The roll-out of a new Embraer jet.
Photo courtesy of Embraer.

BRAZIL

Innovate Locally, Compete Globally

by Daniel J. Buch

Brazil is on the march. Poverty rates and inequality have been declining for most of the last decade. The economy is stable and growing robustly. And according to Glauco Arbix, a sociology professor at the Universidade de São Paulo, a small but growing number of innovative Brazilian firms have been able to harness the opportunities provided by an integrated global marketplace.

"This is something totally new," said Arbix during his CLAS presentation. "It is the first time that a Latin American country is generating a group of companies that are going abroad and that are being successful in competition with other global firms."

Brazil has long been a major exporter of primary commodities, and agricultural exports such as soybeans continue to be a significant source of economic growth and foreign exchange. But in recent years, Brazilian exports of medium- and high-technology goods — things like Embraer jet aircraft and Marco Polo buses — have begun to account for an increasing share of Brazil's favorable export performance.

Growing exports are certainly a welcome shot in the arm for a Brazilian economy that, like much of Latin America, is only now beginning to emerge from the instability and economic stagnation of the 1980s and 1990s. And, Arbix contends, Brazil's growing industrial export prowess is simultaneously challenging conventional wisdom about how firms in developing countries are competing on the new global field.

Arbix should know. From 2003 until 2006, he served as president of the Institute of Applied Economic Research (IPEA), the Brazilian government's most important economic policy think-tank. While there, Arbix and his colleagues carried out what is perhaps the most comprehensive study of Brazilian industry to date, a near census that includes data on some 95 percent of Brazilian industrial sales.

Standard economic narratives tend to stress the comparative advantages of Brazil and similar developing countries in the export of labor- and natural resource-intensive goods rather than capital-intensive, high technology products. But data from the IPEA paints a more nuanced picture, one in which a small but growing number of Brazilian firms are actually increasing the technological intensity of their production processes in order to produce innovative goods and services that fetch premium prices on domestic and international markets.

While they make up less than 2 percent of the total number of firms in Brazil, these roughly 1,200 "A-class" companies are among that nation's most productive, accounting for over a quarter of Brazil's total industrial sales. They employ a more educated workforce, have lower turnover rates and pay premium salaries when compared with the rest of Brazilian industry. They are more likely to pursue global export markets, and they invest heavily in domestic research and development (R&D) efforts as well as in partnerships and acquisitions abroad.


Photo courtesy of Embraer.
An Embraer worker assembles a plane.

Brazilian industry wasn't always so globally-oriented. For much of the 20th century, Brazil (and much of Latin America) pursued what came to be known as import-substitution industrialization, a set of strategies that aimed primarily to increase manufacturing output for domestic consumption through tariff protections and subsidies for domestic producers. However, trade and capital liberalization in the last several decades have changed the rules of the game, exposing Brazilian firms to increasingly intense international competition.

Arbix's contention is that globalization has pushed different types of Brazilian firms to innovate and adapt themselves to the rigors of international competition in different and often novel manners. While many do attempt to cut labor costs in order to compete with other low-wage producers from around the world (as standard theory predicts), Brazilian A-class firms are more likely to invest intensively in physical and human capital in an effort to boost their competitiveness in international markets.

"A company doesn't adjust itself for fun. Looking for new procedures, for reliability, it's very difficult. It's very difficult to access new markets. It's not a matter of power in general or money: it's a matter of credibility; it's a matter of skills; it's a matter of the capacities needed to sustain a continuous movement into another country," according to Arbix. "There is no doubt that exports foster innovation."

It is this last point — the link between export competition and innovation — that most clearly distinguishes Arbix's dynamic analysis of innovation from the comparative statics of standard trade models. Comparative advantage stresses that a country should export those goods and services that it produces most efficiently, given its current endowment of productive factors. Or, to put it slightly differently, comparative advantage is largely about maximizing what a country can get out of trade given its current capabilities.

However, Arbix's argument is that — at least in the Brazilian case — exposure to fierce international competition has spurred A-class companies to revolutionize their production processes through investments in intangible

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assets like R&D and human capital, thereby transforming and improving upon Brazil's initial endowment of productive capabilities and progressively modifying its comparative advantages in global trade.

While Brazil is the first Latin American country in the recent period to produce such a dynamic set of signature industrial firms, the business strategies that Brazilian A-class companies are using are not without precedent. Indeed, as scholars such as Robert Wade of the London School of Economics pointed out over a decade ago, the successful export-led strategies employed in the post-World War II era by newly industrializing countries such as Japan, Korea and Taiwan were similarly focused on using international trade to spur industrial competitiveness. By progressively increasing firms' productivity and market access, managed exposure to international trade aided firms in moving up the industrial value-added chain.

Arbix sees a similar pattern in the recent emergence of developing countries such as China, India and Brazil on the global stage. However, changes in the structure of global trade — particularly the growing importance of knowledge-intensive services — have meant that history will not simply repeat itself. Rather, changing circumstances will continue to require innovative new strategies on the part of firms and nation-states.

"The world has changed and knowledge is in a very different position than it used to be," Arbix said. "Knowledge is the real engine of this new wave of international corporations. Or perhaps not knowledge per se, but the search for knowledge. International corporations need knowledge to survive as we need air to breath."

Right now, the air is sweet in Brazil.

Glauco Arbix is Professor of Sociology at the Universidade de São Paulo and a member of the Brazilian National Council on Science and Technology. He gave a talk for CLAS on February 25, 2008.

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A Marco Polo bus.

Photo by Arthur-A.