

# Mainstreaming risk management into the development agenda: Selected institutional reforms

*The discussion that follows expands on four selected areas where fundamental institutional reforms for better risk management are needed. The four areas cover integrated risk management, fiscal and financial risk management, social insurance and work status, and multinational approaches to address global risks. Why these four? They are by no means exhaustive, but they do represent a framework through which many specific recommendations provided in the Report could be implemented. They discuss innovative solutions to long-standing problems in developing countries. They cut across risks and social systems, using a holistic approach to risk management. Along with the other recommendations in the Report, they can contribute to mainstreaming risk management into the development agenda. The four reforms may require substantial changes in the way national governments develop and implement their general plans.*

### **Reform 1. Establish a national risk board to assess and manage risks in an integrated way**

*What is the problem?* Governments and public agencies often manage specific risks in an isolated manner, which can lead to ineffective formulation and implementation of risk management strategies. For example, while the ministry of finance can create and regulate a health care insurance system to better manage health risks, the usefulness of that system depends on the availability of competent health care providers, which is a responsibility of the health ministry. Shifting from one energy source to another (coal to gas or nuclear) may reduce one kind of pollution but increase other pollutants or security risks.

Such “risk-risk trade-offs” and coordination problems often arise from narrow decisions by risk managers with restricted perimeters of responsibility.<sup>1</sup> Ideally, broader analyses can help risk managers develop “risk-superior solutions” that reduce multiple risks at the same time.<sup>2</sup> Looking at risks in an integrated manner helps define policy priorities and avoids overspending on managing one risk while neglecting others, helping to achieve a good balance between preparation for low-probability but high-impact events (such as earthquakes) and less spectacular risks (such as truck accidents) that are more prevalent and are also costly to society.

Managing individual risks entails both trade-offs and synergies. A multistakeholder approach to national risk management helps identify and capture synergies across risks: for instance, developing the capacity to evacuate populations while taking into account the constraints of available crisis management infrastructure. National risk assessments undertaken in the Netherlands and the United Kingdom aim explicitly at identifying investments that increase the ability to anticipate and manage multiple

risks—what the Dutch and U.K. authorities call risk management “capabilities.”

Important trade-offs and synergies also exist across risks or across scales. For instance, providing a public retirement scheme reduces risks for individuals but may increase aggregate fiscal risks. And a watershed that covers multiple municipalities can be managed effectively only in a coordinated manner. An integrated and multistakeholder approach helps deal with these trade-offs and reduces the likelihood of simply transferring a risk of one type to a risk of another type (such as from idiosyncratic risk to systemic risk) or from one agent to another.

Involving more stakeholders (policy makers, industry experts, and academics) in the process of designing a national risk management strategy also makes the process more transparent and less prone to political capture and introduces natural accountability mechanisms. All too often, risks that evolve over long time horizons and the lack of clear indicators of success for risk management limit the accountability of decision makers for their risk management choices. This problem can be addressed, in part, by an independent and multistakeholder entity that analyzes and publishes assessments of risk management practices within a country and that makes expert and policy-relevant recommendations.

*What is the solution?* A national risk board should be created to provide integrated risk management at the national level. This recommendation builds on analogous proposals, including the national Council of Risk Analysts proposed by Graham and Wiener,<sup>3</sup> and the World Economic Forum’s proposal to establish a country risk officer<sup>4</sup>—similar to the position of chief risk officer that has been created in many multinational companies, notably financial corporations. The board’s expertise should cover the areas of military,

security, and terrorism risk; economic risk; environmental, health, and technological risk; and social risk. It should also consider the actions undertaken by other countries, multinational firms, and the global community.

A national risk board can be set up as a standing (permanent) committee and should have powers to issue “act-or-explain” recommendations directed at the relevant authorities responsible for policy implementation. That is, government agencies and local authorities would have to act on the board’s recommendations or explain why they have decided to discard them.

The board should analyze risks and risk management policies and practices, including synergies and trade-offs across risks or across entities; define priorities in risk management; and make recommendations for appropriate policies to pursue. Many countries already have regular national risk assessments conducted by multistakeholder teams involving various ministries and often including representatives of the private sector and civil society. The Netherlands, Singapore, the United Kingdom, and the United States have undertaken such assessments, and other countries, such as Morocco, are working to set up a national assessment process. But this process is usually carried out by a temporary, ad hoc group that exists only while the assessment is taking place. Moreover, the political relevance and accountability of such ad hoc groups generally have been weak.

Some countries go beyond risk assessments. Some have created multiministry bodies in charge of information exchange and coordination for risk management, but these bodies usually deal with a specific risk—most often natural disasters, as in Peru. Few countries actually have an integrated risk management agency that deals with multiple risks.

One country that does is Singapore, which has a framework, the Whole-of-Government Integrated Risk Management approach, dedicated to avoiding silo effects within the government and to managing risks in an integrated manner.<sup>5</sup> The institutional umbrella of the framework is the Strategy Committee, which is charged with steering and reviewing the implementation of the framework. The committee, which meets quarterly, comprises permanent secretaries from various ministries across government and is chaired by the Head of Civil Service. In addition, the Homefront Crisis Management system includes a ministerial committee chaired by the Minister of Domestic Affairs, which is responsible for crisis management. It is supported by the Homefront Crisis Executive Group, which comprises senior representatives from ministries and government agencies. This multirisk approach is complemented by more sectoral agencies, such as the National Security Coordination Secretariat, which focuses on national security issues. Singapore’s institutional arrangement for integrated risk management involves a great deal of specialization and a complex coordination process that has evolved over time.

