



FORGING A NEW PATH

in North American Trade & Immigration

Proceedings of the 2019 Conference on the
United States–Mexico–Canada Agreement

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Bank of Dallas



SMU | Mission Foods Texas-Mexico Center
DEDMAN COLLEGE OF HUMANITIES & SCIENCES

In partnership with the Cox School of Business

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Pia M. Orrenius, Executive Editor

Jesus Cañas, Michael Weiss, Editors



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Introduction

Pia Orrenius and Jesus Cañas, Federal Reserve Bank of Dallas

The foundations of the global prosperity that has spread and deepened since the mid-20th century are being questioned, including the role of free trade. This backlash against what used to be considered conventional wisdom has had deep repercussions for our region, bringing down the North American Free Trade Agreement (NAFTA) and replacing it with the U.S.–Mexico–Canada Agreement (USMCA) on July 1, 2020.

The global multilateral trading system, embodied in the World Trade Organization (WTO), was forged in the spirit of a post-World-War-II mindset that international cooperation and global trade and exchange could lift living standards and fortify economies around the world. Preferential trade agreements proliferated, including NAFTA, ratified in 1994, the first such agreement between a developing nation (Mexico) and advanced industrial economies (U.S. and Canada).

Although anti-trade rhetoric has intensified in recent years, such concerns are not new. Opening up to trade was always controversial. Political leaders faced considerable public opposition as they lobbied for their nations to join the WTO or signed them on to regional trade agreements. Even as tariff barriers came down around the world, many countries kept nontariff barriers in place and implemented new protectionist measures to slow the growth of international trade and foreign investment.

NAFTA was a success by most standard measures. After its passage and over the following 25 years, the volume of U.S.–Mexico trade rose fivefold, and foreign direct investment soared. Cross-border manufacturing linkages deepened, and Mexico developed a world-class manufacturing platform approaching that of the U.S. and Canada. In turn, North American consumers enjoyed lower prices on everything from cars to medical devices as well as greater product quality and variety. Despite this apparent progress, NAFTA came under increasing fire.

It was in this time of rising anti-trade sentiment and the imminent demise of NAFTA that the Federal Reserve Bank of Dallas held its two-day conference, “Forging a New Path in North American Trade and Immigration,” to explore what the future would bring—principally the USMCA. Conference speakers reviewed the accomplishments of NAFTA and analyzed the consequences of its removal and its replacement with the USMCA. They also discussed detailed

aspects of North American trade and migration including rules of origin, supply chains, trade creation versus trade diversion, services and digital trade, natural gas markets and energy sector investment, and the integration of labor markets.

The insights of this broad group of topic experts boiled down to four main points. One, NAFTA was a success according to standard metrics for evaluating trade agreements. Hence, a strong and consistent commitment to trade and openness remains the best option to bolster economic growth, consumer welfare and the global competitiveness of North American industry. Two, while trade generates net benefits, it also creates winners and losers. Nations need better safety nets and training programs to aid workers who have been displaced by trade. Three, while the USMCA is more restrictive than NAFTA, particularly with regard to the automotive sector, it will continue to provide the necessary legal and institutional framework for North American trade and investment and help expand digital trade. Finally, while North American labor markets are well-integrated along several dimensions, cross-border labor migration is still helpful because it can alleviate worker shortages in certain industries and occupations and support remittance flows, which helped provide a needed boost to economic development in Mexico.

The gathering of trade and migration scholars in September 2019 was much like an earlier Dallas Fed conference held on the occasion of NAFTA's 20th anniversary in 2014. At that time, the expectation was that NAFTA would be subsumed in the Trans-Pacific Partnership (TPP), a proposed 12-country trade agreement that included Mexico, Canada and the U.S. as well as a number of additional countries around the Pacific Rim. TPP was eventually realized, albeit under a different name and without the U.S.

Looking forward, it's clear that the proponents of free trade are under scrutiny, and the benefits of trade are being questioned, particularly in the U.S. It's incumbent on leaders to address the criticisms and allay the fears of workers as well as better communicate trade's benefits. It's also important to strengthen the world trading system more generally so it can better enforce the conditions of trade agreements and ensure that countries live up to their obligations. The road ahead leads back to liberalized world trade; the only question is how many detours there will be along the way.



Forging a New Path

Robert S. Kaplan, Federal Reserve Bank of Dallas

Texas is the largest exporting state in the country, and a lot of our work here at the Dallas Fed is particularly focused on trade, immigration and energy—given the characteristics of our district—as well as on monetary policy. We spend a lot of time focusing on cyclical developments—GDP (gross domestic product), employment, inflation, the monthly PMIs (purchasing managers indexes). There's a lot of cyclical data that come out with high frequency. But my own bent, coming from the business world, is that we also spend a lot of time on the longer-term, structural drivers that help explain some of those day-to-day and month-to-month and even year-to-year cyclical results.

Let me explain what I mean by that and why trade and immigration are so critical.

There are four big drivers that we talk about at the Dallas Fed. Let me start with the first, demographics. The U.S. population is aging, and U.S. workforce growth is slowing. We're not the only country in the world with this issue. Europe has got a significant demographic issue. Germany is much more challenged than the United States. Japan is similarly affected. China has got a significant demographic issue. But why am I talking about this as a key driver? GDP growth is made up of growth in the workforce plus growth in productivity.

Add those two things together, and you get GDP growth. If the workforce is aging, and workforce growth is slowing—before you even get to talking about productivity—that's a headwind for GDP growth.

There are a few ways to talk about the evidence of this. One is the labor force participation rate. Much has been made of the fact that in 2007, the U.S. labor force participation rate was about 66 percent. The participation rate, for those who don't know, is the percentage of the population, (age) 16 and older, that is either working or actively looking for work.

That was 66 percent in 2007; it is around 63 percent today. In our view, the bulk of that decline is due to aging of the workforce and demographics. And by the way, we think it's been a pretty tremendous accomplishment to keep that labor

force participation at around 63 percent over the last three or four years. It's our own view at the Dallas Fed that over the next 10 years, because of aging, this participation rate is likely to decline further, heading toward a low of 61 percent. For those who watch economic statistics, if that actually occurs, that is a significant headwind for labor force growth and for GDP growth.

You can imagine there are a number of things that can be done to address this. Over the years, getting more women to participate in the workforce has been helpful to labor force participation. That's why there's a lot of talk in this country regarding child care, transportation challenges, skills training and other policy changes that could bring people into the workforce. But the other one that is a significant issue is immigration. The only comment I'll make about immigration is immigrants and their children, based on our research, have made up as much as 50 percent or more of workforce growth over the past 20 years in the United States. If you look out over the next 20 years, they are going to be a much higher percentage of workforce growth. Why is that? Because we know native workforce growth is going to be negative on net.

Again, I'm a business person. I like to think about distinctive competencies and strategy. What's one of the things that has been distinctive about the United States over all of our lifetimes and before? We have been a magnet for talent from around the world. We have attracted and assimilated and brought in people from all over the world who have become leaders of our country and active, productive citizens. My grandparents were not born here; they came to the United States. I'm not unusual. Immigration is critical. If we're going to improve workforce growth in the United States, this is critical. This is why Japan has such a substantial temporary worker program. Germany has had its challenges related to immigration, but this helps explain why Germany has tried to tackle the subject of immigration—although it's not gone terribly well. They're worried about slowing workforce growth. So, that's the No. 1 driver.

The second big structural driver is a combination of technology and increased technology-enabled disruption, which is a global phenomenon. It has implications in the United States at least for lagging educational achievement—math, science and reading, as well as lagging skills training. Why do I talk about this? Productivity is the second part of GDP growth; labor force growth is the first part. Interestingly, labor force productivity growth in the United States has been sluggish relative to what it has been historically.

Why is that? It's particularly confounding because we see investments in technology and technology-enabled disruption that improve productivity. I'm a student of corporate results. I was trained to read corporate results, and I still do in this job. If you look at companies and industries, you'll see that just about every industry that you can follow is much more productive today than it was 10 years ago. So why are we not seeing it show up in aggregate measures of labor force productivity? Our thesis at the Dallas Fed is that technology and technology-enabled disruption cut differently by educational attainment. What I mean by that is if you have a college education, while you may be traumatized

during periods of your career by technology and technology-enabled disruption, you probably have the skills and the training and the ability to benefit in terms of growth in your income and your career prospects.

If, on the other hand, you are one of the 46 million workers in this country who has a high school education or less, you're likely seeing your job increasingly being either disrupted or eliminated. Think of the call center worker who makes \$55,000 a year today plus benefits. Those jobs aren't going to exist five, six, seven years from now. And by the way, the workers in those jobs know that. If you're doing a middle-skills routine type of job, over the course of your career, unless you get retrained, you may actually see your income and your career prospects deteriorate. Which is why in this country there's so much discussion about, "Is capitalism working for everyone or is it just working for some?" We think that heavily cuts by educational attainment.

We've looked at a number of studies that have shown that if we could improve math, science and reading—we rank 25th out of 35 industrialized nations—that would improve workforce productivity. And we certainly believe strongly that there's a big skills gap, if you've heard that term. Over half of all small businesses in this country report they cannot find skilled workers to fill jobs. We think if we did more to beef up skills training, that would also improve productivity. And why is it so urgent? It's so urgent because of the first point: Workforce growth is slowing. We are not compensating for that by improving productivity. And if workforce growth is slowing and productivity growth remain sluggish—not negative but sluggish—we're going to have low or lagging GDP growth. We're talking about this trend all the time.

The third big driver is globalization. Globalization has been a fact of life for most of our lifetimes. The company I joined in 1983—I joined a primarily domestic company—had very little business outside of the United States. By the time I left that company, we had over half of our revenues outside the United States, and we were unusual. Today, nearly 45 percent of S&P 500 revenues come from outside the United States. The U.S. economy is much more integrated now with the rest of the world. The leading companies in the world are much more globally integrated, and we know that capital flows are much more globally integrated.

