Special Article

The Future of Brazil's Agricultural Sector

Brazil, the fifth largest country in area and population, is one of the world's agricultural giants, and is among the few countries that have the potential to significantly increase agricultural area as well as yields. But in order to realize its full production potential, Brazil's agricultural sector will depend on the continuation of reforms aimed at privatizing the economy, reducing the budget deficit, and controlling inflation.

The Brazilian agricultural sector is both large and diverse. Brazil is one of the world's largest producers of grains and oilseeds. It ranks among the top three soybean and corn producers in 1997/98, and is the largest producer of rice outside Asia. It is among the world's leading producers of beef and poultry, tobacco, bananas, and cocoa, and leads in production of coffee, sugar, and citrus.

Brazil's economy is the largest in South America, with a gross domestic product (GDP) estimated at $843 billion in 1997. Brazil is a major player in world agricultural trade. It is a key exporter of soybeans, soymeal and soy oil, poultry, and beef. Its population and income level also make it one of the world's largest consumers and importers of agricultural commodities.

The government has made significant progress in restructuring the economy since launching the economic stabilization program known as the Real Plan in mid-1994 aimed at controlling rampant inflation. Hallmarks of the plan are more market orientation, privatization of government-owned industries, lower tariffs, tight credit, "de-indexation" of prices, and a new, stable currency—the real. USDA's baseline projections of Brazil's production, consumption, and trade of major agricultural commodities from 1998 to 2007 assume successful continuation of the country's reform program.

How Successful Are Brazil's Economic Reforms?

Since the Real Plan took effect, the economy has experienced positive real GDP growth every year. The economy has grown by 10 percent in inflation-adjusted terms since the Real Plan was implemented and by 4 percent in 1997 alone.

But the most impressive outcome of the plan has been to arrest the crippling inflation rates of the early 1990's. The inflation rate for the month of June 1994 alone had peaked at almost 50 percent, while the rate for the entire year of 1997 is estimated to have been only 7.5 percent—reaching single-digit levels for the first time in decades. This was accomplished by instituting a tight credit policy while opening the market to foreign competition and "de-indexing" prices. High interest rates have succeeded in attracting the capital inflows needed to stabilize the exchange rate while helping to rein in expanded demand that followed the decline of inflation.

Despite nearly 4 years of lower inflation and an expanding economy, Brazil has yet to make the fiscal and administrative reforms needed to lock in these improvements. The stabilization program itself has not been without problems. The trade balance went from a surplus of over $10 billion in 1994 to a deficit of almost $9 billion in 1997, and the current account deficit grew from $1.9 billion in 1994 to an estimated $26 billion in 1997. The deterioration of the trade balance is largely a function of lower import tariffs and an overvalued currency relative to the U.S. dollar.

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The growing deficit is a concern particularly because of the shadow cast by events in Mexico and Southeast Asia, where foreign investors pulled out their money because of lack of confidence in the economies. While a similar run on the national currency cannot be ruled out for Brazil, the country's high interest rates continue to attract a large volume of foreign capital inflows, which help support the exchange rate. The current account deficit is being comfortably financed by a combination of foreign direct investment and long-term debt, and in the short term it should remain manageable. In the long term, the government must achieve significant fiscal and administrative reforms, including overhauling the tax system and reducing the government's payroll and pension obligations.

Two measures taken late last year demonstrate Brazil's political will to defend the value of the real, consolidate some of the gains made over the last 4 years, and tackle the large public-sector deficits. In November 1997, the government implemented

Weights of commodities are in metric tons.

1 hectare = 2.47 acres

Brazil's Agricultural Potential

Brazil's agricultural sector is the country's largest employer. Most of the growth in agricultural output during the last 10 years has come in the form of productivity gains, as farmers adopted new technologies and lowered costs in order to deal with competitive pressures caused by real exchange rate appreciation, the opening of markets to international or regional competition, and rising real wages. Higher yields have resulted from improved seed and pest control management and increased use of fertilizer and irrigation. A trend toward greater mechanization has reduced labor needs. The share of the labor force in agriculture has dropped from 37 percent in 1980 to an estimated 25 percent in 1996.

