

Brazil: A Growing Agricultural Superpower

Brazil has ascended to agribusiness power, thanks to its natural resources, market reforms and investments in technology.

The South American country has become highly competitive with the U.S. in ethanol, meat products, sugar and other commodities. But like other countries across the globe, Brazil is feeling the effects of the world-wide recession, and its agribusiness sector faces constraints such as transportation bottlenecks, poor access to capital and government inefficiencies.

CoBank recently talked with Professor Geraldo Barros, coordinator of the Center for Advanced Studies on Applied Economics at the University of Sao Paulo, about Brazil's agribusiness sector and its outlook.

Q.: How does Brazil rank as an agricultural power today?

Brazil is the world's leading producer of a group of commodities, according to data from USDA Foreign Agricultural Service. Brazil accounts for 59 percent of the world's production of orange juice and 83 percent of exports. Brazilian coffee accounts for 32 percent of the world's production and 28 percent of exports. Brazilian sugar accounts for 20 percent of global production and 38 percent of exports.

Brazil is the world's second largest beef producer (16 percent). The U.S. leads with 22 percent, but Brazil is the leading exporter (26 percent compared with U.S. 4 percent). Brazil also is second to the U.S. in soybean production (25 percent versus 39 percent), but the leading exporter (39 percent compared with U.S. 37 percent). Brazil is the third largest poultry producer (16 percent), trailing U.S. (27 percent) and China (17 percent), but again is the leading exporter with 41 percent compared with U.S. 35 percent.

On the technology side, Brazil has a very unbalanced performance. Brazil is as productive as the U.S. in soybeans and more productive in cotton, but

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About this interview

Professor Geraldo Barros is coordinator of the Center for Advanced Studies on Applied Economics at the University of Sao Paulo.



Professor Geraldo Barros
Coordinator of the Center for Advanced Studies on Applied
Economics at the University of Sao Paulo

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way below in corn, wheat and dairy. Brazil's federal agricultural research institute has been doing a great job, particularly in the use of savannah land, which reflected very positively in the soybean, cotton and meat sectors.

Q: How has public policy evolved in Brazil to position the country as an agribusiness superpower?

By the 1980s, South American governments were quite disillusioned with the import substitution strategy, that is, keeping the economy closed to favor domestic industrialization. Although the strategy partially succeeded in industrializing the country, by the mid-1980s it had exhausted public funds and produced an enormous external debt. So Brazil, along with other regional countries, deregulated and opened the economy, and the government was forced to operate within the limits of a controlled fiscal budget. Privatization of a number of state companies followed.

In 1994, Brazil surprised the world — but even more the Brazilians themselves — by succeeding in controlling inflation, a longtime malady that had seemed incurable. By the end of the 1990s, the growing external debt, with huge flights of capital, forced Brazil to move to a floating exchange rate system. Today Brazil still has inflation under control, and the fiscal budget has improved although it still results in a persistent deficit. During the commodity boom, Brazil — thanks especially to its agribusiness competitiveness — was able to accumulate a foreign currency reserve of more than \$200 billion, a useful cushion to protect the country's finances in times of an international crisis like the current one.

Q.: How much can the growth and increasing competitiveness be attributed to market liberalization?

By the mid-1980s, Brazil had exhausted the growth possibilities offered by the closed economy strategy. Opening the economy ended up being a wise strategy for Brazil to acquire technology and to attract capital for economic growth. In addition, liberalization was very helpful in controlling inflation as importing became an alternative to domestic industrial goods. Liberalization also contributed to agricultural growth by allowing access to cheaper imported inputs. Liberalization also was essential to create the conditions

BRAZIL BY THE NUMBERS

Source: CIA World Factbook

Population	198 million
Life Expectancy	72 years
Pop. Below Poverty Line	31%
Inflation Rate	5.8%
Foreign Reserves	\$1.97 trillion
Central Bank Discount Rate	17.85%
Commercial Prime Rate	43.72%
Labor Force	100.9 million
Unemployment	8% (urban)
Pipelines	
Gas	9,892 km
Oil	4,517 km
Refined Products	4,465 km
Railways	29,295 km
Roadways	1,751,868 km
Merchant Marine Fleet	136 vessels

for sustainable growth in productivity. Brazil for more than 40 years followed a cheap food policy by artificially holding down the prices of many agricultural products, with long-run negative effects on farmers and consumers. In an open economy, surpluses are absorbed by external markets thus avoiding acute price falls and assuring the profitability of productivity increasing technologies.

