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An American Model for Tech Jobs?

When Tennessee Lured Nissan, the Impossible Became Possible

By **BILL VLASIC, HIROKO TABUCHI and CHARLES DUHIGG**

THE dairy farms that once draped the countryside here were paved over so the Japanese carmaker Nissan could build its first American assembly plant. Eighty miles to the south, another green pasture was replaced by a Nissan engine factory, and across Tennessee about 100 Nissan suppliers dot the landscape, making steel in Murfreesboro, air conditioning units in Lewisburg, transmission parts in Portland.

Three decades ago, none of this existed. The conventional wisdom at the time was simple: Japanese automakers would not build many cars anywhere but Japan, where supply chains were in place, costs were tightly controlled and the reputation for quality was unparalleled.

“They were very unfamiliar doing anything outside Japan,” said Senator Lamar Alexander, a Republican who was governor of Tennessee when Nissan opened its factory here in 1983. “They were tentative and awkward even discussing it.”

Today, echoes of that conventional wisdom can be heard within the American technology industry. For years, high-tech executives have argued that the United States cannot compete in making the most popular electronic devices. Companies like Apple, Dell and Hewlett-Packard, which rely on huge Asian factories, assert that many types of manufacturing would be too costly and inefficient in America. Only overseas, they have said, can they find an abundance of

educated midlevel engineers, low-wage workers and at-the-ready suppliers.

But the migration of Japanese auto manufacturing to the United States over the last 30 years offers a case study in how the unlikely of transformations can unfold. Despite the decline of American car companies, the United States today remains one of the top auto manufacturers and employers in the world. Japanese

and other foreign companies account for more than 40 percent of cars built in the United States, employing about 95,000 people directly and hundreds of thousands more among parts suppliers.

The United States gained these jobs through a combination of public and Congressional pressure on Japan, “voluntary” quotas on car exports from Japan and incentives like tax breaks that encouraged Japanese automakers to build factories in America. Pressuring technology companies to move manufacturing here would pose different challenges. For one thing, Apple

and many other technology giants are American, not foreign, and so are viewed differently by politicians and the public. But it is possible and the benefits might be worth it, some economists say.

“The U.S. has a long history of demanding that companies build here if they want to sell here, because it jump-starts industries,” said Clyde V. Prestowitz Jr., a senior trade official in the Reagan administration who helped negotiate



MARK HUMPHREY/ASSOCIATED PRESS

Lamar Alexander of Tennessee and Marvin Runyon of Nissan in 1984 in Smyrna.

THE ECONOMY

Bringing Home Work



THE ASSOCIATED PRESS

A NISSAN PLANT'S GROUNDBREAKING IN SMYRNA, TENN.

Lamar Alexander, then governor of Tennessee, surrounded by protesting union members in 1981.

with Japan in the 1980s. The government could also encourage domestic production of technologies, including display manufacturing and advanced semiconductor fabrication, that would nurture new industries. “Instead, we let those jobs go to Asia, and then the supply chains follow, and then R&D follows, and soon it makes sense to build everything overseas,” he said. “If Apple or Congress wanted to make the valuable parts of the iPhone in America, it wouldn’t be hard.”

One country has recently succeeded at forcing technology jobs to relocate. Last year, Brazilian politicians used subsidies and the threat of continued high tariffs on imports to persuade Foxconn — which makes smartphones and computers in Asia for dozens of technology companies — to start producing iPhones, iPads and other devices in a factory north of São Paulo. Today, the new plant has 1,000 workers, and could employ many more. Apple and Foxconn declined to comment about the specifics of their Brazilian manufacturing.

However, a developing country like Brazil

can adopt trade policies that would be difficult for the United States to do. Taking a hard line to reduce imports of technology goods and encourage domestic manufacturing could violate international trade agreements and set off a trade confrontation. “We’re a long way from even talking about limits on imported iPhones or iPads,” said a former high-ranking Obama administration official who did not want to be named because he was not authorized to speak.

Protectionism is bad policy in today’s globalized world, many economists argue. Countries benefit most when they concentrate on what they do best, and trade barriers harm consumers by driving up prices and undermine a nation’s competitiveness by shielding industries from market forces that spur innovation. The United States needs to create new jobs, economists say, but it should not chase low-paid electronics assembly work that at some point may be replaced by robots. Instead, it should focus on higher-paying jobs.

