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Production, Transportation, and Policy Factors Determine U.S. Export Competitiveness in World Corn and Soybean Markets

by Birgit Meade and William D McBride



INFOgraphic



PRODUCTION, TRANSPORTATION, AND POLICY FACTORS Determine U.S. Export Competitiveness in World Corn and Soybean Markets

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by Birgit Meade and William McBride

The U.S. has been historically competitive with South American countries Brazil and Argentina in world corn and soybean markets largely because of production and transportation cost efficiencies.



Argentine exports have been burdened by policies that heavily taxed and at times restricted exports, while poor and insufficient transportation infrastructure has limited Brazil. However, a new policy regime in Argentina, infrastructure improvements in Brazil, and changes in relative currency values could pressure U.S. exports.



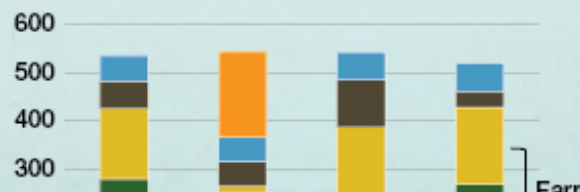
COSTS OF EXPORTING

- **Paraná in Brazil**, a coastal state, is the low-cost exporter of both corn and soybeans, primarily due to its location and low-cost internal transport costs.
- The **U.S. Heartland** is the next lowest cost exporter but has a much larger production capacity than the Brazilian Paraná.

• About **75%** of U.S. corn and

Soybeans to China from...

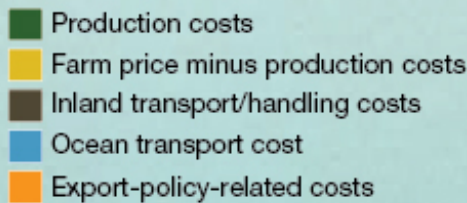
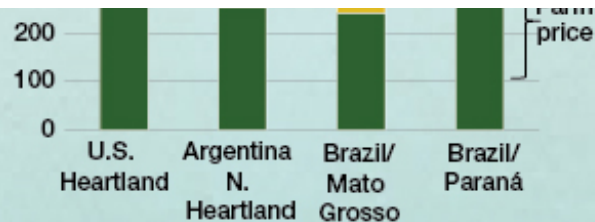
U.S. dollars per metric ton



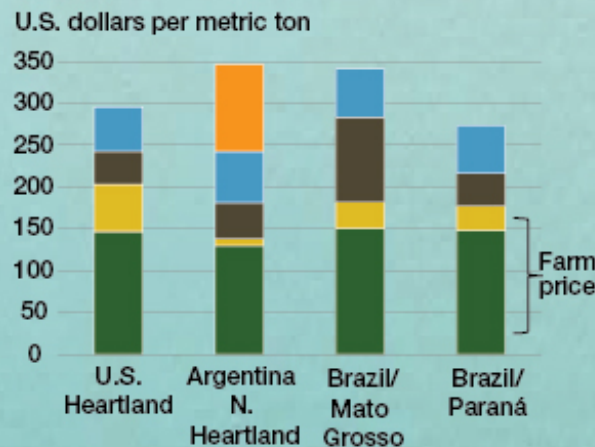
soybean production is from the Heartland, compared with no more than **25%** of Brazilian production from the Paraná.

- Despite much higher inland transport costs, the **Mato Grosso** region of Brazil is competitive with the **U.S.** and **Argentine Heartlands** in the export of soybeans. Its competitiveness results from lower soybean costs-of-production. Overland transportation infrastructure improvements would enhance the competitive position of the **Brazilian Mato Grosso**.

- The **Argentine Northern Heartland** could be the low-cost exporter of both corn and soybeans if it were not for policy-related export costs. Changes in Argentina's Government policies will significantly alter the relative competitiveness of these countries in world corn and soybean markets, improving the Argentine position.



Corn to Japan from...

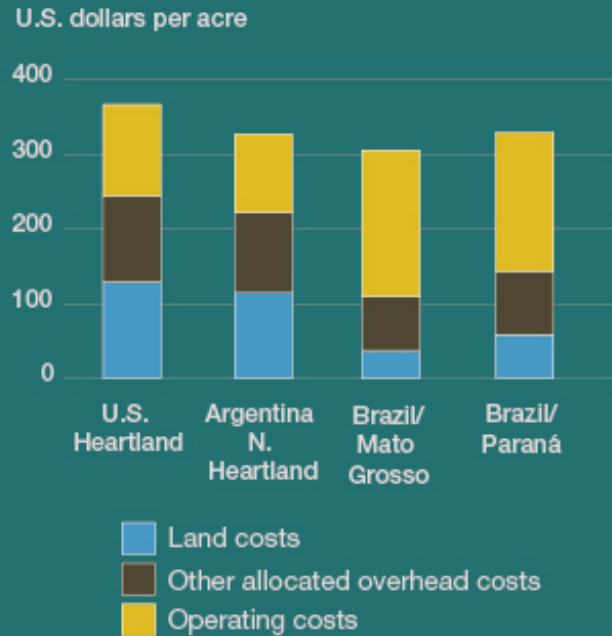


Sources: ERS calculations based on USDA/ERS Commodity Costs and Returns, 2015, Buenos Aires Grains Exchange, Applied Agricultural Technology Survey (AATS), 2012, Brazilian National Food Supply Company, (CONAB), 2015.

