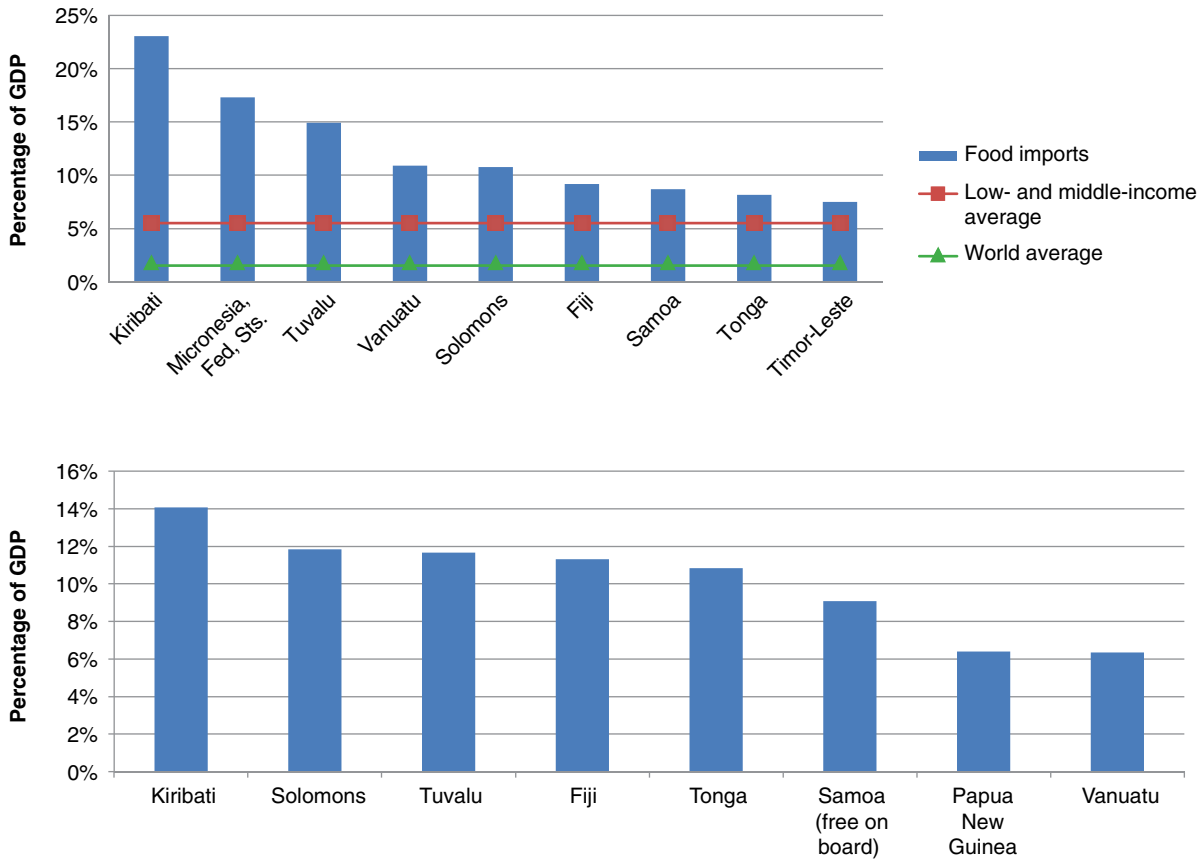


FIGURE 3.4 B. MAJORITY COUNTRY DONORS AS SHARE OF TOTAL INTERNATIONAL AID, 2011



Sources: World Development Indicators; World Bank, data for 2011.

FIGURE 3.5 FOOD AND MINERAL FUEL IMPORTS IN PICs



Source: World Development Indicators.

External dependency exacerbates vulnerability to labor market shocks. Small, undiversified, and often niche, export markets are vulnerable to instability, which can put large numbers of people out of work. For example, depressed demand for automotive parts following the onset of the global economic crisis in 2009 led to the loss of fifteen hundred formal jobs in one factory in Samoa, which represented 13 percent of total formal private sector employment in the country (World Bank 2013c). Most of these jobs have not yet been reinstated.

But external exposure can also bring positive shocks. Cash-cropping households stand to benefit from higher commodity prices, although the benefits they capture depend on middlemen passing on better prices. Oil and gas developments in countries such as Papua New Guinea have the potential to bring some local jobs, although in practice benefits tend to be the greatest during the exploration and construction phases. For example, the liquefied natural gas plant currently under construction in Papua New Guinea is estimated to be employing 14,300 workers, of which 60 percent are Papua New Guinean

nationals.¹ The greater opportunities come from increased government revenues through royalties, corporate taxes, and other revenues. If spent well, these extra resources can benefit a wide segment of the population (World Bank 2013d). Managing opportunities will be revisited in chapter 4.

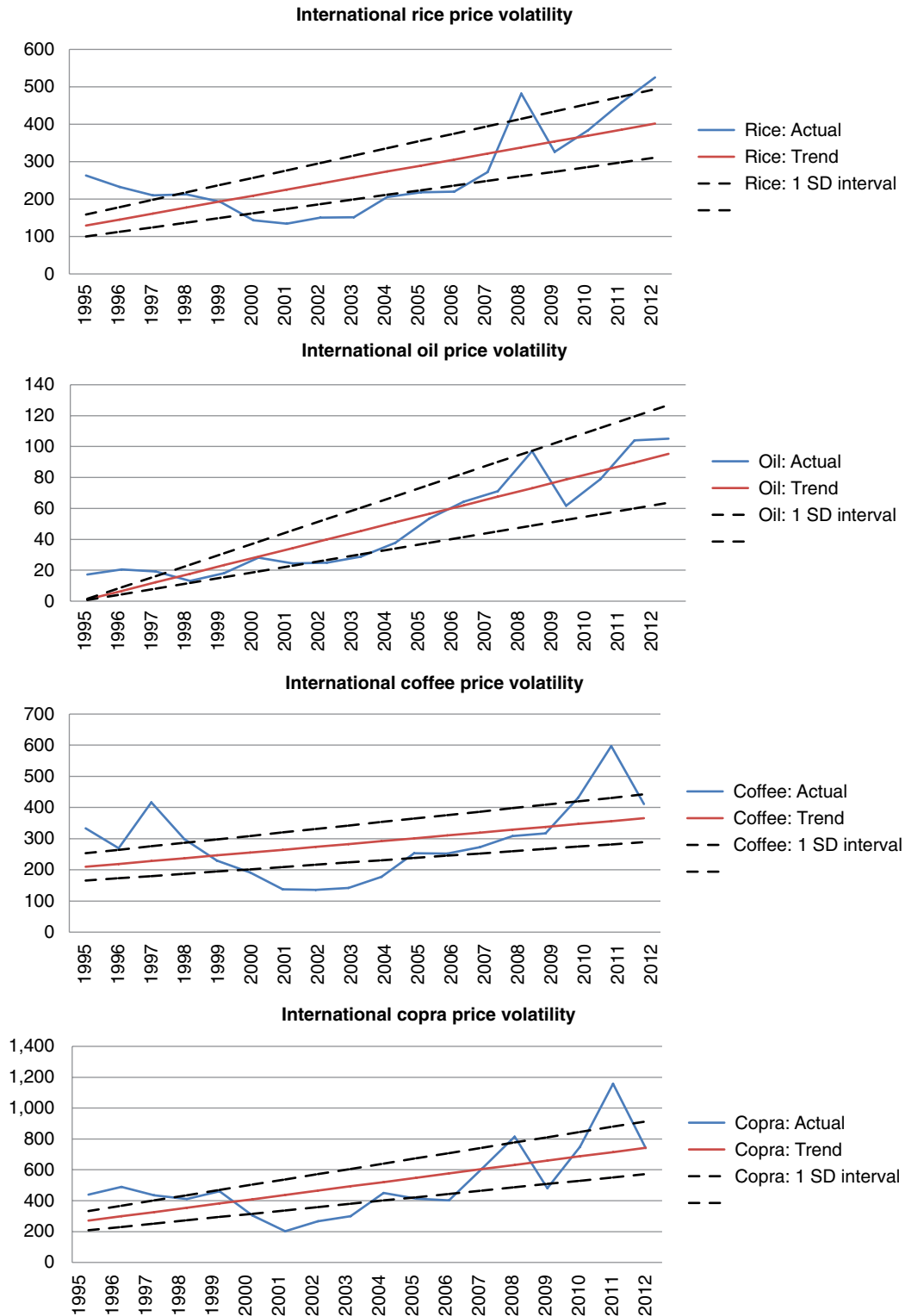
Global commodity prices are also an important source of vulnerability in the relatively open economies of the Pacific. In recent years, food and fuel prices have been high and volatile, and most PICs lack the resources and size to insulate their people from these shocks. These vulnerabilities are particularly important for small atoll nations such as the Federated States of Micronesia, Kiribati, and Tuvalu, where the ratio of food imports to GDP is between three and five times higher than the developing country average (figure 3.5). In addition to being relatively large importers, many PICs are exporters of primary

1. International Monetary Fund, Papua New Guinea: 2012 Article IV Consultation.

products. Exports of cash crops are important for many Pacific islanders—more so than GDP figures may suggest, because they represent one of the few sources of jobs and cash incomes for many people. Conversely, mineral and fossil fuel exports account for

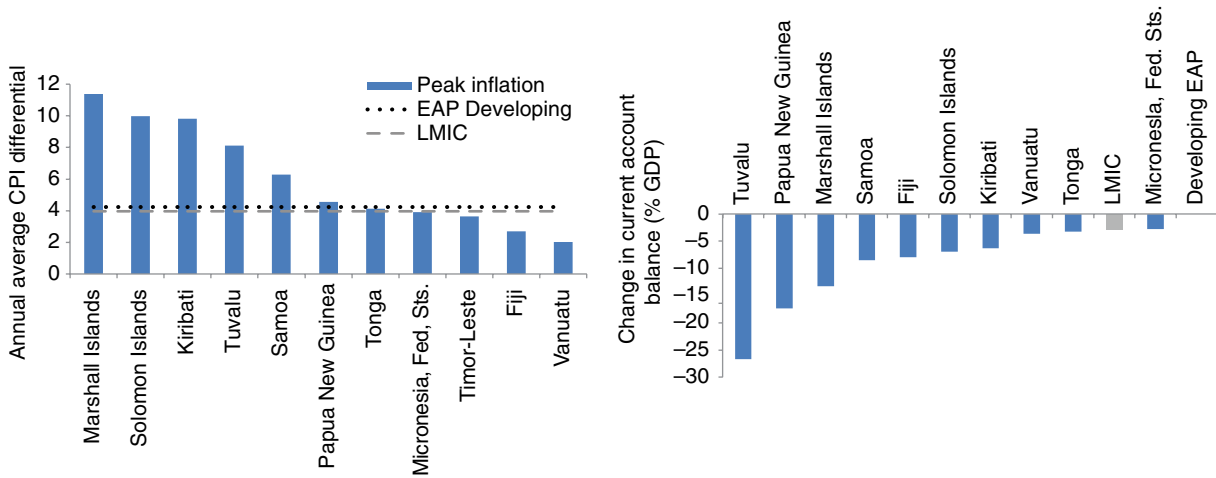
substantial shares of GDP in Papua New Guinea and the Solomon Islands, but shocks to these exports have relatively less immediate impact on households, few of which benefit directly from these industries. Figure 3.6 describes international price trends of some of the

FIGURE 3.6 INTERNATIONAL MAJOR COMMODITY VOLATILITY, 1995–2012



Source: IMF Primary Commodity Prices.

FIGURE 3.7 ANNUAL AVERAGE CPI CHANGE AND CHANGE IN CURRENT ACCOUNT BALANCE AS PERCENTAGE OF GDP FOR PICs



Note: CPI = consumer price index; EAP = East Asia and the Pacific; LMIC = low- and middle-income countries.

most important commodities for the Pacific and their volatility.²

Problems of import dependence are magnified in small, remote archipelagos. Small populations must be served regularly by low-volume shipping routes for critical supplies, which are often operated or subsidized by the state. As well as the added cost of shipping, interruptions to supply can lead to shortages of food and other basic goods, which is yet another source of risk for Pacific islanders.

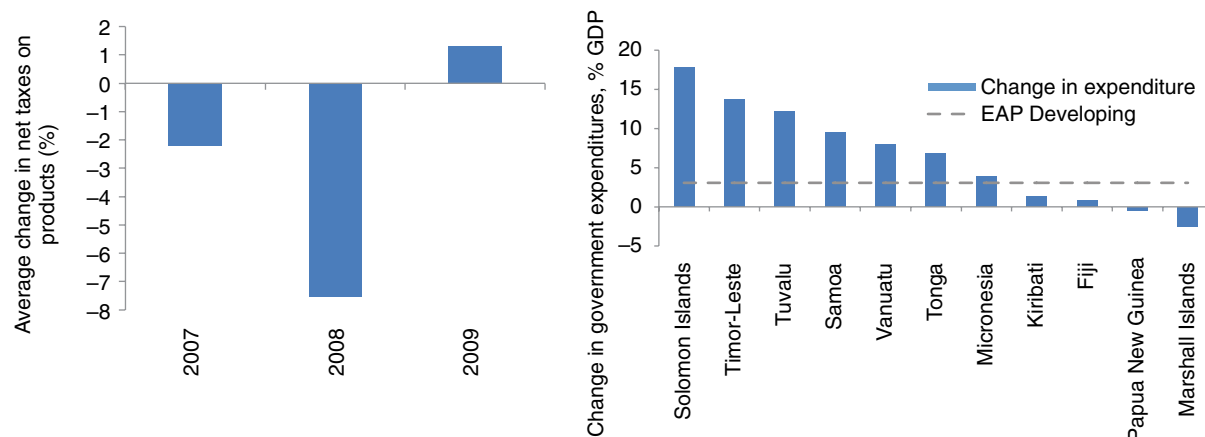
These aggregate economic shocks have a disproportionate effect at the macroeconomic level on Pacific islands. During the recent global food and fuel price crisis, the spike in consumer prices experienced in the Pacific tended to be well above the increases seen in East Asia and other developing countries, and current account balances deteriorated rapidly (figure 3.7). In addition to price increases, other adverse economic shocks over the period 2007 to 2009 included drops in remittances and tourism. These shocks, combined with the fiscal response in some countries to mitigate their effects, led to higher

public expenditures and lower taxes, adding to fiscal sustainability pressures (figure 3.8).

Within countries, vulnerability to economic shocks also varies, depending on where people live (urban or rural areas), initial well-being, and other factors. In many PICs, households in hardship tend to self-produce a larger share of their food than other households do (figure 3.9). At the same time, households in hardship also spend a bigger proportion of their total budget on food, so that, despite own-production, these households may be as vulnerable to volatility in consumer food prices. Urban dwellers experiencing hardship or close to it may be the most vulnerable to consumer food price shocks, because they rely largely on purchased foods (figure 3.10), and without access to land and sea resources, such shocks can push them into or deeper into hardship. Conversely, rural households are more vulnerable to cash crop price shocks, and in some countries, rural households in hardship are more dependent on cash crop income than those not in hardship (figure 3.11). Shocks to external financial flows are also likely to be unevenly distributed across the population, depending on which households receive remittances, work in tourism, or benefit more from international aid (figure 3.12). The next section seeks to provide some insight into the question of how exogenous economic shocks might affect households in the Pacific by simulating the effects of common shocks on household welfare in Kiribati, Papua New Guinea, and Tonga.

2. The intervals are based on one standard deviation bounds on annual variation over the last 20 years, which means that a year-to-year variation of this magnitude has occurred over the last 20 years with probability of about 30 percent.

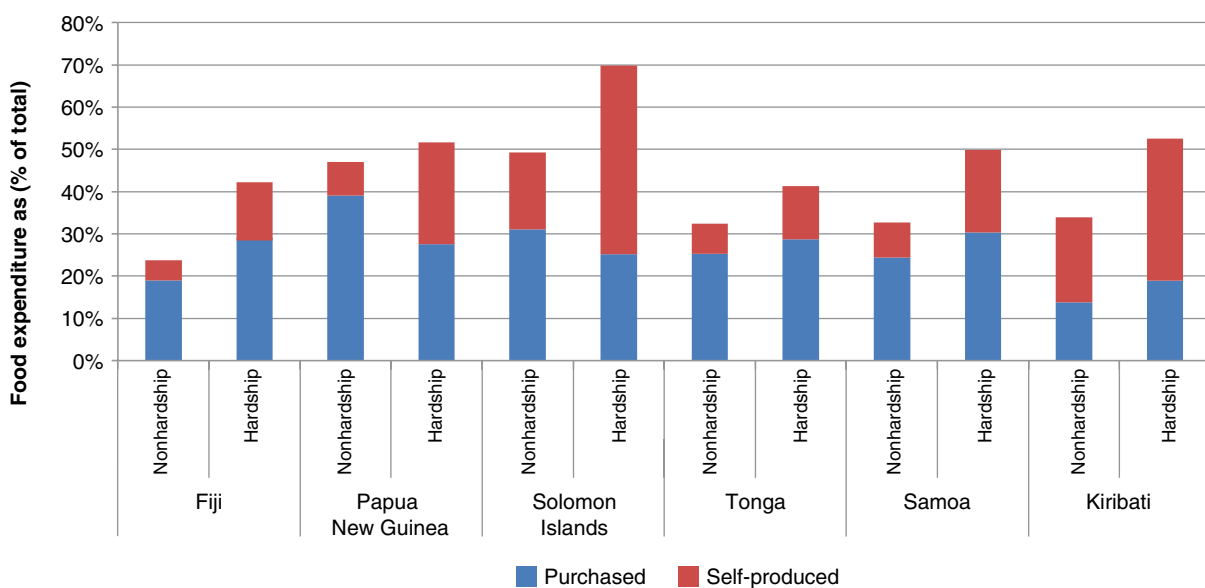
FIGURE 3.8 AVERAGE CHANGE IN NET TAXES ON PRODUCTS AND CHANGE IN GOVERNMENT EXPENDITURES FOR PICs



Source: IMF 2013.

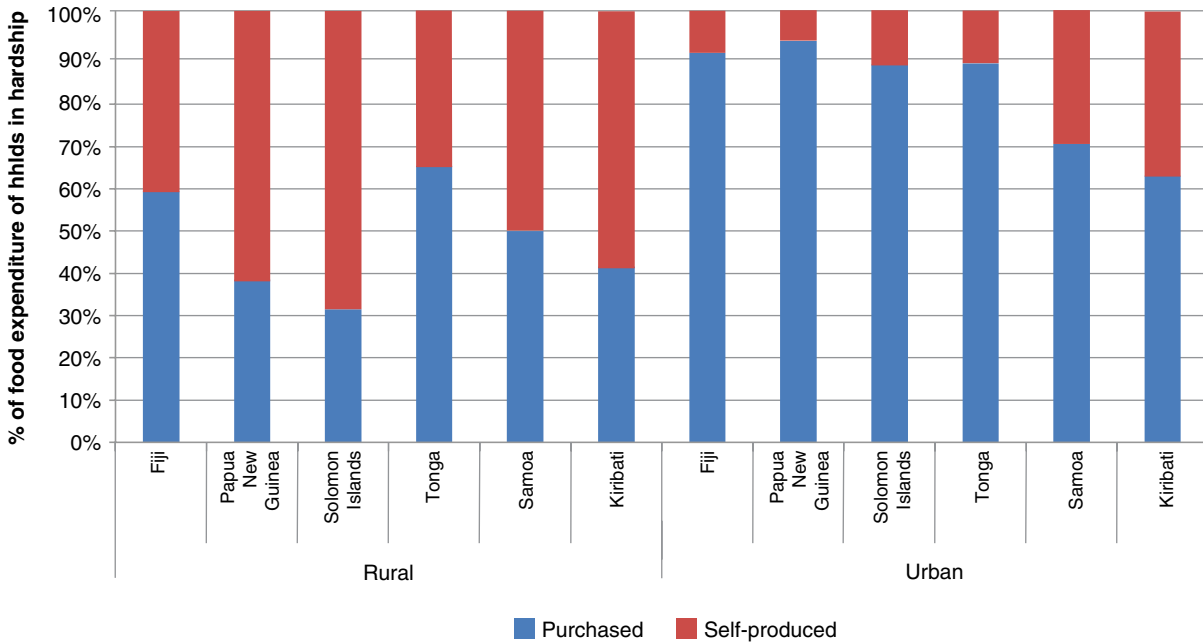
Notes: Change in net taxes on products averaged over countries with data available: Fiji, Kiribati, Micronesia, Fed. Sts., Palau, Papua New Guinea, Tonga, and in constant domestic prices. Change in government expenditure compares periods 2006–2008 and 2009–2011. EAP = East Asia and the Pacific.