“Closing our border is a 20th-century

thought, and it will only weaken the economy over the long term,” said Andrew N. Liveris, president of Dow Chemical and co-chairman of the Advanced Manufacturing Partnership, a group of executives and academics convened by the White House who have studied ways to encourage domestic manufacturing.

The debate is not just economic, however. Increasingly, it is political. With high unemployment, the question of how to create jobs has taken a role in the presidential race between President Obama and Mitt Romney, and both have traded barbs on outsourcing by American companies.

Although the car and technology industries are different, and the eras are separated by 30 years, the resurgence of American auto manufacturing in the 1980s is an example of how one industry created tens of thousands of good jobs. Since its first pickup truck rolled off the line here on June 16, 1983, Nissan has produced more than seven million vehicles in the United States. It now employs 15,000 people in this country. It makes more than a half-million cars, trucks and S.U.V.’s a year, with the plant in Smyrna building six models, including the soon-to-be-produced, all-electric Nissan Leaf.

Other foreign carmakers settled in America — Honda, Toyota, Hyundai, BMW, Mercedes-Benz and, most recently, Volkswagen — after a failed attempt decades ago. And some of those factories have become among the best in the world. The Nissan engine plant in Decherd, Tenn., for instance, exports engines to Japan. “We have 14 companies now that produce light vehicles here, and that is enormous,” said Thomas Klier, a senior economist at the Federal Reserve Bank in Chicago. “There is no major market in the world that compares to it.”

Tennessee?

“Where is Tennessee?”

It was a blunt question, posed by Takashi Ishihara, president of Nissan, to Mr. Alexander, then the state’s governor.

Mr. Alexander, who had journeyed to Tokyo in 1979 to pitch Nissan on building a plant in his state, was ready with his answer: “I said, ‘It’s right in the middle.’” To help out, he displayed a satellite photograph of the United States at night, showing the bright lights shining on the East and West Coasts and the relative darkness of Tennessee.

“We were the third-poorest state in the nation back then,” Mr. Alexander said. “President Carter had told all the U.S. governors to go to Japan and persuade the Japanese to make in the U.S. what they sell in the U.S.”

Mr. Alexander recalled that the Nissan executives were “incredibly anxious” about testing their homegrown production systems abroad. Could the Japanese car companies achieve the same quality using American workers?

Despite the concerns, pressures were growing for Nissan to break out of its manufacturing cocoon in Japan, including currency fluctuations that made exporting more expensive. The final push came from American anger as imports grabbed one-fourth of the United States market.

“Japanese automakers had achieved rapid growth by exporting to America,” said Hidetoshi Imazu, a senior manufacturing executive at Nissan in Tokyo who led the development of the plant here in its early years. “But it was clear that model would no longer work.”

In the fall of 1980, Congress held hearings to limit Japanese imports. With tensions running high, Nissan announced plans for the \$300 million assembly plant in Smyrna. That gave the company a head start in circumventing looming restrictions. In May 1981, Japan agreed to limit exports to America to 1.68 million cars annually, a 7 percent reduction from a year earlier. In addition, the United States imposed a 25 percent tax on imported pickup trucks.

“The pressure put on the Japanese was absolutely critical for them to agree to export restraints,” said Stephen D. Cohen, a professor emeritus of international studies at American University.

