

Laura Alfaro

On global supply chains, sentiment about trade, and what to learn from Latin America

Laura Alfaro wanted to be an economist since she was a young girl in Costa Rica. That she went from studying economics in college in her native country to a professorship at Harvard Business School is a reflection, she says, that she's a bit *neicia* — foolishly stubborn. Even more important: "I had the bliss of ignorance. To both of my parents, I could be anything, and I believed it. I didn't know women didn't get Ph.D.s in economics in Costa Rica; I thought it was normal."

In 1996, while Alfaro was in her doctoral program in economics at the University of California, Los Angeles, she had an early exposure to the significance of trade and foreign investment: Intel announced plans for a major investment in her small country, its population then around 3.5 million. Work was soon underway on a \$300 million manufacturing complex there, with direct employment for 2,000 workers and untold indirect jobs. Intel's presence in Costa Rica — which continues today — helped shape Alfaro's research interest in global supply chains and trade in general. Lately, she has been looking at, among other things, a major shift in supply chains away from China, a trend that she has labeled the "Great Reallocation."

Alfaro stepped into a decidedly nonacademic job in 2010, taking a leave of absence from Harvard to become a cabinet minister: Costa Rica's minister of national planning and economic policy, a role that largely combines the functions of the U.S. Treasury secretary, Office of Management and Budget director, and Council of Economic Advisers chair regarding economic strategy and policy coordination. After two years, she returned to Harvard, mainly because she would otherwise lose tenure (the university generally limits leaves of absence to two years).

In addition to global supply chains, her research has explored foreign direct investment, exchange rates, capital controls, and sovereign debt. Her work has been published in numerous top journals, including the *American Economic Review*, the *Review of Economic Studies*, the *Journal of Political Economy*, and the *Journal of Financial Economics*.

David A. Price interviewed Alfaro by videoconference in September.



EF: You've studied the economies of Latin America extensively, and you've served as cabinet minister for economic policy in Costa Rica. What lessons do you think Americans should take from Latin American economic experiences?

Alfaro: I'll give two positive lessons and one negative. On the positive side: As you know, Latin America went through several crises in the 1980s and 1990s. Most of the countries actually have learned from past mistakes. From these crises, they have created more resiliency, to the point that no Latin American country of this subset — I'm thinking Mexico, Brazil, Chile — has had a financial crisis. This is due to more flexible exchange rate regimes, better regulated financial markets, and some other reforms.

We used to have bank failures and that's why a crisis was so devastating. But this has not been the case in these countries, even in the global financial crisis. Some firms went bankrupt and there were some other bad things that happened, but it was not a systemic financial crisis. That's a positive lesson.

I'm not including Argentina; I'm not including Ecuador. Those are a little bit different.

The other positive lesson comes from my country. We have had a long history now of trying to get along with the environment. We have protected 25 percent of our country, and most of our energy is renewable. And I think we have managed to make this into a successful economic proposition. Many people come for tourism and enjoy our national parks. So I do think saving the planet and making money are compatible.

On the negative side, I don't see the United States paying attention to unsustainable fiscal debt. Politicians have been

just offering to spend money and this at some point comes back to roost. One does start to worry.

It is true that the United States has advantages. It's the biggest economy in the world; it has its own currency, which is the reserve currency. So we tend to assume that it can go on forever — that when the end of the world comes, U.S. sovereign debt will be around along with the cockroaches. But it is not endless. I would argue that it would be good if the United States learned from Latin America that populism doesn't pay off. Try not to copy us.

EF: In your work, you've described what you call a "Great Reallocation" in global supply chains — a reallocation away from China. Did the pandemic bring this about?

Alfaro: This is a paper that I wrote with Davin Chor for the Jackson Hole Symposium in 2023. We documented this great reallocation of supply chains. The countries that have gained the most are Mexico, Vietnam, what we call high-income Asia — namely, Singapore and South Korea — and middle-income Asia — India and Thailand.

But what our regressions and research show is that what brought this about was not the pandemic, it was the 2017 tariffs. It is a reallocation pushed by policy.

The pandemic situation is interesting because during the pandemic, a lot of companies were thinking of real-locating, but a lot of the network of supply was in China. I think during the pandemic we had a view that trade was a problem behind a lot of supply chain issues. I'm actually of the opposite view: Trade saved us. After a certain period of the pandemic, there was infinite demand, apparently, in the United States; everyone wanted furniture and computers and toys and so on. It would have been impossible to deal with the demand, the goods demand, that we observed during the pandemic without our trade with China. So, if anything, the pandemic slowed down the great reallocation.

EF: How will this reallocation affect the U.S. economy?