The land in agricultural use is approximately 230 million hectares, or about 27 percent of the country's total land area of 845 million hectares. Of this, pasture accounts for the bulk, about 170 million hectares. Of the remaining 60 million hectares of arable agricultural land, about 52 million hectares are planted to annual crops, of which grains and oilseeds make up about 60 percent, or 32 million hectares.

There is potential for more land being drawn into use for agriculture in the undeveloped Cerrados or savannah region of central Brazil. The loosely defined Cerrados accounts for between 180 and 207 million hectares, of which only about 10 million is currently planted to field crops, primarily soybeans. Pasture accounts for between 35 and 45 million hectares, with another 2 million in permanent crops (e.g., citrus).

The land in the Cerrados is fairly flat with sparse cover, mostly grasses and brush. The topography makes it easy to clear and suitable to heavy machinery, but the soil needs heavy applications of fertilizers and lime due to its low fertility and high acidity. Nevertheless, yields in the Cerrados are above the national average. Rainfall during the soybean growing months is considered more than adequate and consistent, and drought is rare. Land is plentiful and, at the moment, fairly affordable.

But it will take a significant expansion in the transportation infrastructure and remunerative prices for the Cerrados to be fully exploited. Most of the unexploited land is far from the ports and consumption centers, which means prohibitively high transportation and marketing costs. Should the infrastructure be built, however, some analysts believe that area to crops could increase between 5 and 12 million hectares in the medium term (5 to 10 years) with long-term potential for expanding crops onto an additional 60 million hectares—an area equivalent to the total land currently planted to corn and soybeans in the U.S.

Future growth in Brazil's food consumption will be driven mainly by increased income, as population growth has slowed dramatically over the last 30 years. Brazil's population is expected to grow annually by less than 1 percent over the next 10 years, reaching 180 million by 2007. The continued migration from the countryside to the cities, coupled with strong income growth in the future, will cause major changes in the consumption patterns of the average Brazilian, some of which are already in evidence.

a new program to reduce the budget deficit, including tax hikes, budget cuts, reductions in fiscal incentives, and public-sector job cuts. The new program came on the heels of an earlier decision to significantly increase interest rates in order to stem any currency and asset outflows the Asian crisis might trigger. As a result, Brazil's economy is expected to grow by only about 1 percent in 1998 compared with the 4.4 percent forecast earlier.

USDA's baseline projections for Brazil assume that the effect of the Asian crisis on the Brazilian economy will be short-lived, that public sector reform will continue, and that inflation will remain under control. Given these assumptions, real GDP is expected to increase by 3 percent in 1999 and grow by about 4.8 percent annually between 2000 and 2007. The nominal exchange rate is expected to continue to depreciate by about 9.7 percent per year over the projection period. In real terms, the exchange rate is expected to be about 1 percent stronger versus the dollar by 2007.

Agriculture Has Benefited From Reform Measures

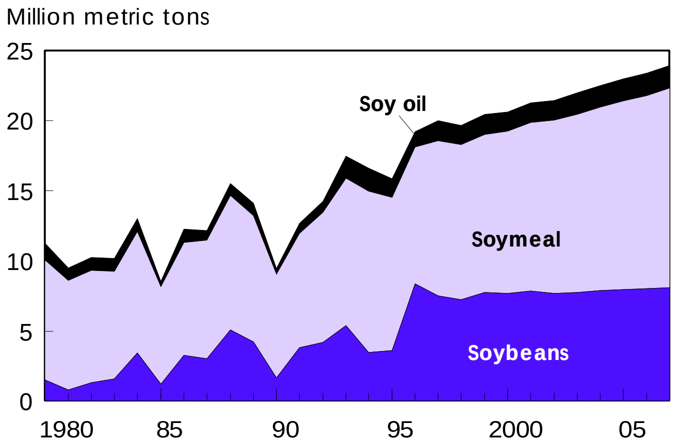
The impact of the Real Plan on Brazil's agricultural sector appears to have been positive. The Central Bank of Brazil estimates that the agricultural sector grew by 5 percent in 1997 to US$102 billion. Nevertheless, the Real Plan has apparently not yet eliminated a perennial problem for the Brazilian producer—a shortage of available credit.