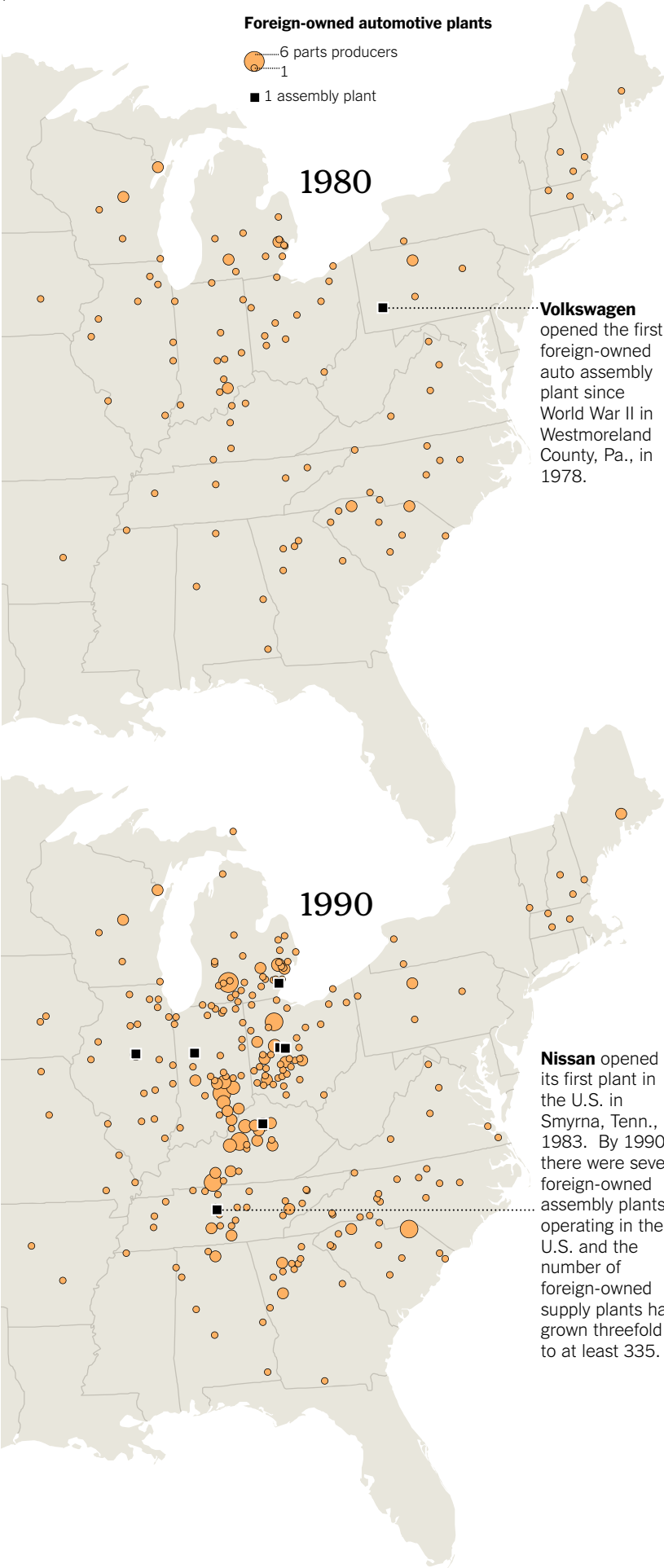
Rural Tennessee may not have seemed a likely place to build a giant automotive factory, but its location was actually a selling point. It was far from Detroit and the United Auto Workers — and the Japanese wanted to work without what they saw as union interference.