Q.: How much does agriculture account for Brazil's gross domestic product? How much is exported versus consumed internally?

Agriculture is economically much more important to Brazil than to the U.S. While agricultural GDP in dollar terms is about the same in Brazil as in the U.S., agriculture accounts for about 10 percent of Brazil's GDP and just 1 percent of U.S. GDP. To capture the full impact of the agricultural sector, however, one has to consider the agribusiness GDP — which includes inputs and processing industries plus distribution. Agribusiness accounts for 25 percent of Brazil's GDP. In the U.S., agribusiness generates 13 percent of total GDP, according to a USDA Economic Research Service estimate. Brazil still has a long way to go in adding value to farm output. U.S. agribusiness GDP is 13 times farm GDP; in Brazil the corresponding statistic is 2.5 times.

One third of Brazil's total exports come from the agribusiness sector. Around 15 percent of the sector's GDP is exported.

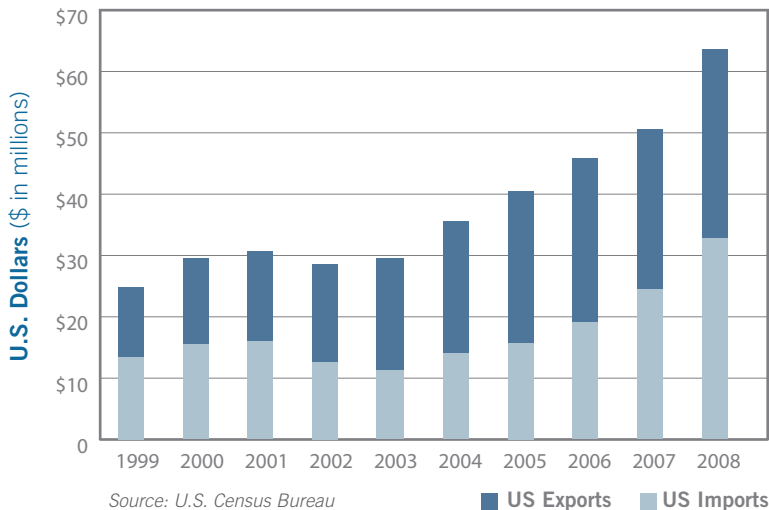
Q.: What are the specific agricultural industries/products in which Brazil is most competitive with U.S. producers?

The most competitive Brazilian agri-industries are meat (beef and poultry), soybean products and sugar/ethanol. Most of the competition between Brazil and the U.S. shows up in trade negotiations. For instance, conflicts involve high U.S. tariff rate quotas on sugar, orange juice, ethanol and tobacco, and alleged U.S. subsidies on cotton, ethanol and soybeans. Sanitary barriers also restrict exports of meat to the U.S. Of course, the U.S. would like Brazil to reduce restrictions on services, trades, intellectual property rights and government procurement. As trade barriers remain, Brazilian agribusiness companies are going multinational, some investing through acquisition in the U.S., as in the case of the meat sector.

Q.: Does Brazilian sugar-based ethanol pose a competitive threat to the U.S. corn-based ethanol industry?

Brazil is highly competitive in sugar and ethanol production as a result of substantial public support in the past. The sector is no longer subsidized.