While most producers welcome the end of runaway inflation, those carrying large debts have lost the advantage of having the principal reduced by inflation. Moreover, because the government has reduced funding for subsidized credit, producers are finding it harder to roll over their debt. Interest rates, while high, have dropped, and rates for the agricultural sector are lower than market rates. But banks have become more selective when making new loans.

For most producers, future planting decisions will now be made on the basis of market prices, whereas before the Real Plan the government was a major buyer, distributor, and holder of many agricultural commodities (particularly in the grain sector). The government has gradually removed itself from direct management of markets, no longer buying all the national production of certain products at a minimum guaranteed price and then distributing it to millers and other buyers. It has also gradually eliminated its large grain stocks through periodic open auctions. Except under a few government loan programs, producers no longer will be allowed to deliver commodities to the government in lieu of cash payment.

Special Article

Brazil's Exports of Soy Products To Continue To Surpass Soybeans



1997 preliminary;1998 forecast; 1999-2007 projected.
Economic Research Service, USDA

Possibly the most significant event for farmers since implementation of the Real Plan was the law eliminating the state sales tax (ICMS) on primary and semimanufactured exports. Removal of the ICMS tax in September 1996 had the greatest impact in the soybean sector, eliminating the tax advantage enjoyed by crushers who export soybean meal and oil over exporters of unprocessed soybeans. The change resulted in a significant increase in soybean exports, which reached a record 8.3 million tons in 1996/97.

Exports of agricultural commodities have played a critical role in stemming Brazil's growing trade deficit. Between 1994 and 1996, the agricultural sector contributed $25.3 billion to the trade balance, or an average of $8.4 billion per year.

The government has increased the availability of credit for exports by providing interest rate guarantees to commercial banks that finance export sales, ensuring access to financing at rates equivalent to those available internationally. Exporters are also able to acquire international financing by forward-selling commodities through the Advancement of Exchange Contract (ACC) program, as long as the commodities are exported within a specified period, usually 180 days.

Reforms To Boost Exports Of Soybeans & Products

Brazil ranks as the world's largest exporter of soymeal and the second-largest exporter of soybeans and soy oil. Soybeans and products account for the largest share (26 percent) of Brazil's agricultural exports, bringing in about $4.4 billion in 1996 alone. Over the next 10 years, the soybean sector is projected to be the greatest benefactor of the Real Plan, as a stable economy and low inflation help stimulate investment in transportation and marketing infrastructure, opening the way for expansion of production in the Brazilian frontier.

Already, soybean producers are responding to the new opportunities. In 1997/98, soybean area is forecast to have grown by 9 percent, reaching a record 12.9 million hectares and surpassing corn area for the first time in history. Removal of the ICMS tax helped account for the increase. The USDA baseline projects soybean area to remain above corn area, growing about 1.7 percent per year from the average level of 1995/96-1997/98, to over 14 million hectares by 2007. Some analysts believe this figure could be much higher, given the potential for expansion into the relatively undeveloped "Cerrados" or savannah region of central Brazil.

Soybean yields are expected to continue to rise throughout the projection period by an average of 1.7 percent per year from the 1995/96-1997/98 average. By 2007, annual production is expected to be almost 11 million tons greater, reaching 38 million tons.

Exports of soybeans in 1997/98 are expected to drop by 10 percent from the all-time high of the previous year to 7.5 million tons, still the second-highest amount on record. While the elimination of the ICMS taxes has resulted in more soybean exports, crush levels have seen little decline, as production of soybeans increased dramatically (by almost 25 percent between 1995/96 and 1997/98) and crushers have increased their imports of soybeans.