If you're an asset allocator in this world, you think globally. Your asset allocation is global. And the issue is this: The U.S is less than 5 percent of the world's population. Our work at the Dallas Fed suggests that globalization is an opportunity for the United States. However, the narrative in the last several years has been that if your job is being disrupted in Wisconsin or Ohio or anywhere, it's probably due to globalization. Either an immigrant may have affected your wages or taken your job, or trade is the reason your job has been disrupted. Our analysis suggests that may have been true 15, 20 years ago. It might have been a more credible argument then, but today if your job is being disrupted or eliminated, it is far more likely happening due to technology and technology-enabled disruption and, probably, the education system—your math, science and reading proficiency or the fact that you don't have skills

training—those are far more likely the reasons that your job is being disrupted or eliminated.

The reason we flagged this is that if we get that diagnosis wrong, we're going to make poor policy decisions regarding trade and immigration. That means we're going to grow more slowly.

So, we spend a lot of time in an apolitical way at the Dallas Fed trying to understand how, for example, the trade relationship with Mexico and Canada (operates). It's our view that the trade relation with Mexico, which is heavily an intermediate goods relationship, is actually critical to U.S. companies domiciling here and to them being more globally competitive. Basically, it has contributed to more jobs in the United States on net. It's allowed companies and businesses to stay in this hemisphere and to stay in the United States. There's a reason the Ford assembly plant is called assembly, not manufacturing. It's an assembly plant. Across industries we very effectively use trade and sophisticated supply chain and logistical arrangements to improve our competitiveness, and it's our own view that we're taking share— or at least we were taking share— from Asia. We think that's critical to GDP growth in the United States.

On immigration, we've done a lot of work, which I'm sure we'll talk about in this conference, and (Dallas Fed Vice President) Pia (Orrenius) and her team have done a lot of research that indicates the U.S. would likely be well-served to adopt a more skills-based and employer-based immigration system, more similar to Canada. To put it plainly: In Canada, they survey companies around the country, they figure out where the job gaps are—where the skill gaps are—and they backward integrate that into their criteria for immigration.

However it's done, if you think you're going to actually cut the number of immigrants and grow GDP, those two things do not quite go together. If you're going to grow, you need to grow the workforce, and you can restructure the immigration criteria.

Some may say we're actually going to cut the number of immigrants, and that's going to be great for the United States. Our comment is, "Not if you want to grow GDP." Our research has also indicated that we don't believe that immigrants have materially, negatively affected wage growth at the low end and certainly not at the high end. We find that immigrants have taken jobs at both ends of the skill distribution where domestic workers are scarce, and we have benefited as a nation. That is not the narrative you hear today (in public discourse), and one of the reasons we're very excited to be doing a conference like this. I think we need to do more to make clear the various aspects of immigration and the various aspects of trade.

I think we've also said we would do well to segment our trading relationships and our thinking between those that are intermediate goods and those that are final goods relationships. The trade relationship with China is primarily a final goods relationship. I'm sure we'll talk more about that, but we think that's an opportunity for growth.

Now, the fourth big structural driver. None of this would be that big of a problem if we weren't so highly leveraged at the federal government level. And so, the last big driver is what's happened with U.S. debt-to-GDP.

Since the Great Recession, the household sector has deleveraged. It's not that households have reduced debt so much; they haven't. But they haven't increased their debt, and their incomes are growing. Household debt-to-GDP is in much better shape than it was 10 or 12 years ago. People may not have realized, if you go back to 2006 and 2007, which were pretty good years, household debt-to-GDP was historically high, and the reason we didn't notice it was because people were focused on household debt-to-asset values. We know what happened with housing. It's been a long, slow grind for households to get their balance sheets in better shape. A strong job market has helped.

The corporate sector is more leveraged today than 10 years ago. Triple B debt has tripled. Corporate leverage has increased dramatically, but, critically, the financial sector has deleveraged. We've written a lot about this at the Dallas Fed and said why corporate debt-to-GDP is something we should be watching carefully. It's not a "systemic risk," but in a downturn, it may well be an amplifier, meaning if we slow, companies will have to allocate a greater percent of their cash flow to servicing debt. It means they won't be spending on capital expenditures and other things. It's something to watch, but we think it's more an amplifier than a systemic risk.

The third sector we look at—the government sector—is dramatically more leveraged than it was after the Great Recession. Debt held by the public now is approximately 76 percent of GDP, and the present value of unfunded entitlements is now in excess of \$55 trillion and heading north. Even before the recent tax legislation, deficits, we believe and the CBO (Congressional Budget Office) believes, are going to start exceeding \$1 trillion a year. And normally you would not increase your debt-to-GDP late in the economic cycle. The point of all of this is we think the path of U.S. debt-to-GDP is likely not sustainable.

So why aren't you reading this on the front page of the paper every day?

It seems like years ago, five or 10 years ago (with the Simpson-Bowles (deficit reduction plan), you had a lot more conversation about this. The situation is worse today, but interest rates are low. I think implicit in the calm about this is the belief that the dollar will remain the world's reserve currency for the foreseeable future, which means people have to be overweight to the dollar. Our concern at the Dallas Fed is that if you're relying on that as heavily as we are, that's a dangerous thing to do, and we would be well-served to moderate our debt growth.

People ask me, "What's the 'black swan' event, the thing you just can't imagine happening that could hit us in the face?" My definition of the black swan event is an event that stares you right in the face and is so obvious that you willfully decide to ignore it. This (the dollar no longer being the world's reserve currency)

for me is the potential event; it's so obvious and it's so clear, and we are willfully deciding not to pay attention to it.

That's the fourth issue, and the reason I mention it is to put everything in context. Now, what do you do about it? One, we can grow faster. Obviously, we can do entitlement reform, a very sensitive subject. We can find other ways to moderate our debt growth. But then if you go back to start with immigration and trade—the subject of this conference—you'd kind of have a little bit different conversation. About immigration, for example, if you put it in context, then unless we grow the workforce, we're creating greater and greater demands on our children and grandchildren that they're going to have to pay off the debt. It might change the context of that debate and the trade-offs you're making. And right now, we're willing to tolerate a little slower workforce growth and maybe we'll make up for it in productivity even though we're not quite making the investments in education and skills training as aggressively as we need to. But if you later on acknowledge the fact that we're historically highly leveraged, you might change that debate.

So, those are four of the big drivers. Of the other big structural drivers we talk about, climate change would be the most notable. We think that these once-in-a-lifetime (weather) tail events are starting to happen every year or two or three, and they are very expensive. It is a big topic in the state of Texas, which is why we look at it as it relates to the health of our ports, the city of Houston and the need for infrastructure along the Gulf (of Mexico), given floods, drought and other major weather events. And if you believe the National Climate Assessment is even close to being accurate, these events are going to intensify. But we'll leave that for a broader discussion.

I think in the context of those four big drivers, trade and immigration loom very large. We, at the Dallas Fed, believe that, (these are) opportunities for the U.S. to grow faster as opposed to threats. We view them more as opportunities if we make the right policy decisions. You'll notice a lot of things we're going to talk about today might cause somebody to say, "Those are very interesting, but what the hell does that have to do with monetary policy?" And the answer is, it doesn't have that much to do with monetary policy. We see our job at the Dallas Fed as more than just to make good monetary policy decisions and provide good analysis of the economy. We also believe that part of our job is to share our research with elected and appointed officials and to call out that it's going to take more than just monetary policy if we're going to improve growth and increase the welfare and prosperity of our citizens.

As important as monetary policy is—we're central bankers, we obviously must think it's important, and it is—it's not the be-all, end-all. We need broader economic policy. Trade and immigration are part of that broader economic policy, which will help us grow faster and have a better future for our children and grandchildren.

Audience Questions and Answers

Robert S. Kaplan, Federal Reserve Bank of Dallas

Q: With regard to education, how fast do college degrees become obsolete if you don't continually retrain yourself?

I was a college professor for 10 years, and so I'm a big believer that we're going to have to change the culture or the mindset of our country. There's no such thing as you get an education and then say, 'I'm done. Now, I can go on about my career.' I think all a college education or an MBA does—I used to say this to students, executives and MBAs—is get you ready to continue to learn. But most of the learning occurs after you finish college and hopefully, you learn enough basic skills so you're more equipped to learn. You learn to ask the right questions, you get some basic skills, particularly how to read and write. Students of today—and I include probably all of us in this room—are going to have to get more equipped to update their education, and (it's going to get) more stressful getting trained and retrained because the world is changing much more rapidly. I don't think we're sufficiently communicating that.

We're big fans of looking at the whole education ecosystem. Somebody asked me, "If you had one extra dollar, where would you spend it?" One extra dollar, I'd go straight to the zero to five-year old group and expand pre-K and upgrade teacher quality in pre-K in the United States. This is so the kids start first grade (and are performing) at least at grade level; currently, too many are not. Improving secondary education and skills training are also good alternatives. A high percentage of students—a shockingly high percentage—are not finishing college even in six years. Some of those students should be going for skills training, and maybe going onto college after. But we need to beef that up and increase awareness. And then, yes, of course we need to improve college readiness.

But after all of that, there's one other part of the ecosystem, which is in your 20s and 30s and 40s, that we're not used to. It's easy to say, hard to do. If you're in your 40s and your job has been restructured or eliminated and you have to tell your friends that you're going back for training and starting over, that doesn't feel very good.

The truth is more companies are having to do the retraining. But it has to be done with junior colleges and high schools (because) there's a lot of small companies in this country; they're not equipped to do sufficient training. Automotive technicians would be an example where it's got to be a community effort, where the community college trains people, and they go off to a lot of different businesses. But the thought that you're finished with your education at age whatever it is, 22, 23, 24, 25, I think maybe was never true, but it certainly is not true today.

Q: I spent my life in manufacturing. You mentioned Mexico would be (providing) intermediate goods. They're basically (making) the high-label content stuff, and we make high-value stuff here. You talked about automobile assembly plants. You look at the last 10 years, I think 11 plants were built in the region—nine were built in Mexico, two were built in the U.S.