U.S.– BRAZIL TRADE



Nonetheless, the U.S., not Brazil, is the largest ethanol producer. It is interesting that the two countries together will not be able to meet the U.S. demand for ethanol in the years ahead. Brazil can't significantly contribute to solve the problem because, although it has plenty of land and other natural resources, there is a fast growing world demand for food such as cereals and meat, which Brazil can produce efficiently. Those products will compete fiercely with sugarcane. Given the domestic subsidy and the import tariff that the U.S. applies, ethanol production will not become as attractive to Brazil as needed. Brazil will be able at best to export some 12 percent of U.S. needs by around 2020. Unless the U.S. and/or Brazil comes up with new technology to enhance the efficiency of biomass, either the U.S. ethanol goals will not be reached or we will see a severe food crisis, as we saw in 2007 and 2008.

Q.: What are the possible constraints to long-term growth of the agribusiness sector?

During the next decade, Brazil's agribusiness will have to invest around \$40 billion per year, of which farmers will have to contribute 9 percent. That is a lot of money considering farmers hold \$50 billion of debt that equals half the annual farm GDP. Agricultural productivity growth also must return to its long-term path after a slowdown over the last five years. Continuous and increasing investments in science and technology are needed. Brazil agribusiness must establish a growth pattern compatible with natural resources preservation, otherwise land degradation and climate change will turn into severe obstacles to sustainable growth.

In the short term, Brazil's agribusiness must count on a world economic recovery and hope that protectionism won't spread among developed and emerging countries. The typically modest Brazilian domestic growth alone is not enough to assure profitability of the agribusiness sector.

Q.: Is Brazil's transportation and export infrastructure sufficient to support its growing ag industries?

Deficient logistical and energy infrastructure is a serious obstacle to the growth of agribusiness. For example, 60 percent of the volume is transported by highways, 80 percent of which are rated as deficient or bad. That explains why unit transportation cost of soybeans in Brazil is 2.5 times that of the U.S. As for railway transportation, which accounts for 21 percent of the volume, track availability in miles is about 15 percent of that in the

BRAZIL'S TOP EXPORTS

Commodity	Volume (\$ in billions)
Machinery	6.7
Aircraft	5.6
Electrical Machinery	3.5
Mineral Fuel	2.2
Organic Chemicals	2.1

Source: Office of the U.S. Trade Representative

BRAZIL'S TOP IMPORTS

Commodity	Volume (\$ in billions)
Mineral Fuel & Oil (crude)	8.8
Iron & Steel	3.2
Machinery	2.7
Aircraft	2.3
Woodpulp	858 million

Source: Office of the U.S. Trade Representative

U.S., and it is estimated Brazil trains run at an average speed of 25 km/hour (15 mph); while the U.S. average is 80 km/hour (50 mph).

Insufficient public funds, government inefficiency in implementing planned investments and impediments to extensive private sector participation explain why infrastructure lags behind Brazil's needs. This plus a heavy and complex taxation system and a scarce and costly credit system plays unfavorably for Brazil in international markets. Despite all those difficulties, Brazil's agribusiness sector has performed quite well compared to other countries.

Q.: Has the bursting of the commodity price bubble and the global recession had a significant impact on Brazil's ag economy?

The bursting of the commodity bubble led to serious imbalances in the agribusiness sector. Farmers were caught in the middle of the production season when they had already bought high-priced inputs. They were not able to repay most of their debts. Worse, multinational agribusiness companies such as suppliers, processors and traders, reduced their exposure in Brazil and sent their capital reserves back to their headquarters' countries, thereby cutting the funds farmers usually take for operating expenses.

Q.: Is access to credit an issue?

Since investment credit is scarce, farmers concentrate expenditures in the years of especially high income, when output prices are high and the harvest is normal or above normal. In addition, those are the years input suppliers can more easily induce farmers to invest more heavily, thus assuming new debt. Since farm income has a cyclical pattern, in a couple of years farmers will have difficulty repaying their debts. The government will be called upon to help farmers — and those companies that financed farm investments — by promoting one more round of debt renegotiations. In the last two decades several renegotiations have been carried out, none with persistent positive results.

Q.: What is the Brazilian government's policy today toward its ag sector? Where does it want the sector to go?

