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INTERNATIONAL AGRICULTURAL
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Policy Brief

Globalization, Macroeconomic Imbalances and South America's Potential to be the World's Food Basket

Terry Roe and Munisamy Gopinath

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South America holds immense potential to serve as the world's food, as well as energy, basket. However, the transformation of the potential into reality requires significant internal reforms on price, tax and environmental policies, which correct market failures, restore macroeconomic balance and place the region's natural resources on a sustainable growth path.

Reliance on China's growth has helped grow agricultural exports of South America in the short run, but a diversification of export destinations is also needed for stability in economic growth.

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The Dilemma Faced by Latin American Countries

The Keynote Address "*With or Against China? The Dilemma Faced by Latin American Countries*" was given by Dr. Timothy Kehoe, Distinguished McKnight Professor of Economics, University of Minnesota. Dr. Kehoe, in reviewing the economic growth experience of countries, pointed out that the real growth of U.S. GDP per working-age person averaged two percent per year since 1875. Growth came from technological progress including improvements in management accompanied by growth in physical and human capital. The U.S. experience, Dr. Kehoe noted, suggests that a country with stable institutions and policies should grow in the long run at roughly two percent per capita per year. Countries that improve their institutions and policies should grow faster in the short run, but eventually converge toward the two percent norm.

Drawing on recent work published in the *Latin American Journal of Economics*, and the *Journal of Economic Literature*, Dr. Kehoe next turned to a comparison of China, a country that has experienced unprecedented rates of growth in real GDP averaging about 10 percent per annum during 2000-2010, and Mexico that averaged about 2.2 percent growth in real GDP over the same period. He pointed out that Mexico implemented an impressive set of economic reforms between 1984 and 1995, yet its growth has been modest compared to China. Part of the contrast between the two countries is that Mexico's per capita income was almost seven times higher than China's in 2000 (but only about two times higher in 2011). Moreover, Mexico's move from import-substituting to export-oriented manufacturing took place after the dramatic growth associated with urbanization and the demographic transition. The Maquiladoras allowed growth of export-oriented manufacturing, which was further stimulated by the North American Free Trade Agreement (NAFTA). However, in contrast to China, Mexico was relatively dependent on important intermediate inputs from NAFTA countries. Dr. Kehoe noted that "the evidence points overwhelmingly to the conclusion that Mexico's reforms, backed by NAFTA, have largely been a disappointment for the country. Despite dramatic increases in trade and foreign investment, economic growth has been slow and job creation has been weak."

The policy changes, noted above, should also generate resources for investments in human capital, infrastructure and technological change, which aid in alleviating poverty and inequality within and across South American countries.

In contrast, China started with special economic zones, but by the early 1980s, duty exemptions were available throughout the country. This approach allowed China to import inputs and link to value chains from any country. It also led China to build outward-oriented manufacturing industries which stimulated rapid industrial growth, foreign direct investment and the transition of labor out of relatively unproductive agriculture to urban activities. Relative to Mexico, China's policies were more conducive to stimulating investment and encouraging a savings rate that approached 50 percent of GDP.

Dr. Kehoe concluded the two country comparison by suggesting that barriers to growth in Mexico are poor financial institutions, lack of contract enforcement, problems with labor markets, and crime. However, he also suggested that the barriers to growth in China are similar, but it's relatively more rapid growth was thus a combination of starting from a more primitive, low-income base than Mexico and a relatively large share of the former's workforce in relatively low-productive activities. A question that stimulated debate was: When will the barriers limiting Mexico's growth start to bind on China? Dr Kehoe advanced the hypothesis that, "Absent major reforms, China's growth will slow to about 2 percent per year within the next 10 years, perhaps before China reaches the level of real GDP per working-age person of Mexico." Dr. Kehoe concluded his presentation by questioning whether South American countries can expect to sustain the sources of growth from trade if China's annual growth converges toward a long-term rate in the neighborhood of 2 percent.

[Economic Growth and Poverty Dynamics in Latin America](#)

Dr. Máximo Torero, Director of the International Food Policy Research Institute's Division of Markets, Trade and Institutions, focused on economic growth and poverty dynamics in Latin America. He pointed out that inequality in South America has fallen for 13 of the 18 countries, while inequality in Brazil remains one of the highest. He suggests that high inequality is of concern for four reasons: it makes people unhappy, political or power inequalities may corrupt institutions, when capital markets are imperfect wealth inequality may harm economic growth, and high inequality slows down poverty reduction.

