

STRENGTHENING GOVERNANCE GLOBALLY: FORECASTING THE NEXT 50 YEARS

PATTERNS OF POTENTIAL HUMAN PROGRESS

VOLUME 5

EXECUTIVE SUMMARY



Barry B. Hughes
Devin K. Joshi
Jonathan D. Moyer
Timothy D. Sisk
José R. Solórzano

Contents

Preface	1
Key Messages	2
Motivations for Forecasting Governance	2
A Tool for Forecasting Governance	2
Governance and Human Development Futures	2
The Story of Governance Globally	4
The Story So Far	4
The story of security	5
The story of capacity	5
The story of inclusion	6
Base Case Forecast for the Next 50 Years	7
What might the future hold if the current path continues to unfold?	7
Security going forward	7
Capacity going forward	8
Inclusion going forward	8
Governance across dimensions going forward	9
Exploring a More Challenging Future	10
Exploring Strengthened Governance	11
Exploring Strengthened Governance and Development Policies	12
The International Futures Forecasting System	14
A System of Models and the Representation of Governance	14
Useful Next Steps	15
Author Notes	16

The **Patterns of Potential Human Progress** (PPHP) series is the work of the Frederick S. Pardee Center for International Futures at the University of Denver's Josef Korbel School of International Studies. The PPHP series is jointly published by Paradigm Publishers and Oxford University Press India. This executive summary of the fifth volume in the series, *Strengthening Governance Globally: Forecasting the Next 50 Years*, was prepared by Eli Margolese-Malin, a member of the IFs team.

Cover Art

The cover art is a representation of an oil painting by Margaret Lawless, artist for the PPHP series. Ms. Lawless is a contemporary abstract artist whose works in various media portray aspects of the human condition, social relations, and the interaction of humans with nature. This painting represents a community, but one that also values individuality. Historically, gathering under a tree has been a form of collective governance and has come to be symbolic of it. The S-curve in the background is also found in earlier cover art of the series and in the more general symbolism of the Pardee IFs Center. For us, the S-curve represents global transitions, including progress in the human condition.

Cover design by Bounford.com

Designed and typeset by Bounford.com

Printed and bound in Canada by Friesens Corporation

Copyright ©2014 by Frederick S. Pardee Center for International Futures, University of Denver

Preface

Strengthening Governance Globally: Forecasting the Next 50 Years is the fifth volume in the **Patterns of Potential Human Progress** (PPHP) series, which explores prospects for human development and the improvement of the global human condition. Each volume in the series considers a key aspect of how development appears to be unfolding, both globally and locally; how we would like it to evolve; and how we can move it in desired directions.

The PPHP series emerges from the Frederick S. Pardee Center for International Futures at the University of Denver's Josef Korbel School of International Studies. For more than three decades, the International Futures (IFs) modeling and analysis project has worked to develop and use the strongest possible tools for exploring the future of key global issues. Among the philosophical underpinnings of the IFs project are the beliefs that: (1) while prediction is impossible, forecasting is necessary to help us understand change and to support policy development; (2) analysis should always be built around alternative possible futures; (3) the tools for forecasting should be as open and transparent as possible.

The first four volumes in the **Patterns of Potential Human Progress** series focused, in order, on reducing global poverty, advancing global education, improving global health, and building global infrastructure. Each volume presents a long-range Base Case forecast—an elaboration of the path we seem to be on—along with an exploration of alternative development scenarios. Each volume also makes the case for a set of aggressive yet reasonable policy interventions designed to bring about desired development futures. Finally, each volume concludes with an extensive set of country- and region-specific tables containing forecasts of core demographic, economic, health, education, infrastructure, and governance variables.

In *Strengthening Governance Globally*, the forecasts are over the 50-year period from 2010 to 2060. The PPHP volumes are published by Paradigm Publishers and Oxford University Press India.

This executive summary presents key messages and highlights from *Strengthening Governance Globally: Forecasting the Next 50 Years*. The volume explores the future around the world of domestic governance, conceptualized as a two-way interaction between governments and society. It identifies three dimensions of governance—the provision of security (including the reduction or elimination of debilitating violent conflict), the building of capacity (including the control of corruption), and the broadening and deepening of inclusion—as fundamental to the modern state, and it examines how countries have made, are in the process of making, or have yet to undertake these transitions.

The key questions addressed in the volume are:

1. Given history and the current situation, what is the likely future for governance within countries around the world?
2. How might the quality of domestic governance impact broader human development, and how might advances in human development affect future patterns of governance?
3. Can strengthened (that is, improved) domestic governance help countries currently caught in slow development traps break free and accelerate the pace of their development?
4. How might global challenges facing humanity potentially affect both human development and governance, and how might strengthened governance improve our ability to meet these challenges?
5. Can we tip the balance toward strengthened governance around the world, particularly in a world of growing challenges?

We begin this summary with several key messages about longer-term governance futures: the important roles good governance can play in establishing an environment conducive to development; the capabilities that the International Futures modeling system brings to forecasting governance; and the implications of alternative governance scenarios for human development more broadly. The key substantive messages arise from two sources. The first is our analyses of the history and current state of domestic governance around the world. The second is a scenario analysis of alternative futures, including: a Base Case that builds on recent trends; a Global Challenges scenario in which countries face economic, sociopolitical, and environmental problems that are considerably greater than in the Base Case; and two additional scenarios that explore the impact of strengthened governance (by itself) and strengthened governance in conjunction with strong development-oriented policies in both the Base Case and in the world of Global Challenges.

The summary concludes with information about the International Futures system and its governance model as developed and used to build the forecasts and scenarios discussed in the volume and highlighted here, as well as our thoughts about the next steps needed to further enhance the modeling and forecasting of governance futures.

For more information about IFs and the PPHP series, as well as technical documentation of the model, please go to Pardee.du.edu or email us at Pardee.Center@du.edu. The PPHP volumes, their executive summaries, and the full IFs modeling system are all freely available for use and download from our website. Print copies are available from our publishers.

Key Messages

Motivations for Forecasting Governance

- The world has witnessed dramatic transformations of governance in states and globally over the last 200 years. Yet, large numbers of countries still lack domestic security for citizens, governments capable of raising revenues and spending them effectively, and democracy with widespread inclusion of subpopulations.
- The world has seen sustained movement toward improved governance globally, especially since the end of the Cold War in 1989. However, today's transitions are different than the broad historical patterns. Whereas contemporary high-income countries progressed more or less sequentially through three historical governance transitions (first improved security, then greater capacity, and finally wider inclusion), today's developing countries are dealing with all three simultaneously.
- Improved governance facilitates delivery of essential services and improvements in the lives of citizens and enhances the stability and resilience of societies.
- At the same time, the world faces a number of global challenges—including population aging, peak global oil and gas production, water scarcity, climate change, and great power transitions—that could disrupt future human development, especially without further strengthening of governance around the world.
- The importance of good governance for human development is receiving increased attention from international organizations, domestic and global civil society, and policy analysts. Yet, few efforts have been made to forecast the future of domestic governance around the world. Existing studies tend to be prescriptive

and qualitative, and long-range, quantitatively-based forecasts are almost nonexistent.

A Tool for Forecasting Governance

- The International Futures governance model is the only tool we are aware of for long-term forecasting of governance variables across multiple governance dimensions. IFs also represents the broader human and social systems that both shape and are shaped by governance variables.
- Rather than address governance as a single concept, the IFs model represents three dimensions of governance corresponding to the historical transitions: security, capacity, and inclusion, each of which taps into different aspects of the relationship between governments and their societies.
- Further, the IFs model provides quantitative forecasts of two complementary variables on each of its three governance dimensions: probability of intrastate conflict and country performance risk that creates vulnerability to future conflict as components in a Security Index; government revenue mobilization and avoidance of corruption in a Capacity Index; and democratization and gender inclusion in an Inclusion Index. In addition, IFs computes an Aggregate Governance Index that combines the three subindices.

Governance and Human Development Futures

- Globally, there is great positive momentum in both human development and governance improvement. Today's positive trends in education, health, income, and governance help drive virtuous feedback loops that our Base Case scenario suggests are likely to function

in coming decades as they have in recent ones.

- In our Base Case, the majority of countries in all regions of the world are likely to see considerable improvement in governance between 2010 and 2060. Yet, significant differences across regions will almost certainly remain. The countries of the Middle East and North Africa, South Asia, and sub-Saharan Africa are likely, on average, to still be less well-governed by 2060 than high-income countries are today. In contrast, the Base Case forecast suggests that the quality of governance in most countries in Latin America and the Caribbean will nearly converge with that of high-income countries.
- The advances in governance seen in the Base Case should help drive improvements in the level of human development around the world. By 2060, all regions of the world, except sub-Saharan Africa, may well reach Human Development Index (HDI) values exceeding those that high-income countries had as recently as 1980. Further, the number of people living in extreme poverty could decline from a billion to under 300 million by 2060.
- However, our Global Challenges scenario shows that the advances seen in the Base Case with respect to both governance and human development could be threatened if population aging, peaking nonrenewable energy resources, climate change, and other issues on the horizon prove of greater magnitude and, therefore, more difficult to address than anticipated in the Base Case. In terms of HDI levels, Global Challenges diminishes the progress of all regions relative to the Base Case. East Asia and Pacific, sub-Saharan Africa, and especially South Asia have the most to lose—potentially as much as one-third of

the HDI gains seen in the Base Case. In addition, instead of reduction in the number of people living in extreme poverty, progress on that front could cease.

- Aggressive yet reasonable steps focused on strengthening governance in the face of Global Challenges might compensate for the damage these challenges could otherwise do to governance around the world. In fact, they could actually advance governance levels considerably beyond those seen in the Base Case, with developing countries in several regions reaching governance quality levels in 2060 comparable to those of high-income countries today, even with

heightened global challenges.