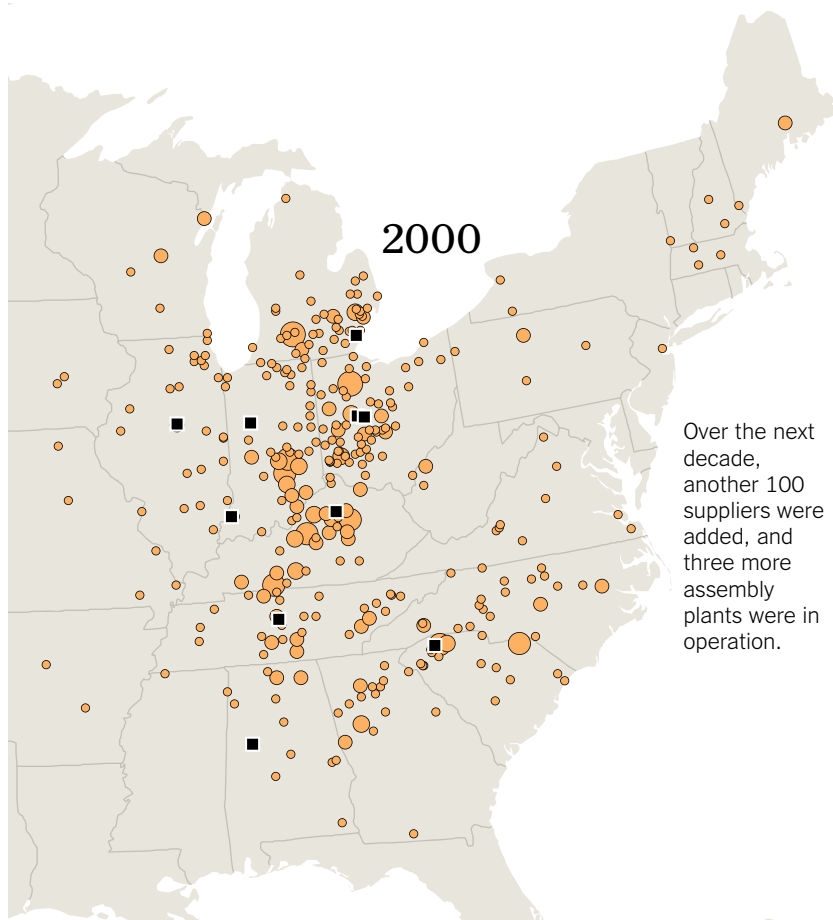
Nissan’s choice of Tennessee was not popular with everyone. On a 20-degree February morning in 1981, trade unionists jeered Mr. Alexander and Nissan executives as they turned the first shovelfuls of dirt for the factory, protesting nonunion construction crews. An airplane circled overhead, urging a boycott of Japanese vehicles.

Standing nearby was Marvin Runyon, a 37-year veteran of Ford who had been recruited

Evolution of a Manufacturing Supply Chain

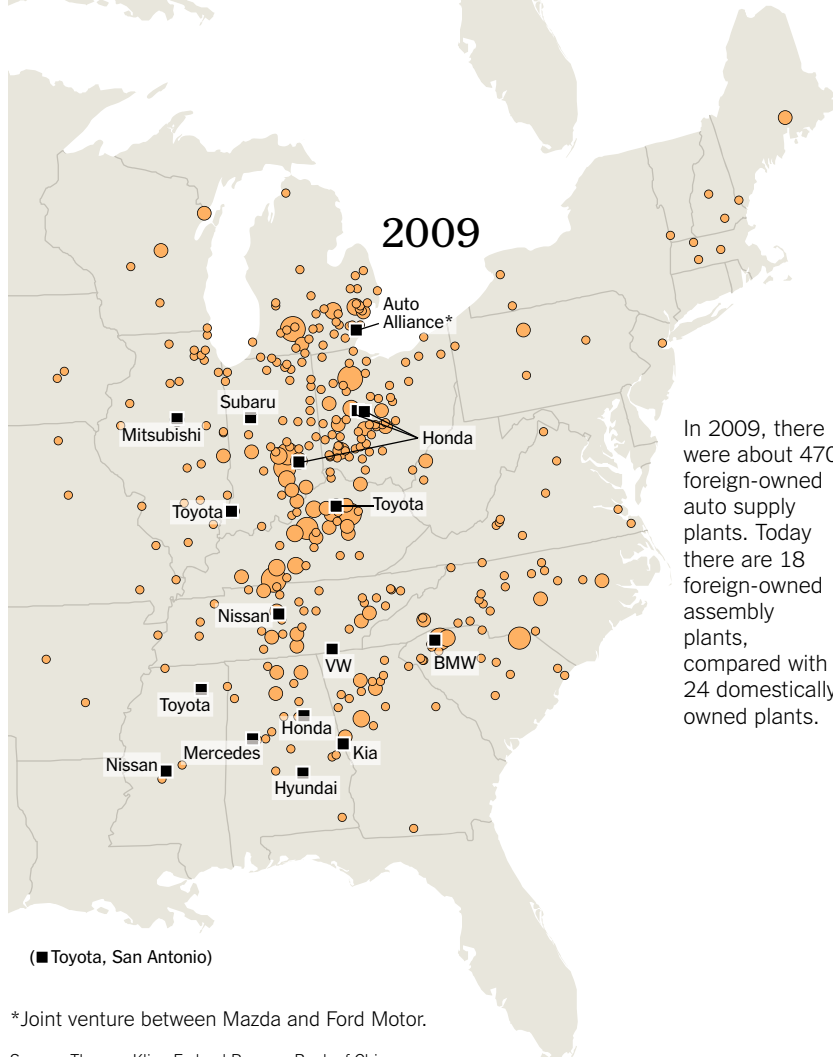
Executives in the electronics industry often say that popular devices can't be made in the U.S. largely because it would be too costly and inefficient. But in another industry, foreign auto companies have grown over the last 30 years to account for over 40 percent of vehicles built here.





