

The World Food Equation, Rewritten

Supply and demand changes have led to imbalances on the food markets and drastic price increases

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The world food situation is currently being rapidly redefined by new driving forces — income growth, climate change, high energy prices, globalization, and urbanization. The influence of the private sector in the world food system, especially the leverage of food retailers, is also rapidly increasing. Changes in food availability, rising commodity prices, and new producer—consumer linkages have crucial implications for the livelihoods of poor and food-insecure people.

Demand: Economic Growth and Population Change

Many parts of the developing world have experienced high economic growth in recent years. Developing Asia grew on average by 9% per annum between 2004 and 2006, and Sub-Saharan Africa by about 6% during the same period. This growth is a central force of change on the demand side of the world food equation. High income growth in low income countries readily translates into increased consumption of food.

Another major force altering the food equation is shifting rural-urban populations and the resulting impact on spending and consumer preferences. Within the next three decades, 61% of the world's populace is expected to live in urban areas.

Higher incomes, urbanization, and changing preferences are raising domestic consumer demand for high-value products in developing countries. The composition of food budgets is shifting from the consumption of grains and other staple crops to vegetables, fruits, meat, dairy, and fish. The demand for ready-to-cook and ready-to-eat foods is also rising, particularly in urban areas. These consumption patterns are expected to be reinforced in the future.

Supply: Climate Change and the Corporate Food System

Risks from climate change will have adverse impacts on food production, compounding the challenge of meeting global food demand. With the increased

risk of droughts and floods due to rising temperatures, crop-yield losses are imminent. The impact of global warming on developing countries will be much more severe than on developed ones. Agricultural output in developing countries is projected to decline by 20%, while output in industrial countries is projected to decline by 6%. Technological change is unlikely to alleviate output losses and increase yields to a rate that would keep up with growing food demand.

In addition, the growing power and leverage of international corporations are transforming the opportunities available to small agricultural producers in developing countries. While new prospects have arisen for some farmers, many others have not been able to take advantage of the new opportunities since the rigorous safety and quality standards of food processors and food retailers create high barriers to their market entry.

Transactions along the corporate food chain have increased in the past two years. Between 2004 and 2006, total global food spending grew by 16%. In the same period, the sales of food retailers increased by a disproportionately large amount — more than 40% for top retailers — compared to the sales of food processors and of companies in the food input industry (which grew by 13% and 8% for top companies in the respective field).

The Changing Equation

The changes on the supply and demand side of the world food equation have led to imbalances and drastic price changes. Between 2000 and 2006, world demand for cereals increased by 8% while cereal prices increased by about 50%. Thereafter, prices more than doubled by early 2008 (compared to 2000). Supply is very inelastic: it typically increases by 1 to 2% when prices increase by 10%. Supply response decreases further when farm prices are more volatile, but increases as the result of improved infrastructure and access to technology and rural finance.

The consumption of cereals has been consistently higher than production in recent years. The greater increase in con-

sumption is explained not just by growing cereal use for food and feed (which increased by 4 and 7% since 2000, respectively) but also by the use of cereals for industrial purposes — such as biofuel production.

Supply and demand changes do not fully explain the price increases. Financial investors are becoming increasingly interested in rising commodity prices, and speculative transactions are adding to increased commodity-price volatility. In 2006, the volume of traded global agricultural futures and options rose by almost 30%. Commodity exchanges, which are becoming more relevant in India and China, and some African countries, can help to make food markets more transparent and efficient.

Policy Recommendations

While maintaining a focus on long-term challenges is vital, some policy actions should be undertaken immediately:

- Developed countries should facilitate flexible responses to drastic price changes by eliminating trade barriers and programs that set aside agriculture resources, except in well-defined conservation areas. A world confronted with greater food scarcity needs to trade more, not less, to spread opportunities fairly.
- Developing countries should rapidly increase investment in rural infrastructure and market institutions in order to reduce agricultural-input access constraints, since these are hindering a stronger production response.
- Placing agricultural and food issues onto the national and international climate-change policy agendas is critical for ensuring an efficient and pro-poor response to the emerging risks.

Joachim von Braun is Director General of the International Food Policy Research Institute (IFPRI). The article is based on the Food Policy Report No. 18 "The World Food Situation: New Driving Forces and Required Actions" published by in December 2007. Full text of the report can be downloaded at: <http://www.ifpri.org/pubs/fpr/pr18.asp>. **BT**