USDA projects that the bulk of soybean sector exports during the baseline period will continue to be in the form of products, although the processing industry is expected to crush a slightly lower proportion of total production. All exports of soybeans and soy products are expected to grow during the baseline period—soybeans to 8.1 million tons in 2007, soymeal to 14.3 million tons (from 11.1 in 1997), and soy oil to 1.6 million tons (from 1.4 in 1997).

Imports of Grains Also Expanding

In addition to being one of the world's largest producers and exporters of agricultural commodities, Brazil is among the world's largest importers of grains. *Wheat* is the most important grain imported, accounting for 74 percent of grain imports during 1992/93-1996/97. During this period, Brazil has had to rely heavily on imports, with less than 30 percent of consumption coming from domestic production. This was not always the case. During the late 1980's, Brazil was producing most of the wheat it consumed. In 1987/88, when wheat production in Brazil reached its peak of 6.1 million tons, 86 percent of consumption came from domestic sources. By 1995/96, production had dropped to 1.5 million tons, as producers consistently had difficulty obtaining subsidized credit, and as production costs increased while guaranteed purchase prices had decreased.

USDA's baseline projections are not intended to forecast the future, but rather to construct a picture of Brazil's agricultural sector under a set of specific assumptions and outcomes. The results are the product of many approaches, including modeling and expert analysis, and are predicated on the assumption that Brazil's current macroeconomic and agricultural policies continue through the projection period. This assumes that the government can continue to support the Brazilian currency and to continue its commitment to the reform program.

The situation has improved somewhat since then, and the 1997/98 wheat harvest has been pegged at 2.8 million tons. Still, this is far short of the government's announced goal of 50 percent self-sufficiency. Projections are for land devoted to wheat to continue to decrease, although at a much slower rate than during the previous 10 years, as areas not suited to the high-quality wheat demanded by millers and consumers shift into other crops. Yields, which increased by only 0.5 percent per year on average over the last 10 years, are expected to grow at a more rapid pace (1.5 percent) due to greater use of improved seeds. Still, output will be unable to keep up with demand, and Brazil is projected to be importing close to 7 million tons of wheat by 2007.

Rice is the principal grain produced for human consumption in Brazil and is grown in every state in the country. It has traditionally been the primary food grain consumed in Brazil and remains, along with beans and cassava, one of the main staples of many Brazilians, particularly those in the lower income groups. Recently, however, per capita rice consumption has dropped slightly, as those in higher income groups switch to wheat-based products (breads and pastas) while those in the lower income groups use their increased purchasing power to consume more meat and less of the traditional staples.

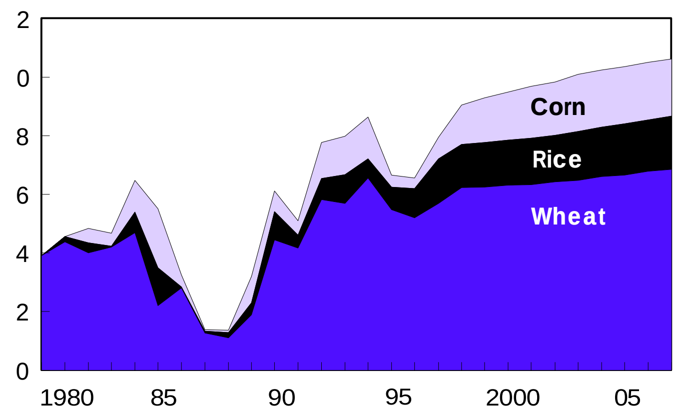
Given the rate of income growth assumed in the baseline, per capita consumption of both wheat and rice is projected to increase, but the wheat increase will be greater, making it the dominant grain consumed. Nevertheless, Brazil is expected to continue to be a major importer of rice, and in some years the world's largest importer.