Alfaro: The reallocation is still going. From 2017 to 2022, the lost market share of China in U.S. imports was close to 5 percentage points. In 2017, the share of imports from China was 22 percent; in 2022, it was 17 percent. If you go to 2023, it was 13 percent or 14 percent. So it has continued. This has been on the back of tremendous

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growth in the U.S. I want to underscore, also, the tremendous growth of global trade during this period from the U.S. point of view. So it's not a move away from trade; it's just a move away from China's trade.

We also looked for evidence of reshoring — operations coming back here — and near-shoring. We did find that a lot is coming to Canada and Mexico, so near-shoring is happening. But for reshoring to the U.S., the evidence is not clear. One has to wait because it takes time for investment to materialize. It's early to say.

EF: In trying to build more resilient supply chains, are companies embracing more vertical integration — that is, producing more key inputs in-house?

Alfaro: More than one-third of trade in the United States is intrafirm trade, that is, within the boundaries of the firm.

People tend to forget this. Some of the main players in trade are multinationals importing and exporting to themselves.

Whether the firms are responding with more integration, the data that we're using on this study doesn't allow me to tell you. But I will be able to tell you in a year or so because I got access to the confidential census data on foreign direct investment, the BEA data, and that's precisely what we're studying.

EF: Does the just-in-time type of supply model have a role here?

Alfaro: Everything has trade-offs. It's interesting that the Japanese firms, which are the ones that started just-in-time, actually did better with supply in the pandemic. They just have better relations with their suppliers. If you want to do just-in-time, you need to be flexible, and a lot of that flexibility comes from having better relations with your suppliers. If you adopt some management tool, you need to think about the whole process. These Japanese firms were not the ones that got into big trouble, it was the U.S. ones.

An alternative is to stockpile, but what companies will tell you regarding the pandemic period is that no one would have stockpiled that amount. Once the shock happened, most firms thought it would be like the global financial crisis — it would be a demand problem. For example, car companies thought people wouldn't demand as many cars, and so they just didn't order. There is a sequential nature to this. If you don't order the chip, which takes months to build, then you're months behind. And these chips are not so easy to substitute.

But then all the stimulus came. All of a sudden, everyone was buying cars and computers and electronics and houses.

EF: On the subject of supply shortages, China has a strong role in the global supply of rare earth elements, from cerium to ytterbium. Why is that significant? Is it significant?

Alfaro: Rare earth elements have the property that, to simplify, they make things smaller, faster, and lighter. And these are the characteristics of everything we use now. In the 1980s, we liked the bigger TV, the bigger stereo. But in this era, we tend to like things smaller and lighter. And when you make things lighter, like EVs, they use less energy. Rare earth elements are also used in catalytic converters, lasers, and MRI machines, among other products.

There are reasons why a lot of the mining and refining happens in China. One is geological. Rare earth elements are not rare; they are just very expensive to mine depending on your geological conditions.

The United States is full of rare earth elements. But they are harder to mine here. If, let's say, they're in the Rocky Mountains, you need to destroy the Rocky Mountains. Whereas in China, some are relatively easy to mine because the site may be just bluffs and sand. You just don't get that much, so there's also a lot of labor involved.

It just so happens that China had some that were relatively easy to mine labor-wise, but then also eventually they achieved economies of scale in processing, which also makes the price go down.

Some rare earth elements, and again there are different types, have byproducts that may be environmentally more complicated. The Europeans at some point decided they didn't want to deal with that. So China then took it.

The U.S. has a mine in California, the Mountain Pass Rare Earth Mine, which closed in 2002. It has since reopened. But the Chinese now have an advantage in terms of economies of scale, which means that the price is very low. So it's uncertain what will happen.

I've found these issues interesting to look at because it turns out there's a technical side that can be tricky to work through but also fascinating. Unfortunately, the last time I took chemistry was in high school. The most helpful books on this subject go

Laura Alfaro

■ PRESENT POSITION

Warren Alpert Professor of Business Administration, Harvard Business School

■ SELECTED PAST POSITIONS

Minister of National Planning and Economic Policy, Costa Rica (2010–2012)

■ SELECTED ADDITIONAL AFFILIATIONS

Research Associate, National Bureau of Economic Research; Nonresident Fellow, Brookings Institution; Visiting Scholar, Bank of England

■ EDUCATION

Ph.D. (1999), University of California, Los Angeles; Licenciatura (1994), Pontificia Universidad Católica de Chile; B.A. (1992), Universidad de Costa Rica

deep into the chemical properties of the element and how you mine them. Now I have a periodic table on my wall to help me get through the books. My students always ask about it because they find it puzzling that I have one.

EF: You've done something unusual for an economist: You looked at Americans' reactions when they're exposed to positive or negative information about trade and jobs. What did you find?

Alfaro: There seems to be a backlash against globalization, but it's in rich countries. People think it's global, but it's not. It's Brexit; it's the United States. I did this work with Davin Chor and Maggie Chen. I did it for a couple of reasons.