FIGURE 3.9 FOOD EXPENDITURES FOR HOUSEHOLDS WITH AND WITHOUT HARDSHIP



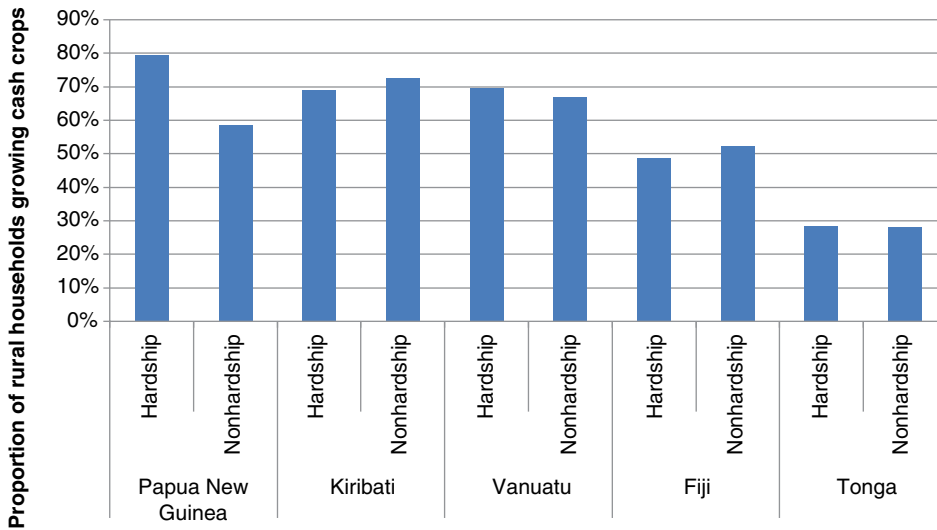
Source: World Bank staff estimates from HIESs.

FIGURE 3.10 FOOD EXPENDITURES OF HOUSEHOLDS IN HARDSHIP



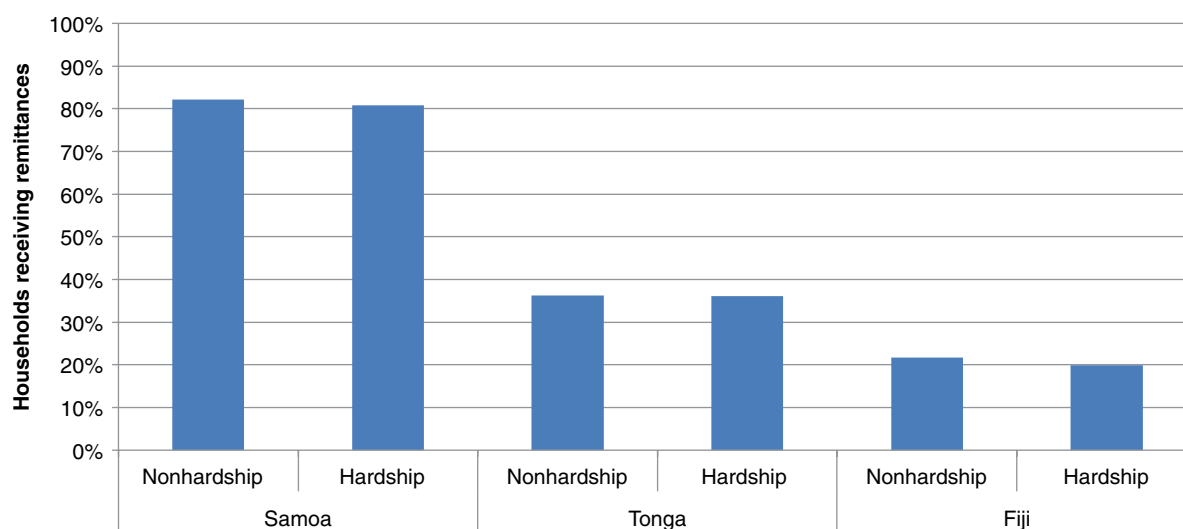
Source: World Bank staff estimates from HIESs.

FIGURE 3.11 RURAL HOUSEHOLDS IN PAPUA NEW GUINEA GROWING CASH CROPS



Source: World Bank staff estimates from HIESs.

FIGURE 3.12 HOUSEHOLDS RECEIVING REMITTANCES IN SELECT PICs



Source: World Bank staff estimates from HIESs.

Impacts of Aggregate Economic Shocks on Households: Results from Microsimulations

This section presents analytical estimates of the impacts of economic shocks on household welfare and on rates of hardship for three PICs with different vulnerabilities: Kiribati, Papua New Guinea, and Tonga. The preceding section showed that PICs are vulnerable to a variety of aggregate economic shocks, especially reductions in external financial flows including remittances, price increases in imported commodities, and price decreases in cash crops. However, this aggregate perspective tells us little about the impacts on households. To look in more depth at the likely impacts of these types of shocks on households, microsimulation analysis utilizes nationally representative household data and simulates the effects of different shocks on household income and consumption, across the distribution of households in each country. These three countries were chosen from the subset of Pacific countries for which recent, detailed household-level data are available, and to represent a range of country contexts in the Pacific—in terms of size, cultural area, and average income. Additional detail on the analytical model can be found in the annex to this chapter, and a complete description of the analysis and results can be found in Cororaton and Knight (2013).

Across all three countries, shocks to major food commodities, oil, cash crops, or remittances are estimated to push between 1 and 6 percent of the population into hardship and to deepen hardship substantially for many others. Shocks that are simulated are of moderate magnitudes that have occurred in the past and are likely to occur again on a frequent basis. Even at these magnitudes, household well-being is substantially affected by increases in the cost of living or decreases in income (depending on the type of shock). Urban residents are relatively more affected by commodity price shocks, but since all three countries are still primarily rural, the majority of the people pushed into hardship by these shocks live in rural areas. Falls in cash crop prices affect rural residents and deepen hardship for those already experiencing it, particularly in Papua New Guinea. Negative shocks to remittances also increase hardship in Tonga. The following subsections provide an overview of the analytical approach, details of the model, and country-by-country results.

Overview of the Microsimulation Analysis

The analysis simulates shocks to prices and to remittance income at magnitudes that can and have occurred relatively frequently in the Pacific. Therefore, the results are not meant to describe extremes that occur only very rarely, but scenarios

that have a roughly one in three chance of occurring in any given year. The simulated price shocks are applied to specific food commodities that are commonly consumed and cash crops that are sold rather than broad aggregates. Rice and wheat are important imported food commodities in parts of the Pacific, and the impacts of price shocks on these two foods are simulated in all three countries. Oil, both as a commodity in itself and as a major input to transport and energy costs, is crucial to many Pacific countries, and an upwards price shock to oil prices will be simulated. A fall in coffee prices is simulated in Papua New Guinea, and in Kiribati the price of copra is shocked. The impact of a drop in the inflow of remittances is simulated in Tonga. The sizes of the price shocks modeled, which are based on historical variations, are given in table 3.1. The primary data sources are the same household surveys described in chapter 2.

The model takes a microsimulation approach to estimate the impacts of macroeconomic shocks on households. The model is based on the World Bank Poverty Reduction and Economic Management Food and Fuel Simulation model that is publically available,³ although it has been significantly customized for this analysis. Similar approaches have been used in recent papers on the simulated impacts of commodity price shocks, for instance, Anderson, Ivanic, and Martin (2013) and Wodon and Zaman (2008).

The model is based on a partial equilibrium approach. Therefore, it does not require data and assumptions that establish the relationships between sectors and actors in an economy, which makes it more suited to the limited data available for many PICs. Increases in the cost of items that households consume raise

their cost of living and reduce their real expenditure. Similarly, a drop in income, be it from cash crop earnings or remittances, will also tend to lead to a fall in real expenditure. Direct effects on household consumption dominate in the rice and wheat sectors, where there is negligible domestic production. Cash crops are primarily exported and so have limited impact outside their direct effect on growers. Oil price shocks are felt in a more diffuse way, which is reflected in the simulation of this shock as described in table 3.2. The simulations estimate changes in real expenditure relative to country-specific basic needs poverty lines.

The model assesses impact effects only and does not incorporate any substitution by households away from higher priced food items or lower value crops. In this respect, the impact estimates are an upper bound, because households will rationally substitute away from higher priced goods to reduce the welfare impact of a price shock. However, for the shocks simulated, the ability of households to substitute in many cases is likely to be constrained by the very limited domestic agricultural supply in many Pacific islands, and consequently little potential to raise production in the short term, so households have little choice but to rely on imported food. In other countries, including Papua New Guinea, alternative own-grown or collected foods may be a more viable alternative to imported foodstuffs. As authors such as Gibson and Kim (2013) have pointed out, in such countries households in or near hardship may have a capacity to switch to cheaper and lower quality foods in response to a price shock. By considering the presubstitution effects of shocks, this analysis seeks to identify households that are likely to be adversely affected and does not attempt to account for this kind of food switching. In countries such as Papua New Guinea, where cash crops are a major source of household income, mature stocks represent a significant fixed asset for households, and they are unlikely to remove plantations to grow other crops

TABLE 3.1: Magnitudes of Simulated Shocks

Commodity	Price Shock
Coffee	20% price decrease
Copra	20% price decrease
Crude oil	30% price increase
Rice	20% price increase
Wheat	20% price increase

TABLE 3.2: Sectoral Price Changes in Response to 30 Percent Oil Price Shock

Sector	Papua New Guinea	Kiribati
Electricity	15%	30%
Petroleum products	30	30
Public transport	30	30
Transport costs (all goods)	30	30

3. <http://go.worldbank.org/3C2XG5B1G0>.

in response to year-to-year price variations. Similarly, coffee and cocoa plants take 15 to 20 years to mature, so additional supply would respond only very slowly to price incentives. These limited supply responses are borne out by recent research that suggested that the supply elasticity for various cash crops in Papua New Guinea is negligible in the short to medium term (Aba, Aipi, and Irau 2012; Aipi, Irau, and Aba 2012).

Cost-of-Living Simulations: Papua New Guinea

The microsimulation modeling reveals that shocks to food commodity prices would push large numbers of people into hardship, and deeper into hardship, in Papua New Guinea. An increase in imported rice prices of 20 percent is likely to place about 35,000 more people into hardship, with a total welfare loss to those in hardship of around \$7.5 million (in 2012 prices). In urban areas, where fewer alternatives to rice are found, 0.8 percent of the population would be pushed into hardship. Rural populations, including those living in periurban areas, are also affected. The majority of the country's less-well-off population live in rural areas, so 0.5 percent falling below the poverty line there translates to 28,000 people, compared with the 8,000 affected in urban areas. Households already in hardship in both rural and urban areas would also be adversely affected and would have to find an additional 0.5 percent (urban) and 0.8 percent (rural) of their budgets to finance the same consumption basket. The increase of rice prices would be sufficient to push up national inflation by 1.4 percentage points, with urban consumer price index likely to rise by more.

A shock to wheat prices is predicted to have a smaller effect on hardship. Although significant consumption of bread and other wheat-based foods is seen in urban areas, it is not as important a food as rice, and a shock to its price alone leads to only a relatively small number of people moving below the poverty line. Table 3.3 summarizes the results of these, as well as the oil and combined shocks.

An increase in world oil prices is felt across a range of expenditure items by households and is estimated to push the greatest number of people into hardship. An oil price shock leads directly to higher petrol and kerosene prices. It also increases the cost of public transport and electricity and pushes up the cost of most goods by increasing the cost of transport both to and within the country. The large size of the shock and the diffused impacts via transportation costs of goods means that a price shock entails more severe impacts on those in hardship. The estimated impact of an increase in oil prices by 30 percent is to push 116,000 people below the poverty line—1.6 percent of the total population. Again, urban populations would be the hardest hit, because they spend larger fractions of their budget on imported goods and transport to get around urban areas to access services and work opportunities. The amount that would be needed to compensate those in hardship for the price rise would be \$26.7 million. Consumer prices are estimated to rise by 4.9 percent.

In recent years the prices of basic commodities including food and fuel have increased together, and

TABLE 3.3: Summary Results for Papua New Guinea Cost-of-Living Simulations

	Increase in Rice Price (20%)	Increase in Wheat Price (20%)	Increase in Oil Price (30%)	All Three Commodity Shocks
People pushed into hardship (% of population)	35,000 (0.5%)	4,000 (0.1%)	116,000 (1.6%)	178,000 (2.5%)
Of which rural	28,000 (0.5%)	2,000 (0.1%)	93,000 (1.6%)	143,000 (2.4%)
Of which urban	8,000 (0.8%)	2,000 (0.2%)	22,000 (2.2%)	35,000 (3.4%)
Annual welfare loss, total hardship	\$7.5 million	\$2.2 million	\$26.7 million	\$38.7 million
Proportion of hardship rural household budget	0.7%	0.2%	2.6%	3.6%
Proportion of hardship urban household budget	0.4%	0.2%	1.3%	2.1%
Change in hardship severity	2.1%	0.8%	7.4%	10.5%
Inflation	1.4	0.6	4.9	6.9

Note: Welfare loss is annualized, expressed in 2012 prices.

a simulated simultaneous shock to oil, rice, and wheat is estimated to push 2.5 percent of the population into hardship. This is equivalent to moving 178,000 people into hardship, at a welfare cost of \$38.7 million. Many of those already below the line would fall deeper into hardship. A measure of the severity of hardship, which captures how far below the poverty line some households are, would increase by more than 10 percent. Finding the right policy levers to compensate people is a major challenge, but even if a perfect mechanism did exist, the government would struggle with the fiscal cost of alleviating this increase in hardship, because the cost to those in hardship of a simultaneous shock being equivalent to about 3.4 percent of government discretionary spending.

Cost-of-Living Simulations: Kiribati

An oil price shock of 30 percent is estimated to push 3,000 people or 3.7 percent of the population into hardship. An increase in the price of rice is estimated to place around 600 people below the poverty line. A wheat price shock would have a more moderate effect. Interisland shipping costs are subsidized in Kiribati, but higher transport costs are still felt by households from international shipping. An oil price shock would hit Kiribati particularly hard, given the higher shipping costs of reaching its remote location. A total of 3,200 people, 3.7 percent of the population, would fall into hardship as a result, with those in South Tarawa being hardest hit. Similarly, the adverse effect of urban households already in hardship is larger, with additional costs equating to nearly 2 percent of their total expenditure, and hardship severity nationwide

would increase sharply, by 19 percent. Table 3.4 summarizes these results and for the following simulations.

A simultaneous shock to the three basic commodities (rice, wheat, and oil) in Kiribati is particularly harmful, pushing 6 percent of the population into hardship. The impact would be more severe than might be suggested by the sum of individual shocks: Many more households that would just make ends meet if the price of one commodity rose on its own are pulled into hardship when faced with multiple price increases. A total of 5,200 people would be expected to fall into hardship. Given the small population size, the total welfare effects of the shocks are much smaller, illustrating the relatively small sums of money that would be needed to ameliorate adverse impacts (assuming an efficient transfer mechanism could be found, which in chronically capacity-constrained countries such as Kiribati is a major challenge). The equivalent cost for government would be 1 percent of discretionary spending.

Cost-of-Living Simulations: Tonga

In Tonga, 1 percent of the population would be pushed into hardship from an oil price shock, whereas a simultaneous shock to oil, wheat, and rice prices would push about twice as many people into hardship. The types of imported food consumed in Tonga are markedly different from Kiribati and Papua New Guinea. Rice is not a major staple, with meat and wheat products being the mainstay of the diet, along with local vegetable produce.

TABLE 3.4: Summary Results for Kiribati Cost-of-Living Simulations

	Increase in Rice Price (20%)	Increase in Wheat Price (20%)	Increase in Oil Price (30%)	All Three Commodity Shocks
People pushed into hardship (% of population)	630 (0.7%)	170 (0.2%)	3,200 (3.7%)	5,200 (6.0%)
Of which rural	460 (1.0%)	170 (0.4%)	900 (1.9%)	1,200 (2.9%)
Of which urban	170 (0.4%)	0	2,300 (5.9%)	4,000 (10.2%)
Annual welfare loss, total hardship	\$92,000	\$24,000	\$323,000	\$574,000
Proportion of hardship rural household budget	0.5%	0.1%	0.9%	1.7%
Proportion of hardship urban household budget	0.5%	0.2%	1.8%	2.8%
Change in hardship severity	3.9%	1.9%	18.6%	25.1%
Inflation	1.6	0.8	7.3	9.7

TABLE 3.5: Summary Results for Tonga Cost-of-Living Simulations

	Increase in Rice Price (20%)	Increase in Wheat Price (20%)	Increase in Oil Price (30%)	All Three Commodity Shocks
People pushed into hardship (% of population)	—	300 (0.4%)	1,200 (1.4%)	1,600 (1.9%)
Of which rural	—	250 (0.4%)	800 (1.0%)	1,200 (1.5%)
Of which urban	—	50 (0.2%)	400 (1.4%)	400 (1.7%)
Annual welfare loss, total hardship	\$0.04 million	\$0.9 million	\$1.8 million	\$2.9 million
Proportion of hardship rural household budget	—	0.3%	0.5%	0.8%
Proportion of hardship urban household budget	—	0.2%	0.7%	1.0%
Change in hardship severity	—	2.6%	6.3%	9.1%
Inflation	—	0.9	3.2	4.2

Note: Welfare loss is annualized, expressed in 2012 prices. — = not available.

Therefore, a rice price shock has little impact, but an increase in wheat prices directly affects households, particularly in rural areas. Approximately 1,200 people would be expected to fall below the poverty line following an increase in oil prices, and 1,600 people would be affected by a simultaneous price shock to oil, wheat, and rice. These shocks would also push those already in hardship further into it. Overall, the welfare cost to households in hardship would be \$2.9 million for the simultaneous shock, equivalent to 1 percent of total consumption and expenditure of urban households and 0.8 percent for rural households, and 3.2 percent of government discretionary spending. These results are summarized in table 3.5. It is worth noting that the analysis does not consider the indirect effects of changes in grain prices on meat, but because grain feed is an important input into livestock rearing, prices often move together. The estimates are therefore likely to understate the overall effect of price shocks on household expenditure.