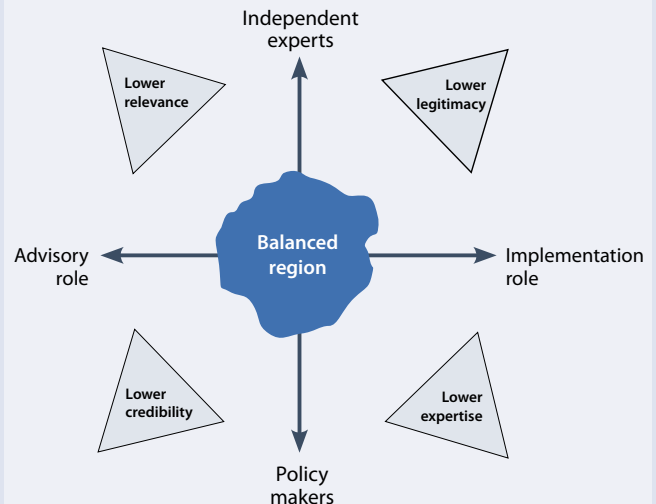
For developing countries, a simpler, consolidated arrangement that involves less specificity and specialization in the institutional design and more explicit and robust coordination mechanisms might be desirable. The proposed National Risk Board takes into account such considerations.

*How can it be implemented?* The board needs to have the required expertise, be credible and relevant, and have sufficient legitimacy. It

could either be an advisory body or have powers to implement recommendations, or a combination of both. It could consist entirely of experts or policy makers or a combination of both. There are trade-offs among these design choices, which are illustrated in diagram F1.1. For instance, a board of experts with powers to implement policy could lack *legitimacy*, especially if it were to implement policies with significant redistribution effects (such as raising taxes to cover disaster insurance premiums).<sup>6</sup> In contrast, a board of experts issuing only nonbinding recommendations could lack *relevance* to policy making or be unable to influence actual decisions. If the board comprises only policy makers and issues nonbinding recommendations, it could lack *credibility*. Finally, if a board has implementation powers but consists only of policy makers, it could lack *expertise* and be vulnerable to political capture. To avoid becoming a powerless body, the board should have sufficient visibility: its chair should be a highly visible policy maker, and its annual meeting should be chaired by the head of government. The board should be held accountable by having to publish its recommendations, by issuing annual reports with policy priorities and their analytical substantiation, and by being subjected to annual hearings in front of a legislative committee.

The appropriate institutional design will depend on the country political and institutional context. For instance, rather than establishing an independent government agency, Jamaica, Mexico, and Morocco are considering placing the integrated risk management function within the government structure. Such an institutional design may be practical in countries with an effective and independent civil service, with the national risk board members appointed as expert technocrats with guaranteed positions for periods that extend beyond a political cycle. However, any institutional design should seek to balance legitimacy, relevance, credibility, and expertise (depicted as the balanced region in diagram F1.1).

**DIAGRAM F1.1** *Balancing the trade-offs in the institutional design of a national risk board*



Source: WDR 2014 team.

## **Reform 2. Create independent fiscal and financial agencies to promote sustainable policies**

### *Establish fiscal councils to promote fiscal sustainability*

*What is the problem?* Very few developing countries have been able to conduct countercyclical fiscal policies.<sup>7</sup> Rather than saving during good times, policy makers typically increase government spending, run budget deficits, and accumulate debt. Over the past five decades, government spending has behaved procyclically in more than 90 percent of developing countries; in sharp contrast, it has been countercyclical in 80 percent of industrial countries.<sup>8</sup> Procyclical fiscal policies have increased output volatility and hindered long-term growth throughout the developing world.<sup>9</sup>

Two main factors explain this procyclical bias in developing countries. First, limited access to world capital markets during recessions forces governments to raise taxes and cut spending in bad times. Second, political economy considerations—including distributional conflicts and information asymmetries—prevent governments from acting prudently during upswings. Competition among multiple power blocs for greater revenue windfalls leads to overspending and overprovision of some public goods.<sup>10</sup> Voters' perception that their governments are rent-seeking leads to increasing popular pressure to lower taxes and increase spending in good times.<sup>11</sup>

By contrast, monetary authorities in several developing countries have succeeded in adopting a credible, predictable, and sustainable regime in the form of inflation targeting. Several developed and developing countries have maintained low and stable inflation, thanks to monetary frameworks that benefit from a clear mandate, independence from political interference, and accountability for policy makers' actions. A greater institutional push toward transparent monetary frameworks has provided central banks the flexibility to conduct countercyclical policies without jeopardizing inflationary goals. There is need for similar credible, predictable, and sustainable frameworks for fiscal policy.

*What is the solution?* The codification of flexible fiscal rules in legislation, along with the operation of autonomous fiscal councils, has the potential to restrain policy makers from spending sprees in normal times and to allow for additional (spending) stimulus in crisis times. Given the redistributive nature of fiscal policy, full delegation of policy making to these councils is unrealistic. Fiscal councils can nonetheless shape incentives more effectively than can a process that simply and mechanically follows numerical limits on budgetary aggregates. The councils should have a clear mandate, autonomy to operationalize budget procedures, and the power to monitor compliance with the fiscal rule. Fiscal councils should hold policy makers accountable for their actions and be accountable for their advice and recommendations. To put fiscal councils in place and uphold their powers, broad consensus needs to be built to implement these institutional reforms and encourage policy makers to deliver viable countercyclical actions. Severe crises may provide that opportunity—that has been the case in the European Union with the new Fiscal Compact Treaty and “Two-Pack” regulation proposal.<sup>12</sup> However, establishing these councils requires strong institutional underpinnings. In countries with weak governance and capacity, transparent and comprehensive fiscal frameworks (including top-down approaches to budgeting) would provide a good foundation for more institution building in the future.