Dr. Torero then proceeded to draw upon empirical evidence and other studies to support each of these four reasons. In the case of how inequality contributes to the corruption of institutions, he cites studies that show an association between inequality and the lack of factor endowments (physical assets and human capital) for the poor. The concentration of resources held by the wealthy help them to better capture institutions and control governance, and particularly so for the provision of public goods (transportation, schools, health care) for which the poor are relatively more dependent upon, in order to escape poverty. Wealth inequality is shown to harm future growth because capital markets are notoriously imperfect. Poor, credit constrained individuals may not be able to invest in human and other forms of capital, thus relegating them to dependence on low wage opportunities. This constraint lowers growth in the level of a country's total physical and human capital stock, thus suppressing wages and economic growth. Countries with relatively high inequality face the problem of targeting poverty reduction policies, and financing and sustaining them, in part, because many of the poor reside in rural areas which make policy implementation particularly difficult and expensive.

Drs. Terry Roe and Munisamy Gopinath served as symposium Program Organizers.

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To further elaborate on these points, Dr. Torero focused on Peru. He drew upon the simile of an apple that looked healthy on the outside, but was rotten on the inside. Average annual rates of growth in real GDP over the 1991-2000 and the 2001-2010 period shows that Peru exceeded the growth rates of most South American countries, including Mexico. Sources of growth were shown to include structural reforms, macroeconomic stabilization, and external conditions favoring country exports. However, the “inside of the apple” revealed a large investment gap in infrastructure, and only marginal reductions in income inequality. Education of the poor has not improved, exports continue to be dominated by raw materials, and the countries global competitiveness index has declined. Dr. Torero concluded his presentation by focusing on the design of methods to identify and target poverty reduction by microeconomic region of the country, and categorizing policies most likely to yield the highest return to addressing poverty reduction.

Do Tax Policies Promote Environmental Degradation and Inequality?

Dr. Ramón Lopez, Professor of Agricultural and Resource Economics, University of Maryland, examined how tax policies promote environmental degradation and inequality in Latin America. He suggested that in evaluating tax policies, market failures should play a central role. In particular, capital market failures are of concern because they cause liquidity constraints that restrict households’ investment in human capital, while environmental market failures allow economic growth to excessively degrade the environment. Dr. Lopez pointed out that many South American countries are highly dependent on natural capital, and presented data showing that large natural resource rents accrued to a small elite. Most South American countries, on the other hand, collected relatively low tax revenues as a proportion of GDP, and these revenues are highly dependent upon indirect taxes, especially the value added tax (VAT). Compounding the problem, the rents to natural capital tend to escape their share of taxes. Evasion of VAT ranges from 20 to 38 percent, while income tax evasion exceeds 40 percent for many South American countries. Dr. Lopez concluded that countries are over reliant on indirect taxes, which in turn magnifies the impact of the liquidity constraints affecting households’ investment in human capital.

Dr. Lopez also suggested that government’s failure to adequately address the rents accruing to the elite holders of natural capital, and the failure to address the production of “dirty” goods lower economic growth. The following figure from Dr. Lopez’s presentation shows the share of the value of dirty goods (SDG) in GDP tends to be negatively correlated with the average rate of growth in GDP over the period 1990-2005 for fifteen South American countries.

Emerging Economies and South America’s Contribution to World Food Markets

Dr. Kym Anderson, George Gollin Professor of Economics, University of Adelaide and Australian National University, and Dr. Anna Strutt, Associate Professor of Economics, the University of Waikato projected South America’s contribution to world food markets using a state-of-the-art general equilibrium model, which included a large number of countries and commodities. The focus of Drs. Anderson and Strutt was on the consequences for global agricultural and food markets from rapid economic growth in natural-resource-poor Asian countries. In addressing this issue, they presented alternative scenarios such as high or low productivity growth in all

This IATRC Policy Brief summarizes outcomes of a symposium, held August 18, 2012 in Foz do Iguaçu, Brazil. The symposium was held in the spirit of the late Dr. G. Edward Schuh's contributions on macroeconomics of agriculture and South America.

In a world facing food price spikes and volatility, South America remains one of the few regions holding real potential for growth in agricultural production, with sufficiently modern economies to foster technological change, as well as the potential to bring additional lands under environmental friendly cultivation.