Income Simulations

It is not only via expenditure that households are exposed to external price shocks. In PICs, many income sources are also highly dependent on external factors. Declines in the price that cash crops can be sold for can also be a major source of impoverishment in PNG. A third of households in PNG grow coffee, which is often the only source of cash income in a household. Cash-cropping

households tend to be less well-off than the average household, with the hardship head-count ratio for cash-crop households at 45 percent compared with 40 percent for all households. A drop in coffee prices by 20 percent would force 230,000 people below the poverty line, 3.3 percent of the country's population. This is equivalent to one in every 20 people who are not already in hardship. The potential impacts on households already in hardship are particularly disastrous—with these households needing to find alternative income to finance 6.3 percent of expenditure, and hardship severity for cash-cropping households increasing by more than 50 percent. The welfare cost borne by households in hardship is also large at \$81.3 million and amounts to in excess of 7 percent of the Papua New Guinea government's annual discretionary budget.

As in Papua New Guinea, a large proportion of households outside the urban area rely on cash crop income in Kiribati. A major source of income in the outer islands is copra, which benefits from a guaranteed purchase scheme operated by government that in effect heavily subsidizes households to produce copra. Across all outer island households, agricultural cash incomes, which are primarily copra, make up 37 percent of cash income (excluding nonmonetized income like home-grown food). In response to a fall in copra prices, it is expected that 800 people, 1.2 percent of the population, would move below the poverty line.

TABLE 3.6: Summary Results for Income Simulations across Countries

	Decrease in Coffee Price: Papua New Guinea (20%)	Decrease in Copra Price: Kiribati (20%)	Decrease in Remittances: Tonga (20%)
People pushed into hardship (% of population)	230,000 (3.3%)	800 (1.2%)	900 (1.1%)
Of which rural	230,000 (3.7%)	800 (1.6%)	400 (1.0%)
Of which urban	0	0	500 (1.4%)
Of which affected households	230,000 (9.8%)	800 (3.0%)	—
Proportion of hardship hhd budget ^a	6.3%	0.2%	1.3%
Annual welfare loss, total hardship	\$81.3 million	\$56,000	\$2.1 million
Change in hardship severity ^a	50.7%	17.0%	2.3%

Note: Welfare loss is annualized, expressed in 2012 prices. — = not available.

a. For affected households only.

In Tonga, remittances from overseas form an important source of household income. The results of the microsimulations show that a 20 percent fall in remittances to households would put 1.1 percent of the population into hardship, of which more than half are based in the urban center of Nuku'alofa at a total welfare cost to those in hardship of \$2.1 million, which is around 4 percent of government discretionary spending (see table 3.6). It is worth noting that from

2007 to 2011, remittances in Tonga fell by far more than the shock simulated here, in part because of the global economic crisis. There was widespread concern that the fall in remittances would substantially reduce household well-being, but data have not been available to estimate its actual impacts. Box 3.1 provides a comparison of these results for Tonga as well as Papua New Guinea and Kiribati with global price shocks.

BOX 3.1 PICs Face the Equivalent of a Global Food and Fuel Crisis Every Few Years

The microsimulation results illustrate that Pacific island countries might expect to see the kind of impacts that are roughly comparable to the global food and fuel crisis in other countries every few years.

Several studies, including Ivanic and Martin (2008), Dessus, Herrera, and De Hoyos (2008), and De Hoyos and Medvedev (2011), have estimated the impact of the 2007–2008 spike in commodity prices on poverty in developing countries (see table B3.1.1). De Hoyos and Medvedev estimate that the increase in food prices would put 2.4 percent of households below the poverty line. Ivanic and Martin estimate this to be 3 percent. Dessus et al. indicate that for the 20 worst affected countries in the world, the equivalent increase in poverty head-count ratios is 5 percent.

TABLE B3.1.1: Studies of Changes in Head-Count Ratio

Study	Change in Head-Count Ratio (Percentage Points)	Assumptions
De Hoyos and Medvedev 2011	2.4%	Based on all food consumption, for 21 low- and middle-income countries
Ivanic and Martin 2008	3.0	Based on major food commodities, for 9 low-income countries
Dessus et al. 2008	5.0	Estimate for 20 worst affected countries from a dataset of 72 low- and middle-income countries
Current report (including oil)	1.9–6.0%	Four commodities including oil. Shock magnitude one-fifth the size of above studies.

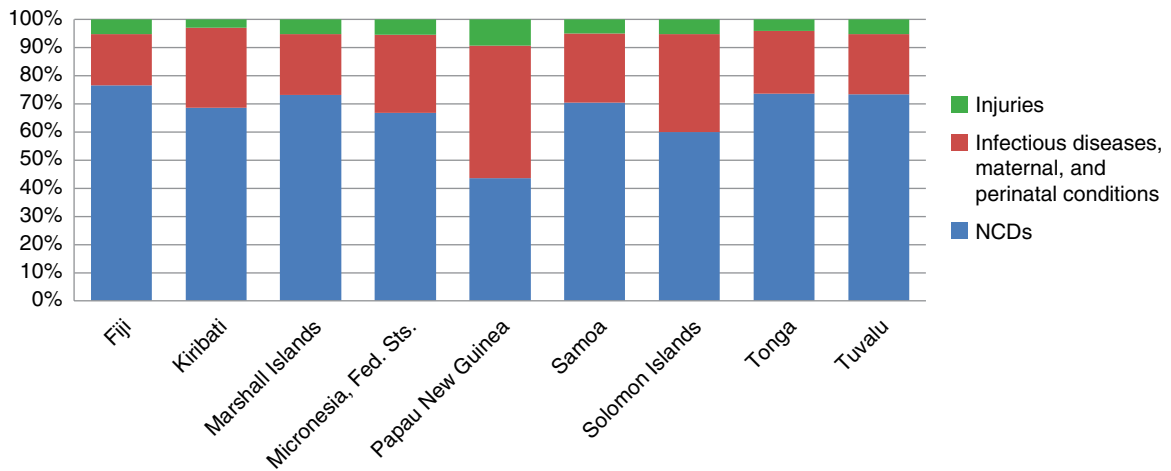
Prices of food and fuel increased by more than 100 percent over the period examined by these studies, so it is important to note that their estimates are based on food price shocks at least five times greater than the simulated price movements studied in this report. These Pacific estimates also look at only two food commodities, whereas the global estimates look at a broader basket of goods. On the other hand, the global estimates do not generally account for the impact of fuel price increases on transport and energy costs, as the Pacific estimates do. Keeping in mind these methodological differences, the results for commodity price shocks are of a comparable magnitude to the global averages.

Health Shocks Are Also an Important Source of Vulnerability

In addition to aggregate economic and natural shocks, health shocks are an important source of vulnerability for Pacific islanders at the aggregate level. People in the Pacific face a “double burden” of disease: continued threats from communicable disease and poor maternal and child health, as well as high and growing rates of NCDs. In many countries, NCDs have reached epidemic proportions. Figure 3.13

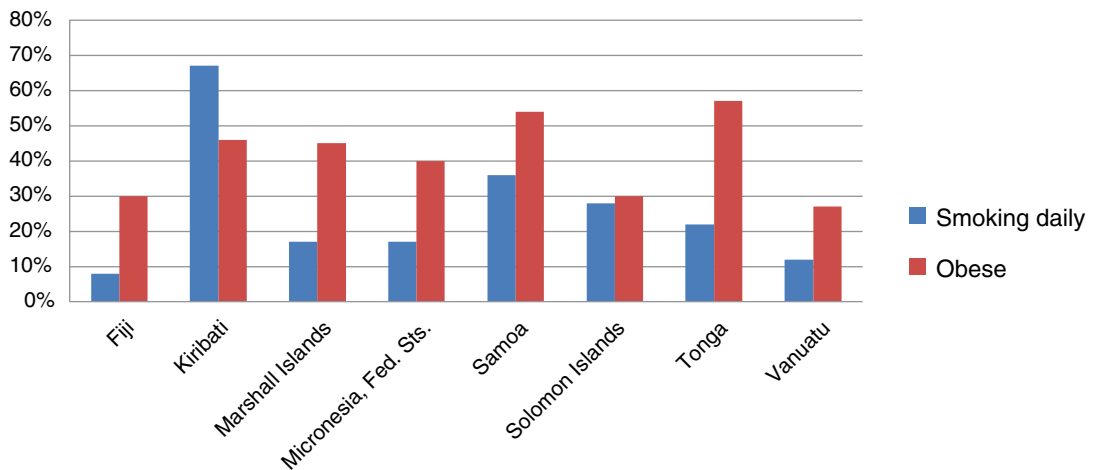
shows that NCDs cause the majority of deaths in almost all PICs, and the most common NCDs are cardiovascular diseases. In Tonga, the rise of NCDs has already contributed to a reduction in average life expectancy (World Bank 2012b). This rise has been caused in part by reliance on low-quality imported foods, leading to high rates of obesity, and the widespread use of tobacco and alcohol (WHO 2010). Figure 3.14 shows how widespread these conditions and behaviors are across countries: About two-thirds of adults in Kiribati smoke daily, and more than half of adults in Samoa and Tonga are obese.

FIGURE 3.13 ESTIMATED LEADING CAUSE OF DEATH, 2008



Source: WHO Global Health Observatory.
 Note: NCD = noncommunicable disease.

FIGURE 3.14 POPULATION SHARES WITH RISK FACTORS FOR NCDs



Source: WHO Global Health Observatory.
 Note: NCD = noncommunicable disease.

The rise in NCDs has large impacts at the country level, through costly treatment and lost productivity. In most PICs, governments finance the majority of health care, with assistance from international development partners. The rapid and widespread increase in NCDs threatens the financial sustainability of this system, because the costs of treating NCDs are often substantially higher than treating other types of disease and injury (World Bank 2012b). In Samoa, for example, dialysis treatment is funded by the government and costs over \$38,000 per patient per year, more than 10 times GDP per capita (World Bank 2012b).⁴ In addition, NCDs affect many people during their working ages, reducing the productivity of the working-age population through illness, disability, and premature mortality.

Health shocks at any level of covariance have a range of negative impacts on individuals and families, including on household budgets. For example, in Fiji, about 27 percent of households in the 2009 HIES reported that at least one member is not working because he or she is disabled or ill. When a household member is unwell, other members may need to forgo income-generating activities to care for the sick person. In addition to missing work, disease and other health shocks can have large impacts on people in many other ways. For example, even when treatment is free, households may have to migrate at their own expense to an urban center to receive it.

Other Types of Shocks Also Affect Pacific Islanders but Are More Difficult to Measure

In addition to aggregate economic, natural, and health shocks, people in the Pacific are also vulnerable to aggregate sociopolitical shocks. Civil unrest, violence, and political instability have occurred in several countries over the past decade, including Fiji, Papua New Guinea, the Solomon Islands, and Tonga. These shocks affect people in many ways, including physical violence, destruction of assets, and reductions in economic activity. For example, during civil unrest in 2006, 80 percent of the central business district in Nuku'alofa was destroyed (World Bank 2008). Sociopolitical shocks often reduce confidence and create fear, which can affect tourist arrivals and

private sector activity and, through these channels, people's livelihoods.

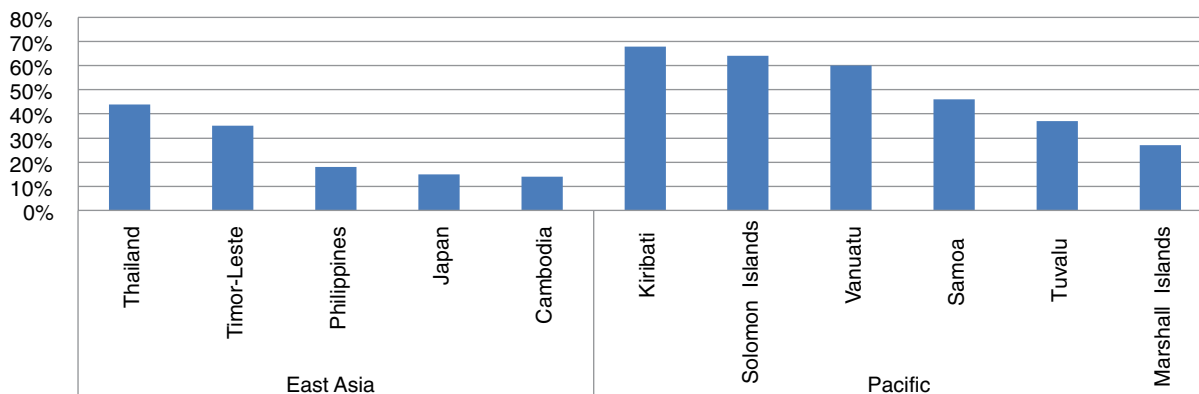
People in the Pacific are also vulnerable to localized and idiosyncratic shocks from all sources, but sparse data limit how much can be learned about the prevalence and impacts of these shocks. As in other countries, everything from community disputes, to landslides, to crop failures, occur in the Pacific. However, data on these shocks are very limited: Nationally representative household surveys are collected several years apart, and households are not followed over time. This makes it difficult to identify shocks, which are inherently about changes over time. In addition, few surveys ask questions specifically about past shocks, making it difficult to even estimate the prevalence of shocks. Within these limitations, some interesting results can still be identified about idiosyncratic shocks, because existing available data do not allow for the identification of locally covarying shocks.

In some PICs, violence is a commonly experienced personal shock, and the rates of violence against women are among the highest in the world. In Papua New Guinea, 18 percent of households reported experiencing a theft, physical assault, or domestic violence in the year preceding the survey. Interestingly, these personal shocks are similarly common for households in and out of hardship. Across PICs, the rate of domestic violence experienced by women is very high. The share of women age 15 to 49 reporting ever experiencing either physical or sexual violence perpetrated by an intimate partner (a husband or boyfriend) reaches well over 50 percent in Kiribati, the Solomon Islands, and Vanuatu (figure 3.15). Sexual violence against children is also prevalent in many PICs and may be related to the high rates of unplanned pregnancies among young women. Violent shocks have direct physical, psychological, and emotional impacts that reduce well-being and are also likely to have effects on a broad range of economic outcomes. Research from around the world shows that abused women earn less, costs to care for victims (when care is available) are high, and patterns of violence are often passed from one generation to the next (World Bank 2012c).

Unplanned pregnancy is another personal shock that is much more common in the Pacific than in neighboring East Asia. Across the Pacific, fertility rates are high, and many pregnancies, particularly those occurring to young women, are unplanned (figure 3.16). These unplanned pregnancies can

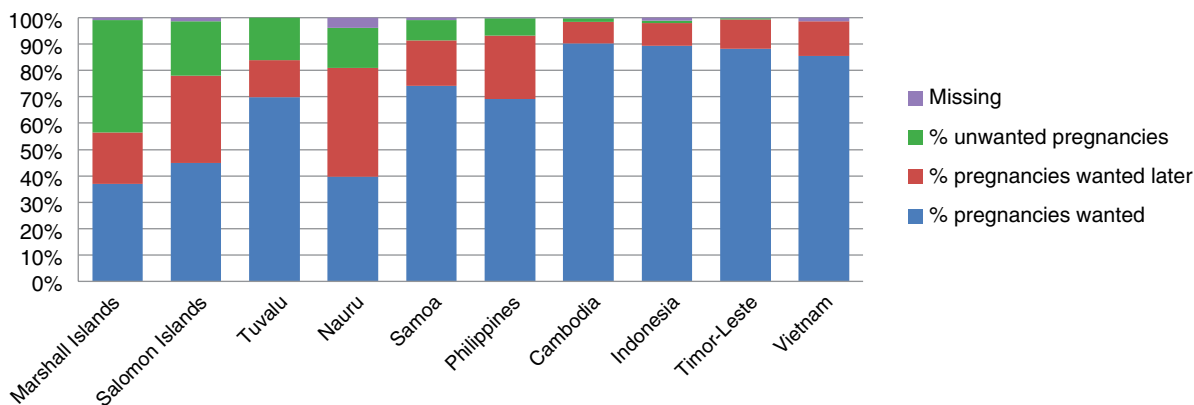
4. The management of health risks and the fiscal challenges presented by NCDs will be discussed further in chapter 4.

FIGURE 3.15 WOMEN AGED 15–49 REPORTING PHYSICAL OR SEXUAL VIOLENCE FROM AN INTIMATE PARTNER, SELECT PICs AND ASIAN COUNTRIES



Source: World Bank 2012c (compiled from Demographic and Health Surveys).

FIGURE 3.16 MISTIMED AND UNWANTED PREGNANCIES AMONG WOMEN UNDER 20 YEARS OF AGE, SELECT PICs AND ASIAN COUNTRIES



Source: World Bank 2012c (compiled from Demographic and Health Surveys).

have adverse health and economic impacts, and the economic impacts may be particularly important for young women who are still in school or just beginning to work. That many women are unable to meet their own preferences regarding pregnancy, as well as the high rates of domestic violence and low rates of women’s representation in political leadership, are all indicative of the substantial gender inequality in the region (World Bank 2012c).

Key Messages

People in the Pacific are uniquely vulnerable to aggregate economic and natural shocks because of their countries’ combination of small size, isolation, and other geographic features. The

location and topography of PICs exposes them to a disproportionate number of natural shocks, and several are among those countries in the world with the most relative disaster losses. Fuel and food imports, tourism, remittances, and international aid all contribute to the well-being of Pacific islanders and help countries overcome the limitations on development caused by geography. However, their economies are still small and undiversified, so negative shocks to these external flows can have very large impacts.

Commonly occurring price shocks to commodity imports and exports increase hardship substantially. People in the small countries of the Pacific are highly exposed to high and volatile global commodity prices. Microsimulation analysis for Kiribati, Papua New Guinea, and Tonga finds that shocks to the prices

of imported food and fuel, agricultural commodity exports, and remittances push many people into hardship and deepen the severity of hardship for many others. The impacts of import price shocks are particularly severe in the small atoll nations that rely heavily on imports for staple foods and fuel. For example, in Kiribati, simultaneous spikes in the prices of rice, wheat, and oil are estimated to push 6 percent of the country's entire population into hardship. This impact of a commonly occurring set of shocks (with a likelihood of about 33 percent in any given year) is close to the estimated impacts of the 2007 global food and fuel crisis on 20 of the most severely affected countries in the world.

The growing epidemic of noncommunicable diseases is an aggregate health shock with significant consequences for the well-being of people in the Pacific. NCDs reduce productivity and quality of life and are very expensive to treat. Growth in NCDs has already eroded life expectancy in Tonga. Most PICs are facing this epidemic while also dealing with continued threats from communicable diseases and maternal and child mortality. With limited fiscal resources, trying to manage this "double burden" of disease is a major challenge for Pacific governments and will be discussed in chapter 4.

In addition to aggregate shocks, people in the Pacific face many idiosyncratic and local shocks, but little data are available to identify their frequency and impacts. Crop failure, job loss, violence, and many other idiosyncratic or localized shocks are likely to occur in the Pacific, as they do around the world. Some striking evidence of the prevalence of domestic violence and unwanted pregnancy shows that these personal shocks are much more common in the Pacific than in neighboring East Asian countries. However, existing household surveys are not designed to capture the full range of shocks that occur, particularly their impacts. Much more could be learned if future surveys asked specific questions about shocks and followed households over time to measure the impacts of shocks.