2000

Over the next decade, another 100 suppliers were added, and three more assembly plants were in operation.



2009

In 2009, there were about 470 foreign-owned auto supply plants. Today there are 18 foreign-owned assembly plants, compared with 24 domestically owned plants.

(■ Toyota, San Antonio)

*Joint venture between Mazda and Ford Motor.

Source: Thomas Klier, Federal Reserve Bank of Chicago

KARL RUSSELL/THE NEW YORK TIMES

as Nissan's first American plant manager. In a later interview with *The New York Times*, Mr. Runyon was asked what his old colleagues in Detroit thought of his new job. "They wish me luck," he said. "But not too much."

Success did not come overnight. Many Japanese were skeptical of their new colleagues. Americans, they had heard, were soft, lazy and incapable of mastering the precision manufacturing that had made Nissan great.

To train its new American engineers, Nissan flew workers to its Zama factory in eastern Japan. There the Nissan officials, assisted by English-speaking Japanese workers called "communication helpers," imparted the intricacies of the company's production techniques to the Americans.

Beginnings at Nissan

Early on, Nissan guarded against quality concerns by not relying on parts from American suppliers. Most components were either shipped from Japan or produced by Japanese companies that set up operations nearby. "We

felt sourcing parts in the U.S. wouldn't allow us to make cars in our own way," said Mr. Imazu, the Nissan manufacturing executive.

By 1985, Nissan was confident enough about the quality that it added passenger cars to Smyrna's assembly lines. Gradually, American parts makers were allowed to bid on supply contracts. Even that came amid arm-twisting by Congress, which passed a law in 1992 requiring auto makers to inform consumers of the percentage of parts in United States-made cars that came from North America, Asia or elsewhere.

Calsonic Kansei of Tokyo opened its first plant in Tennessee in the mid-1980s, and now employs about 2,600 Americans making instrument panels, exhaust systems, and heating and cooling modules for Nissan. "The Japanese suppliers were encouraged to localize production," said Matt Mulliniks, vice president for sales and marketing at Calsonic Kansei in Tennessee.

Nissan's early doubts are reflected in recent debates over whether American workers can compete with overseas laborers. Within the technology industry, workers in Asia are viewed



JOSH ANDERSON FOR THE NEW YORK TIMES

COMPETING WITH THE BEST

Engines ready to be exported from the Nissan manufacturing plant in Decherd, Tenn.

as hungrier and more willing to tolerate harsh work schedules to achieve productivity. The numbingly repetitive jobs of assembling cell-phones and tablet computers, executives say, would be scorned here; they worry that many Americans would not make the sacrifices that success demands, and want too much vacation time and predictable work schedules.

In the auto industry, the belief that American workers could not match Japanese workers has long since faded. “A big part of the reluctance of Japanese automakers to come to the U.S. was the belief that their manufacturing systems could only work with loyal Japanese employees,” said Dr. Cohen, the American University professor. “Everybody was surprised how quickly the systems were adopted here.”

This year, Nissan held an internal competition to decide where to produce a new Infiniti-brand luxury sport utility vehicle. The plant in Smyrna was vying against one in Japan.

The surprising winner: Smyrna.

“All my life I’ve heard about how great luxury brands like Lexus and BMW are,” said Richard Soloman, a 20-year veteran at the Smyrna plant. “Now we will be building a vehicle of that standard right here in Tennessee.”

The Japanese presence has rippled through the South. But no place has benefited to the extent of Tennessee, which counts more than 60,000 jobs related to automobile and parts production. The state’s jobless rate, which exceeded the national average by a significant margin in 1983 when Nissan opened its plant, is now lower — 8.1 percent in June versus 8.2 percent nationwide.