- Nonetheless, it would take more than just a focus on strengthened governance to offset the impact of Global Challenges on human development. Strengthening governance alone would only restore somewhat less than half of the HDI gains lost from global challenges.
- If the world does face Global Challenges, it would take strengthened governance systems that adopted well-designed (what we call “aggressive yet reasonable”) prodevelopment policies, similar to those outlined in earlier volumes of the PPHP series, to make desired advances in human development comparable to those in

the Base Case. In fact, even in a world of Global Challenges, strengthened governance and development-oriented policies would help all regions attain HDI levels quite comparable to, or above, those of the Base Case.

- If the world were to be fortunate enough not to face major Global Challenges, the addition of strengthened governance and development-oriented policies to the Base Case would be transformative in many ways, including both greatly advancing human development and dramatically reducing global inequality.

The Story of Governance Globally

The Story So Far

Governance helps create the framework within which human development can occur. Good domestic governance can facilitate human development by providing reliable market regulation, infrastructure, education, healthcare, and an institutional means of resolving conflict. Poor governance, on the other hand, can prove a barrier to development through insecurity, ineffectiveness, corruption, and exclusionary practices.

While governance has been with us in some fashion since the formation of the first human societies, the contemporary, Western-based, international system of states is a much more recent phenomenon. The first modern states began to emerge in Europe after the Peace of Westphalia in 1648. Over the following three centuries, European colonization would spread the state as the dominant form of political organization across the world. However, due to that same colonial movement, it would take just as long to arrive at the large number of states in the world today. As late as 1816, after the Napoleonic Wars, there were only 42 states in the international system. By the end of World War II, some 130 years later, the number of states had only risen to 50, as much of the world—particularly Africa and Asia—still consisted of colonies. It was the process of decolonization during the post-war period that gave rise to the large number of states in today's international system of states. By 1960, the number of recognized states had doubled to 113, including 17 new African states established that year, and the number of states would almost double again, reaching 194 in 2011 (see Figure 1). The majority of the world's 194 internationally recognized states are now post-colonial, and the process of state formation is still ongoing (as Kosovo and Palestine illustrate).

Over the last century, other important transformations have accompanied the process of decolonization and state-

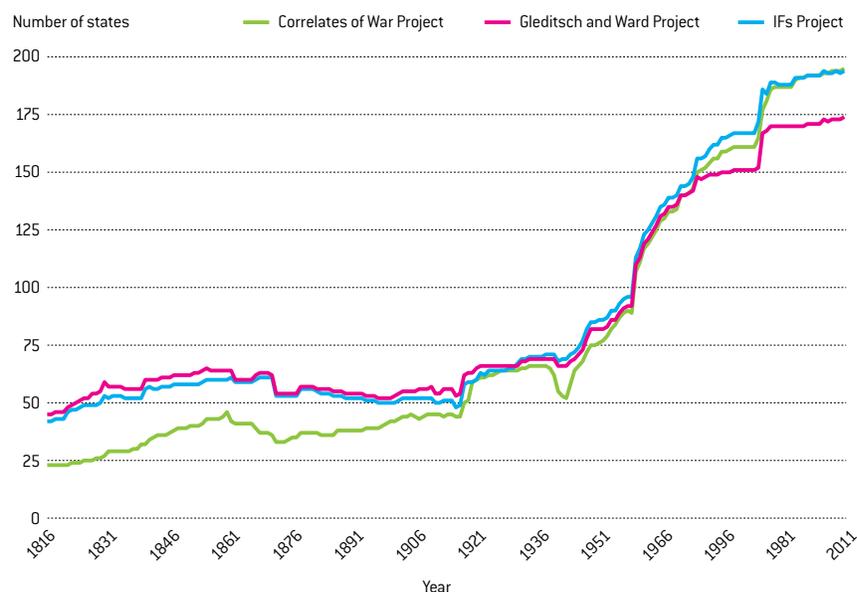
building, notably, the enhancement of stability and security within states, the spread of government professionalism, and an increase in political liberalization and democratization (including expanded suffrage and attention to human rights).

In summary, the global evolution of governance over the last few hundred years has generally been toward greater sovereignty and domestic security; toward leaders paying closer attention to the fundamental needs of their populaces and toward greater effectiveness in meeting those needs; and toward competitive, democratic elections and

growing social inclusion. However, such transitions may be turbulent, as in the Arab Spring countries.

In *Strengthening Governance Globally*, we focus on these three transitions involving greater security, stronger capacity, and broader and deeper inclusion because they are fundamental to the development of the modern state. Each of these transitions has and will continue to progress differently and irregularly around the world because states have different starting points and few states (if any) have progressed smoothly through all three.

Figure 1 Number of recognized states in the world between 1816 and 2011



Note: Although all three projects show a similar trend, they have methodological differences that result in different counts, particularly prior to 1920 and after about 1990. The criteria for inclusion by the Correlates of War (COW) Project are: prior to 1920, the entity must have had a population greater than 500,000 and diplomatic missions at or above the rank of charge d'affaires with Britain and France; after 1920, the entity (1) must have been/be a member of the League of Nations or the United Nations, or (2) have a population greater than 500,000 and receive diplomatic missions from two major powers. The Gleditsch and Ward list begins with the COW list, but then excludes some entities and adds others based on an assessment of whether they have relatively autonomous administration over some territory and a population greater than 250,000. In distinction from both COW and Gleditsch and Ward, the International Futures (IFs) project includes entities of any size, even very small ones, as long as they are recognized by sovereign states that, in aggregate, represent at least half the world's power as measured by their share of GDP at market exchange rates.

Source: Correlates of War Project State System Membership Data set (v2011); Gleditsch and Ward List of Independent States; IFs list of State Membership in the International System. Compiled by the authors.

The story of security

Historically, the transition toward greater security began with the movement from anarchy to sovereignty as states consolidated territory, established a monopoly on the legitimate use of force, and were officially recognized by other states. Over time, the security transition became one of maintaining social stability in order to reduce internal conflict and allow the state to exercise exclusive control. Maintaining such control and stability is difficult, however, and states do not always succeed. In *Strengthening Governance Globally*, we represent two main aspects of security in our analyses and forecasts: intrastate armed conflict and vulnerability to intrastate conflict.

Violent intrastate conflict has ebbed and flowed over the last two centuries but, on average globally, has followed a generally cyclical pattern around a slightly downward-sloping long-term trend. However, in distinction from this trend, a period of increasing conflict began in the 1960s (see Figure 2). The rate of intrastate conflict (measured in terms of the percentage of total states experiencing conflict) climbed steadily and rapidly from the 1960s until peaking in 1991–1992 at a rate of conflict not seen since 1870.¹ Since then, however, the rate of intrastate armed conflict has declined noticeably, due in part to the ending of the Cold War, but also to a rise in proactive international engagement in conflict reduction and avoidance.

From the end of World War II through the mid-1970s, the majority of the world's intrastate conflicts occurred in East Asia and Pacific (including the Vietnam War and its spill-over in Southeast Asia). Since then, sub-Saharan Africa has experienced the highest rate of conflict, with South Asia also seeing

a significant rate after the 1990s. More recently, the Middle East and North Africa has become an important location of overt intrastate conflict.

Intrastate conflicts do not occur *de novo*. A state must already be vulnerable to such conflict. Vulnerability to conflict can be due to many factors but is most often associated with poor performance or weakness in economics, governance, and social well-being, as well as with demographic imbalances and past conflict. Since 1995, state fragility or vulnerability to conflict at the global level has been on the decline (falling 14 percent between 1995 and 2010), paralleling the decline in overt intrastate conflict. At the regional level, South Asia and Latin America and the Caribbean have seen the largest declines during this period at 22 and 20

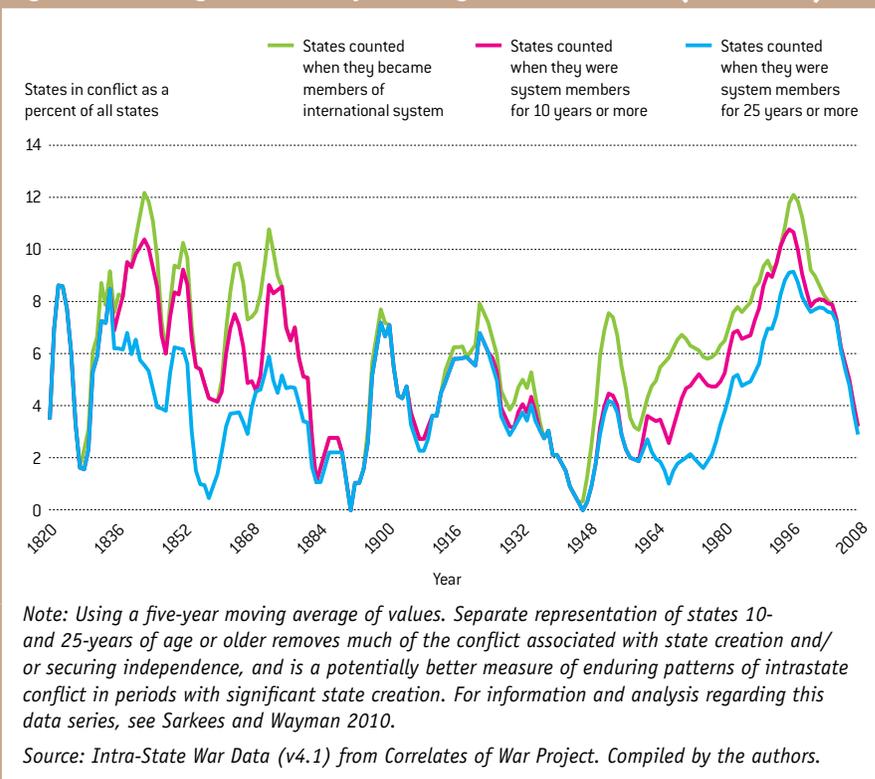
percent respectively, while sub-Saharan Africa has seen only a 7 percent decline.²

The IFs system includes its own Country Performance Risk Index for forecasting vulnerability to conflict. The Index draws not only on the three dimensions of governance, but also on the deep risk factors emanating from demographics, the environment, and the international system; on performance quality in economics; and on support for health and education.