Within this context, the symposium sought to link growth of the world economy and the macroeconomic imbalances among nations to South American countries

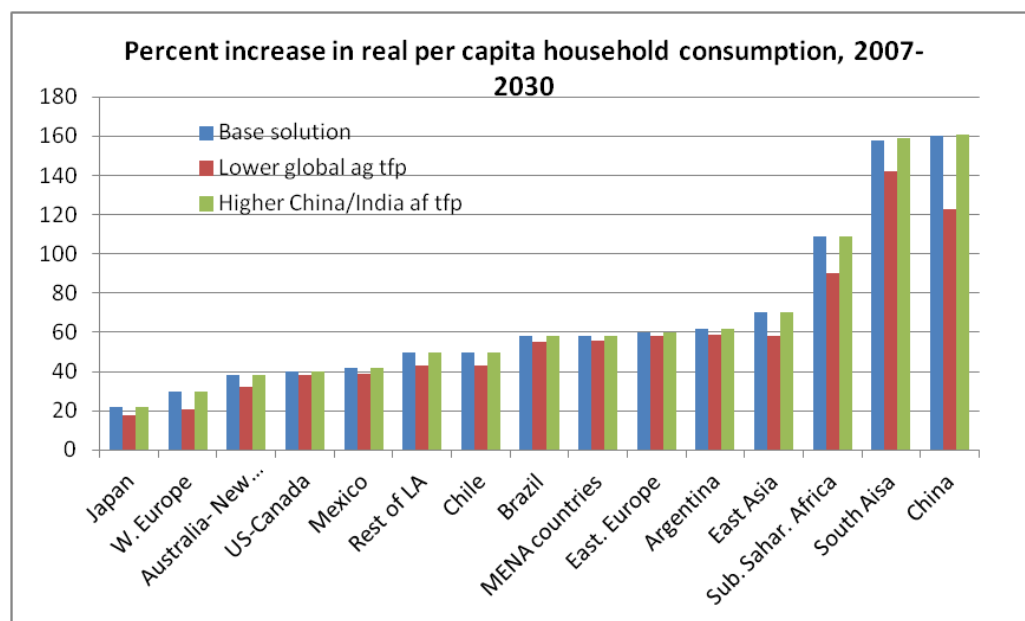
and the latter's potential to become the world's food basket.

Since growth in agricultural output can impinge on the sustainability of this region's relatively abundant natural resources, attention was also given to environmental concerns.

countries and in particular, China and India, which account for 40% of the world's population and face declining comparative advantage in production of primary goods. They then discussed the implications of these scenarios for resource-rich Latin American countries growth, consumption and trade.

Drs. Anderson and Strutt showed that if rapid economic growth continues in natural resource-poor Asian countries, their share of global agriculture and food imports rise from 15% to 40% between 2007 and 2030. At the same time, Asia's agricultural self-sufficiency ratio will fall from 98% to 92%, mainly due to China. These imports are likely to be increasingly supplied by South American countries, whose world export share of agricultural trade would rise from 13% to 17% in the corresponding period, while North America and Europe would experience a fall in their export shares.

China and India have recently made substantial investments in agricultural research. If they raise total factor productivity in grains, mostly rice and wheat, then their self-sufficiency declines to 94% only in 2030. Drs. Anderson and Strutt suggest that a preferred measure of food self sufficiency is household consumption of food in real terms. Their projections, as shown in the figure below, show that food consumption in real terms grows the most for countries whose rates of economic growth are relatively high compared to developed countries. Sub Saharan Africa, South Asia and China are projected to experience a substantial increase in their consumption of food.



Source: Kym Anderson and Anna Strutt

In drawing conclusions for Latin American countries, Drs. Anderson and Strutt suggest substantial gains in their share of total world exports, but a heavy dependency on China. Hence, growth prospects in China and India, as noted earlier by Dr. Kehoe, are likely to be key drivers causing changes in global agricultural and food trade flows.

Evolving Trade and Price Policies in Latin American Agriculture

Dr. Alberto Valdés, Pontificia Universidad Católica de Chile, presented policy interventions affecting agriculture in selected South American economies. Dr. Valdés pointed out that the ability of South American countries to contribute to global food supply would depend, in part, on the incentive framework faced by the regions' agricultural producers. He showed that agriculture's share in total exports is 46% for Argentina, 28% for Brazil, 85% for Paraguay, and 59% for Uruguay. Many of these countries have increased their exports of agro-processed products. These countries have also implemented radical changes in trade policies in the 1990s, and now tend to be more export oriented with notable experience participating in free trade areas (FTA). Furthermore, these countries have lowered both implicit and explicit taxation, with Brazil showing the lowest level of support to farmers. Dr. Valdés suggested that recent agricultural price spikes also contributed to the desire to lower restrictions to agricultural trade. However, he warned that such spikes do not guarantee policy backtracking in the future based on popular demand.

