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Trade War Starts Changing Manufacturers in Hard-to-Reverse Ways

By **Ben Casselman**

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PORTLAND, Ore. — When the Trump administration first imposed tariffs on \$34 billion in Chinese imports in July, Andy LaFrazia figured it was just another curveball for his company.

“Everyone was saying: ‘Oh, it’s a negotiating tactic. It won’t last long,’” Mr. LaFrazia recalled.

But nearly a year later, the trade war shows no sign of cooling off. So ControlTek, the electronics manufacturer that Mr. LaFrazia runs near Portland, is taking steps to protect itself, a strategic shift that has been repeated in boardrooms and executive suites around the world in recent weeks.

ControlTek is rewriting contract language to make it easier to pass the cost of tariffs on to its customers. It is shifting supply chains out of China where possible, and redesigning products to avoid Chinese components where it isn’t. And as a tiny player in an enormous global industry, it is discovering that there is only so much it can do.

“We’re very much at the end of the whip getting thrown around,” Mr. LaFrazia said.

Despite dire warnings from economists, President Trump’s trade war has so far done little to derail the decade-long recovery from the Great Recession. Economic growth has remained strong, and the unemployment rate last month hit a 50-year low.

But evidence is mounting that the conflict has taken an economic toll. The Commerce Department said Thursday that trade — both imports and exports — slumped in April, and data released earlier this week showed a sharp slowdown in manufacturing, amplifying a recent trend. The bond market in recent days has been sending signals that the trade war could be a threat to growth in the United States and globally. The impact could deepen if Mr. Trump follows through on his promise, made Thursday, to impose new tariffs on imports from Mexico.

And as the conflict drags on, there are signs it is beginning to reshape the global economy in more fundamental ways.



ControlTek, which has 140 employees, focuses on quality and service to stay competitive against high-volume Chinese factories. Thomas Patterson for The New York Times

“There’s definitely lasting damage that has been done,” said Mary Lovely, a Syracuse University economist and senior fellow at the Peterson Institute for International Economics in Washington. “It’s not going to mean the end of the world tomorrow, but it’s death by a thousand cuts. How competitive is America going to be in 10 or 15 years?”

Tariffs have not yet compelled businesses to return large-scale production to the United States, where labor and other costs tend to be much higher than in China and other overseas manufacturing hubs.

But trade tensions are accelerating a corporate trend of shifting supply chains away from China. In a recent survey of more than 200 corporate executives by the consulting firm Bain, 42 percent said they expected to get materials from a different region in the next year, and 25 percent said they were redirecting investments out of China. More companies are likely to follow suit in coming weeks after the Trump administration moved to limit business with Huawei, the Chinese telecommunications giant, which the White House sees as a security threat.

Many companies were initially reluctant to abandon longstanding supplier relationships over a trade dispute that could be over in months, choosing instead to absorb the tariffs or find ways to share the costs with suppliers and customers. Now some are re-evaluating those decisions.

GoPro, the camera maker, said this month that it was shifting some production from China to Mexico. Universal Electronics, a manufacturer of remote controls, announced a similar move late last year. And Varex Imaging, a Utah-based maker of X-ray equipment, said this month that it was working to “redirect our supply chain away from China” in response to the tariffs.

“Most companies took a wait-and-see attitude” at first, said Pete Guarraia, who leads Bain’s supply chain practice. “That was absolutely the mind-set. Now it’s: ‘I can’t wait any longer. I have to take some action.’”

Electronics manufacturers could be among the first to feel the full brunt of the trade war. The industry is perhaps uniquely global: Chips made in Oregon or Texas are shipped to a plant in Mexico to be attached to circuit boards made in China alongside capacitors made in Vietnam. It is not unheard-of for a product or its components to cross the Pacific three or even four times before showing up on retail shelves.



Andy LaFrazia, who runs ControlTek, spent hours just figuring out which tariffs applied to the parts his company needed, he said. Thomas Patterson for The New York Times

The crackdown on Huawei in recent weeks has opened a new front to the trade war. Huawei buys chips and other components from American manufacturers, and analysts warn that the fight could quickly spread to other companies.