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Technical Annex: Details of Microsimulation Modeling

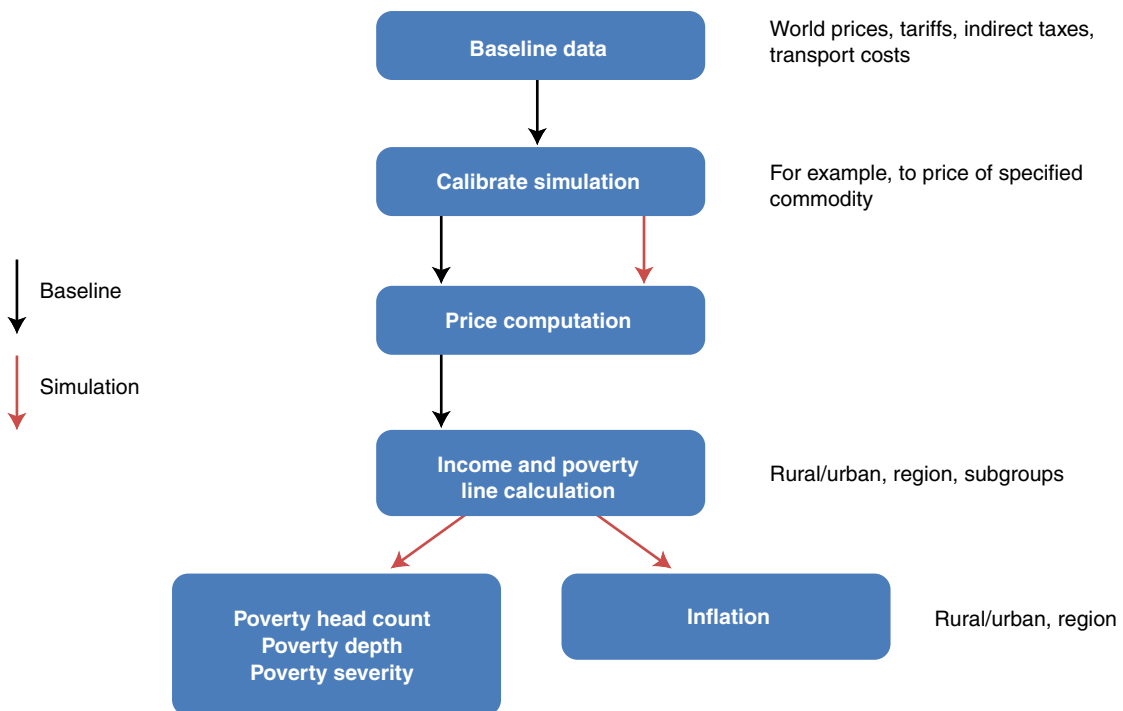
The microsimulation model used in this chapter calculates a range of parameters and estimates for three scenarios: the previous period, the baseline, and the simulation scenario (see figure 3.A.1). The baseline and simulation scenarios are compared to consider the effects of a shock. In addition to the standard sectoral breakdown of agriculture, industry, and services, the model breaks down the economy into further sectors, guided by the commodity groupings that are directly affected by the simulated shocks, including coffee, cocoa, coconut and derivatives, palm oil, rice, wheat products, fruit and vegetables, fats and oil, fish, meat, other food and drink, fuel, energy, and electricity, transport, and other expenditure.

Prices are set to a unitary value in the previous and baseline period. Although active baseline forecasts can be incorporated, for purposes of this modeling exercise it was not considered necessary. Prices for the relevant sectors are then altered in the simulation scenario to reflect the price shock. Final consumer prices (*PC*) are comprised of producer prices, sales and excise tax rates (*itx*), import duties (*tm*), and transport costs (*trsp*). The change in transport costs for

all sectors is linked to the price of the transport sector, which is in turn affected by the world price of oil.

Changes in the international price of commodities may not necessarily feed through to the same price change for final consumption goods. To the extent that the consumer price is made up of other input costs and profit margins, these may dilute the impact. Pricing behavior, industrial organization of the sector, and the sensitivity of suppliers and consumers to prices changes will all have an impact. However, it is difficult to quantify these effects with precision, so for simplicity, price shocks are directly applied to the final market prices. In most cases, commodity price shocks are directly applied to the commodity sector defined in the model. An exception to this is an oil price shock, which feeds through to a variety of different sectors. An adjustment is made to the price of the electricity sector in Papua New Guinea to account for the significant hydroelectric generation capacity in that country. Baskets of consumption weights $X_{i,t,k}$ are established for *i* sectors and *k* groups, which are (1) national, (2) below the appropriate regional poverty lines, and (3) for specific subgroups such as cash crop farmers below the poverty line. In line with assuming no substitution effects, the weights are unchanged between the baseline and simulation. With the

FIGURE 3.A.1 STYLIZED MICROSIMULATION MODEL LOGIC



baseline poverty line decomposed into prices and weightings, the poverty line is then reaggregated in the simulation scenario as follows:

$$E_{t,k} = \sum_n^{i=1} PC_{i,t} X_{i,t,k}$$

where $\sum X_i = 1$ for n goods.

In the final stage, the model assesses household expenditure against both the baseline and simulation

poverty lines, and the results are presented as hardship head-count, gap, and severity ratios. The impact on consumer inflation is also estimated. Income shocks feed directly into the household's real expenditure constraint, such that a change in total income has an equivalent proportional effect on total expenditure. For example, if cash crop income drops by 20 percent, and made up half of total income, expenditure would fall by 10 percent.

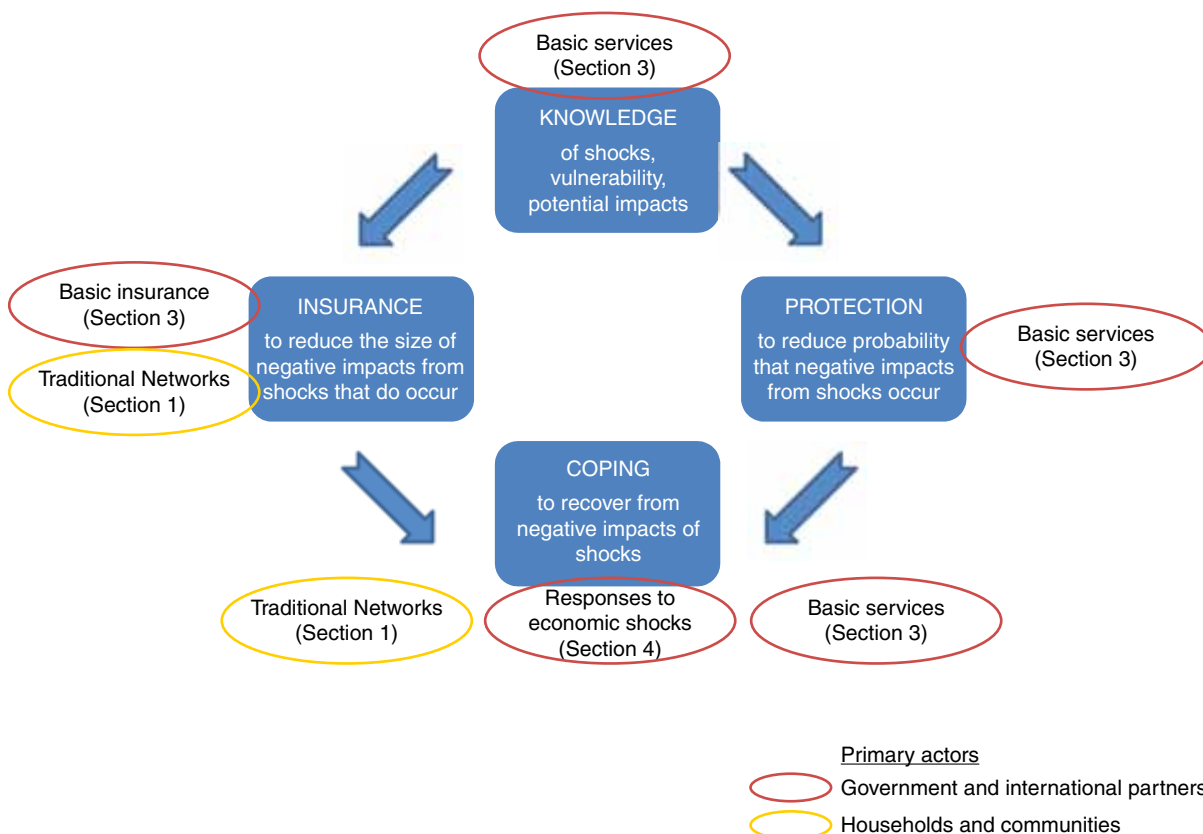
Chapter 4

Current Approaches to Reducing Hardship and Vulnerability

Hardship and vulnerability have many causes, ranging from challenges at the country level to individual characteristics. As described in chapter 1, geographic features particular to the Pacific limit economic growth, reduce the effectiveness of government, and expose people to many types of aggregate risks. These factors all contribute to the hardship and vulnerability experienced across PICs. At the same time, at the individual and the household level, many factors that are common around the world contribute to hardship and vulnerability, including limited human capital and lack of productive assets such as land (see chapter 2).

People in the Pacific benefit from strong traditional systems, but governments are increasingly recognizing the need to address hardship and vulnerability and their underlying causes. This chapter provides an overview of the strengths and limitations of some of the current approaches that households, communities, and governments take to reduce hardship and vulnerability, utilizing the risk management framework presented in chapter 1. Figure 4.1 groups these approaches according to their function in the risk management framework. The first section reviews the main ways in which households and communities work to reduce hardship and manage risks, including the

FIGURE 4.1 CURRENT APPROACHES TO RISK MANAGEMENT IN THE PACIFIC



limited quantitative evidence of their effectiveness. Sections two through four then focus on the various efforts of governments and their development partners to reduce hardship and vulnerability. The second section provides an overview of the programs through which Pacific governments directly assist those in hardship and provide social insurance. The third section reviews the much more widespread provision of free services by governments, which can address individual causes of hardship, as well as reduce vulnerability by increasing knowledge, protection, and facilitating coping. This section focuses in particular on Pacific governments' role in providing health care. The fourth section then discusses Pacific governments' current approaches to managing risks from aggregate shocks, with a focus on economic shocks. The final section summarizes the key findings.

The Role of Traditional Networks in Reducing Hardship and Vulnerability

Traditional networks in the Pacific may reduce hardship and vulnerability through exchange and subsistence resources. Across most PICs, relationships between people based on blood relation, village, language, and other factors have long been established by custom (Nanau 2011; Sviridova 2013). These relationships are the basis of networks that take different forms across countries, such as *wantok* in *utu* in Kiribati and Melanesia. Norms of behavior and access to land are based on these networks, as is political power in many countries (Fukuyama 2008). Norms of behavior help define one's obligations to others, including how resources should be shared between individuals, households, and communities. The majority of land in many PICs is owned by custom, giving everyone access to some land in principle. Land provides livelihoods, helps define identity, and also holds deep spiritual meaning for people. Across most of the Pacific, land and ocean resources continue to provide for large shares of household food, housing, and other needs. Although these traditional networks have long histories, it is important to remember that they are dynamic and continue to adapt to changing social and economic realities.

Exchange in Traditional Networks

Family forms the core of traditional networks, but network structures vary widely across and within

countries.¹ Melanesian *wantoks* are defined in part by ethnic identity and are often led by "big men." In the ethnically diverse countries of Melanesia, tribe and language are important determinants of who is in the same *wantok*. The term *wantok* itself comes from the Tok Pisin word for "one talk" or sharing the same language. In some countries, including Fiji, political alliances also play a role in defining networks. In Melanesian countries, networks tend to operate around "big men" or male chiefs who lead their communities. Power can be based on hereditary inheritance or on individual merit and accomplishments, and this varies from community to community. Across countries, "big man" systems are well integrated into formal political structures.

In Micronesia and Polynesia, network structures range from egalitarian to chief-based leadership. In Kiribati, for example, decision making tends to be more communal, but this differs across islands. Southern islands are traditionally led in a more egalitarian manner, with the elders of each community (*unimane*) ruling by consensus. In the central and northern islands, chiefly leadership is more common. Across Kiribati, the physical representation of this type of group leadership is the *maneaba*, a meeting house in the center of each community where people come together for decision making, celebrations, and other activities. In contrast, Samoa has a strictly hereditary system of mainly male chiefs known as *matai*. The *matai* are intrinsic to Samoa's modern government: Most local legal matters are handled by councils of *matai*, and only *matai* are allowed to serve in Samoa's national legislature.²

A strong ethos of resource sharing is common to traditional networks across the Pacific. Asking for goods and services from one's network members in times of need is common practice, with the general understanding that this behavior will be reciprocated. Meeting these requests, often called gift giving, is considered an important obligation, and failing

1. This section draws on the sourcebooks produced by the International Labor Organization's Sub-regional Initiative on Social Security in Pacific Island Countries, as well as Sviridova (2013).

2. As an example of the dynamic nature of tradition, a greater number of *matai* have been created in recent years, thus expanding the share of the population that is eligible to serve in the legislature and other governing roles.

to do so brings shame and can weaken network ties. In some countries, expectations for resource sharing differ based on network relationships. For example, individuals may expect different levels of generosity from matrilineal and patrilineal relatives. Few limitations are in place on what resources can be shared, but three specific methods of resource sharing are particularly important: specialized exchange, generalized reciprocity, and communal collection.

Specialized exchange occurs when individuals or households exchange goods or services of similar value with each other. In the isolated and small communities of the Pacific, this type of exchange helps diversify the consumption goods available to each member of a community and helps allocate labor to where it is needed. For example, in Fiji, *solesolevaki* refers to the exchange of collective labor, which can be used when households undertake construction of a home or engage in other activities. Households often exchange smaller amounts of labor or goods on a frequent basis, such as when women look after each other's children or exchange food and household items. Specialized exchange also takes place across networks, such as when inland and coastal tribes exchange goods through barter in the Solomon Islands. In general, specialized exchange occurs bilaterally, but in communities with chiefs or big men, these leaders can play a role in overseeing these activities and resolving disputes.

Generalized reciprocity occurs when an individual or household provides resources to another individual or household in need. This principle of resource sharing goes by different names across the Pacific, such as *kerekere*, which means "to ask" in Fiji, and *bubuti*, which means "request" in Kiribati. As with all forms of resource sharing, reciprocation is generally expected. However, in practice, this type of exchange is thought to be redistributive. This is because better-off individuals and households are expected to share resources with less well-off relatives and community members, who are often unable to reciprocate fully.

Communal collection includes contributions made for ceremonial events, as well as resource collection for community-wide needs. Across the Pacific, households are expected to provide food or other resources for ceremonies and celebrations, including weddings and funerals. These resources are shared with all those attending, and, depending on the event, remaining resources may be partitioned among community

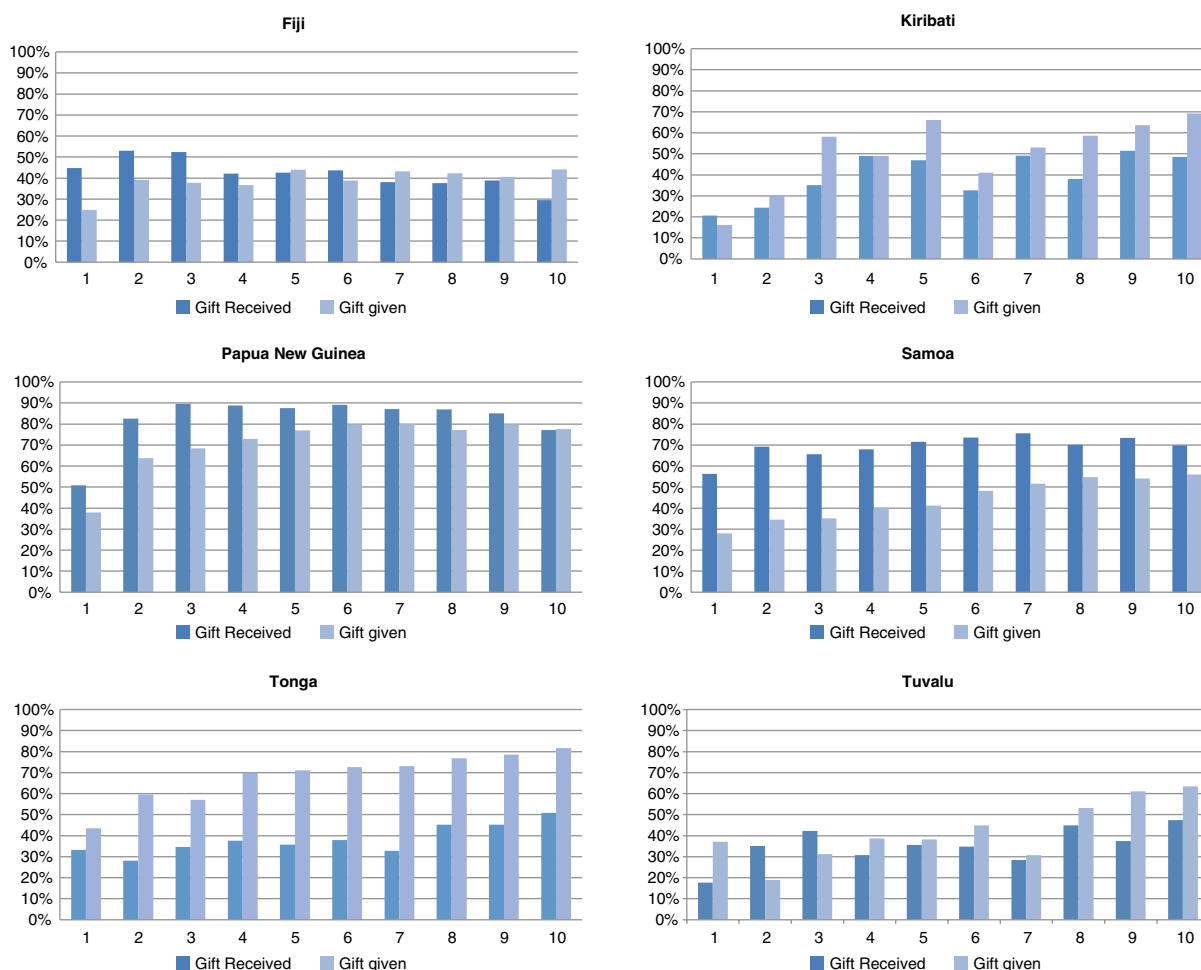
members. In Fiji, these large-scale collections are called *solevu*, and matrilineal relatives are expected to contribute more. In addition to ceremonies, communities also come together to raise resources for community-level needs such as utilities or public buildings. In Samoa, *fa'avelave* encompasses the resource sharing obligations related to major events, as well as broader principles of showing respect for others through gift giving. In many PICs, this type of resource sharing is now also widely utilized by churches and religious organizations.