Right, and a lot of purchasing is moving to Mexico also. I get it. Here's what's going on, and this is going on in Asia. It's going on in Mexico. I think what you were referring to (is that) they're moving up the value chain. You're talking about that trend, whereas when it first started—this was true of China, it's true of Taiwan, Korea—they started off at the low end of the value chain, and then as they got more expertise, they moved up the value chain. And your point is, as they move up the value chain, it takes more of that capability from the United States. The other thing—I spent a lot of time on this when I was at Harvard—if you lose your manufacturing, you eventually lose your R&D also, and we're very concerned about that.

Here's the challenge, and that's why these trade agreements are key. There's no getting around the fact—and this gets into the adaptability issue—it's not enough to have a job in the United States if it's not going to be globally competitive five and 10 years from now. It's going to be gone. The challenge, and what we'd rather see people focus on in the United States, is how to create a level playing field, which is obviously what we're doing. It is true that, increasingly, some of these other tasks are going to get outsourced. What's happening in the United States in today's job market is a good example of it; we're going to have to help the labor force be more adaptable.

By the way, forget Mexico. Technology is increasingly replacing a lot of these functions. The part that we're not doing a very good job of is helping those workers who are getting their job eliminated or restructured. We're making it hard to go for retraining, but I think we have got to be sensitive to what you said. I'd like to see us invest dramatically more in our human capital to improve the adaptability of our workforce, and to my eye, we are lagging many countries around the world because we're not investing enough in our workforce. There are no easy answers, but that's the tension.

Q: I own a manufacturing company in Mexico and produce for 12 U.S. companies. I'd like to know or if you could give a little perspective to the 63 percent (U.S.) workforce participation rate and the employment report of hundreds of thousands of jobs today that are currently available.

Here's what's really tricky about these jobs numbers. You've got a headline unemployment rate of 3.7 percent. The other thing we look at even more deeply is something called the U-6, which is unemployed plus discouraged workers who've given up, plus people who work part time, though they prefer to work full time. Even that measure, it's higher, but that's at 7.1 percent, well below its prerecession low. That tells us that the job market is tight.

The other thing we look at is within this participation rate, namely prime-age participation of workers ages 25 to 54. And prime-age participation is now getting back to where it was prerecession.

So, we've got a very tight labor market. So, then what's the problem? One of the biggest problems I see is the lack of skilled workers, and we're not educating enough skilled workers. And I can tell you, there's probably not a week that goes by that we don't talk to people, either in high schools, junior college presidents, workforce development boards or businesses. You know why? We convene a lot of groups to try to encourage this (job training), and I'd say the biggest response I get is a lack of awareness. It's not like these partnerships aren't being created. (There is a) lack of awareness and a little bit of a stigma, social stigma for taking some of these jobs.

Want an example? Ten years ago, on automotive, if you went and bought a car at a car dealership, the highest paid person in the car dealership was the salesperson. And that person who made the most usually negotiated most, not a pleasant experience some of the time. Roll forward to today, that person is now called a product specialist. He or she makes half of what they used to make. There are fewer of them, but there is one person that is the highest paid person now, and that's the automotive technician. That person, in some cases, makes \$150,000 or more and you can't find them. There aren't enough of them.

That's a giant change over, maybe, 10 to 12 years, but I don't think the public is aware of it. So, we think there's an awareness issue. There's a lot more communication. Our leaders broadly should be flagging us, talking about an alternate career path. I think the answer is probably not to forgive all college debt, it's instead to think through alternative paths to improve this ecosystem.

So, the problem is, to your point, why can't you just fix this damn thing in the next six months? The kinds of things I'm talking about, if you start now, (it will take) years and years. It has to be done locally. Worker mobility is historically low. You're going to improve the skills gap; it has to be done in a bunch of cities and towns all through the United States.

I was just in Corpus Christi at the end of last week. They have a big skills gap in Corpus Christi. They got all this infrastructure, the port, petrochemicals, etc., and they can't attract workers. The other trend that's going on, which is concerning, is there's a cultural trend of young people moving out of smaller cities to bigger cities, and a lot of the skilled jobs are in these smaller cities.

It's a complicated issue. We just try to pound a way out of every element of the ecosystem and talk about it. The problem is technology and technology-enabled disruption is going on like this and the improvements in education are kind of going maybe like this, and the gap is actually widening.

Q: I wanted to pick up your point about climate change. Mark Carney, governor of the Bank of England, has spoken quite a bit about the systemic challenges of climate risk for the financial sector, both in terms of the actual sort of outcomes—more heat waves, events that are costly to companies, that are not being priced appropriately—and also in regulatory risk terms. What's your view of that? How is the Fed thinking about that (topic)? Do you think the financial sector in the U.S. is sort of thinking about these risks systemically or where we are we on it?

As you said, the Bank of England, on the one hand, has taken up this topic, but it focused most specifically on systemic risk, financial stability. I think that's worth looking at. If you're an insurance company or other financial intermediary—and I talk to a lot of them and to their chief executives—they're actively taking this into account and it's affecting pricing in the catastrophe market and the reinsurance market and all that.

At the Dallas Fed, we've taken up the other aspects of this a little bit more; what's the effect on economic performance, even though right now it does not appear to be as material. Our worry is if the frequency and intensity of these weather events increase, you may actually start to see it affect where businesses domicile and migration patterns. It certainly affects investments that have to be made right now in infrastructure to protect against these (weather events).

The ports? They're a great example where there's multibillion-dollar investment that needs to be made along the Gulf to protect against the next weather event. We're sort of broadening the aperture of it. I'm not going to come out on which part is most important, but we'll take it up a little bit more before you even get to financial stability. You would hope stress testing, and a lot of the good regulatory practices, will take that into account, and we should be able to manage it. I worry. We need to do things to improve the other parts of the ecosystem and call out that climate change is more than a nice thing to look at. It's a business thing. It's an economic thing. It's going to affect growth and peoples' lives and where they live and everything else.

Q: There are some people who believe that your four drivers are lacking or missing one. There should be a fifth driver: monetary policy. Monetary policy should have, as one of its objectives, economic growth. And you see that coming out of the current administration. What do you say to that?

I want to differentiate between a driver and a policy response to a driver. So monetary policy is a policy response to a driver, and here's my take on it.

Obviously, I went from the private sector to come be a central banker. When I came here, I wanted to believe that monetary policy is very, very important. I think humility might be the wrong word, but I think these drivers help us put monetary policy in context. Monetary policy has a key role to play in helping with the adjustment process, to set the stage for better growth. But my own view is—and we can talk about it at this conference—monetary policy by itself can encourage risk taking and debt during down periods and other things. By itself, it's not a substitute for labor force growth. Structural reforms improve productivity, like good policy decisions on globalization. The fundamental drivers of growth, many of the prescriptions to improve them, are a way for monetary policy (to aid the economy).

I think it's very important to flag that. Here's why: If I look at the ECB (European Central Bank)—I have great respect for (ECB President) Mario Draghi and what they've done—they haven't had a lot of fiscal policy (among ECB countries)—there's talk maybe Germany might (use fiscal policy)—so it's been heavily on them (monetary policy makers). I think the last thing you're going to hear me say at the Dallas Fed is, "Don't worry, monetary policy, we got this," because it's actually not the right message or the right analysis. We think it takes a broad menu. So back to the ECB, they have done extraordinary things to try to stimulate the economy and tighten credit spreads. But you can see they need fiscal policy and other structural reforms if they're going to grow faster.

Monetary policy by itself can't do it all, and if monetary policy is the key alone, my worry is you're going to make decisions that distort markets, hurt savers, and I think it shouldn't be a substitute for broader economic policy. And I think it's part of my job to call that out.

Q: Many immigrants in Texas face challenges. What could be leveraged to provide more access to capital to immigrants and also to let immigrants open bank accounts? What is your view on that?

There's a bunch of issues in there. Let me just untangle them. One is a broad issue of access to financial services, and we (at the Dallas Fed) spend a lot of time on this. We do a conference every year called RAISE Texas. We think we have a disproportionate percentage of our population that doesn't have access to financial services. A disproportionate percentage of our population doesn't have access to Wi-Fi, so we spend a lot of time on that too. And I think that a disproportionate percentage of these fastest-growing demographic groups are reading behind grade level.

What we're trying to do here is encourage policies—and by the way, it may not take the government to fix these. We formed a partnership in McAllen with local business people and the mayor. They created a public Wi-Fi (network); they now have Wi-Fi. It didn't cost that much money, and it cost very little government money. There's a whole bunch of parts to this ecosystem, but it starts with identifying all the gaps.

We have to work to get it done. This is why it's hard. It can't be mandated from D.C. or even from Austin. If the local mayor in McAllen did not say, "I want to solve this problem," I actually don't know how they would have solved this problem. It took local leaders, local business people and the Community Reinvestment Act and banks being part of it. But it takes partnerships to address these issues. I think the banks are ready and willing, but it takes more than just the banks. It takes local leadership; it takes partnerships being formed.

We work to try to intermediate, and we think one of the great distinctive competencies we have at the Dallas Fed is we can be a convener. If we call a meeting of all these groups, people will actually come. We try to use that convening power, and hope (that when) we talk about these things, other cities call and say, "You know what? We heard what you did in McAllen, we're going to do it in our town." I know that sounds like nibbling away—and if it does sound like that, it's probably because you have got to just work at it, and that's the way we go at this.



CHAPTER 2

The Path to the USMCA Trade Agreement

Ildefonso Guajardo Villarreal, Former Secretary of Economy of Mexico and Mexico's USMCA representative

Back when NAFTA (the North American Free Trade Agreement) was proposed, the political scene was highly challenged. You have to remember that when NAFTA (which took effect in January 1994) was first discussed, even President Clinton was opposed to it.