The story of capacity

The second transition toward improved governance is the process of professionalization by which a state becomes more competent and effective. The transition to greater capacity requires the development of a skilled and capable

Figure 2 Percentage of states experiencing intrastate conflict (1820–2008)



1 The IFs project uses historical conflict data from several sources, including the Correlates of War project (<http://www.correlatesofwar.org>); the Major Episodes of Political Violence dataset of the Armed Conflict and Intervention project at the Center for Systemic Peace jointly with George Mason University Center for Global Policy (<http://www.systemicpeace.org/warlist.htm>); the Armed Conflict Dataset of the Uppsala Conflict Data Program, Uppsala University (Sweden) and Peace Research Institute Oslo (<http://prio.no/Data/Armed-Conflict/UCDP-PRIO/>); and the State Failure Problem Set from the Political Instability Task Force (website hosted by George Mason University Center for Global Policy) (<http://www.systemicpeace.org/inscr/inscr.htm>).

2 Values based on data from the Center for Systemic Peace's State Fragility Index (<http://www.systemicpeace.org/inscr/SFIMatrix2012c.pdf>).

public administration, an effective system of taxation and revenue collection, a set of laws that are applied consistently and equally, and a professional police force and military—all of which help the state to more effectively provide public goods to its citizens and therefore to achieve or retain legitimacy in the eyes of its people.

Historically, along with security, the mobilization of resources has been fundamental to the long-term story of state creation. Over time, states tend to mobilize and use a progressively higher share of GDP as they develop and build professional public administrations. Consistent with this tendency, total government expenditures (central and local) of contemporary OECD countries grew from less than 10 percent of GDP around 1870 to about 40 percent in 2007, rising to 44–45 percent in 2010–2011 in the wake of the Great Recession.³ The increase in expenditures in OECD countries since World War II has come primarily from the growth of transfer payments—such as welfare and pensions—which now make up nearly 70 percent of government expenditures in these countries. Most developing countries have also seen their government revenues and expenditures increase, but their transfer payments remain low in comparison. This is likely to change over the next few decades, as population aging will drive up the need for such payments in countries around the world.

For capable governance, effective use of such revenues by governments and a rule of law for society more generally are also necessary. In *Strengthening Governance Globally*, we use the extent of corruption (or, more accurately, its lack) as a proxy for the rule of law and governance effectiveness.⁴ Over time, developing countries as a whole have lagged significantly behind high-income

countries in terms of corruption reduction, but, of course, high-income countries also still have room for improvement.

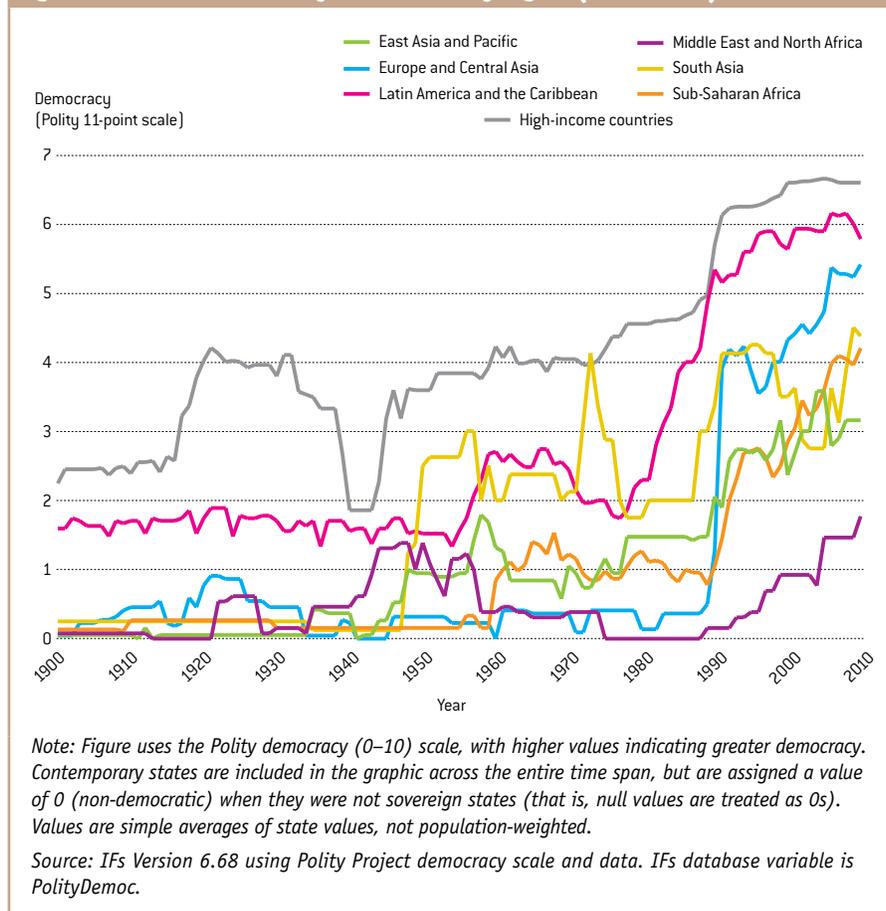
The story of inclusion

The transition toward broader and deeper inclusion has historically come later than the transitions to greater security and enhanced capacity. As states become more secure and effective, failure to also allow greater inclusion can undermine that earlier progress. Sociopolitical supports for inclusion include the free-flow of information, freedom of association, extensive participation in political decision-making, and a cooperative culture

of political behavior—each of which can feed into a movement toward democracy.

The global progression of democracy relative to autocracy is the fundamental element of the inclusion transition. Figure 3 traces the progression since 1900 using an 11-point scale from the Polity Project.⁵ Democracy has long been most extensive in high-income countries, but the inclusion in that grouping of several autocratic oil-producing countries in the Middle East lowers the average high-income country value. In Latin America and the Caribbean, some degree of democracy was apparent even in 1900, but it was not until the 1960s that the region

Figure 3 Extent of democracy in the world by region (1900–2010)



3 Data on historical government expenditures come from OECD.StatExtracts (<http://stats.oecd.org/>) and the World Bank's World Development Indicators (<http://data.worldbank.org/data-catalog/world-development-indicators>).

4 We build on Transparency International's Corruption Perceptions Index for our forecasts of corruption; information about the Corruption Perceptions Index is available at <http://www.transparency.org/cpi2011/results>.

5 Information about the Polity Project is available at <http://www.systemicpeace.org/polity/polity4.htm>.

first saw significant advancement. After a reversal during the 1970s, the region has gone on to reach the highest level of democracy among the developing regions, climbing close to the average in high-income countries.

Most developing regions saw waves of democratic advance and regression throughout the twentieth century, particularly during the period from World War II to 1989. The fall of communism and the end of the Cold War in 1989 resulted in a major surge of democracy that is unlikely to see a large-scale reversal, especially among new members of the European Union and NATO and in Latin America and the Caribbean. Yet, for some other regions, especially sub-Saharan Africa and perhaps South Asia, recent advances appear more fragile due to vulnerability on a number of fronts. Finally, the Middle East and North Africa continues to lag behind other regions, even as the forces of the Arab Spring play out.

Using a more extensive 21-point scale of autocracy and democracy with values ranging from -10 to +10, the Polity Project defines democracies as states with values between +6 and +10, and autocracies as states falling between -10 and -6.⁶ The project defines anocracies—societies in political transition from autocracy to democracy—by values from -5 through +5. Overall, the number of sovereign autocracies peaked at 89 in 1977 and fell to just 22 by 2011, by which time 95 countries were classified as democracies. At the same time, the number of anocracies increased, from 29 in 1989 to 48 in 2011. Historically, anocracies have been six times more likely than democracies and two-and-a-half times more likely than autocracies to experience societal conflict. In recent decades, however, other factors have reduced conflict levels more than increases in anocracy have raised them.

Today, we live in the most democratic and least authoritarian world in the history of the modern state. But the progression toward democracy is far from complete.

Many countries continue to experience large democratic deficits (that is, their level of democracy falls short of values we would expect based on indicators like income and education), suggesting great room for further change. In the past, deficits like those once seen in Latin America signaled likely advance in democracy. Today, several countries in East Asia and Pacific and in Southeast Asia (particularly China and Vietnam), as well as some of the rapidly growing African states that rely on natural-resource exports, have large democratic deficits.

Empowerment of women has been a similarly long and continuing process. The percentage of countries granting universal suffrage has increased significantly over the last century, from around 10 percent of countries in 1917 to 98 percent in 2008 (primary exceptions are a small number of countries in the Middle East). Still, women remain heavily underrepresented in the political leadership of most countries, and the process of substantively incorporating them has generally been slow.

For *Strengthening Governance Globally*, the IFs model used the Gender Empowerment Measure (GEM) of the United Nations Development Programme (UNDP) to track both the advancement of women in governance and as an indicator of broader social inclusion. The GEM data show that while gender empowerment has advanced in countries across all levels of economic development, women have not reached equality with men in any country.

Base Case Forecast for the Next 50 Years

The IFs Base Case is the baseline output of the full, integrated IFs system. It is not a simple extrapolation of variables, but rather an internally consistent, dynamic, nonlinear depiction of the future that appears to be reasonable given current paths and dynamics. Thus, the Base Case presents a coevolutionary picture, with numerous interactions and feedbacks across all component systems included in the model.

What might the future hold if the current path continues to unfold?