The effectiveness of traditional networks in reducing hardship and vulnerability is not fully understood. Norms of resource sharing are still strong in the Pacific, and anthropological research and anecdotal reports suggest that individuals and households facing economic, personal, or other difficulties benefit from resources shared by better-off members of their networks. Failures to fulfill gift-giving obligations in these networks could result in exclusion and inability in the future to receive assistance when needed. Traditional networks therefore both support those experiencing ongoing hardship, as well as act as informal insurance. At the same time, three related considerations point to the limitations of traditional networks: Networks do not reach everyone, network obligations may help perpetuate hardship in some cases, and urbanization and monetization may weaken or obviate traditional ties over time. As Morauta (1983: 8) states, "Transfers in the *wantok* system are not transfers of charity or in a state welfare program. They are part of a system of personal obligation, and some people who badly need transfers have nobody to help them."³

Analysis of gifts and remittance data sheds some light on the role of traditional networks in reducing hardship and insuring people against negative impacts from shocks. Few quantitative studies of the impact of traditional networks on hardship have been conducted because of lack of data. In one of the few, Gibson (2006) utilizes data from the 1980s and 1990s and finds that interhousehold transfers and remittances do help to reduce inequality in Tonga and urban Papua New Guinea, but not in rural Papua New Guinea. The same study also finds that indicators of

3. Morauta studied both urban squatter settlements and rural villages in Papua New Guinea and found limited evidence that *wantok* obligations reduced hardship (Gibson 2006).

FIGURE 4.2 HOUSEHOLD GIFT GIVING. PERCENTAGE OF TOTAL HOUSEHOLDS



Source: World Bank staff estimates using HIESs.

Note: Data come from 14-day consumption diaries in each country, meaning that they capture relatively high-frequency exchanges. Two exceptions: for Fiji, data include gifts received in the 12 months prior to survey, and for Kiribati, data include remittances received from abroad.

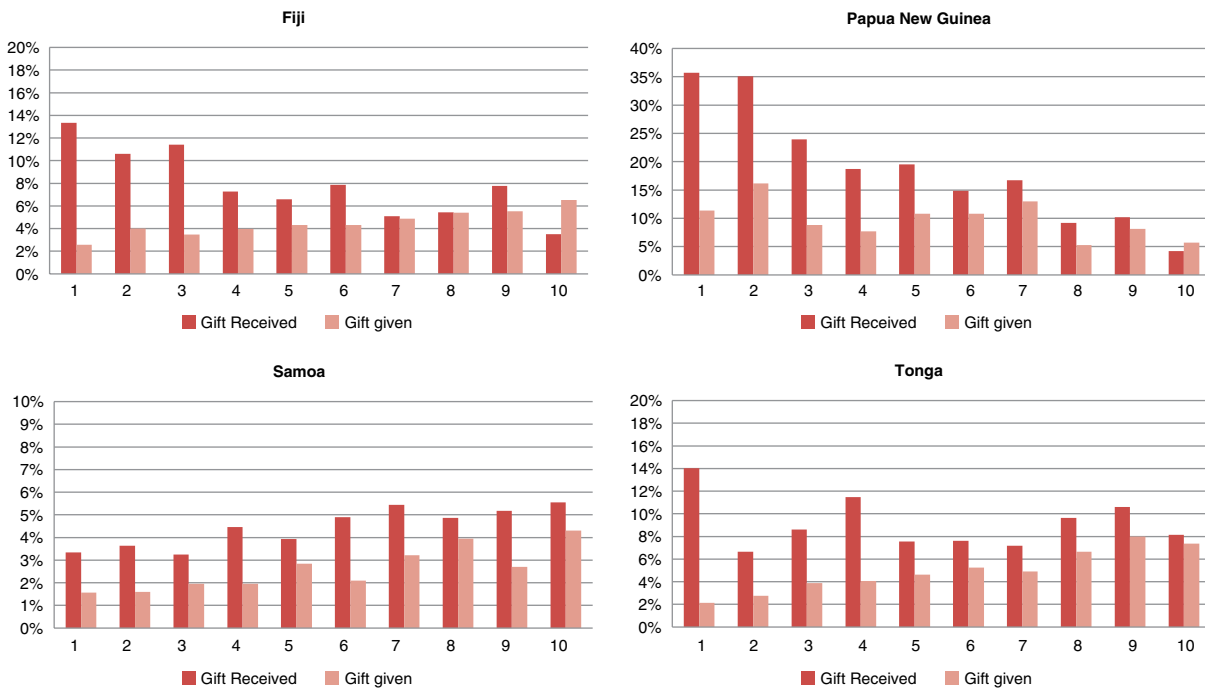
recent shocks such as births and unemployment show no clear relationship with the net receipt of gifts. To contribute to the limited evidence base, analysis of gift and remittance data in the HIESs of Fiji, Papua New Guinea, Samoa, and Tuvalu was conducted. In most PICs, these surveys ask about the source of food and other items that households report consuming, and they ask if gifts of cash or large items were received. Households are also asked whether they gave any gifts, in cash or in kind. Survey data are highly imperfect but do provide some useful insights, which are detailed below.⁴

4. HIES are not generally designed with the specific objective of learning about traditional networks. Most importantly, survey questions related to gifts are asked using different time frames for gifts given versus gifts received. For example, in Fiji, households are asked to recall gifts received in the 12 months preceding the survey but are not asked about gifts given in that time period.

Many households participate in gift exchange, but, in some countries, households experiencing the deepest hardship are the least likely to participate. Figure 4.2 shows the share of households reporting that they either gave or received any gift of goods or cash in the two-week period of consumption diary keeping, by expenditure decile.⁵ The prevalence of gift activity varies across countries: Giving or receiving gifts is less common in Fiji and most widespread in Papua New Guinea, where more than 80 percent of households report participating. In four of the six countries studied, households in the lowest expenditure decile are the least likely to report receiving any gifts. This suggests that many households experiencing the most severe hardship are not receiving assistance

5. To calculate expenditure deciles, gifts received and given are first subtracted from expenditures, and remaining expenditures are normalized by adult equivalent household size.

FIGURE 4.3 RELATION TO EXPENDITURES ON GIFT GIVING TO HOUSEHOLD EXPENDITURES IN SELECT PICs, PERCENTAGE OF TOTAL HOUSEHOLD EXPENDITURES



Source: World Bank staff estimates using HIESs.

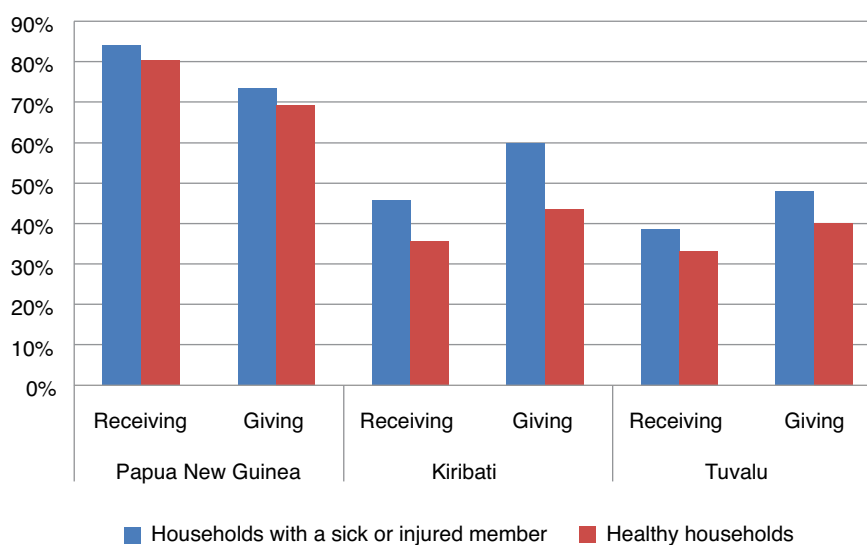
Note: Data come from 14-day consumption diaries in each country, meaning that they capture relatively high-frequency exchanges. For Fiji, data also include gifts received in the 12 months prior to survey.

from traditional networks. Several factors could be related to these households' inability to obtain assistance, including a lack of family members (which could contribute to both hardship and disconnection from networks) or previous failure to meet network obligations.

For households that do participate, gift exchange appears to transfer net resources to those experiencing the deepest hardship. Figure 4.3 shows the average value of gifts given and received by decile of household expenditure, for all the households reporting that they either gave or received any gifts. Across the four countries with sufficient data, households in the lowest deciles tend to receive gifts of greater value than they give, whereas the opposite is true for households in the highest deciles. These results suggest that for households with active traditional networks, gift exchange does help to transfer resources to those experiencing hardship. However, in Samoa, gift exchange does not appear to favor households in the lowest deciles, who report receiving about twice as much as they gave, which is similar to households much higher up in the expenditure distribution.

Gift exchange may act as an informal insurance as well. On average, households in Kiribati, Papua New Guinea, and Tuvalu with one or more morbid (sick or injured) members are more likely to participate in gift exchange than healthy households. Figure 4.4 shows that a slightly greater share of these households both give and receive gifts, compared with households with members who are all healthy. However, little evidence is available to suggest that the net value of gifts received by households experiencing morbidity is any higher than for other households. The positive correlation between gift giving and morbidity might suggest that households are more active in gift exchange networks around the time at which a member falls ill. For example, households might seek to "repay" gifts that were received at a time when someone was sick soon after that person has recovered. The data might also suggest that households prone to ill-health self-select into gift-exchange support networks; this phenomenon—termed "adverse selection"—is not uncommon in insurance markets. In any case, the link between morbidity and gift exchange highlights the contribution social support networks can make in helping Pacific households to cope with idiosyncratic negative shocks.

FIGURE 4.4 SHARE OF HOUSEHOLDS PARTICIPATING IN GIFT EXCHANGE, PERCENTAGE OF TOTAL



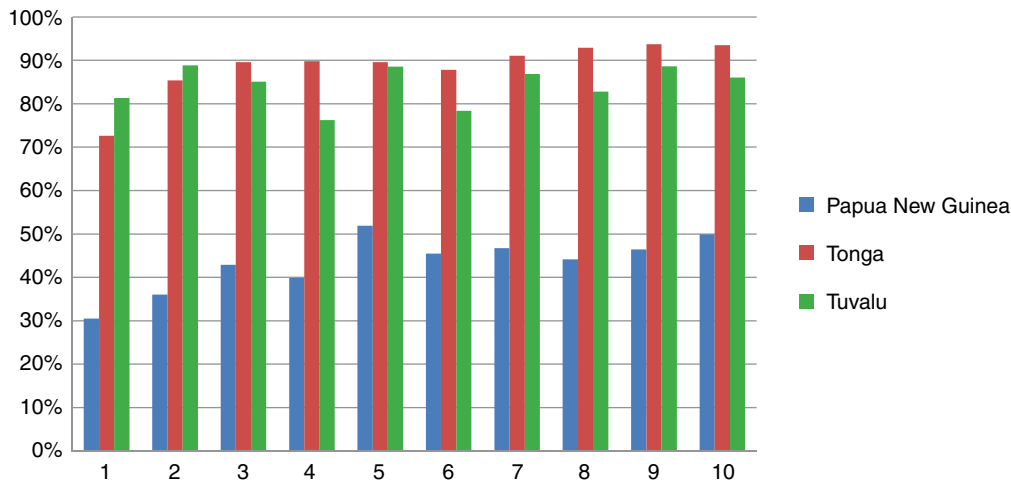
Source: Halstead 2013.

Gift exchange is unlikely to be effective in insuring against aggregate or repeated shocks. For example, when shocks covary at the local or aggregate level, network members are likely to all be impacted within a similar time frame, making it difficult to transfer resources to each other. Similarly, shocks that occur with some frequency can be too costly for networks to insure. More broadly, the limited global evidence that exists finds that informal insurance does not come close to replacing lost resources (Udry 1994).

In addition to gift exchange, many households also give donations to their churches or to community causes. Religion is an important part of life for many people in the Pacific, and churches and other religious organizations often rely on the financial and in-kind support of their members. Across three countries with available data—Papua New Guinea, Tonga, and Tuvalu—a large share of households report donating cash, goods, or services to religious organizations. Although the households deepest in hardship (in the bottom expenditure decile) are the least likely to report donating, the share of households reporting donating does not increase substantially with expenditures (figure 4.5). In Samoa, almost all households report giving to churches, community causes, or *fa'alavelave*, regardless of the household's own hardship status. Across countries, donations are sizeable, ranging from 2 to 10 percent on average of total annual household expenditures. These results

accord with anecdotal evidence that all members are expected to contribute, and those who cannot afford to contribute directly often put in a great deal of time to fundraise. These types of efforts are less likely to be captured in the survey data, which suggests that the donation figures are underestimates. Churches and other organizations utilize the support they receive for many purposes, but these are not captured in the available survey data.

Gifts and donations help determine people's social standing, and obligations may sometimes contribute to hardship. Traditional network obligations extend far beyond caring for those in need and include gifts for important family events, such as weddings, and community efforts, such as building new structures. Contributing generously can provide individuals or households with social approval and esteem, whereas failing to do so can provoke disapproval and remonstrance from friends and neighbors. These social pressures sometimes push households to contribute more than they can truly afford. The evidence presented above that many of the least well-off households report giving gifts and donations provides suggestive support for this possibility. In qualitative surveys carried out in the early 2000s, participants in Samoa, Tonga, and Tuvalu cited the burdens of meeting community and church obligations as one of the top causes of hardship (Abbott and Pollard 2004). A recent indication of these

FIGURE 4.5 SHARE OF HOUSEHOLDS CONTRIBUTING TO RELIGIOUS ORGANIZATIONS IN PAST 12 MONTHS IN TONGA AND TUVALU

Source: World Bank staff estimates using HIESs.

challenges comes from an April 2013 *Samoa Observer* headline that reads “Put children first, *fa’alavelave* second, says Samoa’s Minister of Education.”⁶

Indirectly, these obligations may contribute to hardship by potentially reducing incentives for economic success. Newspaper accounts and anecdotes assert that immigrants are often the most successful businesspeople in the Pacific because they are not obligated to share their wealth or grant favors, while native civil servants and others employed in the relatively small formal sector struggle under the heavy obligations imposed by their traditional networks.

The relationship between traditional networks and hardship may be changing as people migrate to urban areas or overseas. Movement of large numbers of people away from rural villages to capital cities or to international destinations (most often, Australia, New Zealand, or the United States) has and will continue to shape traditional networks in the Pacific. Sometimes, such as when many members of the same network move to the same new location, practices from home villages or islands are continued. Many international migrants maintain ties with their networks and help to reduce hardship through remittances (the importance

of which was seen in chapter 3). However, in some cases, such as when young people move to new locations on their own, network ties weaken and obligations become less relevant, possibly leaving an increasing number of households without traditional sources of assistance.

Traditional networks do not eliminate hardship or vulnerability, but more data are needed to better understand their role. The results presented above show that the available data suggest many households experiencing hardship do not receive gifts through traditional networks. In addition, the results from chapter 2 show that hardship can exist at high levels in countries where gift exchange is widespread, such as Papua New Guinea. However, these results provide only a partial picture of gift exchange, because comparable data on giving and receiving are collected only over very short time periods. In addition, other important aspects of traditional networks, such as the exchange of services, are not easily captured by standard household surveys. Given that traditional networks are often cited as a reason for limiting the role of government in supporting households experiencing hardship, better understanding of the current context is important.

Land and Subsistence

Many people in the Pacific rely on land and ocean resources to meet their basic needs, either on an ongoing basis or as a coping mechanism. Although

6. Byline April 3, 2013 <http://www.samoanews.com/?q=node/73675>.

geography varies tremendously across PICs, in most, land is an important social, cultural, and economic asset (Ratuva 2010). In part, the importance of land comes from the fact that it allows people to provide for themselves and their families. With the small size of domestic industries and high and variable costs of imports, self-production is an important resource for households to provide for many of their basic needs. The majority of households report self-producing (cultivating, growing, hunting, or fishing) some of the food they eat, even in many urban areas (see chapter 3). In a survey of communities in the Solomon Islands and Vanuatu, increasing the share of food sourced from home gardens and reefs were the two most commonly reported coping responses by households to negative shocks (Feeny et al. 2012). However, several factors are affecting the role of self-production.

Arable land and coastal fisheries are limited and straining under the pressures of population growth. Figure 4.6 shows that the average amount of arable land per capita in most PICs is well under the average for both low- and middle-income countries as well as small states. Land is becoming scarcer over time, as relatively fast population growth continues in many countries. For example, in Tonga, all men over age 16 have the constitutional right to an allotment of land, to be provided by landowning members of the nobility, but currently fewer than 50 percent have received their allotments because of a lack of available land (Tonga Ministry of Finance and National Planning 2012). In most PICs, rights to land and its use are deeply

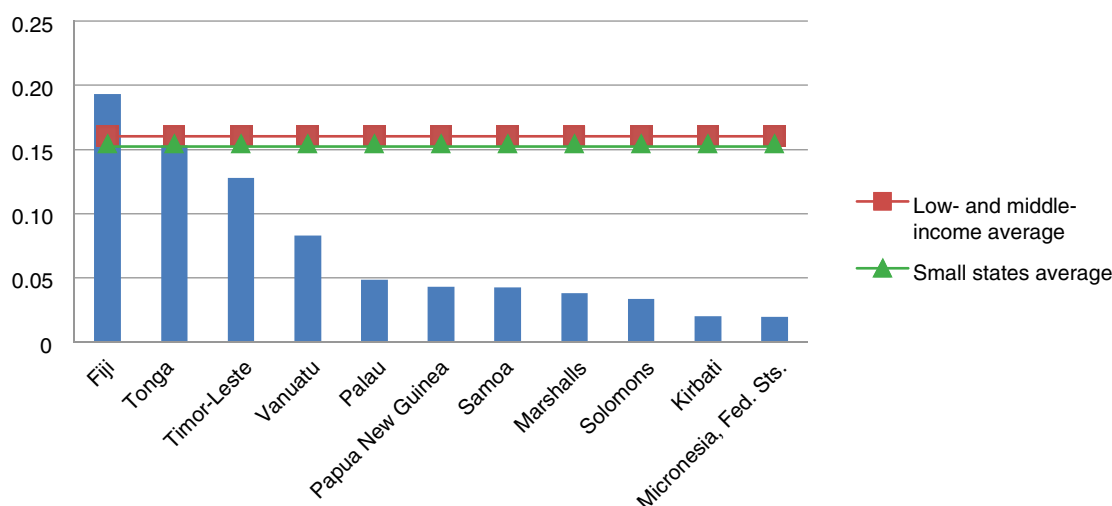
complex issues, which can create challenges for broader economic development.

Urbanization and monetization are also affecting the sustainability of subsistence practices. Although most Pacific peoples still live in rural areas, many are moving to cities, where the concentration of people creates challenges for self-production. Higher population densities and lack of customary access to land means that many urban residents have little to no room for cultivation. In addition, inadequate infrastructure in urban areas means that land and ocean resources are becoming increasingly polluted. One of the most extreme examples is in South Tarawa, Kiribati, where poisoning from fish caught in the lagoon, illness from polluted groundwater, and other adverse outcomes are on the rise (McKay 2009). Pacific economies are also becoming more monetized, because imported food and goods are in demand and obtainable only with cash. Imported food, for example, is often preferred to local food, because of the ease in preparation and relatively higher fat, salt, and sugar content. In addition to their health implications, these shifts may reduce the role of subsistence resources over time as methods of production begin to be forgotten.

Additional Mechanisms That Households Use to Reduce Hardship and Vulnerability

Many people migrate in search of better economic opportunities. Given the limitations to private sector growth in much of the Pacific, opportunities for

FIGURE 4.6 ARABLE LAND PER CAPITA, HECTARES



Source: World Development Indicators.

work outside of the public sector and subsistence activities are few. Pacific islanders have a long history of migrating overseas to work, on either a temporary or permanent basis. Many of these migrants remit substantial amounts of money, helping to reduce hardship. These shared earnings usually go directly to individuals and households, who utilize them for consumption, investment in assets, and other purposes (Gibson, McKenzie, and Stillman 2011; Gibson and McKenzie 2014).⁷ In addition, migrants can provide informal insurance when negative shocks hit family and friends at home. Although Pacific migrants tend to concentrate in industries or countries (as discussed in chapter 3), the large benefits possible from migration suggest that more opportunities should be sought, while accounting for the risks associated with concentration. For example, governments could encourage households to save a share of remittances received, as self-insurance against future drops.

