

Change to survive

Chico Santos

FOR TWO CONSECUTIVE YEARS, the manufacturing industry has performed disastrously, its production falling by 3.8% in 2014 and 9.7% in 2015, according to the government statistics agency, IBGE. From a structural point of view, the sector's share in total Brazilian GDP has been declining for three decades: it was 19.89% in 1947, peaked at 35.88% in 1985, and has been declining since, hitting 11.4% in 2015. Meanwhile, according to the Federation of São Paulo (Fiesp) in 2013 the share of manufacturing in GDP was 31.8% in China and 31.1% in South Korea.

Particularly worrisome is that the most recent losses of manufacturing production were in high-tech segments—precisely those where Brazil must work to not fall further behind the most advanced economies.

According to the Institute of Industrial Development Studies (IEDI), last year production of high-tech goods fell 19.8%, with office supplies and information technology leading the fall (–42.7%).

“It’s a relatively new and troubling aspect, indicating that much of the growing contraction of investment is happening in sophisticated electronic equipment,” says Rafael Fagundes Cagnin, IEDI economist. He says that between 2000 and 2010 data the share of high tech in total Brazilian industrial production fell from 8.9% to 5.2%, while the mining industry share jumped from 5% to 11.5%. Cagnin laments that results are particularly bad for an industry segment that is at the technological frontier.

A systematic analysis by IBRE researcher Lia Valls Pereira of Brazilian losses and gains in foreign trade has revealed another disturbing aspect: the incursions of China into traditional Brazilian markets, especially neighboring South American countries. In 2014, the Valls Pereira study found, China accounted for a quarter of Brazilian losses in exports of manufactured goods to South America.

The Chinese now have 23.1% of the South American market for high-tech products, 23.2% in medium-high products and 31.4% in medium-low-intensity



products. Valls Pereira points out that, as part of its effort to join the group of industrial countries that is most technologically advanced, China has an aggressive marketing strategy in South America, having signed trade agreements with Chile and Peru, and offering abundant credit to numerous countries in the region.

The Soviet disease

Regardless what China does, the questions continue to be: What can Brazil do to contain its own advancing deindustrialization? And, what strategies can Brazil adopt to do so successfully? Mauricio Canêdo, an IBRE colleague of Valls Pereira, points out that “the decline of Brazilian industry predates the strong presence of China in the international markets,” having started in the 1980s.

In characterizing Brazilian deindustrialization, Canêdo refers to the “Soviet disease,” a term coined by fellow IBRE economists Régis Bonelli and Samuel Pessôa. It defines the overly sprawling industrial development of all segments of production, based on a closed market and focused on domestic supply.

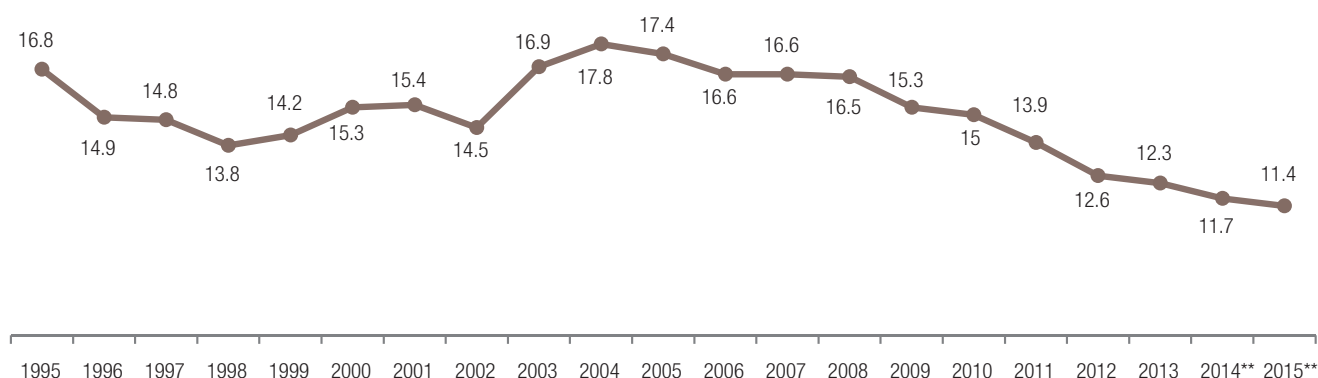
“Much of the growing contraction of investment is happening in sophisticated electronic equipment.”

Rafael Fagundes Cagnin

“Brazilian deindustrialization is not new and it is not something unheard of; it is not something that just happened now,” Canêdo says, noting that other major countries like Australia and Canada are also undergoing deindustrialization, though he adds that “these countries became wealthy before deindustrialization had occurred.” Canêdo sees Brazil as at a crossroads: A middle-income country that is no longer a cheap labor economy but does not yet have the breadth to compete in sectors more intensive in, for example, technology and innovation. “This middle way is very uncomfortable for Brazil,” he says, “and the question is how to get out of this hole?”