Finding Political Support NAFTA Lacked

The main element that we have to acknowledge in order to defend USMCA (the United States–Mexico–Canada Agreement) vis-à-vis NAFTA is the fact that during 20 years, we let it (NAFTA) work by itself without really giving the political support it required. Even U.S. governments that were very much in favor of NAFTA didn't bother to defend NAFTA in the political arena.

I met several times, as Mexico's secretary of the economy, with President Obama and his team. During those meetings, they made it very clear that in public statements from both administrations, we should not use the word "NAFTA." They asked instead to call it the North American Competitiveness Agreement because NAFTA was a bad word in opinion polls.

So, "Is USMCA better than the original NAFTA?" How can you answer that if NAFTA was already damaged? That is a false debate.

Rules of Origin, the \$16 Wage Requirement

USMCA incorporates labor rights formally and not as a side agreement. That is, under USMCA, any labor rights violation will be subject to trade sanctions. Mexico passed a labor reform revamping its federal labor law in order to be closer to the labor standards of its North American partners. Among other things, union power was transferred to the actual workers, ensuring freedom of association and bargaining power. Currently, Mexico has a 40-hour workweek, with hourly wages ranging between \$4 (U.S.) and \$5.

Wages are considerably lower in Mexico compared with Canada and the U.S. partly because there is no labor mobility in North America like there is in the European Union. Wage differences are addressed indirectly and only in the automotive sector under the USMCA via new rules of origin. Under the new agreement, the North American component in automotive production goes up from 62.5 percent to 75 percent, and it will require that workers making at least \$16 an hour produce 40 percent of such content.

The wage requirement for the auto sector under USMCA is another way to say that 40 percent of the automobile should be produced in Canada or U.S., while 60 percent could be produced in Mexico. That is an indirect way to try to address the demand by the current U.S. administration (of Donald Trump) originally requiring 50 percent of the content of an automobile to be produced only in the U.S. You know, there is no trade agreement in the world that requires such high domestic content.

The overall wage difference between countries will eventually be solved with economic growth and obviously labor demand. But that is something that happens through time and through the process of economic development.

Bringing NAFTA Up to Date

The principal updates to NAFTA under USMCA were the strengthening of intellectual property rights and the inclusion of new chapters dealing with new technologies that did not exist 25 years ago, such as cellphones and digital trade.

There is also an update of the dispute-resolutions mechanism. The process was a hard one since at the beginning of the negotiations, the position of the U.S. administration was nothing beyond U.S. laws. However, if you say nothing above U.S. laws, then you are saying that you are going to impose your own views on any trade or investment dispute.

The challenge was to preserve the essence of NAFTA's Chapter 11, covering disputes between investors and the state; Chapter 19, which is trade disputes; and Chapter 20, which is government-to-government disputes. We did it.

However, we still have to revisit the selection process for the arbitration panel. The example to follow in that regard should be the panel selection process currently in the TPP (Trans-Pacific Partnership). I think that we can solve that problem without the need to open the negotiation process to respond to the criticism that the new USMCA lacks a modern selection process for the arbitration panels.

Negotiating Rules of Origin

Another point of discussion had to do with rules of origin. At the beginning of the renegotiation, the current U.S. administration wanted 100 percent North American content in order to qualify for USMCA benefits. We were able to narrow the content to 75 percent already discussed for the auto industry, for

example, and limit content requirements to only five industries: autos, steel, fiberglass, petrochemicals and fiber optics.

Of those five industries, the two that mattered the most to the current administration were autos and steel, which are essential to their international trade strategy.

Another issue had to do basically with inclusion of environmental and labor issues as part of the agreement and not only as side chapters or notes.

Labor Provisions Cemented Bipartisan U.S. Support

The way labor is included in the new agreement is definitely a dream come true for pro-union Democrats. Even presidents from their own party were not able to make this happen in the past. The labor provision is thanks to one of the players within the Trump team who knows the U.S. Congress and knows Democrats. That's why today, (U.S. Trade Representative) Robert Lighthizer is saying openly that he believes that the USMCA is going to get through Congress because the elements are there for bipartisan support. (Final approval of the USMCA occurred in January 2020.)

Reshaping Mexico's Auto Manufacturing

For Mexico, it was a tremendous challenge to address the redesign of the auto sector. When the U.S. originally made the request, they wanted half of the North American content be made in the U.S. That was not viable for Canada and Mexico.

So, we basically looked at what were the ideas behind President Trump's positioning vis-à-vis Japan, vis-à-vis Korea, vis-à-vis Europe, and how manufacturing jobs and the auto industry were the main concerns for him.

What we basically said is: "OK, today, Mexico's export of sedans to the U.S. is 1.8 million sedans, of which 70 percent are made by the three big American companies and two other companies that are very close to meeting the new rules of origin." For those companies, the production requirement was not very tough. On the other hand, for the other 30 percent—the Audis, the BMWs—to adapt to the new rules of origin would be a very big challenge. Remember, today, when you make an Audi, you are basically outsourcing steel globally.

So, we told the other companies that the new rules would be adopted gradually—they would get four years to meet the new rules. And, if after four years they are still not able to meet the 75 percent content requirement, they would be able to pay the most-favored nation tariff (MFN), which is 2.5 percent, to enter into the North American market. What they have to face is, "if I cannot meet the new rules in four years, I have to pay MFN."

Ongoing Threat of Article 232

There is one potential problem with this scenario. There is still the risk that the U.S. will insist on using Article 232 (under the Trade Expansion Act of 1962),

which cites national security concerns, to impose a special tariff on the import of cars, as they have threatened to do with Germany and other countries. That means companies would have to pay a special tariff of 25 percent rather than the MFN tariff of 2.5 percent. This possibility will generate uncertainty, in addition to the implementation of the USMCA rules of origin.



CHAPTER 3

Reassessing Value-Added Cross-Border Supply Chains

Alonso de Gortari, Dartmouth College

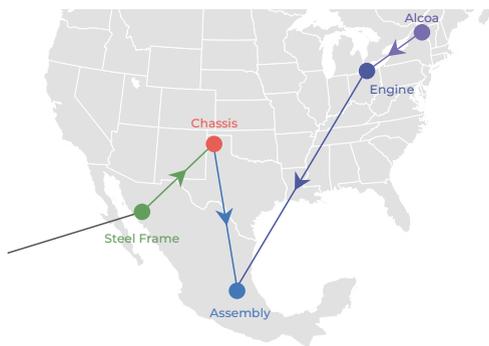
Over the last couple of decades, we've witnessed an enormous fragmentation of production both across different countries and across different stages of the supply chain. Whereas, a couple of decades ago, it was true that countries mostly traded final goods, nowadays supply chains cross all over the globe and products cross country borders multiple times before being delivered to consumers.

This really changes how we think about international trade. Such fragmentation of production is particularly prevalent in the NAFTA (North American Free Trade Agreement) region. To illustrate this with one example, let us think about the production of cars, the archetypical good in the NAFTA region.

A couple of decades ago, Ford, General Motors and Chrysler produced their cars almost entirely in plants in places like Michigan. Nowadays, things are very different. When a car is produced in North America, it may still be the case that the engine is produced in Michigan with steel or aluminum smelted in upstate New York. The frame of the car is perhaps built in northern Mexico using steel from Asia, maybe China. The steel frame of the car is shipped to North Texas, where the chassis is added, and we have a more developed body of the car. Then the chassis, the steel frame and the engine are shipped to central Mexico, where huge factories assemble vehicles that can then be sold in the Mexican domestic market (Chart 1). But they can also be shipped to the United States, Canada and other places in the world.

CHART 1: THE RISE OF GLOBAL VALUE CHAINS: WHAT THEY IMPLY FOR TRADE
Increasingly fragmented supply chain across borders/production states

- Ex. Cars in North America



SOURCE: de Gortari Alonso (2019). "Disentangling Global Value Chains," NBER Working Paper No. 25868.

International trade is much more complicated because you have goods that cross borders multiple times. When Mexico sells these cars assembled in Mexico in the U.S. market, the cars often have a lot of U.S. content even though they are imported from Mexico. Moreover, they have some Mexican content that was already imported upstream in the supply chain and was re-exported back to Mexico and then back into the U.S.

This makes our task as economists very challenging because it means that the data that we've traditionally used to study international trade—that is, bilateral trade flows that tell you how much a country trades with another country—become very hard to interpret because the data only tell you the location from which goods are being shipped. But since goods are crossing borders multiple times before being delivered to final consumers, it's very hard to tell what's the origin of the value of these goods.

So when making trade policy, policymakers should understand first how trade policy changes could affect the upstream supply chain.

To show you what the measurement challenge is more specifically, let's think about a very simple supply chain in which the U.S. produces car parts, ships them to Mexico, and Mexico then assembles cars that are sent back to the U.S. and sold to American consumers. This involves back and forth trade because American car parts are making their way back to the U.S. through Mexican car exports.

The reason why we know so little about how much trade actually occurs through the supply chain is because the data that we have, the data that statistical agencies collect, tell you information about bilateral trade. So, what's bilateral trade? It's the dollar value of car parts that are shipped to Mexico and used by the Mexican car industry. And it also tells you the dollar value of Mexican cars that are shipped to the United States and sold to American consumers.

But the data don't tell you the supply chain linkage indicating how American car parts are put into the cars that Mexico ships back. The data point that would tell something about integration in the NAFTA region is exactly what's missing in the data. The reason why it's so hard to impute this or figure it out is because Mexico also ships cars to other locations, such as Germany.

The current approach is to assume that at the industry level in a given country, everything is produced in the exact same way. For example, assume that of all the car parts that Mexico buys, 40 percent come from the U.S. Well, if 40 percent of all car parts in Mexico come from the U.S, and if every single Mexican car is produced the same way, that means that every time Mexico ships a car to consumers in the U.S. that car is going to have 40 percent American car parts. Every time Mexico sells cars to Germany, those cars all have 40 percent American parts.

What really takes place in North American auto manufacturing production is that even though Ford and Volkswagen may both be assembling their cars in Mexico, they have extremely different supply chains.