In some countries, traditional stores of value can be used by households lacking cash to obtain needed goods and services. For ni-Vanuatu, pig tusks, woven mats, and shells with specific characteristics hold substantial value. For rural households with few opportunities to earn cash, producing these valuable items can allow them to obtain services they may not otherwise be able to access. For example, some rural schools and health centers accept these items as forms of payment (Huffman 2005).

Few private sector options are available for helping households insure against or cope with shocks. In many PICs, formal financial markets are not well developed, and relatively few households have savings accounts, purchase insurance, or obtain bank loans. In Kiribati, only 2 percent of households in the 2006 HIES reported paying premiums on any type of insurance policy, and only 3 percent of households in the Papua New Guinea 2010 HIES reported taking a loan from a bank or moneylender. With limited options in the private market, many people cite taking children out of school and reducing the amount and quality of food

eaten as common coping mechanisms in qualitative surveys, but their actual prevalence in the Pacific is not clearly understood (Abbott and Pollard 2004; Feeny et al. 2012). To the extent that they do occur, these coping mechanisms can increase hardship in the long term, as they erode health and human capital.

Government Social Insurance Programs

Few government programs in the Pacific directly target households experiencing hardship. Fiji is the only Pacific country with a national cash support program targeted to households experiencing hardship. This Family Assistance Program benefited about 13 percent of the population in 2009 by providing cash payments to households experiencing hardship and other difficulties such as disability (World Bank 2011). In other PICs, smaller programs benefit select groups of people, such as education grants for children with disabilities (Sviridova 2013). In addition, some countries have recently begun programs that target people vulnerable to violence (see box 4.1).

Public sector capacity, fiscal constraints, and equity concerns are three of the main barriers to creating such programs. In many countries, administrative data on households or individuals are very limited, and national household surveys and censuses are carried out infrequently. Without accurate and timely data, identifying households most in need of assistance is very difficult. In addition to lacking data, many governments in the Pacific would also face challenges in identifying the personnel and financing needed to establish and administer new national programs. Across the Pacific, governments have very limited fiscal space with most already at high risk of debt distress. Half are expected to run large budget deficits in the current fiscal year.⁸ As such, funding for any new programs would likely need to come from international development partners. Even if data and fiscal space were available, some policy makers express concern that hardship-targeted programs could undermine traditional networks or be inequitable. Little direct evidence exists regarding the possibility of crowding out, but in one study of several countries, including Papua New Guinea, Gibson, Olivia, and Rozelle (2006) find that increased public

7. The study by Gibson et al. (2011) of the impacts of permanent migration on sending households finds that consumption and other indicators of well-being may decrease for the household members left behind, because remittances do not fully compensate for the loss of migrants' earnings at home. However, seasonal migration schemes seem to significantly increase the well-being of sending households (Gibson and McKenzie 2014).

8. Information taken from joint IMF–World Bank debt sustainability analysis, various countries; IMF World Economic Outlook April 2013.

BOX 4.1 Reducing Vulnerability through a Rapid Employment Program in the Solomon Islands

Government social insurance programs can be targeted in many different ways, and recent projects financed by the World Bank in Papua New Guinea and the Solomon Islands have focused on targeting groups vulnerable to violence. In the Solomon Islands, a Rapid Employment Project (REP) was created in 2010 to mitigate the impacts of planned government austerity measures and to reduce the probability of social unrest.¹ The REP provides basic training and work (approximately 50 days per year) in basic public maintenance activities such as pothole repair and grass cutting. The REP targets urban youth, who have been key actors in previous violence, as well as women, who have fewer labor market opportunities and are also vulnerable to gender-based violence. In addition, REP activities are geographically targeted by being based in communities within Honiara and surrounding periurban areas where violence had occurred in the past.

Periodic assessments of the REP have found that the project is succeeding in targeting vulnerable groups: More than 50 percent of participants are youth (16 to 34 years old), and more than 50 percent are women. It is important to note, however, that targeting people vulnerable to violence or other shocks does not equal targeting people in hardship. Estimates find that about 40 percent of REP participants come from the bottom 40 percent of the per capita consumption distribution of Honiara. In other words, participants are about equally likely as the average person to be in hardship.

1. From 1998 to 2003, Solomon Islanders lived through the “Tensions,” a period marked by conflict and social unrest. Violent riots broke out again in 2006, and an international peacekeeping force is still present in the country.

Sources: World Bank 2010; World Bank staff estimates.

transfers would not be likely to significantly reduce private transfers. Concerns about equity are difficult to address without robust data that can make clear which households are truly in need of assistance. Chapter 5 provides additional discussion of how some countries have overcome these types of barriers.

Many governments do administer contributory insurance programs for the elderly, but these programs reach only a small number of people. Almost all Pacific governments mandate that formal sector employees and their employers, including civil servants, contribute to pension funds (Sviridova 2013). However, because formal sector employment is so small, these funds cover very few people. In Kiribati, fewer than 4 percent of households in the HIES report either contributing to or receiving payments from the National Provident Fund, and fewer than 1 percent of households do in Papua New Guinea.

Some governments have created noncontributory, or social, insurance programs for the elderly. In Kiribati, the Elderly Fund provides monthly payments to all individuals age 67 and older, regardless of their work history. These types of funds are relatively simple to administer, because proof of age is the primary requirement for eligibility. In addition, because qualification ages are set relatively high, the pool of eligible individuals remains small and costs limited. At the same time, such funds have the potential to reduce hardship, because households headed by elderly people are more likely to be in hardship (see chapter 2). Transfers to elderly women have also been found to

improve the schooling and nutritional outcomes of children in the same household, so among the elderly living with extended family, the benefits may be shared (Yoong, Rabinovich, and Diepeveen 2012).

Government Provision of Basic Services

Many governments in the Pacific provide basic services to the whole population, which can help to reduce hardship and vulnerability. Across most PICs, basic education and health services are intended to be provided at low or no cost. Such provision, when effective, helps people maintain their health and productivity and also build their human capital to reduce hardship in the future. These services can also build people’s knowledge of different types of shocks and lead them to take better protection and insurance measures to reduce their vulnerability. For example, in a country on the other side of the Pacific, Colombia, young people who received effective sex education at school were more likely to utilize vouchers for condoms (Chong et al. 2013).

Accessibility and quality are still lacking in many countries. The physical isolation of many communities within the Pacific makes it costly and logistically difficult to deliver services to everyone. Even when free services are accessible, their quality may be inferior to the for-fee services provided by religious organizations or the private sector. In addition, in several countries, services are in reality not available

for free. In some cases, service providers charge fees because they are not adequately funded or regulated by the government. In other cases, there are additional costs that people must incur to receive services. For example, families must usually pay for the school supplies, uniforms, and transportation required for children to attend school.

Health Care

Most basic health care services are provided at low or no cost and on a universal basis in the Pacific. Health care can protect people from negative shocks (such as vaccinations against common diseases) as well as help them cope after a shock has occurred (such as dialysis treatment for individuals with kidney failure). Across all health care provided in most PICs, the majority is publicly funded, and individuals bear about none of the cost to 20 percent directly (figure 4.7). These direct costs are primarily out-of-pocket, because private market insurance does not exist in many countries, and where it does exist, it is held by only a small number of people. However, these national health expenditures are unlikely to capture all health spending, because many people in the Pacific continue to utilize and pay for the services of traditional healers. In addition, free care is not specifically targeted to the least well-off households, and many people may be forgoing needed treatment. For example, in Papua New Guinea, local health centers charge fees, in part because they do not receive adequate funding from the government, and slightly fewer than 60 percent of households with a

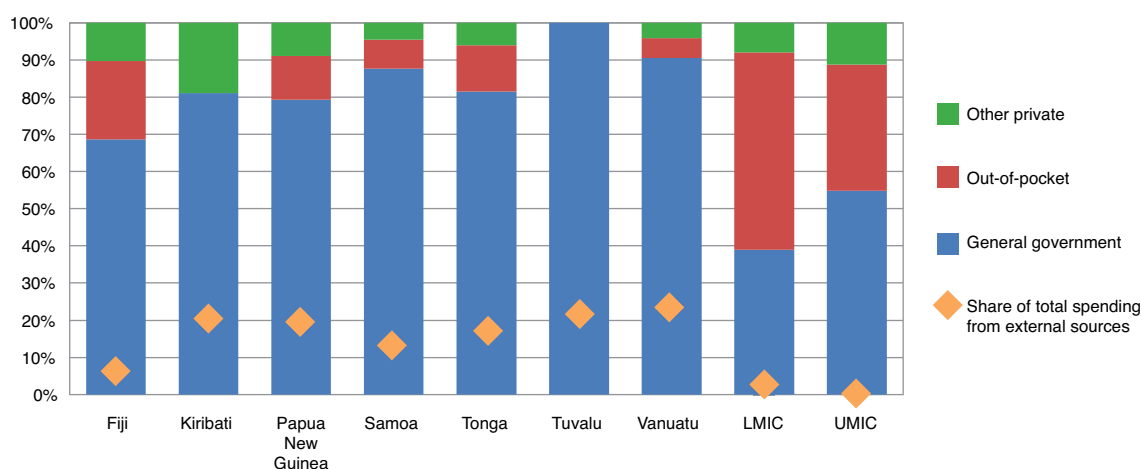
sick or injured household member reported having sought treatment (Halstead 2013).

Health care expenditures are mostly curative and often support costly programs that benefit a limited number of people. Figure 4.8 shows the breakdown of health expenditures in three PICs by type.

The majority of expenditures are for curative and rehabilitative care, occurring after negative health shocks have occurred. Given the small size of their health sectors, several Pacific governments fund overseas treatment for serious health shocks, but these come at significant expense. For example, in Samoa, the spending on each patient in the Overseas Medical Treatment Visits (OMTV) scheme is about 4.5 times GDP per capita. The scheme funds care for 0.1 percent of the population at a cost of about 15 percent of total annual health expenditures (World Bank 2012b). Data on patient characteristics are not available, but there is reason to believe that these types of programs tend to benefit better-off households. In Samoa, the types of illnesses treated overseas are much more commonly reported among the well-off, and the costs borne by patients for overseas treatment (including paying for part of their airfare) may be large enough to dissuade those in hardship from seeking treatment (World Bank 2012b).

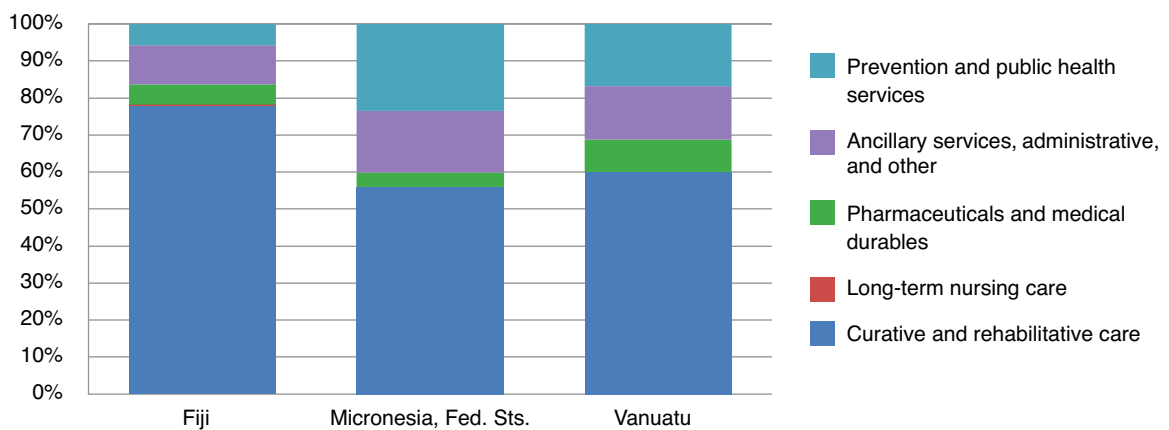
The fiscal sustainability of publicly provided curative care is a growing concern, because PICs face costly aggregate health shocks. In particular, the rapid rise of NCDs is raising difficult questions of how to fund

FIGURE 4.7 COMPOSITION OF NATIONAL HEALTH EXPENDITURES, 2010–2011

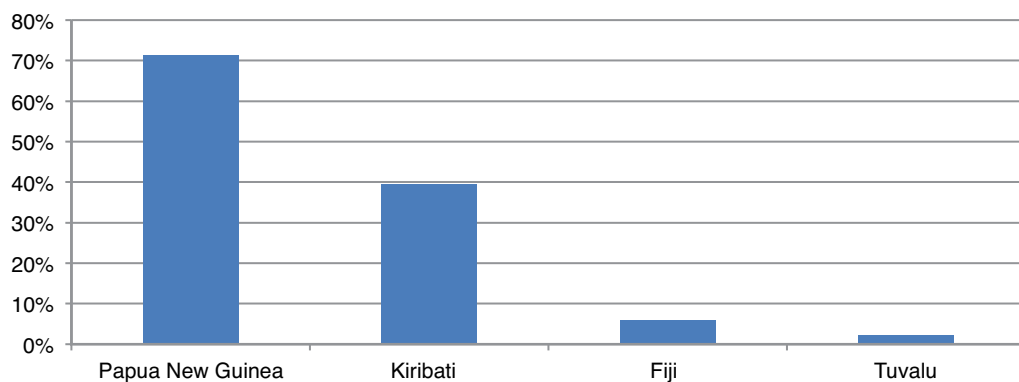


Sources: World Bank 2012a; Halstead 2013.

Note: LMIC = lower-middle-income country; UMIC = upper-middle-income country. Other private expenditures include private insurance and nonprofit institutions. Data for Samoa, Tonga, and Vanuatu are for 2010. Data for Fiji, Kiribati, PNG, and Tuvalu are for 2011, and share of spending for external sources for those countries is an average from 2007 to 2011.

FIGURE 4.8 NATIONAL HEALTH EXPENDITURES BY TYPE

Sources: FSM Department of Health and Social Affairs 2010; Hyoung-sun and Rannan-Eliya 2010.

FIGURE 4.9 HOUSEHOLDS ACCESSING ON UNPROTECTED WATER AS DRINKING SOURCE

Source: World Bank staff estimates using HIESs.

available treatments and determine beneficiaries. Relative to countries at similar income levels, PIC governments already spend substantially more on health care (Halstead 2013). These costs are increasing, as the incidence of NCDs continues to rise. For example, the costs of the OMTV scheme in Samoa grew 30 percent between 2008 and 2012 (World Bank 2012b). In Vanuatu, the annual cost of medicines alone for a person newly diagnosed with type 2 diabetes is five times more than per capita government expenditure on health care (World Bank 2012a). Between 2011 and 2030, the rate of diabetes among adults in Vanuatu is forecasted to rise by 20 percent. Already, PICs have three of the five highest rates of diabetes in the world: Kiribati, the Marshall Islands, and Nauru (World Bank 2012a). In risk management terms, because NCDs are a high-impact, aggregate, and long-term shock, coping through government funding of treatments

is unsustainable, and expanding coverage of market insurance would be too costly.

At the same time, in some countries, basic infrastructure to protect people's health still does not exist. For example, in Papua New Guinea, the majority of households did not have access to protected drinking water, and in Kiribati that figure reached about 40 percent (figure 4.9). In addition, only about 20 percent of households in Papua New Guinea have access to an improved toilet facility (Halstead 2013).

Government Policies to Manage Aggregate Economic and Natural Shocks

Governments and their development partners are increasingly pursuing active strategies to reduce the

impact of aggregate economic and natural shocks on households. This section reviews the common approaches that governments take to managing the risks associated with commodity price shocks in particular. As detailed in chapter 3, people in the

Pacific are very vulnerable to these types of shocks. Commonly used approaches are first reviewed, followed by an overview of less common measures that may hold promise for the region. The use of national funds to manage risks is highlighted in box 4.2.

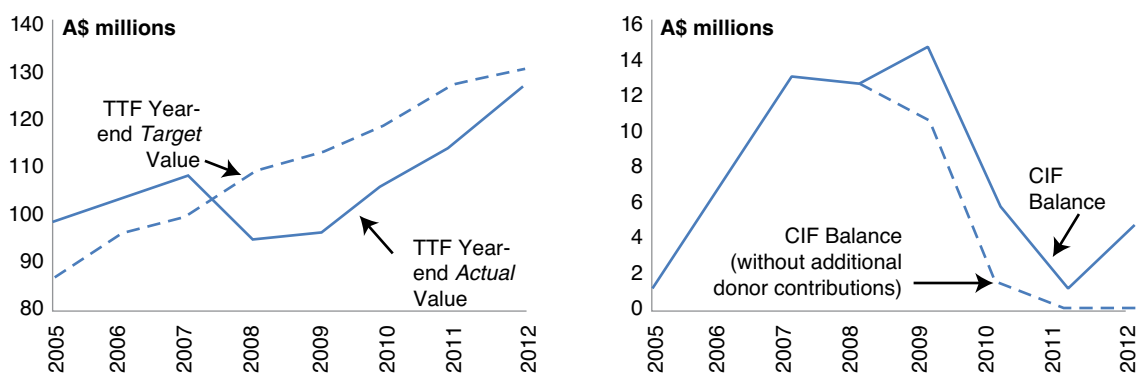
BOX 4.2 Using National Funds to Manage Risks and Opportunities

Half the countries of the Pacific have national trust funds or sovereign wealth funds, although they differ considerably in their structure and objectives. Kiribati, Palau, and Tuvalu have funds that aim to provide long-term dividends and fiscal smoothing, although the level of government control of disbursements varies. The Federated States of Micronesia and the Marshall Islands both have trust funds that are still being capitalized and so are not yet providing financing. Papua New Guinea is currently in the process of launching a sovereign wealth fund capitalized with natural resource receipts, and Timor-Leste holds significant assets from petroleum receipts in a trust fund. The extent to which these funds serve as buffers in the face of shocks varies and depends on the management structure and the level of discretion the government has to increase withdrawals. Tuvalu's is one that is structured to balance the needs for long-term financing with responding to short-term shocks.

The Tuvalu Trust Fund (TTF) was established in 1987. The TTF initially comprised a single capital account, which was capitalized by donors (Australia, New Zealand, Japan, the Republic of Korea, and the United Kingdom) and the government. The TTF's capital has grown over the years through reinvestment of its own earnings and contributions by the government during surplus periods. The TTF is not fully sovereign, with development partners represented on its board. The TTF's capital account aims to generate a real rate of return of 4.5 percent in excess of the Australian Consumer Price Index.

Recognizing the volatility associated with the returns on the capital account and with key revenue streams (particularly fishing licenses), in 1991 the TTF Board of Directors endorsed the creation of a new account under the government's full control, the Consolidated Investment Fund (CIF), to provide a fiscal buffer against budget deficits. The CIF aims to accumulate a minimum balance equivalent to 16 percent of the TTF's real maintained value (or around 45 percent of GDP), estimated to be sufficient to see the government through a spell of up to four years of bad times, during which time the CIF could finance significant budget deficits. In years when the market value of the TTF exceeds its real maintained value, the surplus is transferred to the CIF, and during negative shocks, government makes larger withdrawals from the CIF. There are no set procedures for these activities, which depend on the current fiscal policy framework, but the Articles of Agreement dictate that assets of the capital account can be withdrawn under extraordinary circumstances.