Our Base Case forecast of governance is quite positive, with virtuous feedback loops or cycles dominating global development patterns over the next half-century as, in fact, they have for most countries over the last 50 years. Much of this positive outlook is due to the momentum created by recent progress in key dimensions of human development, in particular, education and health. Rising enrollment of young people in education, improving health and lengthening life-spans, climbing income levels, falling fertility rates, and decreasing youth bulges in some of the poorest countries, along with other ongoing socioeconomic changes, all favor stronger governance and further development going forward. Figure 4 illustrates this historically and prospectively with the United Nations Development Programme's Human Development Index, which combines performance with respect to achieving long and healthy lives, high levels of education and knowledge, and a decent standard of living.

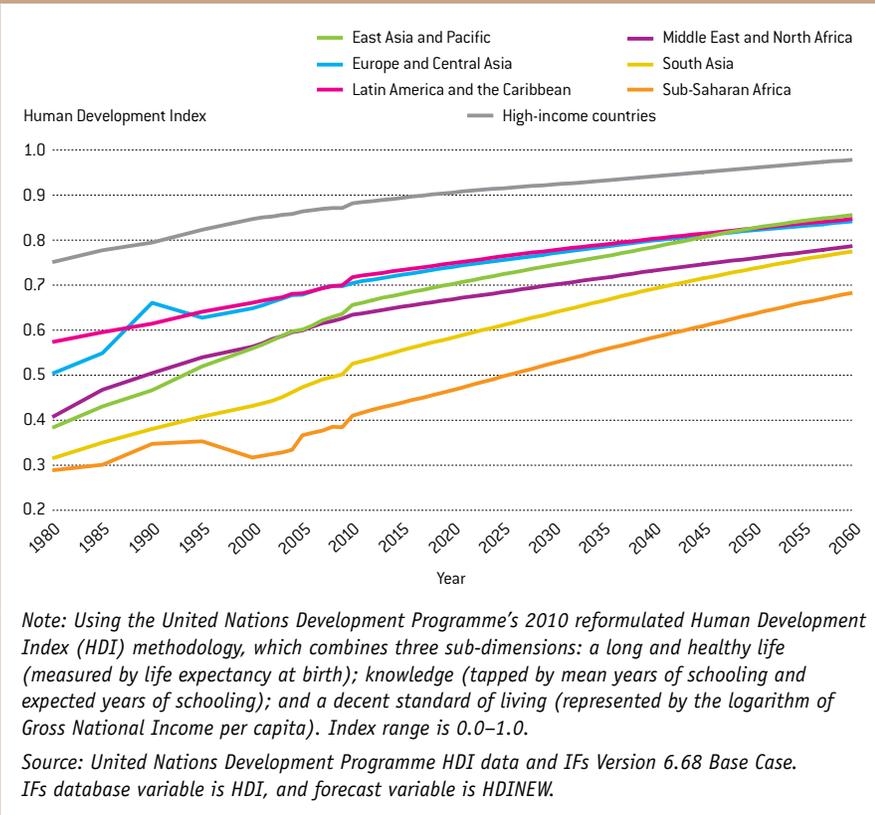
Security going forward

The IFs Base Case suggests that intrastate conflict will decline by more than half (as measured by country-year frequency rates) from 2010 through 2060, with the proportion of countries suffering from internal armed conflict likely to fall by 8.1 percentage points by 2060, from 14.3 percent in 2010 to 6.2 percent in 2060. The IFs Country Performance Risk Index (suggesting vulnerability to future conflict) also sees declines.

The forecasted decline in internal conflict and the risk of its occurrence are largely due to significant positive changes in demographic and human development variables whose improvement tends to reduce domestic instability. The reduction needs to be put into context, however. Even by 2060, the levels of risk or vulnerability to conflict in developing countries will remain, on average, above

6 Marshall, Monty G., and Benjamin R. Cole. 2011. *Global Report 2011: Conflict, Governance, and State Fragility*. Vienna, VA: Center for Systemic Peace: 8.

Figure 4 History and forecast of the Human Development Index by region (1980–2060)



trends suggest that developing and high-income countries alike will see a rise in government-to-household transfers, both absolutely and relative to direct government consumption, as countries provide greater support to subpopulations, including (as mentioned previously) growing numbers of the elderly. The nature of government consumption will also change. Low-income countries, for example, will likely see their health and education expenditures increase as a portion of their GDP.

Government effectiveness (the ability to use revenues well) is another important aspect of the capacity dimension of governance. The IFs model measures government effectiveness primarily in terms of the level of corruption. The Base Case forecast shows most countries around the world progressing toward less corruption (and, therefore, greater effectiveness) as a result of increases in education and income that tend to lead to demands for accountability. The greatest reductions in corruption are likely to be seen in the developing countries of East Asia and Pacific, Latin America and the Caribbean, and Europe and Central Asia.

Inclusion going forward

Although all regions of the world see some movement toward democracy in the IFs Base Case, the world almost certainly will not be fully democratic by 2060. Of the 183 countries in Version 6.68 of the IFs model (the version used in the governance volume), 131 are forecast to be democracies by 2060, while 52 countries are forecast to be anocracies. In terms of population, just under 80 percent of the world's population will likely live under a democratic regime by 2060, while only a little more than 20 percent will live under a semi-democratic or anocratic regime (see Figure 5). The jump in the late 2020s of those living in an anocratic regime represents the possible movement of populous China from autocracy to anocracy.

those for high-income countries in 2010, and considerably above for many. On average, the countries of sub-Saharan Africa will continue to face the greatest risk of future internal war, followed closely by those of South Asia.

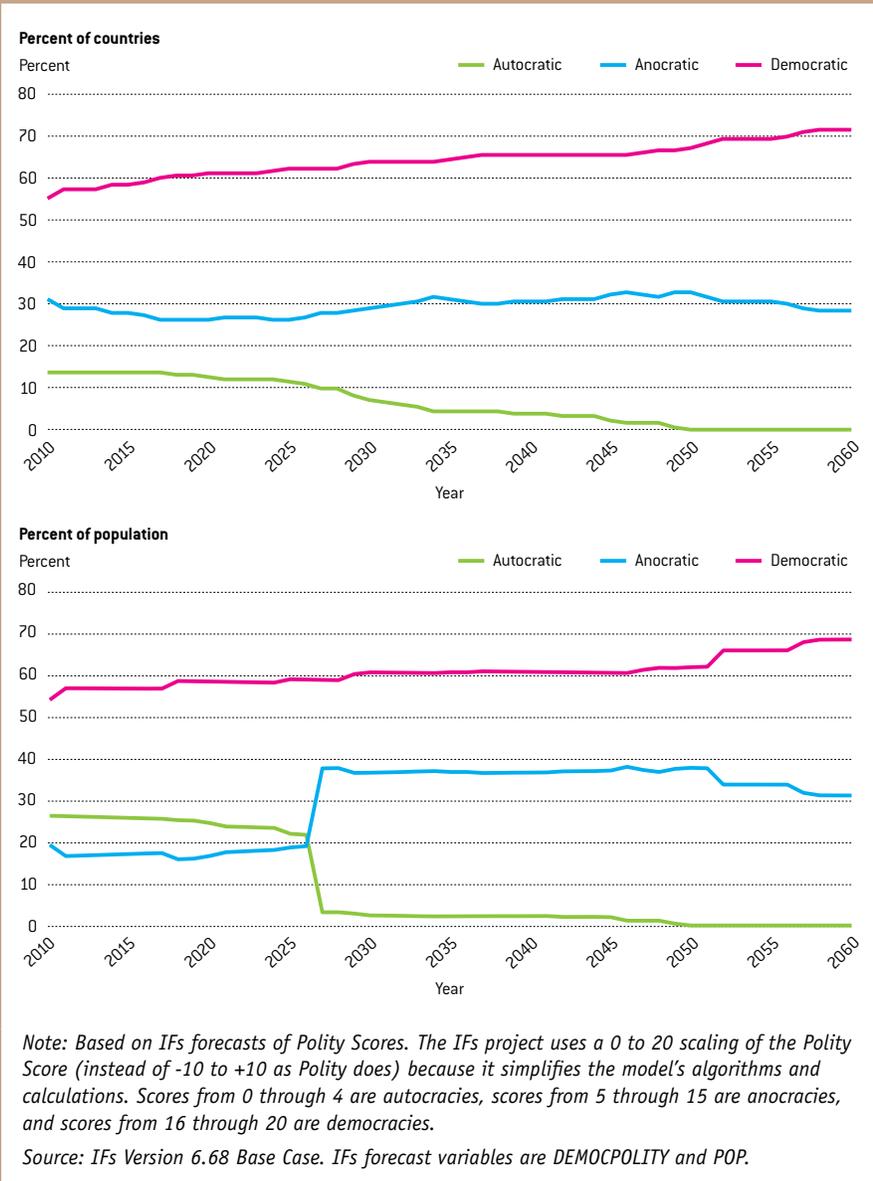
Capacity going forward

The Base Case forecasts that government revenue as a share of total GDP will increase almost everywhere, due in part to population aging as governments will be pressured to spend more in order to support their growing populations of persons over 65 years of age. Worldwide, total government revenue is forecast to rise from 36 percent of world GDP in 2010 to about 39 percent in the 2020s, before again declining slowly to about 36 percent. The decrease will likely occur because developing economies with generally lower rates of revenue mobilization will grow as a share of the global GDP and bring down the IFs GDP-weighted global average.

The Base Case forecast for sub-Saharan Africa's capacity is of special interest. In 2010, foreign aid accounted for just under 5 percent of the region's total GDP (and 16 percent of government revenues), compared to 0.6 percent of GDP for developing countries as a whole. Going forward, the region's reliance on external assistance will fall steadily and steeply due to a number of factors, but especially because of economic growth that will exceed that of donor countries. Many countries in sub-Saharan Africa will struggle to mobilize replacement revenue, however. As a result, East, West, and Central Africa are likely to see their total government revenues (combining internally and externally generated funds) decline by between 4 and 10 percent of their GDP through 2060.

