

Challenge of the Century

Climate change is about market failure on a global scale; it must be resolved together with debt and global economic imbalances

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THREE issues confront the global economy: massive government debt, a wide divergence between countries that save and those that consume, and the need for a lower-carbon economy. All three issues are linked, and must be dealt with together. Some solutions may reinforce each other; others may be at odds. The IMF is well positioned to play a major role.

Challenges

First, in light of the recent global financial crisis and downturn in growth, governments across the world have been boosting spending to underpin their financial systems and provide fiscal stimulus; at the same time tax revenues have been falling. These governments now face rising public debt and must show debt holders they have credible strategies for medium-term deficit reduction. As the IMF's Carlo Cottarelli and José Viñals argue, this poses a public finance challenge, given that advanced economies' ratios of debt to gross domestic product (GDP) are expected to rise by more than half, from 75 to 115 percent, during 2008–14 in the absence of further action (*F&D*, December 2009). That challenge is unlikely to be resolved for at least a decade.

Second, substantial macroeconomic imbalances—particularly global saving-investment and capital account imbalances—continue to characterize the global economy. These imbalances threaten the prospects for a recovery in global growth to the rates seen earlier in the new millennium, with debtor countries attempting to rein in current account deficits but with creditor countries failing to boost domestic demand growth sufficiently. If the imbalances are resolved abruptly, however, the stability of financial systems and investment and trade flows could be badly damaged once again. Political pressure as a result of high unemployment may itself work to inhibit trade. Reducing these imbalances should be a determined, clear, but gradual process.

Third, the world needs to move to a low-carbon economy. Business as usual is likely to lead to a concentration of greenhouse gases (GHGs) that would entail temperatures not seen for tens of millions of years, with drastic

consequences. Annual GHG emissions are now at about 47 billion metric tons of carbon dioxide equivalent. For a 50 percent chance of keeping the global temperature rise (relative to the mid-19th century) to 2°C—a long-standing, internationally accepted objective for avoiding dangerous climate change—emissions would need to fall to about 44 billion metric tons by 2020, well below 35 billion metric tons by 2030, and well below 20 billion metric tons by 2050. If the world economy grows by 2 or 3 percent a year over the next 40 years (that is, triples), emissions per unit of output would have to fall by a factor of about 8. That is a radical transformation by any standard, requiring almost complete decarbonization of electricity production by 2050. Strong and sustained investment in emission reduction and carefully designed policies will be needed to correct the market failure caused by greenhouse gas emission externalities. This transformation will take several decades, but the next 10 years are crucial. They will determine the path of technology and infrastructure, particularly for energy, and there is a risk of locking in carbon-intensive long-lasting capital assets. Delaying action is dangerous, because emission flows build into increased concentrations of GHGs, which are hard to reduce.

Synergy

Understanding the interplay among these three challenges is crucial: failing to meet any of them would be extremely costly. Some synergies are of particular importance.

In the short and medium terms, pricing carbon, through a carbon market or taxation, can generate much-needed revenue and ease public deficits. Further, low-carbon-infrastructure investment during a global slowdown has the advantage of drawing on underused resources, reducing the risk of crowding out other important investments.

In the longer term, a decarbonized energy system would mean a large reduction in imports of fossil fuels, with a positive impact on the trade balances of net-fossil-fuel importers with current account deficits. It would also make economies more resilient to drastic changes in fossil fuel prices, reducing pressures for energy subsidies. And there

are further likely advantages of low-carbon growth associated with a cleaner, quieter, safer, and more biodiverse world.

Moving to a low-carbon economy will offer significant investment opportunities. The right incentives and credible long-term policy frameworks should stimulate private investment in these technologies, reducing some of the imbalance between planned savings and investment—particularly in fast-growing countries with high private saving rates, where there is strong need for productivity-enhancing domestic investment.

The technological change required to transform our economies has started and is likely to unleash a period of great innovation—if potential innovators believe in governments’ long-term commitment to sensible climate-change policies. Market failings that hinder innovation must be removed quickly. Low-carbon technology could change our economy as much as, or more than, the steam engine, electricity, or information technology. As in the past, substantial spillover effects of technological advances stand to boost the economy, driving a response to the challenges highlighted above.

Tension

But there is also tension among these three challenges and associated policies.

A low-carbon economy may mean higher relative prices for emission-intensive products and their substitutes, some dislocation and scrapping, and slightly slower real income growth for a while. And some low-carbon technology may impede productivity, at least initially. This could threaten public support for climate-change policies, given the impact of the global recession on real incomes and consumer confidence. Using revenue from green taxes to reduce other tax burdens could compensate somewhat, but this approach has limitations, given the need to reduce public debt, stimulate research and development spending, and (in rich countries) increase financial flows to poor countries to help them with climate-change adaptation and emission reduction. But if policy effectively exploits opportunities to improve energy productivity, the energy bill for the economy could quickly decrease, despite higher energy prices.

Net-fossil-fuel exporters’ reaction to the transition will matter greatly. By reducing prices they could undermine the transition, making alternative technologies relatively more expensive. By increasing prices and maximizing short-term revenue, they may put excessive pressure on companies’ and governments’ budgets in energy-importing countries, aggravating the already weak positions of the latter, increasing net planned savings, and slowing down the global economy. Strong carbon-pricing policies can help counterbalance these problems.

Stimulating private investment would help correct one of the imbalances, but if moving to a low-carbon economy requires greater provision of public goods such as energy- and transportation-related infrastructure and early-stage research and development, it may put further pressure on public sector budgets and crowd out other investments. Innovative methods of finance and risk sharing may be required for large, lumpy investments in infrastructure, especially while

the ability of banking systems around the world to undertake financial intermediation remains impaired. Similarly innovative methods will be necessary to support developing countries in their transition.

The role of the IMF

The synergy and tension are at the heart of the IMF’s capabilities. There is a tight link between managing short-term risks and opportunities and promoting sustainable long-term growth and financial stability. The IMF is well placed to play a critical role, particularly through the following actions.

- **Support governments** in analyzing and designing policies to address market failings that can hinder the transition to a low-carbon economy.

- **Support policies** aimed at capturing the synergy between low-carbon investments and adjusting the global savings-investment imbalance.

- **Monitor and manage the risks** associated with the tensions highlighted earlier, to ensure that policy objectives around the three challenges—managing public finance in the wake of the financial crisis, adjusting global imbalances, and transitioning to a low-carbon economy—are pursued and advanced over the next decade.

- **Help generate alternative sources of finance** for climate change to support countries in their low-carbon strategies without harming their ability to manage their public finances.

- **Work with other international financial institutions** and the United Nations to help build international collaboration through shared understanding of the synergy and tension and support international and innovative methods of taxation, finance, and risk sharing.

In this context the proposed IMF Green Fund is very welcome. It will support adaptation to climate change and the transition to low-carbon technologies using innovative financial instruments that look more attractive to governments under pressure to reduce their deficits. And it will reassure developing countries that the new sources of finance are additional to general development assistance.

Climate change is about market failure on a global scale. The challenge is to manage a delicate and crucial transition to a renewed period of wealth and stability for the world’s economy. Failure could fundamentally undermine the battle against world poverty. It is the international public policy and public finance challenge of the century. ■

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Reference:

Cottarelli, Carlo, and José Viñals, “A Strategy for Renormalizing Fiscal and Monetary Policies in Advanced Economies,” IMF Staff Position Note 09/22 (Washington: International Monetary Fund).