*How can it be implemented?* Fiscal authorities have adopted quantitative limits on deficits, spending, debt, or some combination, to contain fiscal profligacy. However, these numerical limits have restricted countercyclical responses during downturns and have led politicians to circumvent them through the use of creative accounting, such as Stability and Growth Pact rules in the European Union.<sup>13</sup> Rather than imposing rigid numerical limits, fiscal authorities should focus on using flexible procedural rules that target the structural budget balance and provide a blueprint to achieve this target over time. Targeting structural budget balances—as is done in Chile and Norway—can deliver fiscal discipline and endow policy makers with flexibility to conduct countercyclical policies. Before the crisis, in 2007, strong economic performance and sharp increases in the prices of oil and copper allowed Chile and Norway—through their rules—to amass a significant amount of public savings. The general government primary surpluses that year were 11.8 of gross domestic product (GDP) in Chile and 15.7 percent in Norway, providing a comfortable cushion for countercyclical policies following the crisis.

Currently, more than 40 percent of advanced countries and about 20 percent of emerging market have a national fiscal rule targeting the structural budget balance.<sup>14</sup> However, the effectiveness of these rules rests upon their credibility and flexibility: they may lack credibility if not accompanied by budget transparency and clear operational guidance or if they are overly ambitious or unrealistic. Defining a structural budget balance rule can create monitoring and communication problems. Moreover, fiscal rules cannot anticipate every possible contingency. Their flexibility could be enhanced through the design and incorporation of escape clauses that would take into account extreme events (crises, disasters).<sup>15</sup> Fiscal councils can help identify the events that trigger escape clauses and decide on the treatment of cumulative deviations.<sup>16</sup>

Fiscal councils can shield some budget procedures from political pressure, thereby containing the government's incentives to overspend. Overspending and lack of budget discipline can be traced, in part, to overly optimistic government forecasts.<sup>17</sup> Fiscal councils can produce official forecasts for GDP growth and government budgetary items. The U.K. Treasury (ministry of finance), for instance, has delegated such forecasts to the Office for Budget Responsibility. Forecasting contains its own risks, however. Forecasting errors in uncertain environments can threaten the credibility of the council.<sup>18</sup> The accuracy of the council's real GDP growth and budget forecasts will be reduced by the greater volatility associated with higher economic uncertainty. Councils will have to be held accountable for incorrect predictions.

By providing independent analysis of fiscal plans and executed policies, councils raise voters' awareness of the consequences of policy actions. For instance, the Netherlands Bureau for Economic Policy Analysis (CPB) evaluates whether government policies threaten fiscal sustainability. Councils can also evaluate the cost of electoral platforms plans and coalition agreements after elections.<sup>19</sup> Finally, fiscal councils can hold policy makers accountable for choices made regarding the cyclical operation of the rule and define clear legal sanctions before the fact for noncompliance.<sup>20</sup>

Governments have incentives to dismiss the advice of fiscal councils. Councils can be dismantled if their critique of the government is too severe or if they are formed without adequate political consensus—as was the case in Hungary. Fiscal councils need legitimacy, as well as budgetary and political independence, to work effectively and

to avoid political capture. So far, countries have not granted political autonomy to fiscal councils. Councils have had to rely on informal independence acquired through the buildup of reputation over time. Councils with the largest degree of informal independence are the oldest ones—Denmark’s economic council, the Netherlands’ CPB, and the U.S. Congressional Budget Office.<sup>21</sup> Limited resources and budget dependence on governmental offices can reduce the councils’ quality of work—as has happened in Canada and Sweden.<sup>22</sup>

The council board members should be recruited competitively. Reputational costs of bad performance would act as a disciplining device. Nonetheless, members’ idiosyncrasies or dismal performance can affect the work of the entire council. Regular evaluations are warranted to hold council members accountable, including testifying on a regular basis before the legislative body and continuous evaluation by international peer councils or expert groups.<sup>23</sup>

### ***Put in place independent macroprudential supervisors for financial stability***

*What is the problem?* The main difficulties for the financial system are managing systemic risk (stemming from negative externalities and herding behavior among individual financial firms) and avoiding regulatory capture by politicians and the financial industry (chapter 6).

*What is the solution?* The solution is to delegate the oversight of financial stability to an independent macroprudential committee, possibly under the central bank. In a number of emerging market countries, including the Czech Republic, South Africa, and Thailand, the responsibility for financial stability oversight already has been given to the central bank, while in many others, central banks have implicitly taken on this responsibility. Central banks seem to be best equipped to assume the statutory responsibility for macroprudential policy.<sup>24</sup>

The macroprudential committee should include selected policy stakeholders and independent experts, following the successful example of monetary policy committees. It should use selected indicators of systemic risk to detect excessive acceleration or concentration of indebtedness in the financial sector or the real economy. To manage any emerging excess, the committee would be directly equipped with macroprudential tools or with the ability to recommend actions to other regulators on an act-or-explain basis. The committee should be accountable to the legislative body.