What may be happening is that Ford is using Mexico to assemble cars that are then shipped and sold in the U.S.; Volkswagen is also assembling cars in Mexico but is shipping them to consumers in Germany. Ford has a supply chain such that all of the car parts come from the U.S. But Volkswagen has a different supply chain. It makes its car parts in Europe, in China or somewhere else. When Mexico exports cars to the U.S., those cars embody a huge amount of American car parts. It is much more than we would get using the previous set of assumptions in which we presume that the share of American content in Mexican exports to the U.S. is watered down because we are putting a whole bunch of them into Mexico's exports to other locations besides the U.S. (Chart 2).

CHART 2: MEASURING GLOBAL VALUE CHAINS

NAFTA supply chains involved a lot of back-and-forth trade



Measuring supply chain linkages is challenging in practice

- It's typically assumed all of an industry's goods use same input mix



- But this ignores **NAFTA's supply chain specialization**



SOURCE: de Gortari Alonso (2019). "Disentangling Global Value Chains," NBER Working Paper No. 25868.

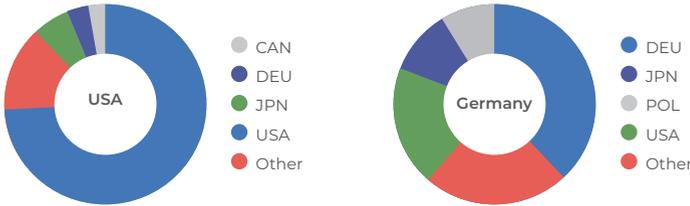
It turns out that taking into account this degree of supply chain specialization in the NAFTA region is going to be very important for studying trade policy impacts.

Looking at customs-level data allows a better estimation of supply chain specialization. Customs data record all imports and exports at the shipment level for any country in the world. It thus allows calculation of the type of imported components carmakers use in their production processes for exports to various regions. For example, you can use that data to figure out what car components Ford uses when producing in Mexico for the U.S. market versus what import components Volkswagen uses when exporting to the German market. It is possible then to look across all car manufacturing firms in Mexico and get a sense of what type of imports are used in different supply chains when exporting to various markets.

Chart 3 confirms NAFTA supply chain integration. When Mexico exports cars to the U.S., these cars tend to have an enormous amount of American car parts. If the assumption that economists typically make to measure supply chains were accurate, we would expect to see the exact same type of input share when Mexico sells cars to other locations. However, customs data show that when Mexico exports cars to Germany, it uses very different car parts suppliers. The companies that are exporting cars from Mexico to Germany have very different supply chains. Therefore, when Mexico exports cars to Germany, these cars have much fewer American car parts. Instead of having 74 percent of foreign inputs coming from the U.S., it's only 18 percent—the remainder are from Japanese, German and Polish companies.

CHART 3: NAFTA SUPPLY CHAINS: EVIDENCE FROM MEXICAN CUSTOMS DATA

Source of foreign inputs used in Mexican vehicle imports to U.S., Germany



Use of inputs depends on destination country/industry

SOURCE: de Gortari Alonso (2019). "Disentangling Global Value Chains," NBER Working Paper No. 25868.

Customs-level data also allow us to look at the value added. Even if Mexican cars have a lot of American car parts, it doesn't mean that those car parts are actually American value added because the U.S. itself also imports inputs from other locations. It could be the case that the U.S. is buying inputs for some car parts from some country, building them up a little bit and then exporting them to Mexico.

The U.S. value-added content of Mexican exports to the U.S. is higher when looking at customs data than when using the conventional method previously discussed. Chart 4 shows the share of U.S. value added in Mexican imports. U.S. value-added content in Mexican imports is larger in the majority of the sectors shown when using specific customs data instead of assuming heterogeneity in the use of inputs.

In 2014, Mexico exported to the U.S. about \$120 billion in goods. According to the conventional estimate, only about 17 percent, or 17 cents of every dollar imported, were produced upstream in the U.S. For cars, it was close to 18 percent. However, according to customs data that take into consideration the specialization of supply chains, U.S. value added is considerably larger. It's more sensible to think that when Mexico exports manufactured goods to the U.S., it's not 17 cents of every dollar that are produced in the U.S., but it's closer to 30 cents. When you look at cars, the difference is even bigger. Instead of being close to 18 percent of every dollar exported to the U.S., the American content is closer to 40 percent. These numbers are much closer to all the anecdotal evidence we have on NAFTA telling us that Mexican-American supply chains are very deeply integrated and that a lot of the value of the Mexican exports shipped to the U.S. is actually American content that was produced upstream in the supply chain. Once you measure things more accurately using more and better data than we were using before, it turns out that NAFTA economies are much more integrated than we thought. In particular, there is an enormous amount of American content in Mexican exports going to the U.S.

SOURCE: de Corran Alonso (2019). "Disentangling Global Value Chains," NBER Working Paper No. 25968.

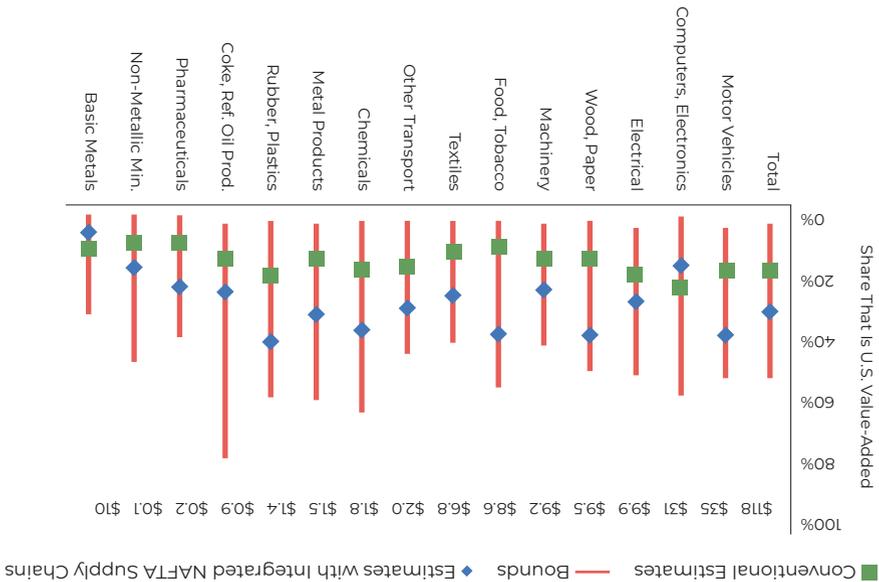


CHART 4: NAFTA SUPPLY CHAINS ARE DEEPLY INTEGRATED
Share of U.S. value-added in imports from Mexico

What are the policy implications? The fact that there is very deep integration means that if the U.S. were to put high tariffs on Mexican final good exports, it's probably going to hurt Mexican exports. But if American suppliers are producing a lot of the value that's put into these exports, that sort of change in trade policy is going to ripple up the supply chain, and it's going to hurt the suppliers located in the U.S. When trying to design trade policy with some given objective, you really should think about how supply chains are allocated in reality in order to try to gauge the implications of those changes in trade policy.

CHAPTER 4

Mexico in the Context of Global Trade Tensions

Eddy Bekkers, World Trade Organization

There has been a variety of developments in trade policies in recent years. The U.S. decided not to participate in TPP (the Trans-Pacific Partnership); there was renegotiation of NAFTA (North American Free Trade Agreement); U.S. implementation of Section 332 measures (fact finding related to tariffs and trade); 301 measures (tariffs in response to improper transfer of technology and intellectual property) on China and, of course, responses to all these initiatives.

There is uncertainty about the future of the appellate body of the WTO (World Trade Organization). There is, of course, Brexit and skepticism in other European countries about the European Union. Therefore, the question that could be raised is how trade under the USMCA (United States–Mexico–Canada Agreement, the successor to NAFTA) could be affected by these trade policy events (Chart 1).

CHART 1: INTRODUCTION

- Trade policy events last two years suggest that trade relations will be changing:
 - Withdrawal United States (US) from Transpacific Partnership (TPP), uncertainty about NAFTA and conclusion of new agreement, USMCA
 - US tariff increase on steel and aluminum (232 measures) plus response and possible tariffs on car imports into the United States
 - US tariff increases on imports from China (301 measures), response, and broader implications for relations between two biggest economics in the world
 - Uncertainty About Appellate Body, World Trade Organization (WTO)
 - Brexit and scepticism about the European Union
- Central question presentation: how would USMCA trade be affected by different trade policy scenarios?
 - Construct three scenarios, and determine impact on trade, output, intra-USMCA trade, and foreign value added in intra-USMCA trade
- Disclaimer in general: The opinions expressed in this presentation should be attributed only to its author(s). They are not meant to represent the positions or opinions of the WTO and its Members and are without prejudice to Members' rights and obligations under the WTO.

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/9usmca-bekkers.pdf>

The following three stylized scenarios show the possible effects of recent trade policy changes within the USMCA region.

The first scenario is a realistic scenario that is currently happening: tariffs on steel and aluminum, which are in place since last year, the different 301 measures (tariffs on Chinese goods), plus the responses of China and other trading partners.

In scenario two, we add an increase of tariffs on cars by 25 percent, with USMCA trade exempted. This is not the case so far, but we don't know yet whether this is going to take place.

The third scenario shows the value added in the USMCA region and what would happen to global trade if USMCA would break up (Chart 2).

CHART 2: THREE SCENARIOS

- Generate baseline of global economy until 2030, taking into account the projected impact of digital technologies on trade costs
- Construct three scenarios
 1. Tariff increases trade tensions 2018-2019. 232 measures (tariffs steel and aluminum) and 301 measures (tariffs China) plus responses
 2. As Scenario (1) and increase of tariffs on cars 25% (USMCA exempted)
 3. As Scenario (1) and (2) and break-up of USMCA
 - » Serves to illustrate importance of USMCA agreement for trade within the region

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

The economic model is a recursive, dynamic CGE model, a “computable general equilibrium” model. The model features intermediate linkages, straight linkages between countries’ capital accumulation and investment. The model uses the conventional way to model intermediate linkages. It does not take into account what Alonso de Gortari just presented on auto supply chain ties across North America. Cars exported from Mexico to the U.S. have much more U.S. content than the average exports from Mexico to other countries. Unfortunately, at the global level, we simply don't have such detailed data.