First, in many ways, I feel like a product of globalization. I'm from Costa Rica, studied in Costa Rica, came to the U.S. My husband is Brazilian. We go back and forth. We are the outcome, if you will, of the 1990s globalization era. I have seen my country in many ways benefit from that era. Intel opened up land in Costa Rica.

Even though there have been some undesired effects, I do think the U.S.

has always had the tools to deal with them. The U.S. has always had the capacity to redistribute. I think a lot is because the education system in the U.S. is not working as well and we never talk about it. The knowledge of math in the U.S., sometimes you're shocked that the U.S. is not doing more to improve it. The U.S. worries about Olympic medals in sports, but they don't worry about math.

So that was one motivation. The other one was, to be honest, a very arrogant economist view. We were thinking that what's going on is people have not been explained the benefits of globalization. They're exposed to all these 10-second tweets, comments, Instagram, TikTok, whatever, and they're just not getting the knowledge of what's going on. And so in an arrogant way, we thought we would teach them. That was the objective of the paper: Let's give people facts about trade to see if we convince them that trade is good.

And what are these facts? The U.S. has never seen the level of employment it has seen during globalization. If you look at the number of employed people in the U.S. in the last 20 years, U.S. unemployment is low, and the U.S. keeps employing people. So we gave these facts. We also showed the fact that the price of goods has come down. To keep it simple, we showed them the price of computers, the nominal price. We didn't even go into real and nominal. The nominal price of computers has gone down. And of clothes. We also showed them that with tariffs, prices went up.

Unsurprisingly, if you tell them there was a loss of manufacturing jobs, people go against trade. But even if you tell them everything positive — it created more jobs, it lowered prices, tariffs increase prices — the process still made them more against trade. And these were randomized experiments. So we did this for five years, because we were thinking no, we did something wrong the first time. But the outcomes were very stable.

And so we went and asked people: I just told you trade was good, why are you still against trade? What we found is that people cannot differentiate trade from a link with China and jobs. It doesn't matter what you tell them, it instantly triggers an association with China. So we walked away a little bit more humble because our models are not models that deal with national security. And that's a concern that they mentioned. We economists should probably try to think more about how to incorporate national security concerns.

Our conclusion is that if we do want people to support trade — and as I said, I do think trade has benefits, and we do need to do things to improve redistribution, retooling, reskilling — if we want people to be open to it, we need to address the concerns about the particular bilateral interaction with China. Perhaps that reallocation is one way to deal with it. Let's try to trade a little bit more with Vietnam and some other countries.

However, in our own work what we have found is that even as the U.S. has directly imported less from China, the main trade partners of the U.S. are importing more from China. Mexico is importing more. Europe is importing more. And Vietnam is importing more. So even though directly the U.S. is diminishing the exposure, indirectly the exposure might still be there. Therefore, one still needs to worry because people eventually may also note that the relation is indirect, given the concerns of the bilateral relationship with China.

EF: In what ways do you think attitudes about trade are likely to change?

Alfaro: I don't think they will get better. The tariffs were put in place under President Trump, but President Biden didn't get rid of them. If anything, there were more subsidies via the Inflation Reduction Act and the CHIPS Act. If you pick up the newspaper, it's a contest among politicians as to who does more.

EF: You've been on the faculty at Harvard Business School for 25 years. What's the biggest difference there between now and when you started?

Alfaro: The environment in many ways is different. The biggest change is that I came to HBS during the globalization era and that's over politically for the time being.

At the same time, our teaching has become more global. There's no doubt. When I started, I was the one writing the global cases [case-study articles for courses]. I was, at one point, doing the first case on the Asian financial crisis, the first case on the Latin American crisis. I wrote a case on the U.S. current account deficit that still gets taught.

Now talking about other countries is normal. It's the way HBS does things. We are a global center, so we have become global. I would say more diverse, but HBS has always been very diverse. We always have had people from many countries and walks of life. But topics have changed just because

life has changed. Global considerations are part of the way companies do business.

On a personal level, the biggest difference is I'm older. When I started, I was the same age as the average student. I'm starting to see my students now as though I'm their parent. For the case method, that has some advantages because it gives you a little bit more authority since one has lived through more.

EF: Has the role of elite business schools in the U.S. economy changed during that time?

Alfaro: HBS has always been a little bit different because we have always taught this course that is called BGIE — Business, Government, and the International Economy. And we have always told students they need to care about the macro trends and they need to have an understanding of politics. It's not because students may want to go into government, although some do. It's because they need to understand the processes that bring about taxes, tariffs, and so forth. And so we always did that.

I think that has always been a difference of HBS from other programs, because HBS has always had a general management type of view: We assume you will become the CEO, and these are the things you need to understand.

So I don't think that the role of HBS has changed. It just has become more visible that students need to have a view on these macro trends, from politics and geopolitics to economics to society. **EF**

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