American companies sold more than \$200 billion in computers and electronic goods to foreign buyers last year, including \$18 billion to China. And while that was a small part of the United States' \$2.5 trillion in total exports last year, the broader tech sector has accounted for an outsize share of economic growth in recent years.

Anything that disrupts the global supply chains the industry relies on could threaten American economic growth, said Torsten Slok, chief economist for Deutsche Bank. Semiconductor sales, he said, have proved to be a reliable indicator of the direction of the broader economy — and sales have been falling this year.

“We will find out soon if the economy was strong enough to withstand this,” Mr. Slok said.

If the electronics industry sneezes, few places will catch a cold as quickly as Portland. The industry employs close to 40,000 people in Oregon, including 20,000 at Intel, the state's largest private employer. Oregon exported \$2.7 billion in electronics goods to China last year, more than any state other than California — a total that doesn't include companies, like ControlTek, that are just across the Columbia River in Washington State.

Founded in 1971, ControlTek has weathered the rise of Japan and then China. Today, the company and its 140 employees don't try to compete directly with the high-volume factories in China.

Instead, ControlTek, like American manufacturers in other industries, has survived by carving out a niche based on quality and service. Its plant in Vancouver, Wash., has state-of-the-art machines that place components — integrated circuits, capacitors, resistors and other devices, some barely big enough to see with the naked eye — onto circuit boards destined for medical devices, aircraft and even pitching machines. But it also has employees hand-soldering parts beneath high-powered magnifying glasses, the kind of personalized attention that can look like an anachronism on today's highly automated factory floors.

When the first round of tariffs went into effect last year, ControlTek executives had no idea how they would be affected, or even how to find out. The software for tracking inventory showed the company's suppliers, but not where those suppliers got their material.



American companies like ControlTek sold \$18 billion in computers and electronic goods to China last year. Thomas Patterson for The New York Times

“I didn’t even know that was something you could find out,” Mr. LaFrazia said.

It was also unclear which products were subject to tariffs. Mr. LaFrazia, a 54-year-old Air Force veteran, recalled spending hours poring over an online list of tariff codes to figure out which applied to his parts. When he called the manufacturers, they often didn’t know where they fell in the government’s taxonomy of tradable goods. Even the government’s experts can get confused — ControlTek recently had a shipment of parts delayed for 12 days because customs officials thought they contained aluminum that was subject to tariffs. (They didn’t.)

Over time, ControlTek has learned to navigate the system. Suppliers are sourcing components from Vietnam, Malaysia and other countries where possible, and ControlTek has begun factoring the tariffs into its product designs.

“We’ll design China out,” Mr. LaFrazia said.

The longer the trade war goes on, the more companies will have to make such decisions. Thomas Isaac, president and chief executive of Allied Technologies International, an Oregon manufacturer of parts for the telecommunications and aviation industries, said he had all but given up on selling to China. Sales there have slowed “almost to negligible” since tariffs took effect, he said. But Mr. Isaac has seen more business from customers looking to keep their suppliers closer to home.

Mr. Isaac spent more than a decade at General Electric before acquiring Allied Technologies five year ago, and he said he remembered the enthusiasm for globe-spanning supply chains. Now that optimism is fading.

“The global supply chain sounded good for the last 20 years, but you’re already seeing companies pulling back and saying, ‘Let’s stay more local,’” he said.

While companies may be rethinking their supply chains, Mr. Isaac said he did not expect to see production shift back to the United States in meaningful volumes, the stated goal of Mr. Trump’s policies. So far, the data backs him up. Imports from China have fallen precipitously since the trade war began, both in electronics goods and over all. But that decline has been offset by increased imports from other countries. The nation’s trade deficit has been largely unchanged.

At ControlTek, tariffs have eaten into profit margins, although business as a whole hasn’t suffered. On one level, the trade war is no different from health care costs, labor issues or any of the other challenges that businesses encounter. But Stacey Smith, ControlTek’s vice president for human resources and marketing, said that for an American manufacturer, the tariffs were particularly hard to stomach.

“The tariffs are different because it’s your own government,” she said. “I understand the negotiating tactics. But it really is quite painful to be one of the pawns.”

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