FIGURE B4.1.1 EVOLUTION OF TTF AND CIF BALANCES



Note: CIF = Consolidated Investment Fund; TTF = Tuvalu Trust Fund.

As figure B4.1.1 shows, in "good times" the government maintained the value of the TTF above the target value and built up assets in the CIF. With the onset of the global financial crisis the value of the TTF dropped, and increased fiscal deficits necessitated drawdowns from the CIF. However, although the TTF value was progressively built back up beginning in 2008, funds in the CIF would have been depleted if not for additional donor contributions. This illustrates the important role of development partners when even well-designed risk management frameworks are unable to cope with the scale of a major shock.

Source: Tuvalu Trust Fund Advisory Committee Annual Reports.

In recent years, policy responses in the Pacific to commodity price shocks have tended to focus on coping through macroeconomic and aggregate fiscal actions. In particular, exchange rate movements, tax policies, subsidies, and price controls have all been implemented in different PICs in recent years in response to price shocks. Although to some extent effective in reducing the impact on households, these measures may be poorly targeted and expensive, and they have adverse consequences on fiscal sustainability and economic prospects.

For those countries with independent monetary policies, exchange rate movements can offset adverse terms of trade shifts but result in winners and losers. Indeed, during the food and fuel price crisis of 2007–09, the exchange rates of many Pacific island countries appreciated notably (see figure 4.10). However, exchange rate policy also has negative impacts, with exporters losing competitiveness. Exchange rate adjustment is also unlikely to be effective in addressing shocks that disproportionately impact subgroups within a country, such as households experiencing hardship.

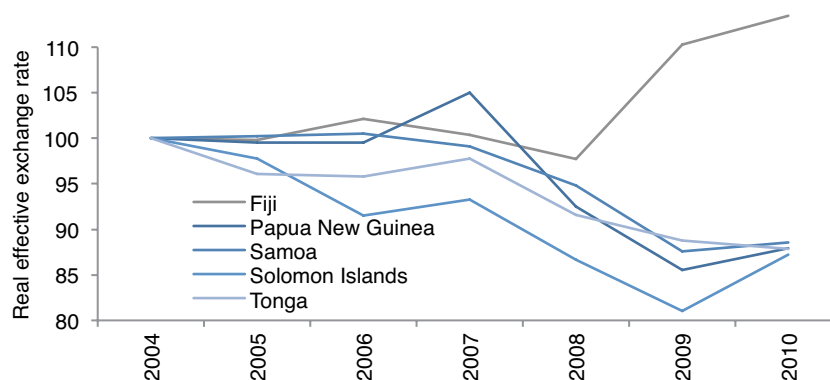
Tax reduction has commonly been used in response to commodity price increases, but this is often a one-time use policy that may not be fiscally sustainable. Between 2007 and 2013, the Marshall Islands, Samoa, the Solomon Islands, Tonga, and Vanuatu have all reduced import duties on certain food and fuel commodities as prices have spiked. But these tax changes have only partially offset price rises, because existing taxes on basic imported goods were low to begin with and quickly reach a lower bound of zero. In contrast, the price increases for some goods have

exceeded 100 percent in recent years. Reducing taxes can also exacerbate problems of fiscal sustainability, which are already a major challenge for many PICs. Even when tax reductions are intended to be temporary, it can be politically difficult to raise them again at a later date, and such measures can easily become permanent.

Some countries have used producer subsidies to reduce the pass-through of fuel price increases to consumer prices, but subsidies often benefit the better-off at high fiscal cost. Subsidies have most often been provided to electricity utilities, including in Fiji, Kiribati, and Samoa. To the extent that these subsidies are targeted for specific import usages—in this case electricity generation—and are provided on a clearly defined basis, they can be effective in lowering the impact of fuel price shocks on households. However, as with tax reductions, they can be difficult to withdraw and can become very costly relative to the limited fiscal resources of most PICs. Subsidies are also often poorly targeted, in that they benefit households that are better-off. Specifically, in many PICs, households in hardship are less likely to use electricity than better-off households. Similar arguments can be made for subsidies that protect primary cash crop producers from market prices. They can easily become a major burden on the budget (see box 4.3 on the Kiribati copra subsidy scheme), and government resources might be better used to fund other policies that are less distortionary and less costly.

Several PICs regulate the prices of some commodities, but regulation is costly to implement effectively and potentially distortionary. Countries such as Fiji and

FIGURE 4.10 REAL EFFECTIVE EXCHANGE RATE FOR SELECT PICs, 2004–2010



Source: World Bank World Development Indicators.

BOX 4.3 Kiribati's Coveted Coconuts

Copra (dried coconut meat) is the main cash crop produced in Kiribati. The Kiribati Copra Subsidy Scheme has been in operation for more than 30 years and helps secure livelihoods and income for many I-Kiribati living on the outer islands. Under the scheme, the government maintains a price floor, which is a price at which it guarantees to purchase all copra produced. This guarantee means that the government bears all the risks from volatility in the world market price for copra. The government also absorbs the costs of processing and transporting the copra from outer islands to South Tarawa for processing and export. In most years, the purchase price (before shipping and processing) has been held above the international market price.

Although this subsidy scheme provides protection to copra-producing households against negative price shocks, it also comes with considerable drawbacks. The fiscal costs of the scheme are very high, accounting for between 5 and 7.5 percent of recurrent government revenue over recent years. A recent review of the sector found that the scheme leads to substantial economic inefficiency. The state-owned mill that processes the copra operates inefficiently and pays no dividends to the government. In addition, the scheme is not well targeted to households in hardship, many of whom live in South Tarawa and do not have access to coconuts. Finally, weak systems have led to substantial leakage, which could be increasing costs by up to 40 percent. For every \$1 in net costs to the government, only about \$0.28 is estimated to go to households in hardship.

Options for reform, as well as alternative programs, are under consideration. Institutional and policy reforms that reduce inefficiencies and leakage along the supply chain would help reduce the fiscal burden of the program. Reducing the guaranteed price, which was increased 33 percent between 2008 and 2011, would also provide substantial savings.¹ But, more fundamentally, a change in perspective has been vital to progress. Although the scheme was initially designed to smooth agricultural production prices within a viable industry, it has now become a de facto social protection system for many of those living in outer islands. Explicit recognition that the scheme serves this purpose has opened opportunities to reconsider the organization of the scheme and the extent to which it represents the most efficient mechanism of using fiscal resources to achieve social protection outcomes. The geographical targeting of the scheme is being reconsidered, with the possibility of limiting copra purchasing to poorer islands and communities, where alternative economic opportunities are most scarce. Alternative social protection mechanisms, potentially including workfare or cash transfers, are being considered to replace the scheme in some areas, including in South Tarawa where copra cannot be grown and poverty and vulnerability is concentrated.

1. These increases in the guaranteed price were made during a time of rising world prices for copra. However, since 2011, world prices have declined substantially.

Source: World Bank 2013.

Kiribati regulate the prices that retailers charge to consumers on a wide variety of commodities, and other countries, including Solomon Islands, Tonga, and Tuvalu, have price controls on a small number of basic goods, mostly petroleum and staple food imports. Around the world, price monitoring and regulation is common for certain goods, such as petroleum products, and can be an appropriate means of public intervention in markets where there is significant monopoly power. The regulation of a small number of commodities, such as imported food staples that households in hardship rely on, can be justified on these grounds, because they can prevent price spikes driven by firms' pricing behavior, particularly in rural areas where there is little competition. However, monitoring of prices is complex and costly to effectively implement and can

lead to deterioration of the quality or availability of goods. In some countries, enforcement capacity is minimal, while in other countries low-quality versions of goods are sold at controlled prices while better versions are not.

Key Messages

Traditional systems do not eliminate hardship and can provide only partial insurance. Although traditional systems of resource sharing and self-subsistence are important to the well-being of many Pacific islanders, hardship and vulnerability are still major challenges. Traditional systems do not reach everyone, and evidence from household surveys suggest that those in deepest hardship may be the least likely to be part

of gift-giving networks. In addition, cultural and social pressures seem to require greater generosity than many households feel they can truly afford. At the same time, traditional systems cannot insure against the many aggregate shocks that are common in the Pacific. Governments therefore have a role to play in complementing traditional systems with hardship reduction and risk management efforts.

Households have limited access to market instruments that can help them manage risks. In particular, access to formal financial instruments is limited in most PICs. Evidence from household surveys shows that a minority of households holds savings accounts, loans, or insurance policies. Without access to these risk management tools, households are likely relying too much on coping. At the same time, growth in financial access without effective regulation and consumer education can lead households into excessive debt, which is a concern in some countries including Fiji (Karan 2012).

Governments provide little social insurance, but some programs show promise within country constraints. Across the Pacific, Fiji is the only country with a hardship-targeted cash transfer program. However, many other countries provide transfers or subsidies to small groups of people identified to be in need. Broader measures to support those experiencing hardship face fiscal and capacity constraints, as well as data limitations, particularly in the smaller islands. Two programs that show promise are elderly funds and cash for work schemes, which have lower data requirements and costs that can be managed through straightforward participation requirements.

Government funding of basic services is under fiscal pressure from the rapidly rising costs of coping with NCDs. Health care expenditures in the Pacific largely go to coping with health shocks: curative, palliative, and rehabilitation care absorbs 80 to 90 percent of national health expenditures. This focus on coping is fiscally unsustainable because of NCDs, which are spreading quickly and are costly to treat. Greater emphasis is needed on knowledge and protection measures to slow their rise, but changing people's behavior is difficult. In addition, funding both ex-ante knowledge and protection measures for the future, while dealing with the present costs of coping, is a major financial challenge.

Managing aggregate economic shocks through coping actions has limited effectiveness, and more protective measures hold promise. Few ex-post

responses to economic shocks in the Pacific have proven to be effective in reducing the negative impacts on households while also being fiscally sustainable. Some ex-ante measures that provide protection or insurance against shocks are being explored, but shocks will continue to be part of the Pacific landscape. Therefore, some of the most important actions governments can take are to pursue prudent macroeconomic policy, including building up savings in good times and actively mobilizing revenue to have resources to deploy during shocks.

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Chapter 5

Implications for Policy: The Way Forward

Hardship in meeting basic needs is a reality in many parts of the Pacific, and Pacific islanders are uniquely vulnerable to aggregate shocks. Chapter 2 showed that more than 20 percent of households in most PICs are unable to meet their basic needs. At the same time, Pacific islanders are very vulnerable to aggregate economic and natural shocks, and, increasingly, to the epidemic of NCDs, as discussed in chapter 3. This is in addition to the many idiosyncratic and localized shocks that occur but are not easily captured in the existing data. Households and communities actively manage risks and seek opportunities to increase well-being, but their efforts can only go so far, as detailed in chapter 4. Government measures have focused on ex-post risk management, at high cost, and are hampered by limited capacity, financing, and data.

This chapter presents the implications for governments and development partners that can be drawn from the results presented. These implications can be summarized under three broad headings: govern prudently, invest in data, and enable households and communities.

Govern Prudently and Proactively Manage Aggregate Shocks

Governments and development partners have important roles to play in managing risk through sound policy, particularly in managing risks from aggregate shocks. Broadly speaking, government policy should aim to avoid being a source of instability itself and should actively recognize and account for risks in all areas. For the aggregate economic and natural risks described in the preceding chapters, households and communities cannot fully manage on their own and need systematic support.

Good government policy in all areas should factor in risks. For example, urbanization is changing risk profiles and presenting new challenges, as well as opportunities. Forward planning can help to address the challenges, and maximize the opportunities, by identifying and actively managing the risks associated with it. For example, strengthening the ties between government bodies responsible for infrastructure provision and building codes with those responsible for disaster risk management and climate change adaptation is one important step in this area (see box 5.1). In addition, given the importance of land in the social, cultural, and economic life of people in the Pacific, governments should aim to support good land management, including enabling communities to use it as a resource to manage the risks they face.

Development partner activities should also factor in risks and seek to reduce rather than inadvertently add to volatility (see box 5.2). Aid flows comprise a large proportion of public expenditure in many PICs. With donor spending often providing an important source of employment and demand for goods and services from private businesses, changes in donor spending can have important impacts on economic activity and household incomes. Donors could work to ensure that changes in expenditure are timed to counteract volatility arising from other sources. Flexible funding arrangements that are responsive to changed expenditure priorities in the light of major shocks can help. More generally, greater use of budget support would increase the capacity of governments to align donor support with fiscal policy objectives of offsetting the impact of shocks—supporting accumulation of reserves that could be utilized to support higher expenditure, economic activity, and employment during downturns. As recent experience has shown, PIC governments with stretched implementation capacity benefit from a focus on the practicalities of implementation support following natural disasters, and this could be strengthened.

BOX 5.1 Managing Risks from Natural Disasters in the Pacific

The East Asia and Pacific region as a whole is the most disaster-stricken region in the world, and PICs in particular are among the most vulnerable countries globally to natural hazards. They combine high exposure to frequent and damaging natural shocks with low capacity to manage the resulting risks. Their vulnerability is exacerbated by poorly planned development, which has increased exposure and economic losses, and by climate change, which has increased the magnitude of cyclones, droughts, and flooding.

Two recent World Bank reports send a clear message about the importance of active risk management for natural shocks. If country governments and their development partners do not act now to reduce Pacific countries’ extremely high vulnerability, the consequences are likely to be serious. Simply put, a “business as usual” approach focused on immediate disaster relief rather than long-term disaster risk management and climate change adaptation will increase economic and human losses, slow economic growth, and delay or even reverse progress toward development goals.

Progress in systematic risk management has been made in recent years, but much more remains to be done. Disaster risk management frameworks need to be developed, and where they exist, integrated into existing planning and regulation, including but not limited to land management, building regulations, and crisis management operational guidelines. Investments in disaster risk management and climate change adaptation have increased substantially at the national and local levels and have also begun to be integrated into social and economic planning. However, efforts have mostly been at the project level and fragmented, limiting their impact. Greater coordination and clear leadership are necessary going forward, as the risks from natural disasters continue to increase.

Source: World Bank 2012c, 2013a.

BOX 5.2 The Role of Development Partners in Managing Aggregate Shocks

Aid flows are an important part of most Pacific economies. Many PICs benefit from substantial aid flows (for example, in 2012 donor grants were equal to 50.5 percent of GDP in Kiribati, 19 percent of GDP in the Solomon Islands, and 9 percent of GDP in Tonga). Aid, whether delivered through projects or—less often—budget support, plays an important role in financing social services and infrastructure. Further, aid-financed public spending provides a vital source of employment and demand for the private sector where domestic markets are small and export opportunities limited by formidable geographical constraints. The amount of aid that Pacific countries receive can vary substantially between years, sometimes exacerbating and sometimes mitigating economic volatility arising from external economic shocks.

Figures B5.2.1, B5.2.2, and B5.2.3 show changes in grants and domestic revenue for Vanuatu, Samoa, and Tonga since 2001 and suggest the following points.

FIGURE B5.2.1 CHANGE IN GRANTS AND REVENUES, VANUATU

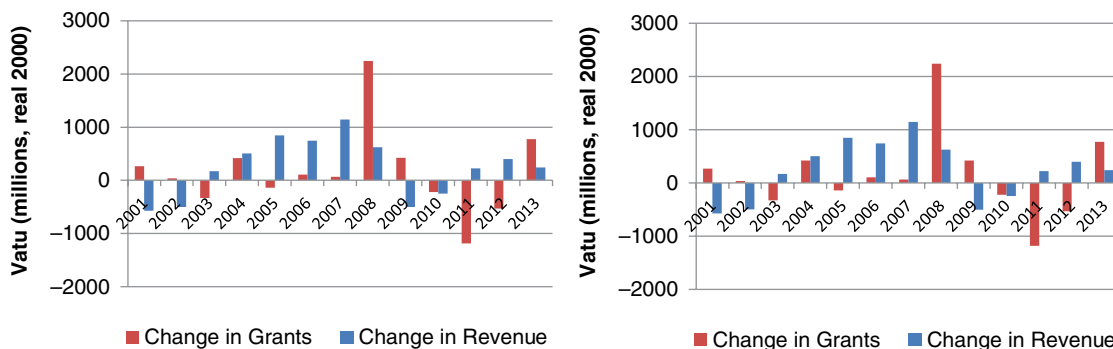


FIGURE B5.2.2 CHANGE IN GRANTS AND REVENUES, SAMOA

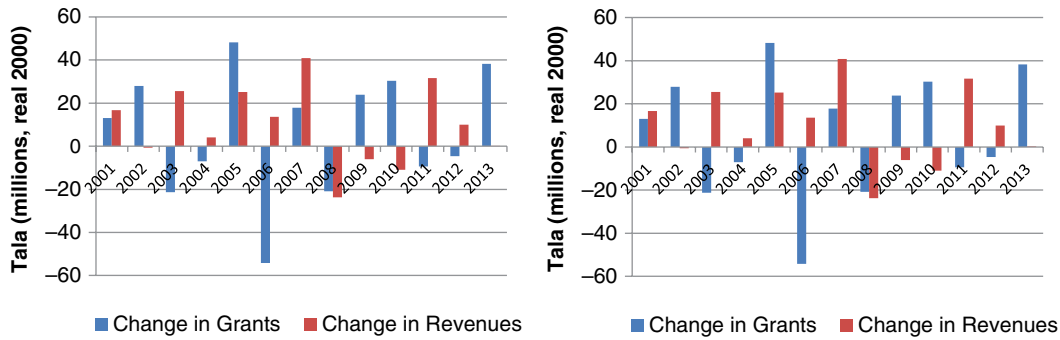
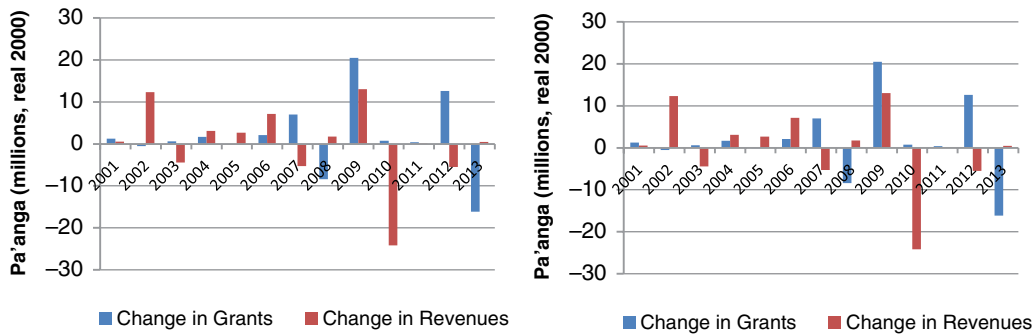


FIGURE B5.2.3 CHANGES IN GRANTS AND REVENUES, TONGA



Grant flows do not exhibit any consistent relationship with changes in government revenues. This is unsurprising because project planning and implementation cycles are typically linked with longer-term development strategies, rather than seeking to coordinate with short-term macrofiscal swings. The macroeconomic impacts of donor projects are seldom explicitly considered.