Share of the manufacturing industry declined from 17.4 in 2005 to 11.4 in 2015.

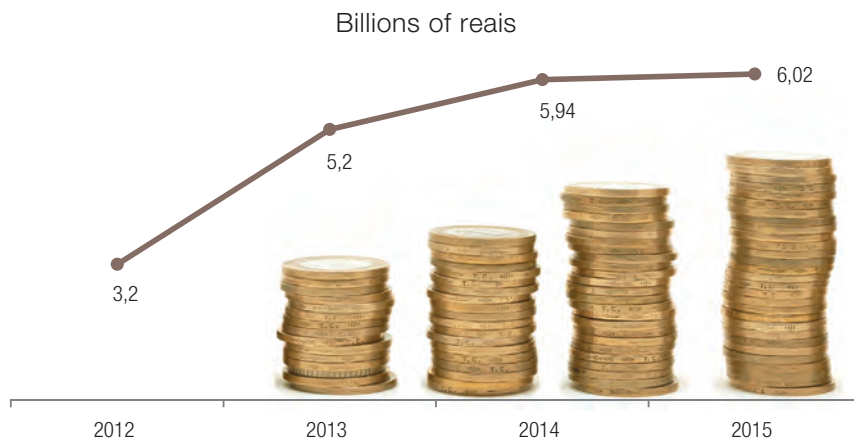
(share of manufacturing industry in GDP, %)



Source: IBGE.

** IBRE estimates.

BNDES disbursements for innovation projects almost doubled in four years.



Source: BNDES.

The way out

Canêdo cites the example of South Korea. Now a major exporter of goods and technology, in the 1970s its per capita income was similar to Brazil's. Its government then began to support a development model that at first focused on the domestic market for such basic industries as shipbuilding and steel industry—as did Brazil.

But there were differences at the time that explain why South Koreans have made the leap and Brazilians have no idea yet how to do it. First, Canêdo emphasizes, South Koreans defined that domestic market-led growth was a temporary model and production of steel and ships needed to be eventually replaced by production of more technologically sophisticated goods. To make the transition, the country invested heavily in education to compete internationally; it understood that with a relatively small population (about 50 million) growth could not be sustained based on the domestic market alone.

"Brazil has a relatively small industrial segment geared to survive in the domestic market. It

does not have scale, is not competitive, and survives only with protection," Canêdo says. Unlike South Korea, Brazil has failed to open up the economy and has been caught in its own protectionist trap. As an example of what could have been done, Canêdo points to Brazilian aerospace company, Embraer, one of the few national industrial successes, because its policy was guided by a model "focused on the world market."

The company's founders understood that it made no sense to establish an aerospace industry directed only to supplying Brazil's domestic market.

Future success will only be possible if the protectionist trap is disassembled, says Canêdo, although he recognizes that will be difficult. Brazil also needs to start building an efficient infrastructure and improving the business environment. "We need to expose Brazilian industry to international competition," he insists.

Industry segments that desperately need to find ways to survive if they are to compete internationally, Canêdo says, are intermediate inputs and the machinery and equipment segments. He believes that the possibility of buying cheaper inputs, whatever the origin, may be the key to growth, as is being able to modernize the manufacturing facilities at competitive costs. "Protecting intermediate inputs, machinery and equipment too much has a negative effect on the whole production chain," he says.

In short, exposing industry to international competition is essential if the economy is to move

forward. Also essential is giving industry more autonomy so that it can become competitive. Canêdo believes Brazil's development banks should be giving priority to financing projects that will have high returns for society, such as infrastructure, sanitation, and research and innovation.

If the economy is to be opened to competition, the local content policy—requiring companies to purchase specified amounts of local goods and services—is counterproductive and outdated. “Local content is important at the beginning for a limited period, but the objective should be to sell goods and services in the world market competitively,” Canêdo says, pointing out that the assessment of local content by the bureaucracy does not work.

Finally, Canêdo makes three observations:

1. Brazilian institutional capacity to do its work may not be adequate to resist the pressures of lobbies fighting to retain the status quo where so much is protected by the government.
2. It is too late for Brazil to move beyond technological boundaries by producing semiconductors. That opportunity has been lost. Instead, it must deepen the production chains based on natural resources, where the country has built significant capacity, such as offshore oil, ethanol, renewable energy, and agribusiness.
3. There is more to progress on development than industrialization: “We managed to industrialize Brazil, but not solve its problems.”