*How can it be implemented?* A possible role model for other countries, including developing ones, is the United Kingdom’s macroprudential committee—the Financial Policy Committee, or FPC. The FPC is chaired by the central bank governor and includes deputy governors for financial stability, monetary policy, and prudential regulation; the director of financial stability; the chief executive of the Financial Conduct Authority (business conduct regulator); four independent experts; and a representative of the U.K. Treasury, who has no voting rights.

The FPC has the statutory responsibility to identify, monitor, and take actions to remove or reduce systemic financial risk, with the view to protecting and enhancing the resilience of the U.K. financial system. It uses a set of systemic risk indicators to identify and monitor systemic risk.<sup>25</sup> Since mid-2011, it has been equipped with direct powers to adjust the capital requirements that banks must hold (the macroprudential buffer) to mitigate systemic risk. It can also issue act-or-explain recommendations to other policy makers in the financial sector, nota-

bly the microprudential regulator and the business conduct regulator, to implement measures to foster financial stability.<sup>26</sup> The FPC is likely to receive more direct tools to fulfill its statutory responsibility.<sup>27</sup>

### **Reform 3. For debate: Should access to social insurance be tied to work status?**

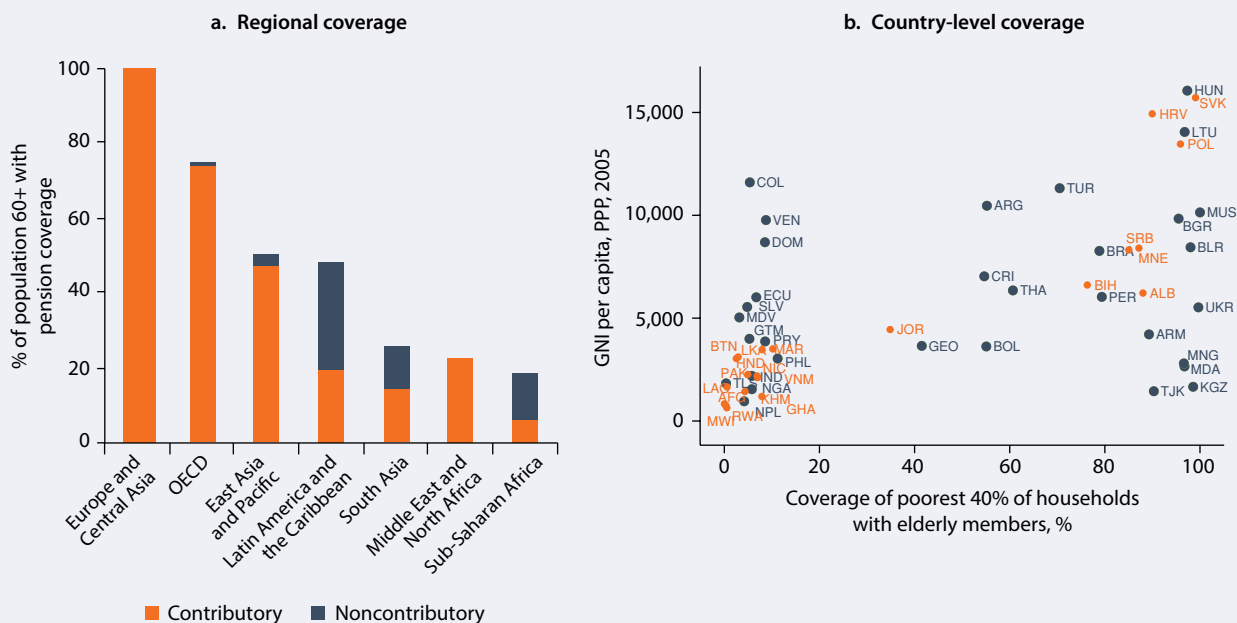
Social insurance (including pensions and health insurance) protects people’s income and consumption in the face of potentially devastating shocks such as illness or life-cycle transitions such as old age.<sup>28</sup> This is particularly true for the most vulnerable segments of the population, which lack the resources and access to financial markets to accumulate savings and purchase private insurance products. A good social insurance system is one that is *inclusive*, that protects people *equitably*, that is *fiscally sustainable* in the long term, and that *minimizes disincentives* to work, save, and participate in the formal economy.

*What is the problem?* Many countries have established so-called contributory social insurance systems, financed by mandatory payroll taxes levied on employers and contributions paid by employees. In economies with high levels of formality, this system has been successful in providing insurance to most people. By contrast, in countries with large shares of self-employed and agricultural workers, contributory systems cover only a minority of the population. The traditional approach thus ends up excluding many workers—mostly those who are low-income, are self-employed, or work in agriculture.