Government expenditures, meanwhile, will undergo substantial changes over the time horizon of the Base Case. Development and demographic

Figure 5 Forecast of portion of world with different regime types by percent of countries and percent of population (2010–2060)



Along with regime type, IFs forecasts levels of gender empowerment as another important measure of inclusion. In the Base Case, the world experiences some, but not particularly rapid improvement in gender empowerment, with an increase of .09 in the GEM, from 0.46 globally in 2010 to 0.55 globally in 2060.⁷ At the same time, the female share of the formal labor force is forecast to increase from 38.8 percent in 2010 to 44.9 percent in 2060.

Governance across dimensions going forward

For *Strengthening Governance Globally*, we created indices representing each of the three governance dimensions in order to better explore the evolution of the transitions across time and their variation across countries and global regions. While each transition has its own story, they have been highly interconnected historically, and we expect this to remain

the case going forward. To help us explore these interacting stories, Figure 6 shows both contemporary (2010) and possible future (2060) patterns of governance development across the three dimensions for each of the World Bank's country-income categories.

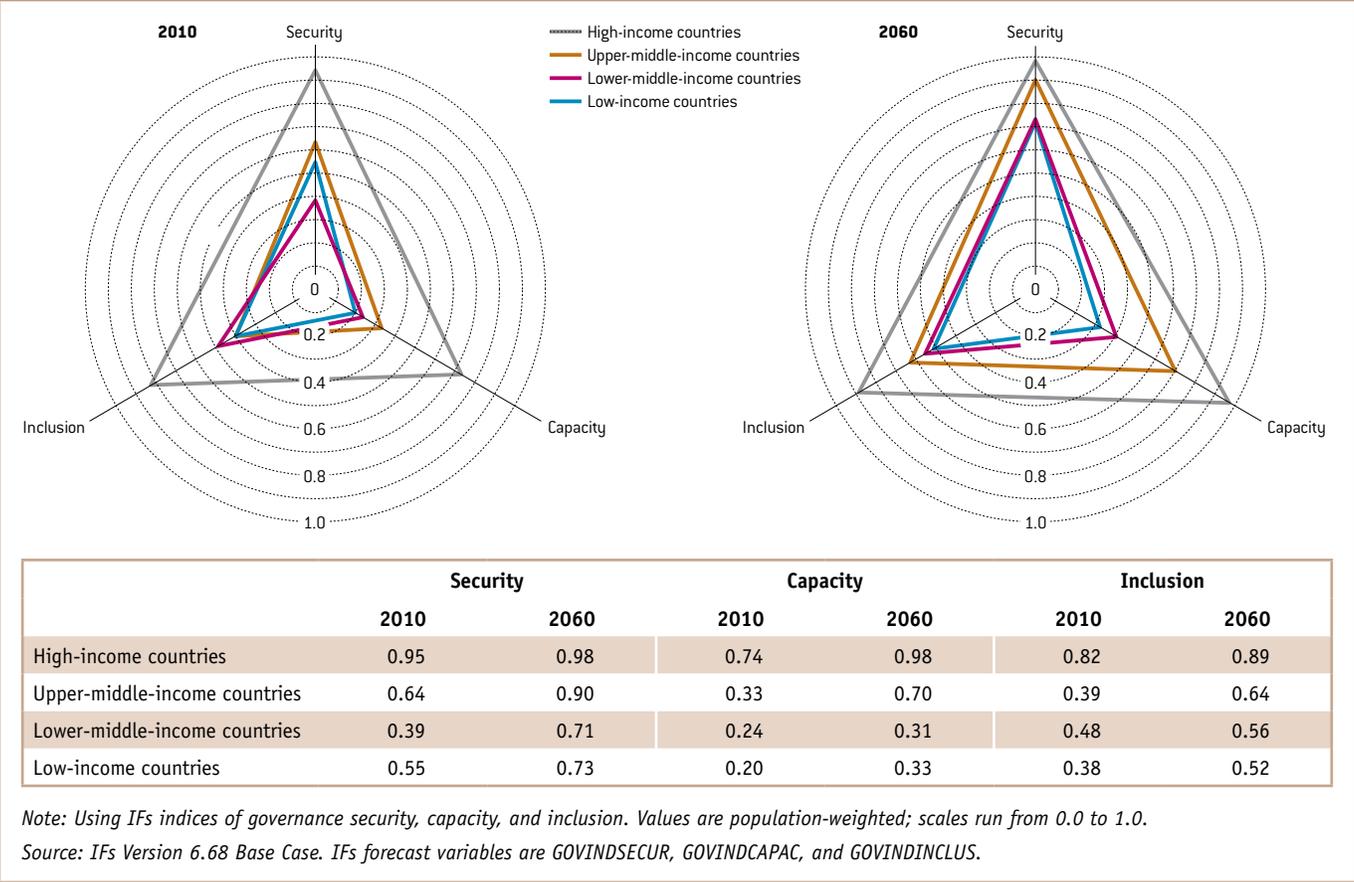
The values in the indices in 2010 suggest a strong and not very surprising tendency for countries to advance along each dimension as income levels rise. There are some important subtleties to that pattern, however. For instance, on the security dimension, low-income countries lag behind both lower-middle- and upper-middle-income countries, while on the capacity dimension, low-income countries differ little from lower-middle-income countries, and neither differs significantly from upper-middle-income countries. This might suggest that the development of capacity is a push that all countries are making more consistently and successfully than they are able to make the push for security. (In fact, lower levels of security are a major reason for the low incomes of fragile states.) Even more clearly, all developing country groupings score similarly on the index of inclusion, reinforcing the volume's argument that much global emphasis is being placed on this dimension regardless of income level.

The most striking and consistent pattern in 2010 is the wide gap between high-income countries and developing countries on governance dimensions. The volume draws attention to the challenges that closing this gap poses even for the fast-advancing group of middle-income countries known as the BRICs (Brazil, Russia, India, and China). These challenges include, especially, lingering security problems and under-developed capacity. The BRICs ability or inability to close these gaps will have major implications for the global system as well as domestic consequences.

Looking ahead to 2060, we expect the gap between developing and high-income countries to narrow quite noticeably.

⁷ GEM values below 1.0 indicate female disadvantage.

Figure 6 Forecast of patterns of governance development across countries grouped by income levels (2060 compared to 2010)



Most striking in our forecasts may be the narrowing on the security dimension, on which we forecast that upper-middle-income countries will converge with high-income ones and that other country categories will make much progress. Our forecasts also anticipate very substantial progress and significant catch-up for upper-middle-income countries on the capacity dimension, even as high-income countries themselves advance and raise the bar for all regions of the world.

Although we could also draw attention to our forecast of greater advance of both high-income and upper-middle-income countries on capacity rather than on the inclusion dimension, emphasis on that apparent pattern could be misleading. The indices for the respective dimensions are to some considerable degree “apples and oranges,” making analysis of movement along dimensions much more meaningful than comparative scores across them.

Strengthening Governance Globally also drills down to analyze the four sub-Saharan African countries with the largest populations (Democratic Republic of Congo, Ethiopia, Nigeria, and South Africa). In 2010, these countries lagged far behind the BRICs and high-income countries in terms of capacity and, especially, security. By 2060, we anticipate considerable progress on the continent; with the exception of the Democratic Republic of Congo, security for Africa’s largest countries could be above the level of Brazil today.

In general, all regions are likely to see considerable advance in governance between 2010 and 2060, reflecting the momentum for advance seen today. The global value for the IFs Aggregate Governance Index in 2010 was 0.54, and we anticipate it to be 0.70 in 2060. But even by 2060, using Base Case values of the index, no developing region other

than Latin America and the Caribbean is likely to have reached the average level of governance experienced by high-income countries in 2010.

Exploring a More Challenging Future

The IFs Base Case forecast of governance provides us with a reasonable window into the coevolution of advance in human development and governance. However, it is only one window among many possible ones. What if a different and less hospitable set of circumstances unfolds? In our Global Challenges scenario, we explore the potential for several future challenges to disrupt the advance of human development and, therefore, also of governance.

The Global Challenges scenario is built around a number of storm clouds that are appearing on the forecasting horizon. These storm clouds include

aging populations and the fiscal pressures associated with them; the peaking of global oil and gas production and the need to develop alternative, sustainable sources of energy; the continued rise to global leadership of emerging countries with less democratic histories than those of the high-income countries now in leadership; growing pressure on fresh water supplies; and climate change, the pace of which is only likely to accelerate. Our Global Challenges scenario heightens all of these pressures relative to the Base Case.

We find that the Global Challenges scenario does not stop global progress in human development, but it does slow it. Under Global Challenges, the world as a whole could lose more than 40 percent of the forecasted gains in HDI seen in the Base Case. The scenario's impact on poverty rates illustrates the costs to human development. Today, about 1.2 billion people worldwide live in extreme poverty (income of less than \$1.25 per day). Under the Base Case, poverty is set to decline significantly, as it has been doing in recent decades; the forecast suggests fewer than 300 million people still in extreme poverty by 2060. With Global Challenges, however, about 1.1 billion people around the world will still be living in extreme poverty in 2060—virtually all progress in numerical reduction (although not all in terms of a percentage decrease) will have been halted. Undernutrition of children and associated morbidity and mortality patterns could also change significantly. In the Base Case, the global rate of childhood undernutrition declines from 16 percent to 5 percent. Under Global Challenges, the rate actually climbs to 19 percent, as advances against hunger in regions like sub-Saharan Africa reverse.