Agricultural policy acts in several directions. One is related to logistical infrastructure, with poor results already mentioned. A second is technological policy, which generated very good results in terms of farm productivity. But productivity shows a recent trend of slower growth as in

BRAZIL'S AGRICULTURE PRODUCTS

Coffee	Corn
Soybeans	Oranges
Sugarcane	Cotton
Cocoa	Wheat
Rice	Tobacco
Livestock	

other countries. Substantially more money has been allocated in this area recently, but positive results aren't expected for several years. Land reform is a third policy. Despite distributions to 800,000 families over the past 20 years, land reform still is considered a failure by many analysts. The number of families expecting to benefit keeps growing as poor urban families — many with little or no farming experience — hope to enhance their economic condition by being granted a tract of land. This matter has environmental implications as land distribution in areas close to the Amazon region has to some degree contributed to deforestation.

Another agricultural policy relates to rural credit and price support. More credit has resulted in more debt. Farmers see the price support program as ineffective because the government is slow to act when marketing problems emerge. Finally the government has intensified its program directed to animal health and product safety and quality. Here again results are not quite there yet as indicated by the continuous problems Brazil has encountered when marketing agricultural commodities. In sum, it seems farming and agribusiness have succeeded in Brazil despite the government, except perhaps in the case of science and technology policy.

Q.: What was the significance of President Bush's visit in 2007, which resulted in an ethanol alliance?

In a practical sense, it seems that the visit had little impact. The commoditization of ethanol — so that international markets could significantly expand — has not visually progressed. U.S. barriers to ethanol trade have remained as firm as before the visit. It is possible the visit influenced foreigners to invest in the ethanol sector.

Q.: What is Brazil looking for from President Obama in terms of policy and relations?

Objectively Brazilian farmers should not expect much benefit from the Obama administration. The new president has strong ties with Corn Belt farmers, so it is not likely that he would reduce government support. President Obama praises cleaner energy and energy independence. So he hardly would propose a bio-energy program that relied significantly on foreign supply, meaning that import tariffs will remain in place for the foreseeable future. At least in the next few years the Obama administration will appear as more of the same for Brazil's agribusiness.

Interest Rates and Economic Indicators

The interest rate and economic data on this page were updated as of 07/31/09. They are intended to provide rate or cost indications only and are for notional amounts in excess of \$5 million except for forward fixed rates.

KEY ECONOMIC INDICATORS

Gross Domestic Product (GDP) measures the change in total output of the U.S. economy. The Consumer Price Index (CPI) is a measure of consumer inflation. The federal funds rate is the rate charged by banks to one another on overnight funds. The target federal funds rate is set by the Federal Reserve as one of the tools of monetary policy. The interest rate on the 10-year U.S. Treasury Note is considered a reflection of the market's view of longer-term macroeconomic performance; the 2-year projection provides a view of more near-term economic performance.

ECONOMIC AND INTEREST RATE PROJECTIONS

Forecasts courtesy of Insight Economics, LLC

US Treasury Securities

2009	GDP	CPI	Fed Funds	2-year	10-year
Q2	-1.00%	1.30%	0.18%	1.00%	3.30%
Q3	3.50%	4.00%	0.19%	1.00%	3.70%
Q4	-1.00%	1.50%	0.20%	1.10%	3.80%
2010	GDP	CPI	Funds	2-year	10-year
Q1	0.00%	2.00%	0.23%	1.00%	3.70%
Q2	1.30%	2.30%	0.25%	1.50%	4.00%

PROJECTIONS OF FUTURE INTEREST RATES

The table below reflects current market expectations about interest rates at given points in the future. Implied forward rates are the most commonly used measure of the outlook for interest rates. The forward rates listed are derived from the current interest rate curve using a mathematical formula to project future interest rate levels.