To narrow the coverage gap, a growing number of countries have introduced noncontributory insurance, where benefits are financed by general revenues (figure F1.1a). For example, 13 countries in Latin America and the Caribbean have both noncontributory and contributory systems. The introduction of noncontributory systems has helped increase coverage, reducing catastrophic health expenditures and curbing poverty among the elderly. In fact, aside from the former socialist countries in Eastern Europe and Central Asia, only in those developing countries with large noncontributory systems are more than half the households with elderly members in the poorest 40 percent of the population covered (figure F1.1b).<sup>29</sup>

However, combining contributory and noncontributory systems is particularly challenging. For workers and employers at the margin of the formal sector, participating in a mandatory contributory system is not worthwhile. Meanwhile, combined with other factors (such as minimum wages), the additional labor cost levied by the payroll tax for mandatory contributory systems discourages employers from hiring formally—or hiring at all—particularly for low-skill jobs. Thus if the benefits of contributing to social insurance are uncertain and the enforcement of mandated payments is weak, having these parallel systems may undermine both the incentives for employers to hire formally and for employees to seek formal employment. Evidence from Chile, Colombia, and Mexico shows that the interplay of contributory and noncontributory systems has led to declines in formal employment, and there is widespread evidence that smaller, informal firms tend to be less productive and pay lower wages.<sup>30</sup> For workers who move between formal and informal jobs or in and out of the labor force, replacement rates tend to be low, or in some cases they might not be eligible to receive benefits at all.<sup>31</sup> Moreover, workers in countries with rapidly aging populations make contributions toward increasingly uncertain benefits—all of which increases their perception

**FIGURE F1.1** *Noncontributory pension programs have expanded coverage in developing countries, especially for the poorest*



Sources: WDR 2014 team based on data from World Bank Pensions (database), United Nations 2009 (panel a); and Evans, forthcoming (panel b).  
 Note: For panel a, coverage rates are for total regional populations; years vary between 2001 and 2012. Organisation for Economic Co-operation and Development (OECD) countries in the figure are high-income countries that have been members of the OECD for at least 40 years. All other countries are grouped into geographic regions. For panel b, years vary between 2003 and 2010. Countries marked in blue have noncontributory programs. GNI = gross national income. PPP = purchasing power parity.

of contributions as a pure tax on labor, especially in the presence of parallel noncontributory systems. Finally, the rapid aging process taking place in many countries is threatening the fiscal sustainability of contributory systems, forcing governments to transfer additional resources.<sup>32</sup>

*What could be done?* One potential solution is to provide basic benefits using general revenues, instead of labor taxes. For health care, user fees could also be levied. The provision of basic benefits would make social insurance similar to other basic public services and recognize its level of priority in public spending. Funding basic social insurance through general revenues would make the insurance more inclusive by breaking the traditional eligibility condition linked to work status. Moreover, it could limit the distortions in the labor market, to the extent that general revenues are collected in a less distortionary way.<sup>33</sup>

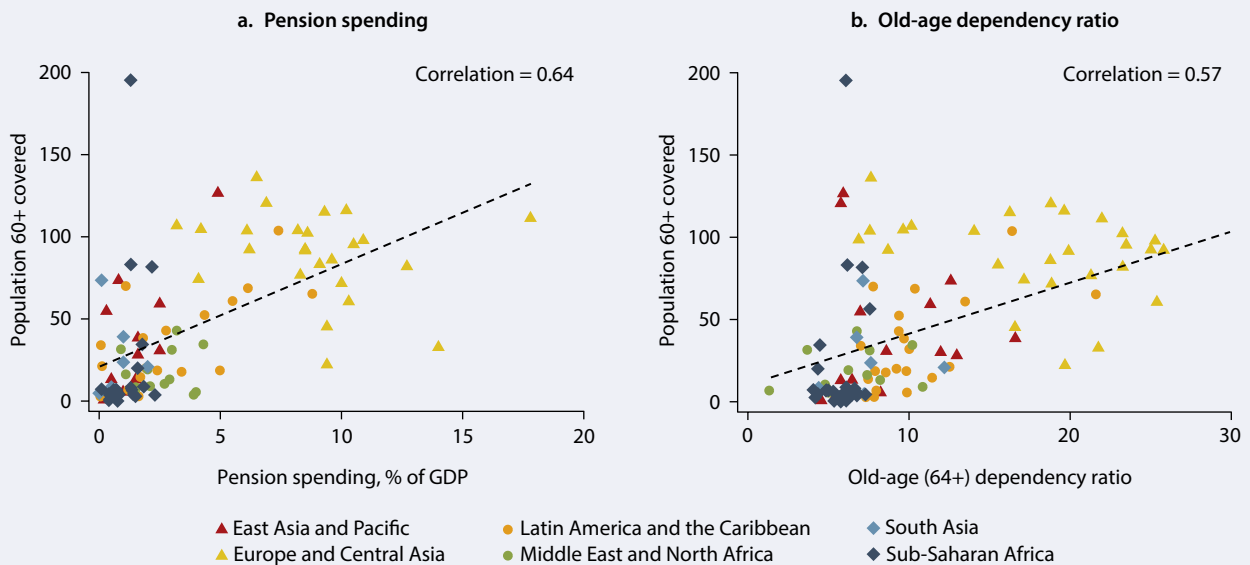
Advanced countries such as Australia, New Zealand, and the United Kingdom rely mostly on universal basic pensions and provision of health care, whereas developing countries such as Mauritius and South Africa rely mostly on noncontributory systems for pensions.<sup>34</sup> Several low- and middle-income countries have also begun to offer universal access to health insurance, starting with the poor. China, India, Thailand, Turkey, and Vietnam are a few examples. In all these cases, benefits do not depend on labor taxes and therefore are accessible to people in the informal sector.

*How would it work?* While provision of universal benefits is desirable, not all countries are in a position to provide them at adequate levels

in a fiscally sustainable manner. This is particularly true for countries where the old-age dependency ratio is growing rapidly (figure F1.2). In practice, many developing countries would be able to provide only a minimum level of benefits, possibly to only a targeted population. Thus countries would need to consider their long-term fiscal capacity in relation to their future commitments to decide what level of coverage and benefits would be appropriate. Countries might also choose different ways to raise the necessary revenue. Some countries would have to introduce new taxes or raise existing ones; in other cases, they may be able to reform spending items like energy subsidies or use resource-based revenues where available.

