Preventing Food Crises Using a Food Policy Approach\textsuperscript{1,2}

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Abstract
A food crisis occurs when rates of hunger and malnutrition rise sharply at local, national, or global levels. This definition distinguishes a food crisis from chronic hunger, although food crises are far more likely among populations already suffering from prolonged hunger and malnutrition. A food crisis is usually set off by a shock to either supply or demand for food and often involves a sudden spike in food prices. It is important to remember that in a market economy, food prices measure the scarcity of food, not its value in any nutritional sense. Except in rare circumstances, the straightforward way to prevent a food crisis is to have rapidly rising labor productivity through economic growth and keep food prices stable while maintaining access by the poor. The formula is easier to state than to implement, especially on a global scale, but it is good to have both the objective, reducing short-run spikes in hunger, and the deep mechanisms, pro-poor economic growth and stable food prices, clearly in mind. A coherent food policy seeks to use these mechanisms, and others, to achieve a sustained reduction in chronic hunger over the long run while preventing spikes in hunger in the short run. J. Nutr. 140: 224S–228S, 2010.

The evolution of the food policy perspective
It has been more than 25 years since Food Policy Analysis (1) was published and more than 30 years since the initial outline for the book was circulated among the authors. It is fair to say that the volume has been very influential in thinking about food policy issues since its publication and it remains in use as a textbook for a number of university courses (2).

Its academic success is a bit surprising, because the audience was not primarily university faculty (for whom it seemed too simplistic in methodology and too anecdotal in presentation). Instead, we targeted the message at practitioners, an ill-defined group of analysts in need of an understanding of how a complicated and interconnected food system actually worked. Training these practitioners has turned out to be the main mission of the book.

The early drafts of Food Policy Analysis (henceforth FPA) were stimulated by the attention to high food prices following the world food crisis in 1973–74 and the fears of a repeat in 1979–80. But by the 4th full draft, in 1982, it became apparent that surpluses were returning to world food markets. A volume predicated on a world running out of food would have been out-of-date before the ink was dry and a full-scale revamping of the analytical messages was needed. The new theme, which has stood the test of a quarter-century of market fluctuations, was the need for flexibility to cope with market instability.

Such flexibility is not a natural feature of domestic policy making, in the food sector or elsewhere, and providing the analytical tools for understanding how to create flexible responses both to high and low price environments turned out to be a real challenge. But the relevance of the approach remains to this day, accounting for the continued usefulness of an analytical guidebook that is a quarter-century old. The approach presented here builds on FPA (1,2), Getting Prices Right (3), and ongoing analysis of the 2008 world food crisis, e.g. “Causes of High Food Prices” (4).

The changing global environment
The international context for domestic food policy decision making has changed substantially since FPA was drafted in the early 1980s. Five basic trends stand out:
1. Despite ups and downs, the last quarter-century has seen surprisingly rapid economic growth, especially in Asia, with hundreds of millions of people pulled out of poverty. The strong connection between inclusive economic growth, especially in rural areas, and rapid reduction of poverty was simply not apparent in the empirical record in the early 1980s. The East Asian Miracle (5) did not appear for another decade. This rapid growth validated the central theme of FPA, which was the unsustainability of poverty reduction efforts without higher economic productivity of unskilled, especially rural, labor.

2. A communications revolution at both the household and international levels has radically reduced transaction costs and increased access to knowledge. Again, the centrality in FPA of markets and price formation to understanding food policy design and implementation received a boost as marketing margins narrowed under improved and more informed competition. Consumers and farmers both benefited from more competitive local food markets.

3. Global financial markets became interested in “emerging economies.” The early 1980s were an era of fixed exchange rates, tight controls on the flow of foreign capital, and virtually no financial intermediation beyond state banks. At first, the influx of foreign capital was welcomed as a sign of confidence, but except for foreign direct investment in “real” assets such as factories and real estate, the global financial interest in emerging economies was a 2-edged sword. A rapid influx could cause currency appreciation and a loss of competitiveness; its rapid exit if the economy started to decline caused a crisis in local financial markets. Global financial integration came with very poorly understood risks.