IMPLIED FORWARD RATES

Years Forward	3-month LIBOR	1-year Swap	3-year Swap	5-year Swap	7-year Swap	10-year Swap
Today	0.48%	1.50%	2.13%	2.95%	3.43%	3.80%
0.25	1.33%	1.75%	2.39%	3.14%	3.58%	3.91%
0.50	1.83%	1.79%	2.61%	3.31%	3.71%	4.01%
0.75	2.23%	1.70%	2.80%	3.45%	3.81%	4.09%
1.00	1.55%	1.52%	2.98%	3.58%	3.92%	4.17%
1.50	1.41%	2.22%	3.41%	3.90%	4.15%	4.35%
2.00	2.79%	3.33%	3.95%	4.27%	4.42%	4.56%
2.50	3.47%	3.76%	4.22%	4.46%	4.57%	4.66%
3.00	3.69%	4.06%	4.42%	4.58%	4.67%	4.73%
4.00	4.16%	4.45%	4.68%	4.76%	4.80%	4.83%
5.00	4.49%	4.73%	4.82%	4.86%	4.88%	4.89%

HEDGING THE COST OF FUTURE LOANS

A forward fixed rate is a fixed loan rate on a specified balance that can be drawn on or before a predetermined future date. The table below lists the additional cost incurred today to fix a loan at a future date.

FORWARD FIXED RATES

Cost of Forward Funds

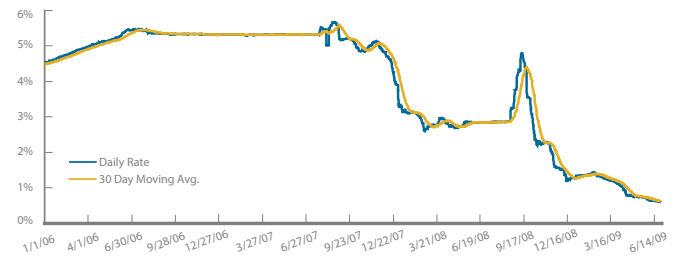
Forward Period (Days)	Average Life of Loan			
	2-yr	3-yr	5-yr	10-yr
30	13	13	12	7
90	31	32	31	17
180	49	55	54	29
365	91	93	97	52

Costs are stated in basis points per year.

SHORT-TERM INTEREST RATES

This graph depicts the recent history of the cost to fund floating rate loans. Three-month LIBOR is the most commonly used index for short-term financing.

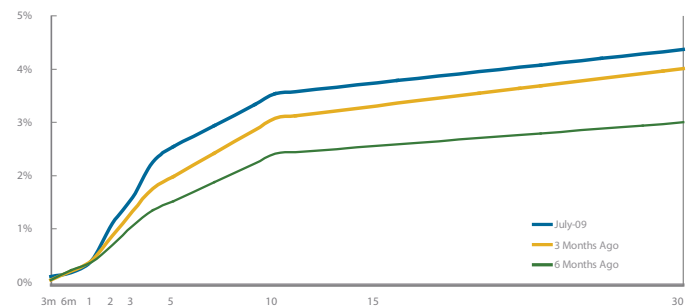
3-MONTH LIBOR



RELATION OF INTEREST RATE TO MATURITY

The yield curve is the relation between the cost of borrowing and the time to maturity of debt for a given borrower in a given currency. Typically, interest rates on long-term securities are higher than rates on short-term securities. Long-term securities generally require a risk premium for inflation uncertainty, for liquidity, and for potential default risk.

TREASURY YIELD CURVE



CoBank's 2Q09 Financial Results



*Everett Dobrinski
Chairman of the Board*



*Robert B. Engel
President and Chief Executive Officer*

We're pleased to report that CoBank recorded another period of strong financial performance in the second quarter of 2009. Despite challenging conditions in the credit markets and global economy, CoBank has consistently delivered on its value proposition and continues to serve as a stable and dependable source of credit to vital industries throughout rural America.

Net earnings for the second quarter were \$156.1 million, compared to \$158.4 million for the second quarter of 2008. Total earnings for the six months ended June 30 were \$316.0 million, up from \$307.9 million during the same period last year. Total loans and leases for CoBank were \$44.9 billion as of June 30, 2009, compared to \$49.4 billion a year ago.