Policies outside of agriculture, Dr. Valdés argued, have a major effect on agricultural trade. One such effect is on the real exchange rate which, because agriculture is highly tradable, directly affects a country's competitiveness with other exporters in foreign markets. An indirect effect is that a mismanaged exchange rate leads to exchange rate uncertainty and macroeconomic instability, both of which tend to decrease agricultural exports.

Interestingly, the proliferation of FTA's also appears to have fostered growth in South America's agricultural trade. Dr. Valdés points out that several South American countries are advancing negotiations of bilateral trade agreements with developed countries, e.g. U.S., EU and Canada. Bilateral agreements have also emerged between countries in South America, while at the same time efforts are being made to fully implement the Mercosur agreement among member countries. Dr. Valdés noted that the proliferation of FTAs was criticized in the earlier trade literature as stumbling blocks to multilateral trade reform. However, recent evidence suggests that these agreements have tended to foster freer trade especially with South American countries. According to Dr. Valdés, such FTAs also have the potential to limit trade policy reversals in this region. He concluded that export prospects for South American agriculture depends on China's growth, multilateral trade liberalization, e.g. Doha Round, and internal reforms to price, trade and exchange rate policies.

Technological Change, Agricultural Growth and Income Inequality

Dr. Geraldo Barros, Professor of Agricultural Economics, University of São Paulo, focused his presentation on how agricultural growth, via technological change and integration, improved the income distribution in Brazil. Dr. Barros began by pointing out that Brazil has a high income inequality and poverty relative to other South American countries. He indicated that historians link the income distribution and poverty rate to the country's Indian and African periods of slavery and to colonization that restricted access to land and concentrated land holdings. These features still prevail due to lack of appropriate and effective policies directed to land redistribution and improved education and health. He suggested that some improvements in the distribution of income and poverty levels occurred in the 1990s. Three factors contributed to these improvements: lower inflation, pro-poor public programs including income transfers, and the growth in agricultural production and exports.

Dr. Barros suggested that the import-substitution-industrialization policies accompanied by unfavorable exchange rate, fiscal and trade policies between 1930 and 1980 served to benefit the non-farm sector at the expense of agriculture. The proportion of poor in the Brazilian population increased from 40% to 50% between 1977 and 1984. In the late 1980s, Brazil joined the liberalization wave sweeping South America that included a reduction in export controls and average effective tariffs (68% to 39%), exemption of agricultural products from the 13% value added tax, and a more market-determined float for the exchange rate. Over the 1975 to 2010 period, land planted to crops increased by 1.5% per year, the stock of tractors grew by 3.2% per year, the use of fertilizer expanded by 4.2% per year, while the growth in agricultural total factor productivity ranged between 3.2% and 3.7% per year. Dr. Barros maintained that these developments, along with the implementation of an income transfer program, played a major role in decreasing the proportion of the poor in Brazil from 35% to 15% of the population between 1992 and 2009.

Dr. Barros then proceeded with an analytical exercise in which he measured contributions to Brazilian consumers, especially the poor, from relative agricultural price changes and output growth. His results showed that over the 15 year period to 2010, growth and expansion of agribusiness, primary agriculture and other agro-industry subsectors amounted to total GDP transfers to Brazilian consumers in the range of 10%, 15% and 12%, respectively. The general conclusion is that growth of the agriculture and agribusiness sectors, particularly in recent years, is an effective pro-poor growth strategy that significantly lowered income inequality in Brazil.

Concluding Remarks

Three Panelists, Marcos Jank (Agribusiness and Bioenergy Expert, Brazil), Lee Ann Jackson (World Trade Organization) and Will Martin (World Bank), reviewed the day's proceedings. They agreed that South America holds immense potential to serve as the world's food as well as energy basket. However, the transformation of the potential into reality requires significant internal reforms on price, tax and environmental policies, which correct market failures, restore macroeconomic balance and place the region's natural resources on a sustainable growth path. Reliance on China's growth has helped grow agricultural exports of South America in the short run, but a diversification of export destinations is also needed for stability in economic growth. The policy changes, noted above, should also generate resources for investments in human capital, infrastructure and technological change, which aid in alleviating poverty and inequality within and across South American countries.