Area of rice harvested has been steadily decreasing since the peak of 6.5 million hectares in 1979/80. Area in 1997/98 is forecast to be about 3.6 million hectares, although production, estimated at 6.5 million tons, is almost identical to that of 1979/80. The production levels were maintained, in part, because the drop in area has been in dryland production, while area under irrigation has increased, improving average yields. Future increases in irrigated rice may be rare, however, as investment is shifting to Argentina and Uruguay where land costs are lower and yields higher. As partners of Brazil under MERCOSUR, these countries can ship their rice to Brazil duty-free and have already dramatically increased their rice exports to Brazil. While rice yields will continue to increase modestly in Brazil, production is not expected to keep up with consumption, and imports are projected to increase to 1.8 million tons by 2007 from 1 million in 1998.

Corn is the major grain produced in Brazil, primarily for the poultry and pork industries. As with rice, it is grown in every state and has shown in recent years impressive gains in yields. Brazilian corn yields jumped by over 30 percent between 1990 and 1992 to 2.36 tons per hectare, and in 1997/98, yields were 2.62 tons. As a result, Brazil has been able to increase production and decrease imports while area contracted slightly. Corn has had a difficult time competing for area due to the higher profitability of soybeans and the fact that financing for soybeans is more readily available through the government's export financing programs.

Wheat Is Brazil's Largest Grain Import

Million metric tons



1997 preliminary;1998 forecast; 1999-2007 projected.
Economic Research Service, USDA

Competition between corn and soybeans is expected to remain strong, keeping corn area from expanding significantly. Corn yields are projected to increase about 2 percent per year, surpassing 3 tons per hectare by 2005 and leading to production of 42.6 million tons by 2007. Growth in demand for corn by the livestock sectors is also expected to remain strong. As a result, imports are projected to expand to almost 2 million tons by 2007, from 750,000 in 1997/98.

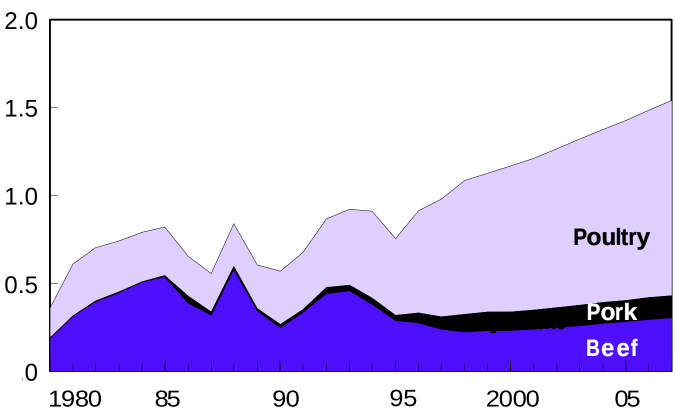
Brazil Expected To Remain A Net Exporter of Meats

Brazil is the world's third-largest *poultry* exporter, shipping its product to about 40 countries, with almost 50 percent going to two countries—Saudi Arabia and Japan. Poultry meat exports have been among the fastest growing of Brazil's export commodities. The poultry industry has expanded production every year since 1985, and output is expected to reach 6.7 million tons by 2007, a 50-percent increase over the 4.4 million tons produced in 1997. Exports grew by an impressive 34 percent in 1996 alone, exceeding 500,000 tons for the first time. Exports are forecast to reach 740,000 tons in 1998 and to surpass 1.1 million tons by 2007.

The industry is currently expanding beyond the traditional poultry regions of the south and southeast and into the center-west region of the country, which is the corn/soybean belt. The states in this region are trying to encourage more industry with tax incentives and financing, and in some cases even providing land for processors to construct facilities. Most of the expansion is planned to be self-sustaining and vertically integrated from feed mill through breeding facilities, hatcheries, and processing plants. The additional costs of transporting the product to consumers will be largely covered by savings on feed costs. Most of the production from the center-west is apparently destined for the growing domestic market.