4. The rapid emergence in the 1990s of China and India as global growth engines meant a gradual shift in the drivers of demand for commodities and natural resources. Advanced economies had become more knowledge-driven and less dependent on energy, metals, and other basic commodities, including food commodities, to fuel their economic growth. The price depression for nearly all commodities in the 1980s reinforced the view that the path of structural transformation, especially as practiced by China and India, is a very intensive user of natural resources. By the turn of the millennium, it was increasingly clear that the growth path of developing countries was the primary driver of commodity prices, starting with energy prices, but quickly extending to food prices.

5. High energy prices have turned out to be a “game changer” for agriculture and the food economy. Once oil prices were high enough to justify using sugar, maize, or vegetable oils to produce gasoline or diesel substitutes, agricultural commodity prices became directly linked to oil prices. The concern to reduce emissions of greenhouse gases provided ample motivation to US and European legislatures to mandate the use of domestic food crops to produce liquid fuels. The combination of legislative mandates, which provided essential risk coverage to investors in bio-fuel facilities, and high oil prices, which provided market-based incentives, led to a new set of linkages between agriculture and the energy sector. There had long been a link on the supply side, as energy prices affected fertilizer costs, fuel costs for tractors and trucks, and the economics of global supply chains. The new link was through the demand side. Higher prices for energy translated directly into greater demand for food commodities to convert into liquid fuels. If oil prices remain low, <$60–80 a barrel, this link will turn out to have been temporary, but industry analysts do not think this is likely from the perspective of a decade or longer.

**What causes a food crisis? Supply, demand, and panic**

The world food crisis of 2008 actually had its origins in the surpluses of the 1980s. As food prices plummeted and markets remained depressed for years, investors, donors, and domestic policymakers all walked away from agriculture, because it was a “declining industry” with low financial returns. Why invest in food production when market signals screamed that industry was not only more profitable but the wave of the (technological) future? We are now paying a very high price for that neglect (which did not go totally unnoticed at the time).

Prices of basic foods increased sharply after mid-2007 and peaked in the first half of 2008 before declining. The causes and impact of higher prices are the subject of much analytical and policy debate, with little agreement except on the tragic consequences for poor consumers. In response, the world community mobilized vast new resources to feed the poor, including a doubling of the budget for the World Food Program from $3 billion/y to over $6 billion for 2008. But little progress has been made in addressing the basic causes of high food prices, partly because these causes remain poorly understood and controversial.

Fortunately, a combination of decent weather in most growing regions in the first half of 2008, vigorous response from farmers to higher prices, and announcement in May of intentions to release substantial quantities of imported rice stocks by Japan stopped the price panics seen early in 2008 (although the “intentions” have still not been realized). Market psychology for rice, wheat, corn, and vegetable oils has clearly turned negative and prices in January 2009 are well below their peaks. But price levels remain well above long-run trends and considerable micro- and macro-adjustments are in the works.

**What international regime will be in play?**

The components of these adjustments will be conditioned, as never before, by the international context in which a new macro food policy is formulated. It is both exciting, and troubling, that this international context, the “global food price regime,” is in a greater state of flux, with more uncertainty, than at any time since FPA was being drafted. Which regime will drive policy formation in the coming quarter-century? Will it be the historical path of structural transformation with falling food prices, leading to a “world without agriculture” (6)? Or will it be a new and uncertain path of rising real costs for food with a reversal of structural transformation (7)? Management of food policy, and the outlook for sustained poverty reduction, will be radically different depending on which of these global price regimes plays out.

**Preventing food crises: knowing what to do**

Food crises have important short-run and long-run consequences for the welfare of the poor. Poverty traps and irreversible effects from childhood malnutrition (learning, stature, mortality) stem from even temporary loss of access to food. Markets are usually not the best mechanism for preventing these problems in the first place or alleviating them once they happen.
Markets are crucial in the medium- to long-run as the institutional vehicles for raising productivity of poor workers, but sudden spikes in food prices that cut off these workers from access to food supplies reflect serious market failures. Price stability is not a routine market outcome.

It should be recognized, of course, that high food prices also offer opportunities, for surplus producers, both at the farm level and at the national level. High food prices provide incentives for technical change, which paradoxically has been the long-run mechanism for generating low food prices and better nutrition for the poor. But again, the temporal disconnect between the poor losing access to food in the short run and a positive long-run technological response requires public understanding and intervention. By necessity, the poor live in the short run but must place their hope for an escape from poverty in long-run forces.