The baseline for the model includes data aggregated to 24 regions and 25 sectors. We project data out to 2030, imposing macroeconomic projections on our economic model. The macroeconomic projections are from the IMF (International Monetary Fund), including employment, population and GDP (gross domestic product) per capita growth until 2022 or 2023. Then we use United Nations projections and Organization for Economic Cooperation and Development (OECD) projections through 2030. We also use OECD projections for climate change implications.

We have some additional features in the model. In particular, we have differential productivity growth. What does that come down to? Mainly that productivity growth, on average, is larger in agriculture and manufacturing

than in services, which is going to lead to a shift in the economy toward services sectors. Then we also account for a change of preferences. We also impose change in savings rates as a function of an empirically specified equation where savings respond through demographics. And finally, we include foreign trade costs.

We also include three types of reactions in trade costs—the interaction of the Trade Facilitation Agreement (expediting movement of goods under the WTO), foreign trade cost because of the extension of e-commerce and the growth of digital technologies.

Returning to the three stylized scenarios previously outlined, the first scenario is the realistic scenario, the 232 measures (involving national security and imposition of tariffs) and the 301 measures (involving safeguarding intellectual property and imposition of tariffs) have brought tariffs on imports from China. These tariff packages were announced last year (25 percent) and may possibly grow to 30 percent. There is a new package of tariffs—a 15 percent tariff mainly on final goods. Then, of course, there's also a response by China. Here I summarize by saying that tariffs on American imports to China are raised to more than 20 percent; but they are about 20 percent currently.

In scenario two, we add tariffs on imports of cars. We exempt Mexico and Canada because that seems to be the realistic scenario. And we include a response. We assume that the response is proportional to the amount of trade, to the amount of cars that countries are exporting to U.S.

The third scenario implies a breakup of USMCA. We assume that tariffs would go to the most-favored nation level under the WTO after the breakup. Then we include an increase in non-tariff measures (NTMs). We use estimates of the average impact of NTMs on free trade agreements in the past and then we convert those estimates into a trade-cost equivalent. In addition, we assumed that the car tariffs would then also be imposed, plus there would be a response (Chart 3).

CHART 3: METHODOLOGY: CONSTRUCTION OF THREE SCENARIOS

1. Trade tensions: 232 and 301 measures plus response
 - Section 232 measures: US tariff increase on imports of aluminum and steel (Mexico, Canada, Australia, Argentina) and responses by the EU, Russia, Turkey, and China
 - Section 301 measures: US tariff increase on Chinese imports plus response
 - » 230 billion (mainly intermediates): 30%
 - » 280 billion (mainly final goods): 15%
 - » Response China: Tariffs on American imports raised to more than 20%
2. As scenario (1) and increase of tariffs on cars to 25% plus response
 - Mexico and Canada exempted
 - Response: tariff increases proportional to trade affected by car tariffs
3. As scenarios (1) and (2) and collapse of USMCA
 - Tariffs increase from preferential level to most favored nation (MFN) level
 - Increase (Iceberg) trade costs related to non-tariff measures
 - » Top-down approach from gravity literature: use estimates of ad valorem equivalent trade cost increases associated with break-up deep FTAs at sectoral level (Egger et al., 2015, EP)
 - Mexico and Canada not exempted from car tariffs anymore (plus response)

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

Emerging countries like China and India are projected to have a much higher GDP per capita growth than countries such as the U.S. or the European Union. In addition, we assume population and labor force aging have actually kicked in (Chart 4). For example, when you look at China, the growth of the labor force between 2018 and 2030 is projected to be negative.

CHART 4: BASELINE: MACROECONOMIC PROJECTIONS

Macroeconomic Projections: Annual Projected Growth 2018-2030

Country	GDP Per Capita	Population	Labor Force
Argentina	1.53	0.78	0.70
Asia LDC	4.98	0.86	1.19
Brazil	1.31	0.60	0.40
Canada	0.93	0.94	0.55
China	5.14	0.16	-0.21
European Union 28	1.59	0.19	0.16
Indonesia	4.41	0.84	0.95
India	5.20	1.09	1.08
Japan	1.27	-0.34	-0.11
Korea	2.51	0.19	-0.38
Latin America	1.91	0.81	0.81
Mexico	2.03	0.85	1.05
Other Asian Countries	1.78	1.42	1.31
Russia	2.26	-0.12	-0.49
Southeast Asia	3.47	0.94	1.04
Sub-Saharan Africa LDC	2.98	2.28	3.02
Turkey	2.29	0.97	1.26
United States	1.30	0.69	0.56

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

Chart 5 shows the policy experiments from scenarios 1 and 2. Tariffs the U.S. faces will jump from 3.1 percent to more than 7.7 percent once you take into account 232 and 301 measures plus a 25 percent tariff on car imports from the rest of the world outside North America, along with the corresponding retaliation from trading partners. Chart 6 shows tariffs faced by the U.S. if scenarios 1 and 2 are realized, plus the breakdown of the USMCA and the 25 percent tariff on car imports from Mexico and Canada. Tariffs faced by the U.S. will jump to almost 12 percent.

CHART 5: TARIFFS BETWEEN US AND CHINA IN BASELINE AND SCENARIOS 1 AND 2

Country	Partner	Average tariffs		Bil. tariffs USA-CHN	
Scenario 1: Trade Tensions					
		Initial	Scenario	Initial	Scenario
USA	Imposed	1.36	5.82	2.62	20.63
USA	Faced	3.07	5.55	5.92	19.05
China	Imposed	3.68	4.72	5.92	19.05
China	Faced	4.39	7.62	2.62	20.63
Scenario 2: Trade Tensions and Cars					
USA	Imposed	1.36	7.11	2.62	20.63
USA	Faced	3.07	7.72	5.92	19.05
China	Imposed	3.68	4.72	5.92	19.05
China	Faced	4.39	7.62	2.62	20.63

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

The simulations provide the impact on real exports, real GDP and the change in shares of global trade. According to the simulations, trade will fall by more than 6 percent. If tariffs are imposed on autos, trade will fall 9 percent and even further, 15 percent, if there is a breakup in USMCA. Canada and Mexico will both benefit if trade tensions persist and if auto tariffs are imposed.

CHART 6: POLICY EXPERIMENTS: TARIFF CHANGES
 Tariffs USMCA Partners in Baseline and Scenario 3

Country	Partner	Average tariffs		On USMCA Partners	
		Initial	Scenario	Initial	Scenario
USA	Faced	3.07	10.75	0.01	11.65
USA	Imposed	1.36	8.76	0.03	7.28
Canada	Faced	1.14	5.91	0.05	6.94
Canada	Imposed	1.04	5.63	0.01	8.81
Mexico	Faced	0.76	5.99	0.00	7.07
Mexico	Imposed	1.30	7.59	0.00	13.03

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

Globally, trade is projected to fall by around 1 percent in the first two scenarios and by about 2 percent with the breakup of USMCA (Chart 7A). In terms of GDP effects, both China and the U.S. will experience a contraction in GDP growth in the three scenarios (Chart 7B). Canada and Mexico will only be negatively affected by the USMCA breakup scenario. As you can see, there are negative implications of continued trade restrictions globally.

It is worth mentioning that these simulations do not take into account effects through investment or policy uncertainty, which could magnify the negative impacts even more.

The results in terms of market share show U.S. market share of world trade will fall from 16 percent to about 14 percent, while China's will go up to 18 percent. The reason is that trade diversion plays a big role in our models. That means that if China can export less to the U.S., it will start exporting quite a bit more to other markets.

Looking specifically at the U.S., Chart 8 shows that trade between the U.S. and China is projected to fall very substantially, diverting trade to other trading partners, such as Canada and Mexico. The negative effects are magnified if USMCA is not in effect. Additionally, the share of intra-USMCA trade would fall with the breakup of USMCA.

CHART 7A: TRADE EFFECTS: SELECTED COUNTRIES AND GLOBAL AVERAGE
 Percentage Change Real Exports by 2030 (cumulative scenarios)

Country	Trade Tensions	Autos	Break-up USMCA
Canada	1.17%	4.05%	-9.39%
China	-3.30%	-3.21%	-3.20%
EU	0.06%	-0.20%	0.21%
Japan	0.12%	-0.73%	-0.52%
Mexico	1.74%	3.11%	-7.35%
USA	-6.27%	-9.14%	-14.76%
Global	-0.88%	-1.13%	-1.87%

- US exports are projected to fall significantly in the different scenarios both because of responses trading partners and reallocation to import competing sectors
- Canada and Mexico are projected to expand trade in the first two scenarios because of trade diversions
- Globally trade is projected to fall by around 1% in the first two scenarios and close to 2% with a break-up of USMCA

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

CHART 7B: GDP EFFECTS: SELECTED COUNTRIES AND GLOBAL AVERAGE
 Percentage change real GDP by 2030 (cumulative scenarios)

Country	Trade Tensions	Autos	Break-up USMCA
Canada	0.40%	0.71%	-1.83%
China	-0.74%	-0.61%	-0.38%
EU	0.25%	0.26%	0.53%
Japan	0.21%	0.05%	0.28%
Mexico	1.38%	2.30%	-3.14%
USA	-0.44%	-0.72%	-1.10%
Global	-0.14%	-0.09%	-0.05%

- China and the US projected to lose because of trade tensions and Mexico and Canada to gain because of trade diversion and redirection of investment flows
- Global effects are limited: no investment and trade policy uncertainty effects modelled

CHART 8: TRADE EFFECTS: USA
 Percentage change trade USA by 2030 (cumulative scenarios)

	Trade Tensions	Autos	Break-up USMCA
Total Exports	-6%	-9%	-15%
Total Imports	-5%	-9%	-14%
Imports from China	-56%	-57%	-58%
Exports to China	-38%	-35%	-31%
Imports from Mexico	7%	10%	-11%
Exports to Mexico	3%	9%	-46%
Imports from Canada	6%	11%	-18%
Exports to Canada	2%	8%	-34%

- Bilateral trade between the US and China is projected to fall very substantially, diverting trade to other trading partners such as a Canada and Mexico

SOURCE: Bekkers Eddy (2019). "Trade Tensions and USMCA Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-bekkers.pdf>

Mexico's Higher Costs Under USMCA May Potentially Offset Gains from China-Related Trade Spurt with U.S.