Grant flows sometimes help offset external shocks and negative economic consequences of natural disasters. In Samoa, aid flows increased by around 2.5 percent of GDP per year in 2009 and 2010, helping to counteract the negative growth and revenue consequences of the 2009 tsunami, while also financing vital recovery and reconstruction work. In Tonga, donors made a deliberate effort to mobilize budget support to help the government deal with substantial revenue declines resulting from the global economic crisis. Following revenue declines of around 8 percent of GDP in 2010, donors mobilized additional grant support of 2 percent of GDP by 2012.

Unintended procyclicality can sometimes contribute to macroeconomic management challenges and broader economic volatility. In Vanuatu, for example, grants for road construction from 2008 tapered off following project completion during 2010–2012, while the economy was facing lower tourism arrivals and weak revenue performance due to the global economic crisis. The aggregate impact was the withdrawal of donor-financed fiscal stimulus coinciding with a negative external shock.

Donor projects are provided for many reasons and offer a broad range of benefits to recipient countries. Donors face many planning constraints and often do not have the flexibility to optimize project spending based on broader economic factors. But because these projects are often large relative to Pacific economies, donor spending does have important macroeconomic impacts.

There may be scope for donor agencies to work with governments to achieve greater coordination between fiscal policy objectives and the timing of donor spending, especially on major infrastructure projects. Increased reliance on budget support modalities, which allow greater flexibility in scale and timing of flows, may also be useful to improve consistency between aid flows and fiscal policy goals.

TABLE 5.1: Policy Measures to Manage Aggregate Economic Shocks

Type of Aggregate Economic Shock	Potential Policy Measures	Stage of Risk Management
All	Fiscal buffers	Insurance
Fuel price	Strong regulatory environment	Protection
	Lifeline tariffs	Protection
	Diversification of energy sources	Protection
Food or fuel price	Price hedging	Insurance
	Supply chain management	Insurance

Manage Aggregate Economic Shocks

Leaders should maintain macroeconomic and fiscal buffers at relatively high levels to counteract aggregate economic shocks (see table 5.1). Most Pacific countries have a very high dependence on imports of goods and services and on external financial flows. To ensure stability in the immediate aftermath of drops in external earnings, countries would ideally maintain a higher than usual level of foreign exchange reserves. In addition, governments play a major role in assisting people in need, restoring services, and repairing infrastructure after negative shocks. To be able to do so effectively requires an escalation of spending and a likely deterioration of the fiscal position. Fiscal buffers are essential to be able to absorb these costs without an ensuing fiscal crisis, which can lead to further instability. Low public sector debt, accumulation of assets in trust funds or sovereign wealth funds where possible, appropriate revenue policies and strong compliance mechanisms, and predictable, long-term aid commitments can help build these fiscal buffers. It is, of course, possible to accumulate assets only if there is a surplus available to save. In some PICs where natural resource rents are high, this may be the case. But otherwise, the revenues and grants that PICs receive are needed for immediate current and capital expenditure, and the opportunity cost of redirecting these funds to the accumulation of assets may be prohibitive. In such circumstances, it might be more feasible for development partners to provide additional resources to help PICs build their assets, while governments focus on maintaining low public sector debt and good revenue performance.

Selectively invest in protection and insurance policies to reduce vulnerability to aggregate economic

shocks. Some protection and insurance measures are costly, long-term undertakings that are challenging to implement. However, interest in measures that can reduce the impacts of price shocks on households and also save costs is increasing. Some efforts are already underway, but the potential exists for more widespread use of measures described below: strategic fuel reserves, lifeline tariffs, price hedging, joint purchasing, and diversification.

PICs should review fuel supply chain efficiency and ensure they have appropriately sized and maintained storage facilities, either on or off shore. Some countries have inadequately maintained excessively costly storage facilities that contribute to heightened costs and risks of breakdown. Others lack adequate facilities to support fuel security. The Federated States of Micronesia is an example of a country that has reformed supply chains and passed cost savings on to consumers. Investment in fuel storage facilitates can support larger fuel deliveries, but in making such investments the unit cost savings need to be carefully weighed against the upfront capital costs.

Establishing lifeline tariffs for utilities can help protect households from fuel price shocks and reduce costs for vulnerable households. Utilities providers in some countries are already using lifeline tariffs, which are lower rates for the first block of usage of (typically) electricity. This benefits small consumers, who are often less well-off households. Establishing lifeline tariffs not only reduces burdens on households in hardship but also defines a policy lever that can be used to protect these users from price shocks in the future. The costs of shielding households from increased prices could be met through direct subsidization by government, potentially supported by development partners, or by cross-subsidization

involving higher rates for commercial and less-vulnerable users.

Price hedging of major commodity imports has the potential to reduce risks in the Pacific. Governments can help to reduce the high degree of uncertainty around future prices of major commodity imports that are volatile by supporting the use of commodity price risk management. This type of risk management uses derivative products to hedge against the risk of an unexpected price shock. Appropriate strategies should focus on the simplest approach to hedging the most volatile commodity prices, such as oil. Although not a World Bank member state, Guam has used hedging strategies for some time. In the aftermath of the fuel price crisis, Tonga's electricity utility has begun experimenting with using financial derivatives to hedge against variations in oil prices.

Effective market regulation, public procurement policies, and market structures can also support supply chain efficiencies. A study of PIC procurement practices (Pacific Island Forum Secretariat 2010) noted that significant savings might be made in procurement of major commodities, such as fuel. One option that has been proposed for some time is joint regional purchasing, but this has gained little traction in the Pacific. Although maintaining sovereignty over strategically important procurement, seeking to reduce costs via competitive and open tendering, as well as effective regional and national regulatory oversight, may bring comparable cost savings. Savings could be used by governments, firms, and households for other purposes, such as self-insurance against future shocks.

The potential for PICs to diversify their economies is limited, but energy resources may be an important exception. The geographic features of most PICs limit the set of viable economic activities that are available. To the extent that it makes sense, governments already do facilitate the development of varied income sources, as well as food resources. High up-front capital costs have limited the scope for diversification in energy generation. PICs possess considerable renewable energy potential, particularly solar and hydro-power, and diversification away from the predominantly oil-burning generators that provide most of their power would offer protection from future oil price volatility (ADB 2012). Given the high

capital costs associated with renewable generation, the challenge for PICs is to identify projects in partnerships with private sector or development partners that can bring positive economic and social returns, including via reducing risk to households and businesses.

Manage Aggregate Health Shocks

Increased knowledge and protection measures are needed to improve health and slow the rise of NCDs. As discussed in chapter 3, behaviors related to NCDs such as smoking are widespread in the Pacific. Research from around the world finds that behavior change is very challenging but is critical to slowing the rise of NCDs and their associated costs. PICs are now working on this challenge, through multifaceted strategies that aim to increase people's knowledge about behavioral choices and disease and that increase protection using multiple tools (World Bank 2012a). These tools include tax policy to discourage the consumption of unhealthy goods and building facilities to encourage exercise. At the same time, investments in maternal and child care, as well as protection against communicable diseases, are needed in many countries where these are still major threats. The need for evidence-based, cost-effective, and multisectoral approaches to addressing these challenges was recently affirmed by Pacific Health Ministers in the Apia Communique (2013).

Development partners have an important role to play in providing financial support and aligning their policies. Given the fiscal constraints faced by most PICs, there will continue to be a tradeoff between addressing immediate demand for curative care and investing in knowledge and protection for the future. The difficulty of this tradeoff can be seen in the fact that, in some countries, funds budgeted for such investments are sometimes diverted during budget execution to meet immediate demands for curative care. In addition, testing different approaches to behavior change and financing the widespread implementation of the successful ones is simply beyond the fiscal capacity of some Pacific countries. However, development partners should have an interest in providing support, in part because they tend to act as *de facto* insurers, stepping in with funding and relief after shocks have occurred (which is often more costly than protecting against the shocks *ex ante*). In addition, tax and trade policies aimed at

BOX 5.3 Turkey Tail Travails in Samoa

The threat of NCDs in Samoa is as acute as it is anywhere else in the Pacific. More than 50 percent of adults are obese, and about a quarter have diabetes (World Bank 2012b). Unhealthy diets that include cheap imported meat offcuts is a major contributor to this situation.

In an effort to improve the diets of Samoans, the government banned the importation of turkey tails, a popular and fatty offcut, in 2007. However, as part of Samoa's accession to the World Trade Organization in 2012, the ban was lifted. A temporary 300 percent import duty was placed on turkey tails, giving the Samoan government time to work on changing the eating behavior of its people before the tails become cheap and widely available again.

Source: World Trade Organization 2011.

protecting against NCDs sometimes face international challenges that need to be addressed (see box 5.3).

Invest in Data

Timely, good quality data and analysis on the well-being of households are valuable for policy making. They inform the formulation of government policy, helping to identify communities in need of services or other investments. Similarly, data can help guide the investments of development partners, whose projects are often targeted to specific communities. Data can also be used to assess the effectiveness of government policies and programs. Given the resources required to collect data, countries should prioritize key data sources, ensure their quality and regularity, and keep systems simple and fit-to-purpose. Box 5.4 describes an example from Papua New Guinea of how a lack of data can hamper decision making.

In many Pacific countries, data are collected sporadically and are not always of high quality. Several countries have conducted nationally representative household surveys or censuses in the last five years. However, some have not because they lack the funding and technical expertise required: Although these countries are small, their geographically dispersed populations make the costs of surveying relatively high. Even among the countries that have conducted surveys, quality can be a challenge, because national statistical offices lack the capacity to carefully implement and analyze complex and detailed surveys. Out-of-date or doubtful quality data lose much of their value, and even if the provided information is accurate, policy makers and development partners are unlikely to use it in their decision making.

Governments and their development partners should invest in regularly occurring household surveys for all countries. Some countries have conducted two or more household surveys in the past decade, which is a promising start to regular data collection. The Ten Year Pacific Statistics Strategy (TYPSS) took effect in 2011 and takes positive steps toward strengthening regional technical support for national statistical offices. However, funding for survey implementation is still lacking in many countries. Additional consideration of surveying methods and the content of surveys could help increase data quality and lower costs, which would increase the financial feasibility of regular surveys. For example, the use of local market price surveys, shorter diary periods, and technology-assisted survey methods could all be considered. For the countries with more sporadic surveys that rely on external financing, funding regular surveys, including the technical capacity to implement and analyze them, should be a priority for development partners. Implementation and analytical technical capacity can be built at the national level for larger PICs and at the regional level to provide support to the smaller PICs.

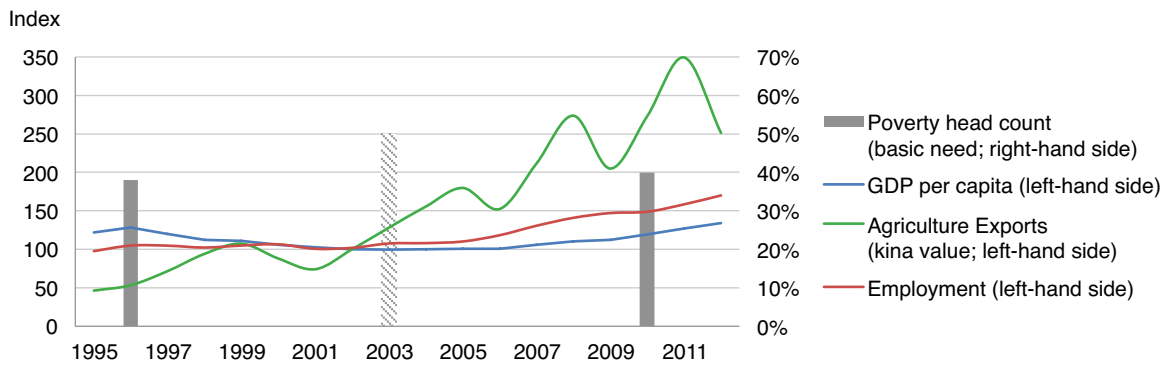
Conducting surveys is not enough: Public access to data and analysis is critical to getting the information used by policy makers and partners. When data are made accessible, researchers and others use the data to provide policy-relevant insights and also often help improve the data quality by pointing out problems that might not have been recognized. Several PICs and their regional partners have restricted access to the collected data and to the analysis conducted with the data, including poverty measurement. In general, only summary statistics are available to the public, and no processes are established for obtaining access. Consequently, little use is made of Pacific data outside of the few groups that have access to it, and Pacific

BOX 5.4 What Happened to Hardship in Papua New Guinea?—Estimating When There Are No Data

In Papua New Guinea, the first nationally representative household survey was conducted in 1996, and 15 years elapsed until the second (conducted 2009–10). During that entire period, limited data were available on the well-being of the population, hampering policy makers’ ability to address hardship and other challenges. Now, even with both surveys available, knowledge of changes over time cannot be recovered, because comparing the 2010 and 1996 snapshots of well-being is likely to mask significant variation over this 15-year period. Macroeconomic conditions deteriorated significantly in Papua New Guinea between the early 1990s and the early 2000s, and these trends are likely to have brought worsening living standards and rising hardship rates until around 2002. The country then entered a decade of very strong growth, and hardship likely declined in subsequent years.

Without reliable data, it cannot be known with certainty how living standards and well-being changed over this period, and in particular how hardship changed in response to changes in economic growth. However, estimates can be made. Using macroeconomic indicators of GDP growth and inflation, the World Bank estimated that the hardship rate rose from 40 percent in 1996 to just above 50 percent in the early 2000s, before returning to near 40 percent by the time of the 2010 survey (see figure B5.4.1). Consistent with this pattern, formal sector employment declined by 2.8 percent between 1996 and 2002, and cash crop export receipts rose by 88 percent during the same period. Between 2002 and 2010, formal sector employment rose by 46 percent (and a further 14 percent between 2010 and 2012), and nominal cash crop export receipts rose by 173 percent during the same period.

FIGURE B5.4.1 HARDSHIP AND GROWTH IN PAPUA NEW GUINEA



Source: World Bank staff estimates.

countries are often excluded from external databases and analyses. Increased data accessibility is one of the objectives of the TYPSS, and this accessibility should go beyond summary statistics to ensure researchers within and outside the region have the necessary level of detailed microdata to conduct rigorous analysis.

In addition, active communication about the meaning and implications of poverty measurement is needed to get hardship on the policy agenda. As detailed in chapter 2, poverty measurement has been carried out using household survey data in many Pacific countries. However, government and the general public are often unfamiliar with the analysis and its implications, so they receive limited consideration in policy making. Active communication led by national statistics offices and supported by development partners is needed to help clarify what poverty measurement actually measures, and to increase awareness of

its implications about hardship and vulnerability to shocks.

Enable Households and Communities

Governments and development partners have important roles to play in supporting the efforts of households and communities to reduce hardship and vulnerability. In particular, selective investment in social programs is needed to provide a safety net and relief from hardship. Governments in the Pacific are also well placed to effectively build human capital by improving the education that is already often publically provided and by creating productive economic opportunities. In addition, governments have an important role to play in increasing people’s access to a broader set of risk management tools.

A strong case is to be made for expanding the role of government and development partners in social protection. The preceding chapters provide important evidence that households and communities are not able to fully manage the risks they face or to eliminate hardship. In particular, traditional networks do not reach many households experiencing the deepest hardship and appear to provide only partial insurance to households suffering shocks. In addition, traditional networks cannot manage local or aggregate shocks that affect most of their members. These findings make it clear that Pacific governments, and their development partners, need to consider an expanded role in social protection that takes into account traditional networks as well as fiscal constraints. The preceding analysis makes clear that when carefully designed and managed, the costs of transfer programs to protect vulnerable populations from the impact of shocks are manageable. With appropriate systems in place, adequate protection for those most vulnerable to external shocks could be provided through a combination of budgetary resources and aid from development partners.

Investments in social protection programs should be made well in advance of major shocks. Like most policy initiatives, establishing and operating social protection programs take time and effort. Design aspects of these programs—such as targeting and delivery mechanisms—take time to fine tune. It also takes time for administrators to build up experience in how to operate social protection programs effectively. If social protection programs can be established before a major shock occurs, they have the potential to be scaled up more quickly and effectively in the wake of a shock than if preparations for their establishment begin only after a major shock has struck. Maintaining these programs with a fairly limited scope on a continuous basis enables continuous learning and the buildup of knowledge and experience, giving the programs much greater chances of being successful in mitigating major shocks when they occur. Data, such as those from periodic HIESs, can be used to inform the operation of these programs on a regular basis. A strong evidence base built up over time can then be readily supplemented by rapid assessment techniques in the wake of major shocks.

Global evidence suggests that the challenges to social programs in the Pacific can be overcome. As described in chapter 4, lack of data and fiscal space, as well as concern for disrupting traditional networks, are major barriers to the development of social protection programs. However, several countries

around the world are finding ways to successfully overcome these challenges with help from donors and international expertise. Important factors to making social programs work in capacity-constrained contexts include sustained, multiyear commitments from donors, limited and straightforward targeting to reach those most in need, and careful, phased implementation (Grosh et al. 2008).

The quality and accessibility, as well as the portability, of basic education should be increased to enable people to increase their well-being through increased productivity at home or abroad. High-quality education equips people to do their work more productively, whatever their work may be, and therefore earn more. Given the challenges to private sector growth in the Pacific, education that is “portable” is likely to be the most valuable. For example, governments can work with development partners (who often receive migrants as well) to adopt education and training qualifications that will be recognized in major migrant-receiving countries (World Bank 2013b). In addition to making people more productive, education can also increase knowledge about risks and how to best manage them.

Leaders should create more opportunities for migration by removing regulatory barriers to increase people’s well-being. Currently, overseas migration is restricted for the majority of people who are not from islands with special citizenship relationships with large neighbors (World Bank 2013b). If equipped with the skills needed for success in destination country labor markets, the relatively young populations of many islands could greatly benefit from increased migration opportunities.

More opportunities should be fostered for productive work at home. Jobs and increased income not only raise living standards in good times, but also enable households to better manage the risks they face. Given the unique challenges in the Pacific, realistic expectations about the potential for private sector-led job growth are needed. Policy priorities for job creation in the Pacific have recently been laid out in *At Work in East Asia Pacific* (World Bank 2013b) and include investment in connective infrastructure, rural services, agricultural productivity, and public sector productivity. A key message from this work is that public sector employment is likely to remain a key source of good-quality jobs in most PICs, and reform efforts should focus on ensuring the productivity of public sector employment, rather than focusing on reducing the size of the public sector. The report also recommends a greater focus on job creation through

donor support, by means of increasing opportunities for local procurement and hiring of local staff across infrastructure or social service projects.

Responsible development of market-based risk management tools should be supported. In many PICs, few people have access to financial services: Estimates are that about 45 to 50 percent of Fijians and 85 to 90 percent of Papua New Guineans do not have access to formal financial services (Pacific Financial Inclusion Program 2010). Although a formal bank account for each household may not be a realistic goal, increasing access to savings, credit, and insurance mechanisms would increase people's ability to effectively manage the risks they face. Alongside increasing access, appropriate regulation and knowledge dissemination are needed to protect people from excessive use of credit or other poor choices.

The challenges to financial inclusion in the Pacific are beginning to be surmounted. Geographically dispersed populations, limited infrastructure, and restrictive regulations are some of the major challenges to expanding financial services, but mobile technology, regulatory changes, and active donor support are enabling progress in many PICs (McCaffrey 2010, 2011). The Pacific Microfinance Initiative, launched in 2010, is one effort aimed at increasing access by providing technical assistance and funding to banks and other financial institutions to help them provide sustainable services to underserved communities in Papua New Guinea, Timor-Leste, and Tonga.

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