Building the intuition needed to understand these issues involves a combination of theory, history, quantitative analysis, and experience. Different analysts will bring different combinations to bear and differences in individual temperament, training, and hands-on opportunities probably mean that a variety of combinations can work. But no single component alone will make for effective policy analysis and advising.

**Analytical understanding**

A “vision” of an interconnected food system is the starting point for a deeper analytical understanding of how it works and, especially, how it would respond to external shocks, technical change, and policy initiatives. Building a vision is an intuitive and pedagogical process. Some analysts see the interconnections most clearly in the context of general equilibrium theory, now a standard tool in all macro economists’ kit. Others find the equilibrium of ecological systems a guidepost. Whatever the underlying framework, understanding how markets process billions of pieces of information on a daily basis to generate price signals to all participants is absolutely crucial to building this food policy vision. Markets cannot solve all of society’s problems and sometimes make them worse. But no other form of institutional organization has evolved that is capable of the necessary information processing required for individuals and firms to make efficient allocation and investment decisions and, thus, to raise long-run productivity. Without reasonably efficient markets, we are all doomed to poverty.

The dilemma, of course, is that markets often fail at tasks that society regards as important, such as poverty reduction or food price stability. Fortunately, relatively simple analytical tools and models are available that cast light on these market failures and point the way toward appropriate government interventions to solve them. Not all market failures are susceptible to successful government interventions—effective risk-sharing mechanisms would be high on the list—but historical experience demonstrates that public action against poverty and food price instability can be effective in both the short run and the long run.

**Mechanism design**

The key to effective public action is to get the “mechanism design” right. That is, policy initiatives must worry about the incentive structures set up so that they are compatible both with respect to government budgetary and bureaucratic capacity and with respect to self-interested behavior on the part of market participants who are exposed to the results of policy changes. This may seem an arcane and theoretical point (and worthy of the Nobel Prize in Economics in 2007), but failure to think through the nature of incentives being set up by policy initiatives is almost a sure way to guarantee an unsuccessful outcome.

Equally, policy design needs to be clear on whether the initiative is meant to be a temporary palliative for the problem at hand or a long-run cure. There is nothing wrong with palliatives, especially if they build support for longer-run approaches that solve the problem. But it is important not to confuse palliatives with cures. Thus, bridges between short-run approaches and long-run impact become the essence of successful food policy design and implementation.

These bridges will be built from “real” policy instruments, not “theoretical” ones. The distinction lies in understanding how realistic the assumptions are that underlie the expected behavioral responses to policy initiatives. A policy that assumes poor people have unimpeded access to financial markets to hedge risks will fail. But equally, a policy that assumes poor people will not change their consumption behavior in the face of price subsidies will also be challenged by unexpected results.

In the end, food policy initiatives must stress the importance of economic growth that includes the poor and rising labor productivity for unskilled workers. Without these long-run economic dynamics working reasonably smoothly, food policy becomes an exercise in permanent, and expensive, palliatives.

**Implementation, monitoring, and evaluation (and involvement in the full policy cycle)**

How do food policy analysts know when an initiative has worked and when it has failed? The answer comes through long-term engagement by policy analysts and scholar-practitioners in the design process in implementation, monitoring, and evaluation of policies. The engagement of at least a few analysts in the full policy cycle ensures that someone understands constraints on the ground and provides feedback to the design process itself. It is possible to be “captured” in this full-cycle involvement, to be so determined the design is right that the evaluation gets “cooked.” But early and critical feedback from the field is essential to good policy design.

Experimental design in policy evaluation is important, but randomization is difficult, if not impossible, with the breadth of policies under consideration. Randomized trials are the true gold standard for evaluating many social sector interventions at the project level, but they are not the primary methodology for policy evaluation.

**Knowing what not to do: the political economy of unintended consequences**

Good intentions do not inevitably lead to good outcomes. The concern for appropriate mechanism design is one reflection of this potential disconnect, but that concern is primarily a technical one. A broader concern is at issue here: the potential (indeed, likely) disconnect between political rhetoric and effective public action. The problem is that political rhetoric can generate expectations that cannot be met, with subsequent loss of credibility (and hope). Because credibility is often crucial to successful implementation of government policies, especially in short-run price stabilization activities, this loss is potentially serious.