Global Challenges also takes a toll on the ongoing transitions toward strengthened governance. Overall, Global Challenges could cause the loss of about one-third of the global advance in governance (as measured by the IFs Aggregate Governance Index) made in the Base Case. In terms of security, Global

Challenges does not completely stop the continued reduction of intrastate conflict seen in the Base Case, but it does lessen the decline. South Asia, for example, experiences a decline in the probability of intrastate conflict that is less than half that seen in the Base Case. Along with impacting probability for conflict, the Global Challenges scenario causes the IFs Country Performance Risk Index to rise significantly for many developing countries relative to the Base Case—by 8.2 percent for upper-middle-income countries, 9.7 percent for lower-middle-income countries, and 12.1 percent for low-income countries.

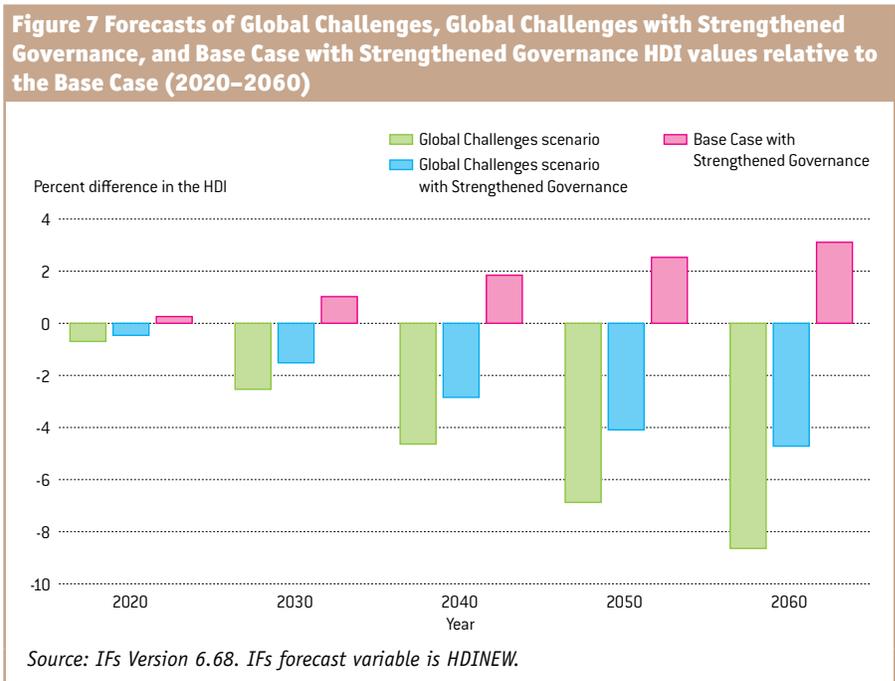
In terms of capacity, Global Challenges places greater stress on governments by putting pressure on them to mobilize higher levels of revenue in order to meet increased societal needs. Partially causative of this stress, the increases in GDP per capita (at purchasing power parity) in both developing and developed countries fall significantly below those seen in the Base Case, with gains reduced by more than half in 2060 for developing countries and by 29 percent for high-income countries. Of interest, Global Challenges has the

least impact on inclusion, with the push toward democracy around the world suffering little. This result of our model is consistent with the substantial global support for, and widespread ideational attachment to, democracy.

Exploring Strengthened Governance

The Global Challenges scenario represents not only a less optimistic future in terms of key global systems, but also one in which the world makes no special effort to advance governance. We also developed a Strengthened Governance scenario for interaction with both the Base Case and the Global Challenges scenario. Our Strengthened Governance scenario advances countries around the world toward high performance (taking into account country starting points and economic development levels) on security (absence of intrastate war and low levels of risk); capacity (strong revenue mobilization in non-OECD countries, where it is weak, plus low levels of corruption); and inclusion (high levels of democracy and gender empowerment).

We find that Strengthened Governance adds 4.3 percent to the global HDI of 2060



relative to the value in Global Challenges, closing nearly one-half the gap between the higher HDI of the Base Case and the lowered HDI of Global Challenges (see Figure 7). Without Global Challenges, Strengthened Governance increases global HDI by 3.1 percent above the Base Case. In addition, Strengthened Governance affects poverty rates quite significantly, both with and without challenges. In Global Challenges, 1.1 billion people still live in extreme poverty in 2060. Adding Strengthened Governance reduces this number by almost half to 570 million. Strengthened Governance on top of the Base Case (rather than Global Challenges) reduces extreme poverty numbers to just 150 million globally (see Figure 8).

Exploring Strengthened Governance and Development Policies

Overall, Strengthened Governance improves human development outcomes for countries around the world, even in the world of Global Challenges. However, in many cases (as we have noted), the improvement is not enough to wholly offset the impact of Global Challenges. Without the challenges, Strengthened Governance could lead to a bright development future indeed. But could even more be done? In the course of our explorations, we found that by coupling measures to strengthen governance with development-oriented policies, considerably better results might be achieved.

We therefore developed an additional scenario with both strengthened governance and strong development policies (SG and DP). As a variant on the Base Case and the Global Challenges scenario, the SG and DP scenario combines interventions to strengthen governance with many of the aggressive yet reasonable policy-oriented interventions explored in earlier PPHP volumes.⁸ The addition of development policies in the Base Case with SG and DP increases the 3 percent

Figure 8 Forecasts of poverty in developing regions in 2060 across four scenarios

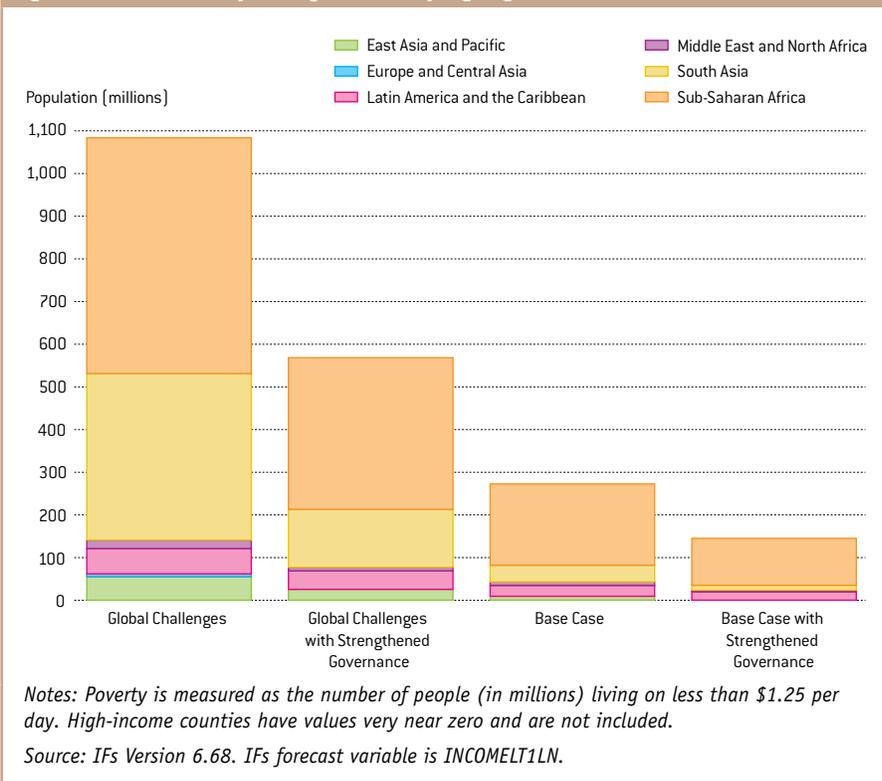
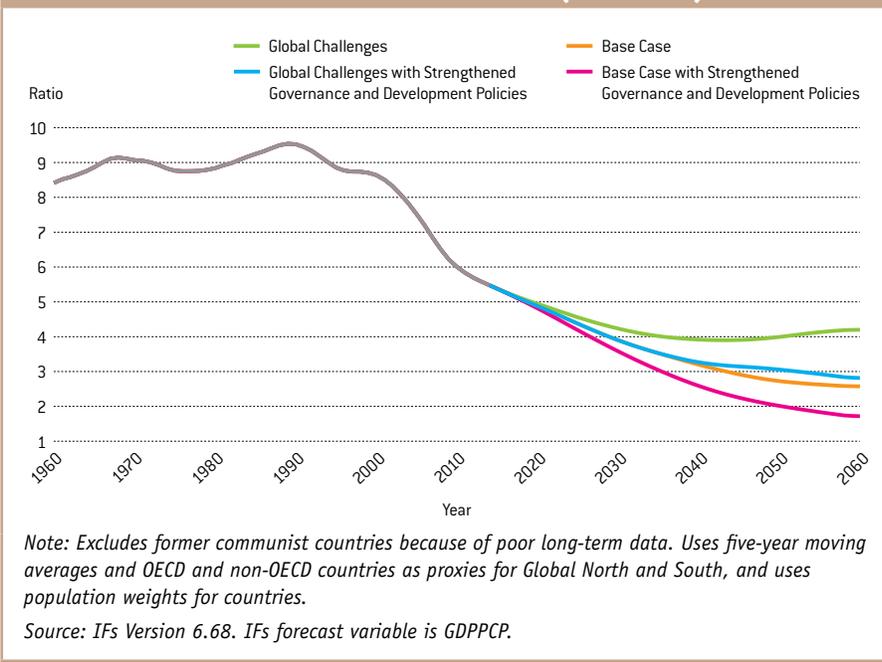


Figure 9 Ratio of Global North to Global South GDP per capita: History and forecasts with Base Case and alternative scenarios (1960–2060)



8 See those earlier volumes and the full governance volume at <http://pardee.du.edu/patterns-potential-human-progress>. See also Barry B. Hughes, "Development-oriented Policies and Alternative Human Development Paths: Aggressive but Reasonable Interventions," United Nations Human Development Research Paper 2013/05, published also in Khalid Malik and Maurice Kugler, eds. 2013. *Human Progress and the Rising South*. New York: United Nations Human Development Report, pp. 140–185.