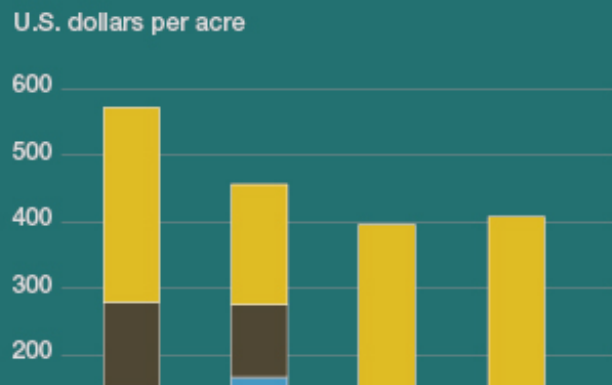


PRODUCTION COSTS

Soybeans costs of production, U.S. dollars per acre in 2010



Corn costs of production, U.S. dollars per acre in 2010



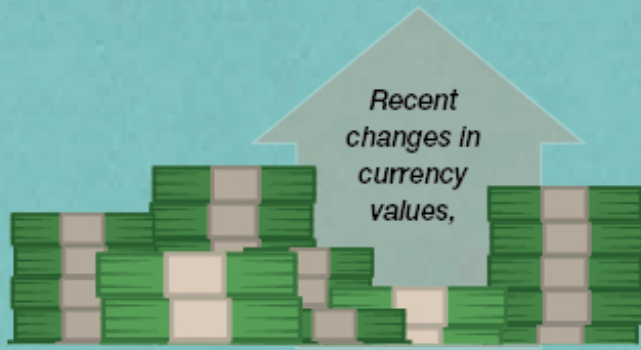
- **Expected profits** from production, as well as **Government payments**, are capitalized into land values, so **land costs** may not be a relevant part of production costs when comparing export competitiveness.
- Since **land costs** are much lower in Brazil than in the United States and Argentina, excluding land costs **greatly improves** the competitive position of these two countries relative to Brazil in both corn and soybean production.

Sources: US: USDA/ERS, Commodity Costs and Returns (2015), Argentina: Applied Agricultural Technology Survey



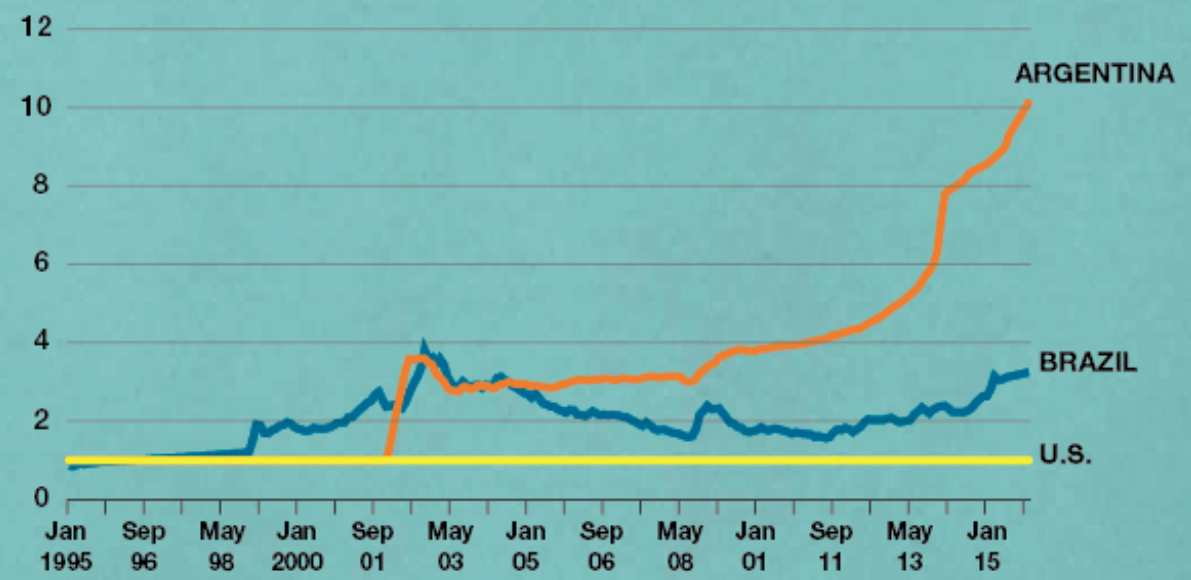
CURRENCY

Nominal exchange rates against U.S. dollar



Recent changes in currency values, notably a strengthening of the U.S. dollar, have made U.S. commodities relatively more expensive on world markets.

Local currency per U.S. dollar

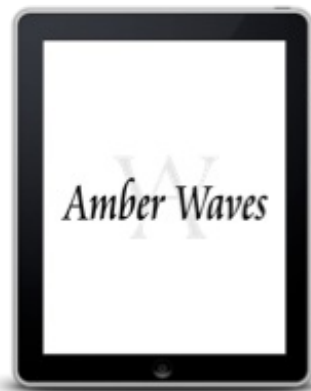


Source: USDA-ERS, based on IFS data, International Monetary Fund.

For more information see, *Corn and Soybean Production Costs and Export Competitiveness In Argentina, Brazil, and the United States*, by Birgit Meade, Estefanía Puricelli, William McBride, Constanza Valdes, Linwood Hoffman, Linda Foreman, and Erik Dohlman, USDA, Economic Research Service, June 2016.

This article is drawn from...

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