Our year-to-date earnings show growth despite the fact that commodity prices have retreated markedly from last year's extremely high levels. Commodity price levels are a significant driver of loan demand from our agribusiness customers, and we've seen a \$4.5 billion drop in our loan volumes over the past year as prices have declined for grains, oilseeds, farm supplies and other agricultural products. Nonetheless, our year-to-date net income has increased by almost three percent, a fact we believe offers powerful testament to the strength of our business model, our conservative approach to risk management and the efficiency of our operations. Earnings are a key source of capital for our bank, and enable us to fulfill our mission as a strategic provider of financial services to our customer-owners.

Improved net interest margin was the key contributor to net income in the second quarter. In particular, the bank has benefited from the conservative positioning of our balance sheet, as actions taken by the world's central banks have led to a steepened yield curve. CoBank has also seen continued growth in U.S. government-guaranteed loans that support American agricultural exports, in loans to energy customers, and in loans to and participations with affiliated associations and other partners across the Farm Credit System.

As expected, credit quality declined moderately, and we're anticipating continued modest deterioration in the months ahead. The recession has negatively impacted customers in a number of the industries we serve, particularly customers in the dairy, livestock, ethanol and communications industries. Nonaccrual loans and leases increased to \$336.8 million in the quarter, compared to \$290.2 million as of March 31, 2009, and \$217.8 million at year-end. As a result of these credit challenges, we recorded a \$10.0 million provision for credit losses in the second quarter, resulting in a total provision for credit losses of \$30.0 million for the first half of 2009. No such provision was recorded in the first six months of 2008.

Nonetheless, CoBank's overall credit quality remains within historical averages, with over 96 percent of loans and leases classified in the highest regulatory category. In addition, the bank maintains solid levels of loss reserves. Our reserve for credit exposure totaled over \$481.0 million at June 30, 2009, or 1.86 percent of non-guaranteed loans and leases



About CoBank

CoBank is a \$63 billion cooperative bank serving vital industries across rural America. The bank provides loans, leases, export financing and other financial services to agribusinesses and rural power, water and communications providers in all 50 states.

CoBank is a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture and the nation’s rural economy. In addition to serving its direct borrowers, the bank also provides wholesale loans and other financial services to affiliated Farm Credit associations and other partners across the country.

Headquartered outside Denver, Colorado, CoBank serves customers from regional banking centers across the U.S. and also maintains an international representative office in Singapore. For more information about CoBank, visit the bank’s web site at www.cobank.com.

outstanding when loans to Farm Credit associations are excluded. We have benefited from the prudent and disciplined approach we have adopted with regard to loss reserves, which has kept the bank and its shareholders well protected in a difficult environment.

Capital and liquidity levels at the bank remain strong and well in excess of regulatory minimums. At quarter end, the bank held approximately \$16.4 billion in cash and investments. The bank averaged 274 days of liquidity during the first six months of the year, compared with the 90-day minimum established by our regulator, the Farm Credit Administration. We plan to maintain increased levels of liquidity as long as the credit crisis persists, and until funding access and flexibility return to levels more consistent with historical norms.

A true test of any bank’s business is how it weathers adverse market and economic conditions. In recent quarters, CoBank has been able to capitalize on investments it has made in people, processes and systems, which have enabled it to operate at a high level of efficiency throughout the economic crisis. While the nation continues to work through the challenges of the recession, CoBank’s performance so far this year underscores the value our customer-owners derive from the financial strength and operational disciplines we have built over the past several years.

We are proud of the financial results we recorded this quarter and remain committed to standing by our customers in the face of the ongoing global economic crisis. We continue to believe that CoBank’s value proposition – capacity, dependability, responsiveness, focus and ownership – is more compelling than ever for the customers we serve in vital industries across rural America.

As always, we are deeply grateful for the business of our customer-owners and the enormous trust they place in CoBank. We thank you for your ongoing support and look forward to reporting to you on our future progress.

Everett Dobrinski
Chairman of the Board

Robert B. Engel
President and Chief Executive Officer

This economic commentary is for general information only and does not necessarily reflect the opinion of CoBank. The information was obtained from sources that CoBank believes to be reliable but is not intended to provide specific advice.