Noncontributory schemes provide crucial protection for the poor. However, if the benefits that can be sustainably offered by noncontributory systems are too basic, additional contributions to health and pension systems may be necessary. If contributory and noncontributory systems do coexist, policy makers should design both systems in a way that avoids creating distortions in the labor market. In some contexts, that implies reforming contributory systems to make contributions voluntary or reducing the mandatory contribution rates. In all cases, contributory systems should provide benefits that are clearly linked to contributions. Incentives to save can have a significant impact, as well, with examples including automatic enrollment, matching contributions, simplifying processes, and lowering information barriers through financial literacy. New Zealand’s KiwiSaver scheme is an interesting example of an automatic enrollment program (with an “opt-out” option) that has increased retirement savings for about half the population.<sup>35</sup>



**FIGURE F1.2** Increasing coverage will require higher levels of spending in countries with aging populations

Sources: WDR 2014 team based on data from World Bank Pensions (database), United Nations 2009, and World Bank World Development Indicators (database).  
Note: Years vary between 2001 and 2012. Coverage of the 60+ population might exceed 100 percent in some countries because people younger than 60 are eligible for pensions or because coverage includes disability or death benefits. In panel b, the old-age dependency ratio is calculated as the ratio of people 64+ to the working-age population. GDP = gross domestic product.

#### Reform 4. For the international community, embrace incremental approaches that can increase traction toward global solutions

*What is the problem?* Globalization has contributed to rapid economic growth and to reduced poverty around the world. But it has also made economic, social, and ecological systems more interdependent, generating gains from collaboration, while also increasing the prevalence of cross-border risks, such as climate change, loss of biodiversity, overuse of natural resources, global financial crises, and pandemics. Containing global risks requires timely, proactive, and concerted action because no country acting alone can manage them effectively and achieve the scale required to address them comprehensively. Unfortunately, in the absence of an effective global risk governance mechanism led by an international body that has appropriate accountability and enforcement powers over sovereign nations, the international architecture necessary to address global risks has not kept pace with the complexities arising from increased global connectivity.

The limited progress to reach a global deal in some areas, in turn, has cast into doubt the ability to foster collective action among a large number of nations with diverging interests, capacity constraints, and incentives to free ride. Global negotiations to secure agreements with full participation have stalled—most spectacularly for climate change, as atmospheric concentrations of greenhouse gases have continued to rise, with potentially catastrophic and irreversible consequences. The concentration of the main greenhouse gas, carbon dioxide (CO<sub>2</sub>), rose from its preindustrial level of 278 parts per million (ppm) to more than 390 ppm as of May 2013 (hitting 399.91 ppm in Hawaii—a level

not seen since 2 million to 4 million years ago). This approaches the 450 ppm threshold level that corresponds to a likely increase in temperature larger than 2°C degree—the warming level the international community has committed to avoid.<sup>36</sup>

In the absence of a global deal, many unilateral climate action plans to limit greenhouse gases have been put forward in recent years by private actors, civil society groups, and municipal and subnational governments (including in China and several U.S. states). Several countries have introduced measures, including incentives that can limit carbon emissions (table F1.1). These unilateral actions are welcome, but more ambitious and coordinated national and international efforts are needed to make a material difference and to ensure that the overall effort is greater than the sum of its individual parts. Yet some useful international actions, including cooperation to develop and share technologies and improvement in existing financial instruments, have been postponed in the expectation that they will be part of a soon-to-be-signed global agreement, reflecting differing views on who is responsible and incentives to free-ride on potential actions by others and to wait for new, equitable, financing instruments.

*What is the solution?* For certain global risks such as climate change or biodiversity loss, preserving collective action with full participation is the ultimate goal. In the interim, however, the international community is increasingly embracing incremental approaches that can increase traction toward global solutions. When incentives are misaligned, major sovereigns are not fully engaged, and the consequences of inaction are disastrous, progress can still be made outside a full-participation multilateral treaty. Incremental deals and actions by an initially small group of participants can serve as building blocks

**TABLE F.1.1** *National policy measures limiting carbon emissions*

Country	CO <sub>2</sub> emissions evolution and shares			Measures included in KPMG Green Tax Index							
	CO <sub>2</sub> emissions in metric tons per capita in 2009	Share of CO <sub>2</sub> emissions in 2009 (%)	Change in CO <sub>2</sub> emissions since 1990 (%)	Energy efficiency	Carbon and climate change	Green innovations	Renewable energy and fuels	Green vehicles and buildings	Water efficiency	Material resource efficiency and waste management	Pollution control and ecosystem protection
Australia	18.38	1.33	39.28	X	X	X	X	X	X	X	
United States	17.28	17.62	8.61	X	X	X	X	X	X	X	X
Canada	15.24	1.71	14.19		X	X	X	X	X		
Russian Federation	11.09	5.24	-26.23*	X					X		
Korea, Rep.	10.36	1.69	106.27		X	X	X	X	X	X	
Netherlands	10.26	0.56	3.36	X	X	X	X	X		X	
South Africa	10.12	1.66	49.62	X	X	X	X	X	X	X	X
Finland	10.03	0.18	3.52	X	X	X	X	X		X	
Belgium	9.60	0.34	-4.50	X	X	X	X	X	X	X	X
Ireland	9.34	0.14	32.59	X	X	X	X	X		X	
Germany***	8.97	2.44	-21.08**	X	X	X	X	X			
Japan	8.63	3.66	0.59	X	X	X	X	X		X	
United Kingdom	7.68	1.58	-16.77	X	X	X	X	X	X	X	X
Singapore	6.39	0.11	-32.05	X	X	X	X	X	X		X
Spain	6.28	0.96	31.69	X	X	X	X	X			X
China	5.77	25.56	212.39	X	X	X	X	X	X	X	
France	5.61	1.21	-8.94		X	X	X	X		X	X
Argentina***	4.36	0.58	55.15			X	X				
Mexico	3.98	1.48	41.93			X	X	X		X	X
Brazil	1.90	1.22	75.76			X		X		X	X
India	1.64	6.58	186.63	X	X	X	X	X			