Where industrialization has worked

IEDI's Cagnin is an advocate of industrialization as an inducer of development. “Industry has a very strong chain effect,” he says. “It is at the center of the production system and revolutionizes the

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way and production of other sectors, such as services and agriculture.” Cagnin explains that in Brazil “industrial employment pays better and is mostly formal,” so that downsizing industry would worsen the labor market profile. To Cagnin, formalizing regularizes worker incomes and gives workers access to the credit market and greater access to consumer durables. That is why, he says, “The setback of industry that we are witnessing is worrying.”

Cagnin believes that of all the structural factors affecting development of Brazil's industry, the only positive news recently has been the major exchange rate depreciations since 2014. “The exchange rate was an economic price that was out of place,” he says. However, all the other structural constraints are still in place, such as infrastructure bottlenecks, the complexity of the tax system, and high interest rates. He agrees with the argument that the Brazilian production structure is “relatively closed” and exports little, but warns that trade liberalization alone does not solve the problems—and the country can still lose what it has achieved. “It is no use opening the economy when there is an appreciated

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Mauricio Canêdo

exchange rate, with a surreal tax system, and high interest rates,” he said, explaining that the persisting economic imbalances are barriers to global integration of the Brazilian economy.

Cagnin believes pursuing greater interaction of the Brazilian economy with the international economy is more important than simply opening its economy. “Inclusion in global production chains is the key to sophistication,” he said, stressing that will be very difficult to achieve if the economy’s imbalances are not addressed. He sees market niches as a way for Brazilian industry to enter global production chains, citing as examples the progress of the pharmaceutical industry since generic drugs were introduced and the successes of the airspace sector.

Productive development

João Carlos Ferraz, Director of Planning of the Brazilian Development Bank (BNDES), sees major changes in corporations in 15 to 20 years. The changes are starting in the most advanced centers but gradually spreading throughout the world.

Ferraz proposes expanding the concept of production chains beyond traditional industry to the film and cultural sectors. He suggests replacing the concept of industry with “productive development” to cover systems and market solutions of which an industrial product itself is only one part, the most obvious example being mobile communication.

With the caveat that speaking about the future may have nontrivial risks, Ferraz said confronted with “some strong trends and critical uncertainties ... the only thing to say is that, given the complexity and level of Brazil’s industrialization, the future is open and any scenario can happen.”

Ferraz identifies the first major trend to be the breakdown of boundaries between productive activities caused by technical progress, market dynamics, and consumer demand. “Industries no longer provide products but integrated systems, hardware with a lot of associated software,” he says. With integration taking precedence over production, there has emerged the “Internet of things,” with machine talking to machine. In this new universe, he says, there is not yet a definitive model of organization and relationships among companies; all possibilities are open.

The second significant trend is the incorporation of factors that will be decisive for productive development: knowledge, which can be translated as research and development (R & D), intensive use of information and communication technologies, and intensive use of flexible technologies. Another component of the emerging systems, Ferraz suggests, is emphasis on sustainability, with the maximum possible reduction of carbon emissions.

The third trend is for the relationship between manufacturers and their suppliers and customers to evolve into an almost organic system. Given the extent of the information consumers now have and the possibility of customizing products, ultimately, he predicted, “We could have individualized mass production.”

The problem is that all these trends are associated with “critical uncertainties,” Ferraz points out. The greatest of these is that it is not possible yet to know how much these trends will be diffused among companies and countries, on what scale they will spread, and for how long.

Another question relates to labor relations in this new corporate world. “Probably we are talking increasingly of tasks versus jobs,” he says. Potentially information technology could affect 30% to 40% of formal employment in the US market by eliminating human intervention in service sector activities.

Then there is the question of the business model. “The departmental structure and vertical, monothematic companies will not survive the need for interaction,” Ferraz believes. “We know that network structures are relevant, but we do not know how they will be organized in fact.” Another big question is how in the future producers and companies will relate to governments and how companies and workers will be represented.

Ferraz is concerned about another, somewhat dramatic, uncertainty: though productive development undoubtedly has great potential for wealth generation, he says, “given the changes in labor relations, it is unclear how this wealth will be distributed and if it will be distributed

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sufficiently widely to keep the economy going.” Unless the distribution of income feeds back into markets, productive development would be limited throughout the world.

In this new global context, where would Brazil stand? “Clearly Brazil’s challenge will be the development and dissemination of productive processes in line with global trends,” Ferraz avers. As the country’s productive knowledge is not at the international frontier and is limited in terms of innovation, efficiency, and quality, in his view it will have the disadvantage of starting from a modest platform.

The advantage of these limitations is that Brazil is in a position to adopt best practices, and “has no barriers to success.” In principle it could make a leap and find new ways to reach the frontier.

But the great Brazilian advantage in this future new world, one not yet properly valued, Ferraz says, is the country’s diversity at all levels: ethnic, cultural, biological, business models, and foreign investment. In his view, this diversity will allow Brazil to experiment with many alternatives during the transition to the new world. 