Brazil’s Breakthrough

Earlier this year, when Apple’s chief executive, Tim Cook, took the stage at a technology conference, he was asked if his company — which once made computers in America, but now locates most assembly in China and other countries — would ever build another product in the United States.

“I hope so,” Mr. Cook replied. “One day.”

That day came recently for Brazil.

In Jundiaí, an hour’s drive from São Paulo, a strip of asphalt has recently been rechristened Avenida Steve Jobs, or Steve Jobs Avenue. Alongside is a factory where workers make iPhones and iPads. Brazil got these jobs

through tactics the United States once used to persuade Nissan and other foreign carmakers to build plants in America: it cajoled Apple and Foxconn with a combination of financial incentives and import penalties.

Like the United States, Brazil is a big market — the third largest for computers after China and the United States. It has long imposed tariffs on imported technology products to encourage domestic manufacturing. Those fees mean that smartphones and laptops often cost consumers more in Brazil, and that domestic manufacturers can be at a disadvantage if their products require imported parts.

In April 2011, Brazil’s president, Dilma Rousseff, traveled to Asia with a pitch, much as Mr. Alexander did in 1979. The federal government would give Foxconn tax breaks, subsidized loans and special access through customs and lower tariffs for imported parts if it started assembling Apple products in Brazil, where Foxconn was already producing electronics for Dell, Sony and Hewlett-Packard.

Foxconn agreed. Within months, new Brazilian engineers were flying to China for training. By year’s end, Foxconn was making iPhones in Jundiaí, and it began making iPads there in early 2012, according to Evandro Oliveira Santos, director of the Jundiaí Metalworkers Union, whose members work at the plant. Stores now carry Apple products with the inscription “Fabricado no Brasil” — “Made in Brazil.”

Apple products remain expensive; the latest iPad, for instance, costs about \$760 in Brazil, compared with \$499 in the United States. But because those devices are made in Brazil and lower tariffs are charged on parts used to assemble them, Foxconn and Apple are pocketing larger shares of the profits, analysts say, offsetting the increased costs of building outside China.

Foxconn declined to discuss specific customers, but said that the Brazilian government’s incentive programs had influenced its decisions and that the company expected to generate more Brazilian jobs and aid the government’s goal of furthering the country’s technology industries.

Indeed, Brazil hopes that compelling Foxconn to assemble iPhones and iPads domestically will help set off a technology explosion. Ms. Rousseff has said that Foxconn could invest \$12 billion more in Brazil. And as an electronics



JOSH ANDERSON FOR THE NEW YORK TIMES

DOWN THE ASSEMBLY LINE

Nissan's manufacturing plant in Smyrna, Tenn., builds six car models, including the soon-to-be-produced, all-electric Nissan Leaf.

supply chain develops within the country, as it has in China, the expectation is that other manufacturers will build factories.

The government also hopes to use consumer electronics as a springboard for more advanced manufacturing. Targeting high-tech parts like computer displays and semiconductors could help Brazil reduce its trade deficit in these products and develop a robust homegrown industry, said Virgilio Almeida, information technology secretary at the Ministry of Science and Technology. "They are deemed high priority in the Brazilian industrial policy and are part of the Greater Brazil Plan," he said. "Brazil has developed specific policies that grant incentives to foment research, development and industrial production."

America's Gap

Throughout his term, Mr. Obama has regularly gathered advisers to discuss manufacturing, according to former high-ranking White House officials. As one meeting was breaking up, Mr. Obama casually tapped an aide's iPhone

to raise a point. Since the device is designed domestically, he said, it should be possible to make it in this country as well.

But it became clear at the meetings that there were differences of opinion over how best to bring manufacturing home, according to people familiar with the discussions who did not want to be named because the sessions were private. Everyone shared the same goal: establishing a level playing field and creating as many jobs in America as possible. But the debate centered, in part, on choosing among different tactics the American government has used in the past: penalties like tariffs against foreign countries that do not play by the rules or incentives like tax breaks to encourage more domestic manufacturing. On one side were officials like Ron Bloom, until earlier this year the president's senior counselor for manufacturing policy, who favored more aggressive stances to counter policies used by Asian countries. He argued that the United States should fight China's efforts to keep its currency weak. If China's currency were stronger, Ameri-

can companies might find it costlier to make their goods in China and could have greater incentive to manufacture more in this country.