Special Article

Brazil's Poultry Exports To Exceed 1 Million Tons By 2007



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If exports are to increase, the industry must keep ahead of local demand, which grew by an impressive 10 percent per year between 1985/86-1987/88 and 1995/96-1997/98. Per capita consumption of poultry is expected to grow from about 23 kg in 1997 to 30 kg in 2007.

Despite this impressive growth in poultry consumption, *beef* remains the meat of choice for the Brazilian consumer (36 kg per person in 1997) with *pork* (9 kg) a distant third. Per capita beef consumption is projected to grow to 39 kg by 2007, with pork increasing to 11 kg. By 2007, Brazil's per capita meat consumption is expected to exceed 80 kg, very close to that of the region's largest meat consumer in per capita terms, Argentina.

Brazil has the second-largest beef herd in the world after China and was the third largest beef producer in 1997 after China and the U.S. Like Argentina, Brazil's beef is grass-fed, making the sector heavily dependent on extensive pastures. Finishing cattle in feedlots is not widely practiced, although it is on the rise. Since 1980, beef production has been expanding at a relatively steady rate of about 4 percent per year. Future growth will depend on structural adjustments in production and a more efficient marketing system, as competition from both poultry and pork has intensified. Brazil is in the process of genetically improving its beef herd through crossbreeding, while attempting to reduce the slaughter age by improving weight gain. Current projections are for beef production to increase to 7.2 million tons by 2007, or by about 2 percent per year.

Beef exports have decreased in recent years, dropping to an estimated 240,000 tons last year, the lowest since 1980. The decline is considered to be a combination of numerous factors, including the demand-depressing effects of the BSE outbreak in Europe (the European Union had accounted for about 60 percent of Brazil's exports), the overvalued Brazilian currency, and strong international competition. Current estimates are for exports to rebound slightly in 1998 and to once again surpass 300,000 ton by 2007. Brazil is anticipating that two of its southern states will obtain status by May 1998 as areas free of foot-and-mouth disease. The Brazilians see this as an opportunity to begin exporting unprocessed beef to Asia and to bring exports up to par with the record 580,000 tons reached in 1988.

The pork sector has also experienced steady growth, and the long-term prospects for pork production in Brazil are assumed to be good. Like the poultry industry, the pork industry is highly integrated and is expanding into the center-west region due to the combination of state incentives and proximity to grain and soybean production. Pork production is expected to increase by 3.3 percent per year over the projection period, reaching 2.1 million tons by 2007, while exports are projected to expand to 125,000 tons, more than double last year's level.

The Tasks Ahead

The overall effects of Brazil's reforms on the agricultural sector are mixed. Growth in production and exports have been strong, but the sector remains highly indebted and credit is tight. In order to be more competitive in an open-market economy and realize its full production potential, the Brazilian agricultural sector will have to depend on further macroeconomic reforms to bring down high domestic interest rates. In addition, Brazil's expensive inland transportation system, where most products move by truck and not rail or barge, will have to be improved, as will its ports, which currently levy excessive charges on exports.

The Brazilian government and private sector are currently undertaking a number of infrastructural projects to improve the transportation and port systems. With recent completion of the Northwest Corridor project, soybeans grown in part of the Cerrados region can be trucked to a port on the Madeira River and then barged to the Amazon River for loading on an oceangoing vessel. Transport cost savings are estimated as much as $30 per ton via this route, compared with trucking the beans to ports in the center-south region. A host of other transportation improvements are underway to link the Cerrados region via road, river, or rail to river and ocean ports. Such improvements will also lower the costs of imported goods like lime and fertilizers.

The hyperinflation that plagued Brazil in the recent past has been controlled, and the economy has been significantly opened to market forces. However, the stabilization program is still incomplete and problems remain, particularly in Brazil's external accounts. Further reforms may be necessary to avoid a financial crisis that precipitates a run on the Brazilian currency and repeats the recent experience of Southeast Asia.

For many years, Brazil was viewed by economists as a country where enormous risks were outweighed by tremendous opportunities. In recent years, Brazil has made huge strides toward eliminating many of those risks.

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