Sources: WDR 2014 team based on data from KPMG Green Tax Index (database) (for national or subnational policy measures limiting carbon emissions), which analyzes the 21 largest economies of the world, and the World Bank World Development Indicators (database) (for CO<sub>2</sub> emissions data, as reported in the Carbon Dioxide Information Analysis Center, Environmental Science Division, Oak Ridge National Laboratory, Tennessee).

Note: X indicates the existence of a tax-related or non-tax-related measure in place at national or subnational levels. Energy efficiency refers to measures encouraging the purchase of energy efficient equipment (excluding measures specific to green vehicles or buildings). Carbon and climate change refers to penalties on high emissions (such as carbon taxes, emission trading systems or cap and trade mechanisms, and carbon sequestration incentives and penalties). Green innovation includes incentives for research and development for green technologies. Renewable energy and fuels refers to use of tax codes to encourage the production or use of renewable or alternative fuels and/or penalizing the use of fossil fuels. Green vehicle and buildings refers to tax incentives to reduce the energy consumption of buildings, increase their water efficiency and sustainability of building materials, and the purchase, lease and use of greener (fuel efficient, hybrid, electric) vehicles (excluding tax penalties and incentives related to fuels, which are included under renewable energy and fuels). Water efficiency includes use of taxes to encourage corporations to conserve and recycle water supplies. Material resource efficiency and waste management include use of taxes to promote conservation of material resources, reduction of waste, and recycling of waste materials. Pollution control and ecosystem protection include incentives to purchase equipment to reduce the pollution generated by the company or to encourage businesses to rehabilitate contaminated lands.

\* 1991 value; \*\* 1992 value. \*\*\* Measures recorded by KPMG may not include some of the recent initiatives. For example, in Germany, recent information suggests additional measures in the areas of waste management, pollution control, and biodiversity protection (see German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), "The Energy Concept and its Accelerated Implementation," <http://www.bmu.de/en/topics/climate-energy/transformation-of-the-energy-system/resolutions-and-measures/>). In Argentina, recent information also suggests programs that limit carbon emissions, including energy efficiency, green buildings, waste management, pollution control, and ecosystem protection. CO<sub>2</sub> = carbon dioxide.

for global deals, by demonstrating benefits from action. The goal is to align incentives around a common goal in a group of like-minded participants that can examine complex issues and take concrete action. Over time, more public and private actors would be attracted to join the incremental approaches to build convergence toward a global deal.

The incremental approach has precedents. The Montreal Protocol to protect the ozone layer was signed by 24 countries in 1987, but received universal ratification during the 1990s through the combined efforts of governments, international organizations, nongovernmental organizations, and scientists, who presented and disseminated convincing evidence on the need for urgent action.<sup>37</sup> The 1968 Nuclear Non-Proliferation Treaty was helped by the earlier Limited Test Ban Treaty that expanded from 3 to 119 signatories from 1963 to 1992, setting a precedent for future arms negotiations. Several subnational

governments (including the U.S. state of California) and countries (Australia, China, Japan, New Zealand) are using the lessons from Europe's Emissions Trading System introduced to meet emission commitments cost-effectively. Growing coalitions of more than 30 developed and developing countries include the Partnership of Market Readiness and the Climate, working on solutions to carbon pricing,<sup>38</sup> and the Clean Air Coalition of the United Nations Environment Programme, catalyzing rapid reductions in short-lived climate pollutants.<sup>39</sup>

*How can it be implemented?* Countries, international organizations, and private sector entities of the international community can form "coalitions of the willing" (or even better, "coalitions of the working") that could coordinate, advocate, and take action on some components of elusive global risks, such as climate change and the loss of biodiversity.<sup>40</sup> The coalitions should engage the scientific community,

civil society, and media, and rely on information and peer pressure to demonstrate positive action and leadership, while inducing participants to comply and nonparticipants to join in a “race to the top.” International organizations can continue to contribute by offering ways to develop approaches to tackle the problem collectively, by providing platforms for policy discussion and by monitoring, reporting, and aggregating the actions to ensure that incremental steps are heading in the right direction.

For legitimacy and fairness, these coalitions must include actors that contribute most to the problem, as well as those most affected by it. They should start with specific, concrete actions that can set the momentum for subsequent steps. The coalitions should create incentives for others to join over time to bring the coalition to a global scale. Steps could include, as appropriate, promoting technological change that lowers participation costs (such as supporting cheaper ways to cut emissions by providing subsidies or funding for green technologies, or backing technology transfers to developing countries).