Table 1 Forecasts of IFs Aggregate Governance Index and the Human Development Index in 2060 compared to history across scenarios of the volume

IFs Aggregate Governance Index: History and IFs 2060 forecast Global	History		Base Case forecast	Global Challenges forecast	Global Challenges with SG forecast	Global Challenges with SG and DP forecast	Base Case with SG and DP forecast
	1980	2010					
East Asia and Pacific	—	0.46	0.73	0.67	0.85	0.88	0.89
Europe and Central Asia	—	0.58	0.74	0.71	0.87	0.90	0.92
Latin America and the Caribbean	—	0.66	0.81	0.79	0.89	0.93	0.94
Middle East and North Africa	—	0.49	0.65	0.62	0.78	0.80	0.82
South Asia	—	0.41	0.60	0.51	0.69	0.73	0.80
Sub-Saharan Africa	—	0.49	0.61	0.59	0.72	0.76	0.78
High-income countries	—	0.86	0.96	0.92	0.98	0.99	0.99
World	—	0.54	0.70	0.65	0.79	0.83	0.89
Human Development Index: History and IFs 2060 forecast Global							
East Asia and Pacific	0.38	0.64	0.86	0.79	0.81	0.85	0.90
Europe and Central Asia	0.50	0.70	0.84	0.81	0.83	0.87	0.90
Latin America and the Caribbean	0.57	0.70	0.85	0.82	0.84	0.88	0.91
Middle East and North Africa	0.41	0.63	0.79	0.74	0.77	0.81	0.85
South Asia	0.31	0.51	0.77	0.67	0.72	0.81	0.88
Sub-Saharan Africa	0.29	0.39	0.68	0.61	0.64	0.72	0.79
High-income countries	0.75	0.87	0.98	0.95	0.96	0.98	1.00
World	0.46	0.62	0.81	0.74	0.77	0.83	0.88

Note: The IFs Aggregate Governance Index runs from 0 to 1 and equally weights subindices of security, capacity, and inclusion. It begins with a 2010 calculation due to lack of sufficient data for earlier periods. Human Development Index (HDI) values for 1980 are from UNDP and reflect the 2010 HDI revised methodology; HDI values for 2010 are IFs calculations and also use the 2010 revised methodology. SG refers to Strengthened Governance; SG and DP refers to Strengthened Governance and Development Policies. Values are population-weighted.

Source: IFs Version 6.68. IFs forecast variables are GOVINDTOTAL and HDINEW.

gain in HDI seen in the Base Case with Strengthened Governance alone (not shown) by a further 7 percent to a total 10 percent increase above the Base Case (see Table 1). This would enable most developing regions by 2060 to attain or surpass the HDI level of high-income countries in 2010. When added to Global Challenges, the SG and DP combination completely offsets the impact of the challenges, resulting in an HDI that is 2 percent higher than in the Base Case.

Beyond the impact on the Human Development Index, the combination of SG and DP could lead to a large reduction in income inequality between developed and developing countries. We calculate that, in 2010, the global Gini index at the household level was 0.63, comparable

to that of some of the least egalitarian countries in the world today (on the 0–1 Gini index, higher values indicate greater inequality). Even in the Base Case, we would expect this to fall to 0.57 by 2060 (there would be effectively no decrease with Global Challenges). But in the Base Case with SG and DP, the Gini index could decline to 0.48, comparable to that of Peru or China today. In addition, the ratio of GDP per capita of the current members and non-members of the Organisation for Economic Co-operation and Development (used as a proxy for the Global North and the Global South) could fall below 2-to-1, a level not seen globally since 1850 (see Figure 9).

If countries develop along the path of our Base Case scenario, adding the

combination of strengthened governance and development-oriented policies could result in a world of high and very widespread human development by 2060, a world in which the number of people living on less than \$1.25 a day has declined from 1.22 billion in 2010 to 30 million, and those living on less than \$2 a day has dropped from 2.39 billion to 83 million. Even if a Global Challenges scenario does confront us, strengthened governance and development policies can at least keep us roughly on the track of the Base Case, in fact perhaps even ahead of it. Governance and good policies can make a very large difference.

The International Futures Forecasting System

IFs is a software tool designed to facilitate the exploration and shaping of global futures through the creation and analysis of alternative scenarios. While IFs and its applications are constantly evolving, the system rests on four defining characteristics:

1. It is long-range, with a forecasting horizon extending to the year 2100.
2. It encompasses multiple domains of human and social systems (population, the economy, health, education, energy, agriculture, infrastructure, and important aspects of sociopolitical systems) and the interaction effects between and across these systems for 183 countries.⁹
3. It is not a predictive tool. IFs forecasts represent explorations of what might happen under different assumptions about trends and driving variables rather than predictions of what will happen.
4. Although the issues it addresses are complex, as is the system itself, IFs is packaged within an interface designed to facilitate ease of use.

In summary, IFs is designed to capture the importance of human agency in interaction with environmental contexts in shaping desired human futures.

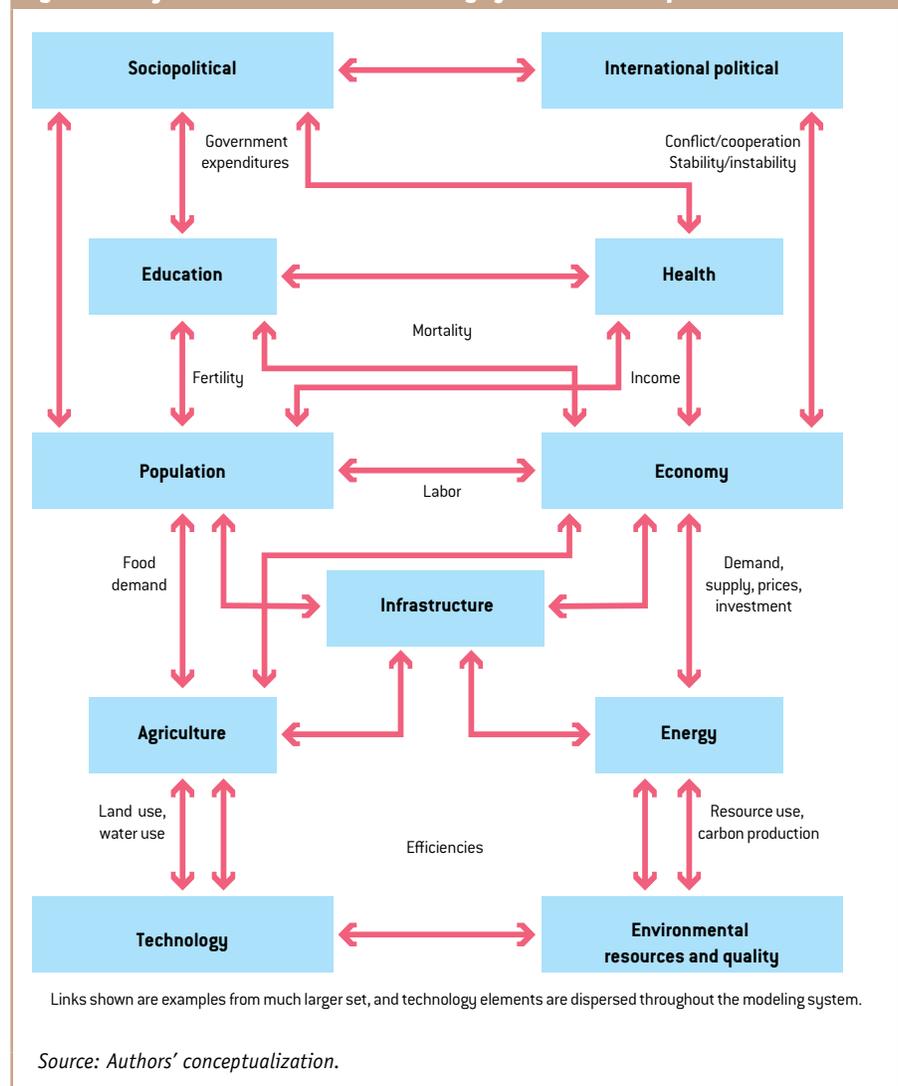
A System of Models and the Representation of Governance

Figure 10 shows the major conceptual blocks or modules of IFs.¹⁰ IFs draws on standard approaches to modeling specific areas whenever possible, extending those as necessary, and integrating them across issue areas. Underlying the model is an extensive database of country-specific data for each issue area, drawn from

international organizations, think tanks, academic research projects, and other sources covering the time period from 1960 to the present. The model itself can produce forecasts from its base year of 2010 out to 2100. Most important, the forecasts it produces represent the results of the dynamic interplay among variables in multiple domains of human development systems.

In support of *Strengthening Governance Globally*, we elaborated a governance representation within the sociopolitical model of IFs that forecasts: (1) future levels of governance across the three primary dimensions of security, capacity, and inclusion, and (2) the implications of changes in governance for the other components of the modeling system (see Figure 11). That is, the dynamic linkages

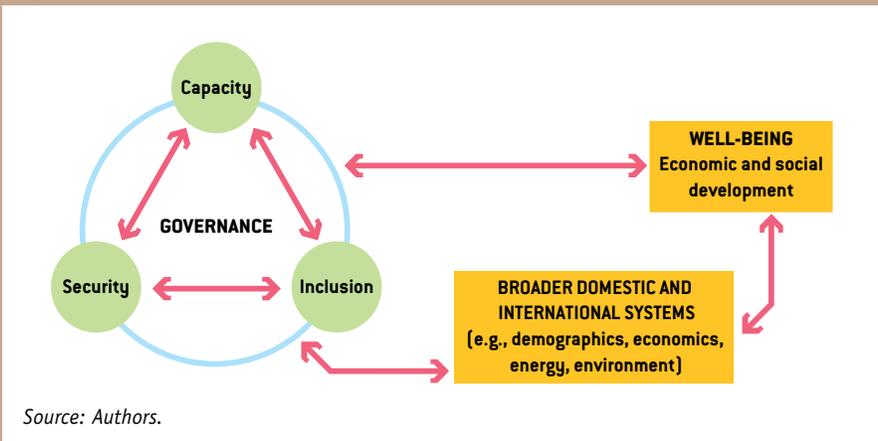
Figure 10 Major models in the IFs modeling system and example connections



⁹ More recent versions of the IFs model include 186 countries, with the addition of Kosovo, the Seychelles, and South Sudan.