Daniel Chiquiar, Jesus Cañas, Armando Aguirre and Alfonso Cebreros

Daniel Chiquiar, director of research at Banco de México, appeared as part of Panel 1, “Rules of Origin: U.S. Content of Imports, Supply Chains and Trade Diversion.” He discussed Mexico in the context of global trade tensions. Chiquiar subsequently co-authored an article for the Federal Reserve Bank of Dallas’ Southwest Economy first quarter 2020 issue. He asked that the article, which follows and expands on earlier remarks, appear instead in this volume.

A recent easing of global trade tensions has not come without critical change involving two of the U.S.’ largest trade partners: Mexico and China.

Talks aimed at easing underlying trade policy differences between the U.S. and Mexico and the U.S. and China concluded earlier this year with two agreements. The United States–Mexico–Canada Agreement (USMCA) replaces the North American Free Trade Agreement (NAFTA), which had been in place since 1994. It sets a new framework for North American regional integration among the three nations.

The U.S.–China Phase One deal included Chinese pledges for the purchase of U.S. farm products, safeguards for intellectual property and the promise of further talks to reduce trade frictions between the two nations. The trade dispute has included successive rounds of tariffs since early 2018.

Taken together, the two agreements present challenges and opportunities for Mexico, both in the short term and long term, with regard to how it will do business—including with Texas that counts its neighbor as its largest trading partner and as a key link in the production of intermediate and finished goods.

USMCA, while opening the possibility of further regional integration in areas such as digital commerce, is more restrictive than NAFTA in other sectors, such as the automotive sector, where lower Mexican output could adversely affect its gross domestic product (GDP). On the other hand, even with the latest agreement between the U.S. and China, ongoing policy differences between

the two have prompted trade diversion toward Mexico, which has acquired an increasing share of the U.S. import market.

However, these positive effects of trade diversion may be short lived and come with the cost of higher prices to consumers.

Uncertainty of Projections

Projections of the economic effects of new trade agreements, particularly of their short-term impact, are tentative given the high level of uncertainty that persists regarding trade policy and global growth. In this sense, rising protectionism across the world and within the North American region is one of the main risks confronting the global economy.

In particular, there is uncertainty regarding the extent of the distortions that measures such as tariffs and non-tariff barriers may pose for global trade, supply chains and the international organization of productive processes. There is also uncertainty about the effects that tariffs and the deterioration in international trade conditions could have on the global economy and investment in the short and medium terms.

Finally, over a longer horizon, greater barriers to trade could lead to a reconfiguration of global value chains to the detriment of aggregate productivity as manufacturing moves away from the efficient allocation of the production of goods and services.

USMCA Auto Sector Effect

USMCA is more restrictive in some respects than NAFTA, particularly in the automotive sector. Under USMCA, the value of regionally sourced content has increased significantly. Additionally, there are new restrictions regarding the origin of steel, aluminum and vehicle parts used in the production process and new requirements governing labor value content and the wages paid.

Specifically, USMCA stipulates several notable changes in vehicle production. The North American share of the value of automobiles and light trucks produced increases from 62.5 percent under NAFTA to 75 percent under USMCA and from 60 percent to 70 percent for heavy trucks.

Rather than applying NAFTA's uniform content standard for vehicle parts, USMCA sets separate content requirements (the percentage that must be produced in North America) for three groups: core parts, such as engines and transmissions, 75 percent; principal parts, like electrical and electronic parts, 70 percent; and complementary parts, which include brake systems and miscellaneous parts, 65 percent.

At least 70 percent of the steel and aluminum used in the manufacture of automobiles and light trucks must originate in the U.S., Canada or Mexico.

Notably, requirements for labor value content were introduced in the updated agreement: 40 percent of the materials for automobiles and 45 percent of the

content for light trucks must be produced by regional enterprises that pay workers at least \$16 per hour. Since Mexican autoworkers currently earn about \$7.30 per hour for auto assembly and \$3.40 while making automotive parts, this new provision most directly affects Mexico.[1]

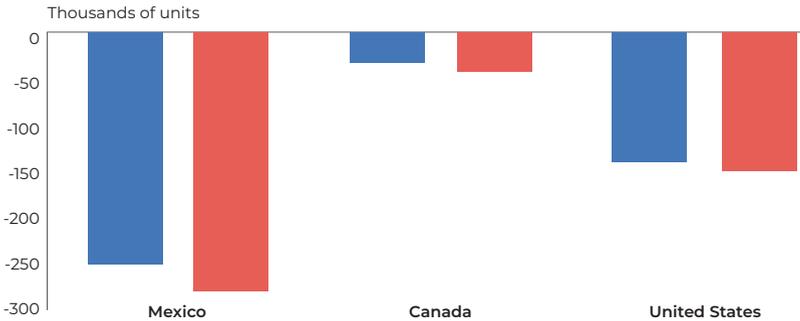
The USMCA requirements could make automotive production less efficient and decrease the competitiveness of the automotive industry across the North American region relative to the rest of the world, our estimates show.[2] Using a quantitative general equilibrium trade model—typically used to study the effects of trade reforms on industry—we estimate the effects of the new requirements, comparing USMCA with NAFTA.[3]

In the baseline scenario, more restrictive rules-of-origin requirements will increase production costs that, in turn, will imply higher prices, reduced output and a decrease in consumer surplus in the region (Chart 1, blue bars).[4] Furthermore, at the regional level, spending on the transport equipment sector will shift away from local producers and toward foreign suppliers of these goods.

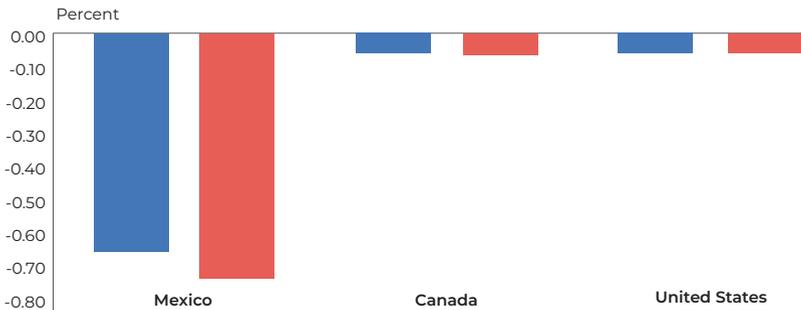
CHART 1: LONG-TERM EFFECTS OF TRANSITION TO USMCA TRIM AUTOMOTIVE SECTOR OUTPUT

■ USMCA - regional value content + labor value content rules ■ WTO - most-favored-nation tariff

A. Effect on light-vehicle production



B. Effect on GDP



NOTES: effect on light-vehicle production is calculated by applying the percent losses estimated for transport equipment sector output in the counterfactual exercises to each country's light-vehicle production for 2018. Effect on gross domestic product (GDP) is calculated by running the percent losses estimated for transport equipment sector output in the counterfactual exercises through each country's input-output table as available from the Organization for Economic Cooperation and Development (OECD). Regional value content refers to production in North America. USMCA is United States-Mexico-Canada Agreement. WTO is the World Trade Organization. SOURCES: Banco de Mexico; Automotive News; Canada's National Statistical Agency; Bureau of Economic Analysis; OECD; Federal Reserve Bank of Dallas

There are considerable losses of real output in the transportation manufacturing sector, as the whole region will reduce its output in the sector. While all countries in the region are negatively affected, Mexico stands to sustain the biggest loss both in terms of the absolute number of vehicles produced and GDP. The competitiveness of some assembly operations in Texas could be affected since facilities such as Toyota's truck plant in San Antonio and the General Motors SUV unit in Arlington rely on Mexican parts.

Opting Out of USMCA Trade

It is also possible that the new auto provisions increase the burden of compliance to the point that firms opt out of using the benefits of the USMCA and prefer, instead, to source their inputs from the least-cost country (not necessarily from North America) and pay the most-favored-nation (MFN) tariff when exporting. Such a move would hurt regional suppliers. Thus, even in a mildly disruptive scenario, the increase in the rules of origin may increase regional content at the cost of lower North American competitiveness in the automotive industry. In a heavily disruptive scenario, the tougher rules could actually lead to a reduction in the overall regional content in the sector.

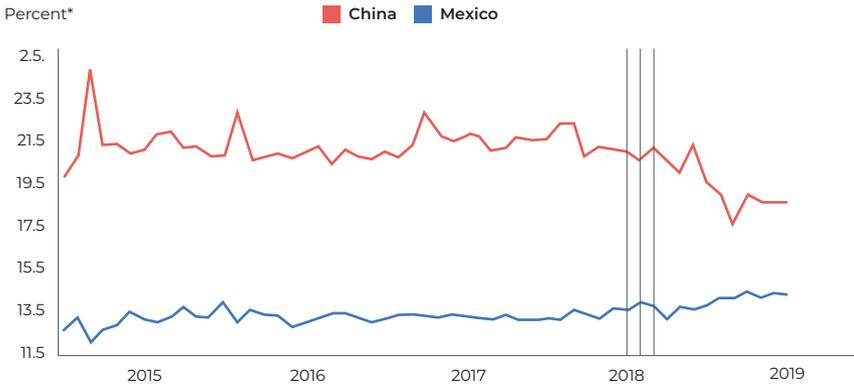
Using our model, we estimate the effects that opting out of USMCA could have on the auto sector by considering an MFN opt-in scenario in which all regional trade in the sector faces MFN tariffs. Our estimates imply that this scenario is harsher than our benchmark USMCA scenario, although not drastically so (Chart 1, orange bars). This suggests the possibility that any further tightening of the rules of origin requirements in the auto sector could create the incentives for firms to opt out of the USMCA as a means of conducting trade within the region.