In the original FPA, we tried to dodge this issue by noting in the preface that it was “beyond the scope of this book to structure meaningfully the political issues of food policy.” Understandable as that stance may have been at the time, when the *economics* of food policy were also poorly developed, the intervening quarter-century has amply demonstrated the primacy of *politics* in the design and implementation of food policy.
Unfortunately, there is no equivalent to FPA in the political science literature, perhaps because “all politics is local” (to quote a famous American congressional leader Tip O’Neill).

Without clear guidelines, then, on how to implement effective food policies, the best that can be done is to review what those policies need to accomplish. A way must be found to link short-run political imperatives with long-run economic realities. Democratic societies have the best historical track record at building and maintaining this link, but the deep institutions needed for democracies to fulfill this task take time to build.

A way must be found to make markets work to deliver long-run growth. No alternative exists to organizing economies around market-based transactions if societies are to reach their goals of greater material welfare and broad political freedom. Markets produce both. But markets also fail in important social tasks. Responsible governments must find a way to prevent those failures through careful regulation and to fix them when innocent workers and consumers cannot participate in the promises of market outcomes.

Thus, finding a way to make governments work to deliver effective and efficient safety nets as both a moral and political imperative—to allow markets to deliver these promises—is the essence of policymaking. Governments, like the poor, live in the short run. Their vision and strategic design for inclusive, long-run growth must survive the day-to-day challenges of managing power. The political economy of food policy lies in meeting these challenges.

The future agenda: human capital and institutional capacity
Stepping back from the details of how to do food policy analysis, several other questions arise: who will do the analysis and where will they be trained; what is the appropriate institutional base for food policy analysts; and why do this difficult analysis if politics is in command?

Where (and how) will food policy analysts be trained?
The role of scholar-practitioners
The human capital investment needed to train skilled food policy analysts is substantial and the educational institutions capable of providing the training are hard to find. A successful food policy analyst needs an unusual blend of technical skills, mostly economic, and a broad vision of how food systems interact and evolve over time. University Ph.D. programs have basically stopped doing this kind of training. Economics programs, e.g., increasingly focus on microeconomic decision making that needs to be understood through careful experimental design of the data needed for analysis. Some extraordinarily smart students have come out of these programs with field experience in rural settings and their journal articles are technical gems. But it is rare for these students to be trained in the macroeconomics of growth and development, much less economic history. Such students have little intuition about how complex food systems function and change. Undergraduates seeking graduate programs to train them as food policy analysts have nowhere to go.

The failure of academic programs to provide coherent training in food policy analysis is partly due to the lack of clear career tracks for such analysts. Just where are the jobs? What institutional base provides the best opportunities for food policy analysts to do good work and be effective advocates for sound policies and programs? The historical record is quite fuzzy, as successful food policy units have functioned in planning agencies, food logistics agencies, trade and commerce ministries, ministries of health, even ministries of agriculture. But there is no clear set of lessons on which institutional base provides the best incentives for high quality analysis that is effectively plugged into the policy process. Perhaps serendipity and leadership are the key variables in such success.

Where were the donors during the neglect of agriculture?
The world food crisis of 2007–2008 caught by surprise the major donors who support economic development. As prices spiraled out of control, their uniform response was more food aid and a commitment to fund agricultural research at higher levels than in the past. Their own role in undervaluing this research for more than 2 decades, thus making the world vulnerable to the crisis, was little recognized internally but widely criticized externally, especially in the international press (8). The World Bank was lucky in having its flagship publication World Development Report 2008 go to press in October, 2007, with the title Agriculture for Development (9). But even this volume did not foresee the “blowout” in commodity prices that caused so much economic distress for food importing countries, for the poor in affected regions, and for agencies that provided food aid to millions of destitute individuals globally. There is still little recognition in the donor community that much of the spike in food prices was not caused by basic supply-demand imbalances but by speculative pressures from global financial markets. Preventing such speculative excesses in the markets for staple foods would seem to be a high priority.

The political economy of food policy
Finally, there are a set of questions that revolve around the political economy of food policy. When politics is in command, which seems to be the normal state of affairs for most developing countries, how do efficiency issues stay on the agenda?

When markets are in command, which seems to be the main policy advice from the donor community to poor countries, how do distributional and welfare issues stay on the agenda?

More broadly, how do we educate policymakers as well as analysts? In democratic societies, it would seem to require educating citizens so that they could be informed voters, but the time horizon implied by this approach is very long indeed.

Other articles in this supplement include (10–25).

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