¹⁰ The technology components are embedded throughout the model; all the rest of the conceptual blocks are represented by specific modules and linked to other modules. The named linkages in Figure 10 represent only a small illustrative subset of the dynamic connections between the block components.

Figure 11 Governance and the broader systems to which it links



and loops among governance dimensions, and those that link governance to other human and biophysical systems, are extensive. We have chosen to focus special attention on human well-being (as measured by the UNDP's Human Development Index) as a summary indicator of the collective behavior of these systems and their linkages.

IFs represents governance in a composite index built from three aggregated subindices, each representing a dimension of governance (security, capacity, inclusion). Each of these subindices, in turn, is built up from two variables calculated from numerous other variables throughout the IFs system.

The listing below shows the drivers of the subindices, indicating the nature of the relationship when it is inverse (meaning that higher values of a driving variable lead to lower values for the subindex variable):

- IFs Governance Security Index
 - *Probability of intrastate conflict* is a function of past conflict, neighborhood effects, economic growth rate (inverse), trade openness (inverse), youth bulge, infant mortality, democracy (inverted-U), state repression (inverse), and external intervention.
 - *Vulnerability to intrastate conflict* is a function of a large set of variables: energy trade dependence,

economic growth rate (inverse), urbanization rate, poverty level, infant mortality, undernutrition, HIV prevalence, primary net enrollment rate (inverse), intrastate conflict probability, corruption, democracy (inverse), government effectiveness (inverse), freedom (inverse), and water stress.

- IFs Governance Capacity Index
 - *Government revenues* are a function of past revenue as a percentage of GDP, GDP per capita, and fiscal balance (inverse).
 - *Corruption* is a function of past corruption level, GDP per capita (inverse), energy trade dependence, democracy (inverse), gender empowerment (inverse), and probability of intrastate conflict.
- IFs Governance Inclusion Index
 - *Democracy* is a function of past democracy level, youth bulge (inverse), gender empowerment, and dependence on energy exports (inverse).
 - *Gender empowerment* is a function of past gender empowerment level, GDP per capita, youth bulge (inverse), and primary net enrollment rate.

The IFs governance model allows users to make alternative assumptions about the future of governance variables along any or all of the three dimensions

it represents, and to explore the implications for human development and the broader IFs system of those alternatives. The combination of the ability to vary assumptions about the evolution in general governance character and those related to more specific policies facilitates development of a wide variety of scenarios.

Useful Next Steps

Much can be done to further strengthen governance forecasting. Some areas for future efforts include:

- Improving the representation of government finance, including the division of government revenues and expenditures into central and local components
- Linking IFs forecasts of long-term risk (which tend to change slowly) with short-term inputs from real-world event monitoring
- Expanding the set of variables related to each of the three dimensions of governance
- Replacing the Gender Empowerment Measure, which is based on a series from the United Nations Development Programme that they have ceased updating, with an alternative indicator of gender representation
- Adding additional measures of inclusion, such as the position of minority populations in politics and the broader social system

Nonetheless, the development of the IFs governance model has advanced the exploration of governance futures by:

- Gathering and incorporating an extensive database of country-specific governance-related variables, drawn from a very wide range of sources across as many years as are available in the original sources
- Representing three different dimensions of governance with two or more variables related to each dimension

-
- Forecasting each governance variable with drivers from other models in IFs
 - Allowing users to compute alternative variations of the IFs Country Performance Risk Index by changing weights on component variables
 - Building direct forward linkages from governance variables to other elements of the IFs system, such as economic growth as a result of the impact of governance on productivity
 - Fully accounting for all government revenue and expenditure balances in the context of a larger social accounting matrix system both within and across countries
 - Representing governance change over a very long time horizon
 - Making the entire database and forecasting system available to all who wish to use it

Author Notes

Barry B. Hughes is John Evans Professor at the Josef Korbel School of International Studies and Director of the Frederick S. Pardee Center for International Futures, at the University of Denver. He initiated and leads the development of the International Futures forecasting system and is Series Editor for the **Patterns of Potential Human Progress** series.

Devin K. Joshi is an Assistant Professor at the Josef Korbel School of International Studies at the University of Denver. He has published widely on

the topics of Asian politics, inclusive democracy, good governance, and international development.

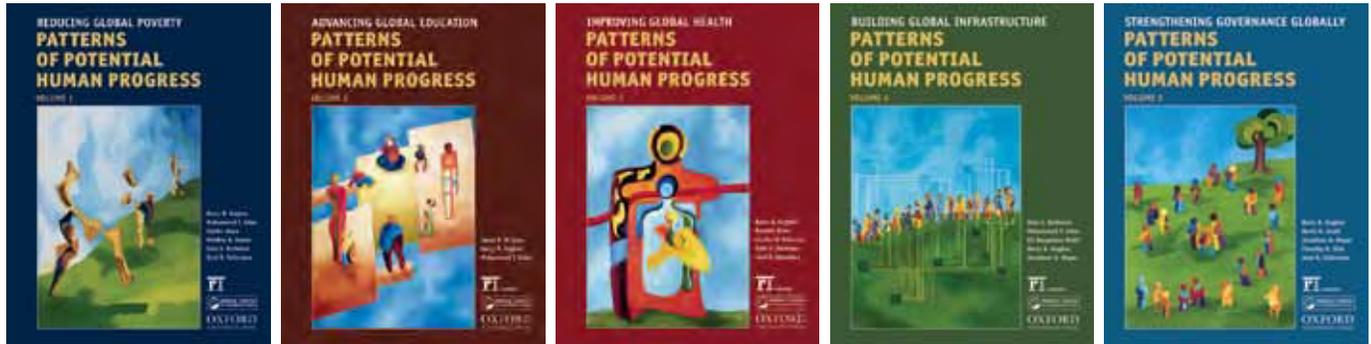
Jonathan D. Moyer is the Associate Director of the Frederick S. Pardee Center for International Futures at the Josef Korbel School of International Studies, University of Denver. His research focus is on operationalizing international relations theory so it can be better measured and modeled.

Timothy D. Sisk is a Professor and Associate Dean for Research at the Josef

Korbel School of International Studies, University of Denver. His work focuses on civil wars and political violence and on conflict prevention, management, and peacebuilding in fragile post-war contexts.

José R. Solórzano is a Senior Consultant for the Frederick S. Pardee Center for International Futures. His current focus is on the technical design and implementation of the International Futures modeling system in support of the Pardee Center's **Patterns of Potential Human Progress** series.

Patterns of Potential Human Progress



The **Patterns of Potential Human Progress Series** explores prospects for human development—how it appears to be unfolding globally and locally, how we would like it to evolve, and how better to ensure that we move it in desired directions.

Each volume in the series uses the International Futures forecasting system to address a specific human development issue with extensive analysis and 50-year country, regional, and global forecasts.

Titles in the Series

- Reducing Global Poverty** (Vol. 1, 2009)
- Advancing Global Education** (Vol. 2, 2010)
- Improving Global Health** (Vol. 3, 2011)
- Building Global Infrastructure** (Vol. 4, 2014)
- Strengthening Governance Globally** (Vol. 5, 2014)

Barry B. Hughes, Series Editor

Paradigm Publishers and Oxford University Press India



Frederick S. Pardee Center for International Futures
Josef Korbel School of International Studies
University of Denver

For more information about the International Futures model and the Patterns of Potential Human Progress series, go to Pardee.du.edu or email Pardee.Center@du.edu.

PATTERNS OF POTENTIAL HUMAN PROGRESS

VOLUME 5

STRENGTHENING GOVERNANCE GLOBALLY: FORECASTING THE NEXT 50 YEARS

Barry B. Hughes, Devin K. Joshi, Jonathan D. Moyer,
Timothy D. Sisk, José R. Solórzano

What reviewers are saying about the volume:

“A study impressive for its sweep and ambition as well as for its academic rigor. Taking on a remarkable range of fundamental issues relating to democracy and governance, the authors raise critical questions and offer important explanations of direct value to policy makers as well as scholars.”

—**Thomas Carothers**, Vice President for Studies, Carnegie Endowment for International Peace

“This book is principled, systematic, and very transparent in its forecasting of governance and conflict.”

—**Kristian Gleditsch**, Professor, Department of Government, University of Essex, and Research Associate,
Centre for the Study of Civil War, Peace Research Institute Oslo

“This volume and the International Futures model are outstanding tools for grappling with the ideas of governance and development.”

—**Evan Hillebrand**, Professor, Patterson School of Diplomacy and International Commerce, University of Kentucky

“Forecasting is the third act of reason: learning from the past, knowing the present, and preparing for the future. Congratulations for a job really well done!”

—**Monty Marshall**, Director, Center for Systemic Peace, and Director, Polity IV Project

“Measuring governance is difficult enough; forecasting it is an ambitious undertaking. Congratulations on this contribution to our understanding of governance, fragility, and conflict.”

—**Alastair McKechnie**, Senior Research Associate, Centre for Aid and Public Expenditure, Overseas Development Institute

Barry B. Hughes, series editor, is Director of the Frederick S. Pardee Center for International Futures and Professor at the University of Denver’s Josef Korbel School of International Studies. He is coauthor of numerous books and founder of the International Futures computer model accessible at Pardee.du.edu.

PRINTED IN CANADA

COVER ART COURTESY OF MARGARET LAWLESS



Frederick S. Pardee Center for International Futures
Josef Korbel School of International Studies
University of Denver
Pardee.du.edu