Granted, there are risks with this approach—not least because it is a “second best” solution that in effect allows free-riding by those outside the coalition. Incremental deals may fail to scale up efforts sufficiently—or worse, reduce the urgency of global cooperation. Moreover, for certain risks, global collective action is still the only viable approach, given the rapid spillover risks in a tightly interconnected world. For example, once a pandemic is under way, no individual country or region can unilaterally protect itself without global cooperation that enables information to be shared and assists countries lacking the capacity to detect and contain the contagion.<sup>41</sup> Smallpox was declared eradicated in 1979 because it was eliminated in every country through global cooperation; if the disease had persisted in only one nation, all others would remain vulnerable.<sup>42</sup> Resolving global financial crises in a highly connected world also requires global cooperation, with well-coordinated policy responses and information sharing; uncoordinated actions are unable to prevent contagion and block movement of activities to less well-regulated and more-protected locations that retain systemic risk.

These limitations notwithstanding, the alternative—to wait until a universally acceptable deal is reached—is not viable for global risks such as climate change, biodiversity loss, or overuse of natural resources, if the irreversible consequences of inaction are to be avoided. That is especially the case for those who have done the least to cause the problem but will suffer some of the worst consequences. The international community therefore has the moral responsibility to take and support action on behalf of the vulnerable populations of today and the future. It should buttress the incremental approach with strategic thinking about which specific issues to tackle urgently first, while anchoring its actions to existing global frameworks to demonstrate that incremental and global deals are connected.<sup>43</sup>

One way to achieve this is to anchor the efforts of the coalition to the goals of the current global initiatives under the auspices of United Nations. Alternatively, an international risk board, similar to the national risk board proposed in Reform 1, could be established, in the form of an international panel on global systemic risks.<sup>44</sup> The panel could invite the scientific and expert community around the world to pool all available knowledge to identify, assess, and manage the major global risks that cross national and generational boundaries in the near and longer term. Through its long-term orientation, interdisciplinary nature, and the participation of global experts, the board could focus on providing credible, reliable, and impartial assessments

of the causes, dynamics, and consequences of key systemic risks that pose threats to development. It could also analyze the interactions and prioritize across various risks and systematically bring its analysis to the attention of policy makers and the international community. In so doing, it could provide valuable inputs to the coalition of the willing on the specific issues that require urgent attention and offer credibility and legitimacy to the coalition’s efforts.

## Notes

1. Graham and Wiener 1995, chapter 1.
2. Graham and Wiener 1995, chapter 11.
3. Graham and Wiener 1995, chapter 11, 257–60.
4. WEF 2007.
5. OECD 2009.
6. However, in other cases when such a governmental body works with indirect policy tools, such as the monetary policy, an institutional design along these lines could be preferable.
7. Kaminsky, Reinhart, and Végh 2005.
8. Frankel, Végh, and Vuletin 2013.
9. Aghion and Marinescu 2008; Woo 2009.
10. Tornell and Lane 1999.
11. Alesina, Campante, and Tabellini 2008.
12. Barnes, Davidsson, and Rawdanowicz 2012.
13. Kumar and others 2009.
14. Schaechter and others 2012.
15. Wyplosz 2013.
16. Debrun, Hauner, and Kumar 2009.
17. Frankel 2011 shows that the authorities overestimate the persistence of booms and underestimate that of recessions.
18. Wren-Lewis 2010.
19. Bos and Teulings 2010.
20. Debrun 2011.
21. Debrun, Hauner, and Kumar 2009.
22. Calmfors and Wren-Lewis 2011; Page 2010.
23. Lane 2010.
24. BIS 2011; Bank of England 2013; IMF 2011; Nier and others 2011.
25. Bank of England 2013.
26. Financial Services Act 2012.
27. Bank of England 2013.
28. The term *social insurance* typically includes pensions, health, and unemployment insurance. Because most developing countries with social insurance offer only pensions and health benefits, the discussion in this section focuses on these two areas.
29. Evans, forthcoming; Levy and Schady 2013.
30. Levy and Schady 2013; Pagés-Serra 2010; ILO 2009; La Porta and Shleifer 2008.
31. Ribe, Robalino, and Walker 2012.
32. This is particularly true for “pay-as-you-go” systems, in which the current labor force finances the benefits provided to current beneficiaries.
33. Frölich and others, forthcoming.
34. Holzmann, Robalino, and Takayama 2009.
35. Hinz and others 2013.
36. World Bank 2012.
37. UNEP 2007.
38. See ongoing efforts to establish a carbon price at <http://www.worldbank.org/en/news/opinion/2013/05/16/tackling-climate-change-robust-carbon-price>.
39. For further details, see <http://www.unep.org/ccac/>.
40. See discussions in Falkner, Stephan, and Vogler 2010, Hale 2011, and Goldin 2013; and increased calls for such coalitions in Europe following the limited progress made in global negotiations in Copenhagen (2009) and Cancun (2010) at <http://www.euractiv.com/climate-environment/europe-looks-coalition-willing-d-news-508909>.
41. Goldin 2013; Jonas 2013.
42. Barrett 2006.
43. Falkner, Stephan, and Vogler 2010.
44. Bodies of this sort already exist for specific risks (such as the Intergovernmental Panel on Climate Change, or the Intergovernmental Platform on Biodiversity and Ecosystem Services) but none that consider multiple global risks in a systematic way. See a related proposal by the German Institute for Development 2009.



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