Aligned on the other side at times were two powerful voices: Lawrence H. Summers, the top economic adviser to Mr. Obama until 2010, and Treasury Secretary Timothy F. Geithner. Along with many economists, Mr. Summers argued that an overly aggressive trade stance could hurt manufacturing — by, for instance, pushing up the price of imported steel used by carmakers — and over time, drive companies away.

Mr. Geithner thought diplomacy was more effective than confrontational tactics like labeling China a currency manipulator. “He told us, ‘It’s going to be a trade war if we go there,’” according to a person who attended the meetings. But this person countered that China would respond only to pressure. “What doesn’t work is the quiet stuff,” he said.

Mr. Summers, in a recent interview, declined to discuss his role at the White House. But speaking more broadly, he said that protectionist measures might incite new domestic manufacturing in the short run, but that it would come at a high price. “People will pay more for the product because it’s produced in a place that can’t make it at the lowest cost,” he said. “It burdens exporters because they pay more for their inputs. And it removes the spur of competition.”

A spokeswoman for Mr. Geithner said, “A multidimensional approach to tough yet smart engagement with China is the most effective way to level the playing field.” This strategy has had some success in persuading China to increase the value of its currency, she noted.

One of the president’s economic advisers also said that, despite some differences, Mr. Obama’s team, including Mr. Geithner and Mr. Summers, united to preserve manufacturing jobs in a critical area by bailing out the auto industry in the wake of the financial crisis.

But the divisions within the White House have often frustrated those who wanted a

sharper focus on manufacturing. “The critics would say we didn’t really fight for manufacturing policy,” said another former high-ranking official who took part in many of those meetings and who did not want to be named because the discussions were confidential. “They have a strong point.”

Now, with unemployment high and a growing debate over outsourcing of jobs, manufacturing is on the political agenda. In March, Gene B. Sperling, director of the White House’s National Economic Council, outlined initiatives — including tax breaks for building factories here, infrastructure investments and going after “unfair trade practices” — to reinvigorate manufacturing. In May, the Commerce Department announced tariffs on Chinese solar panels for selling below fair-market value. The White House has challenged China’s trade practices on tires and rare-earth metals, and has established an “interagency trade enforcement center” to combat unfair trade.

Washington, however, has generally shied from addressing the protectionist measures of countries like China with countermeasures, as politicians once did against Japan.

After the Senate passed legislation last year imposing tariffs on nations whose currency is undervalued — a salvo aimed at China — the bill went nowhere in the House of Representatives, and the White House indicated it did not like the proposal.

However, champions of “insourcing” legislation — which takes away benefits from companies moving jobs abroad and provides incentives for those bringing jobs back — said the tenor of the debate was changing. “The public by and large has been betrayed by large American corporations that outsource. I think Congress is catching on to that,” said Senator Sherrod Brown, Democrat of Ohio.

Still, he does not advocate tariffs or quotas. Senator Debbie Stabenow, Democrat of Michigan, also favors tax



ANA OTTONI FOR THE NEW YORK TIMES

A RECENT RECHRISTENING

Alongside this road in Jundiaí, Brazil, is a Foxconn factory that makes iPhones and iPads.

breaks, rather than penalties. “I love my iPad,” she said. “And I want it made in America.”

One reason for the difference today: Unlike in the 1980s, when Japanese auto imports upset many voters, there has been little public outcry over imported cellphones and computers.

Back then, American workers were losing jobs as imports from Japanese companies cut into sales of the Big Three automakers.

Bill Vlasic reported from Smyrna, Tenn., Hiroko Tabuchi from Tokyo and Charles Duhigg from New York. Lis Horta Moriconi contributed from Rio de Janeiro.

But consumer electronics are different. Though some jobs have moved to Asia, many were never here to begin with. And the biggest technology importers — like Apple, Hewlett-Packard, Dell and Microsoft — are American companies.

Today, many consumers do not know or care where their smartphones are made. “Where it was built, what it means for politics, how it affects the economy,” said Raymond Stata, a founder of Analog Devices, one of the largest semiconductor manufacturers, “that’s not something people think about when they buy. ■