Trade Diversion to Mexico

Trade conflicts between the U.S. and China have also been a factor behind Mexico's recent export performance. Electrical and optical equipment, machinery, footwear and textiles are among the sectors where the U.S. has imposed high tariffs on China and where Mexico competes with China for market share.

Thus, it is natural to believe that trade diversion could boost Mexican exports in some industries. Since the U.S.–China dispute began, China has lost market share in the U.S., and Mexico has recorded gains (Chart 2). Most of the market share that China lost in the U.S. involved goods subject to higher tariffs—the same set of goods in which Mexico achieved its largest gains of market share in U.S. imports (Chart 3).

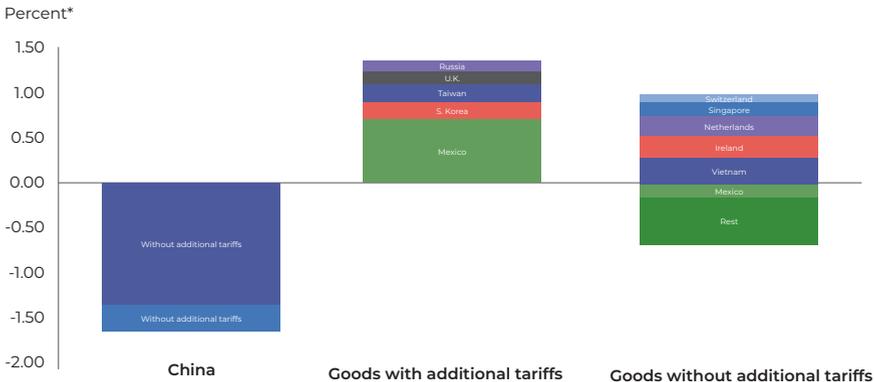
CHART 2: MEXICO GAINS SHARE OF TOTAL U.S. IMPORTS AS CHINA SLIPS



*Seasonally adjusted. NOTE: Dashed lines indicate the month when various tariffs on China became effective - July, August and September 2018. SOURCES: Banco de Mexico; U.S. Department of Commerce. Federal Reserve Bank of Dallas

Most of the market share that China lost in the U.S. involved goods subject to higher tariffs—the same set of goods in which Mexico achieved its largest gains of market share in U.S. imports (Chart 3).

CHART 3: MEXICO GAINS SHARE OF U.S. IMPORTS AFTER TARIFFS ON CHINA GOODS



NOTE: Approximately 80 percent of the value of total U.S. imports of light vehicles is excluded from the analysis because China had no share of the products making up this item in 2017. SOURCES: Banco de Mexico; U.S. Department of Commerce. Federal Reserve Bank of Dallas

It is important to note that some of Mexico's gains were in sectors in which China did not export to the U.S. Thus, it appears that Mexican exports have benefited from trade diversion, though perhaps not as much as some might have initially expected.

Notice that the declining share of Chinese imports in the U.S. has outpaced Mexico's gains. In fact, the increases that Mexico has achieved due to trade diversion amount to only one-third of what China lost. Thus, trade diversion has benefited other countries too, as the rest of the world acquired market share in the U.S. In particular, South Korea and Taiwan have also gained considerable presence in the U.S. import market.

Mexico has gained not only in terms of market share of U.S. imports. China's market share losses positively affected Mexico's manufacturing production in sectors in which China lost the most.

However, even though Mexico has been able to gain some output from trade diversion, this improvement has come at someone else's expense since trade diversion entails an efficiency loss.

In this case, it seems that U.S. consumers have borne the loss through higher prices of imports. Mexico has realized higher prices for the type of exported goods that would have faced tariffs had they come from China. Prices for those Mexican exports to the U.S. increased relatively more than the export prices of goods unaffected by the tariffs.

While there is evidence suggesting that Mexico has, at the margin, benefited from trade diversion, these "gains" may be short lived if trade tensions lead to a further slowdown of global economic activity, larger trade distortions and a breakup of global value chains.

Estimates of a counterfactual scenario in which the U.S.–China trade dispute was persistent suggest that both the U.S. and China would sustain real output losses, while Mexico and Canada would increase production, albeit only marginally. However, prices would be much higher, particularly across North America. These higher prices would reduce the gains from globalization for consumers in the region.

Changing Trade Patterns

The adverse impact on economic activity, trade and investment flows of an evolving and uncertain global trade environment is not surprising. However, calculating the magnitude of this effect is difficult. Mexico as a key U.S. trade partner is, not surprisingly, subject to the crosscurrents of trade tensions between the U.S. and China. These impacts are especially important for Texas, which counts Mexico as its largest trade partner.

Approval of the USMCA, an update to the almost quarter-century-old NAFTA, could by itself change trade. Indeed, costs—especially in the key automotive sector—will rise and tend to make North American products potentially less competitive than they might have been over the longer term, depressing Mexico's GDP.

However, Mexico stands to gain, albeit in the short term, from trade tensions between the U.S. and China and the imposition of retaliatory tariffs that began

in 2018. Mexico has been a beneficiary of trade diversion, accounting for a portion of what China previously supplied to the U.S.

The U.S.–China Phase One agreement that called a ceasefire to the dispute and a pledge for further trade talks makes calculating the future benefit to Mexico difficult. The impact of disrupting the production of goods and services and the global value chains that they represent could exacerbate any broader economic slowdown, further trimming Mexico’s short-term gains and negatively affecting its trading partners.

Notes

1. For more information, see “NAFTA Briefing: Review of Current NAFTA Proposals and Potential Impacts on the North American Automotive Industry,” by Kristin Dziczek, Michael Schultz, Bernard Swiecki and Yen Chen, Center for Automotive Research, April 2018.
2. Estimates are derived from a model that can be used to analyze different counterfactual scenarios regarding changes in tariffs and trade costs among different countries and sectors based on two main data requirements: sector-level trade elasticities and expenditure shares between countries and sectors. For more information, see “Trade Theory with Numbers: Quantifying the Consequences of Globalization,” by Arnaud Costinot and Andrés Rodríguez-Clare, *Handbook of International Economics*, Gita Gopinath, Elhanan Helpman, and Kenneth Rogoff editors, 2014, vol. 4, pp. 197–261.
3. To properly interpret the results of this exercise, it is important to keep in mind that it only contemplates the general equilibrium implications of changes to the barriers that shape automotive trade in the region. The shift from NAFTA to USMCA contemplates changes in other sectors that are not considered for the purposes of this exercise but can have important macroeconomic consequences (i.e., reducing uncertainty). In addition, important assumptions were made in order to map regional value content and labor value content requirements into the model. For more information about the modeling results, contact Alfonso Cebrenos or Armando Aguirre.
4. See note 2 for details of the methodology used to produce the estimates depicted in Chart 1.



CHAPTER 6

A Pessimistic Optimist in ‘Interesting Times,’ the Era of Globalization

Timothy Kehoe, University of Minnesota, Federal Reserve Bank of Minneapolis (Consultant)

I am an advisor at the Federal Reserve Bank of Minneapolis. I always have to remind myself to say that nothing I say represents the views of the Minneapolis Fed or the Federal Reserve System.

We also heard two Mexican economists whom I respect a lot—Secretary Guajardo (Ildefonso Guajardo Villarreal, former Secretary of the Economy and Mexico’s USMCA representative) and Dr. Daniel Chiquiar, the Research Director at the Banco de México—giving us views that were very compatible in some ways, but with very different tones.

Secretary Guajardo is something of an optimist, and my friend, Daniel, is a bit of a pessimist. Whom do I agree with? Well, I cannot tell you. That is the problem. I am not restricted from telling you my views on trade policy, as I am about monetary policy. No, I just cannot tell you because I do not know, and I am nervous about that. There is an English saying that says, “May you live in interesting times.” The history of that saying seems go back to the late 19th century, to Joseph Chamberlain, the prominent British politician and statesman who was the father of Neville Chamberlain, the “peace in our time” prime minister.

Chamberlain claimed that the saying was some sort of Chinese proverb, but no one has ever found any evidence for that. It seems he made it up. Even so, it has become known as the Chinese curse, and we are suffering from it. These are interesting times. Let me see if I have this right. I could have titled this talk “A Defense of Globalization.” Or maybe, “Why I’m a Globalist, not a Patriot.” That was meant to be a joke. My father was in the U.S. Navy for 37 years. He was a globalist and a patriot. I do not see the contradiction.

I feel a little bit guilty about not talking more about rules of origin. But we had such a good discussion this morning, I can just step back and take a big picture.

The Industrial Revolution—this is talking about economic history—started over 200 years ago. The really brutal but heartening fact is that for most of the world, the Industrial Revolution has occurred in the past 50 or 60 years. The Industrial Revolution has improved living standards and reduced inequality throughout the world like nothing else has done in the last 200 or 300 years. I'm just going to show you one specific piece of data: Go to the World Bank's count of how many people in the world live in extreme poverty. It's at all-time lows in world history.

That's not to say that what we call globalization has not increased inequality within countries and even across countries in some cases. But if you just take into account that something like one-third of the population of China is middle class by world standards and one-third of the population of India is middle class by world standards, then inequality has plummeted since about 1990.

The United States was part of a movement after the Second World War to really push to cure the problems that had caused the war. That's why we created the three big Bretton Woods institutions—the World Bank to lend money to developing countries; the International Monetary Fund to try to control the world monetary system and slow down the process of competitive devaluation, which had hurt us so much in the 1930s; and, of course, the International Trade Organization (ITO) to regulate international trade to prevent trade wars. Or you haven't heard of that?

The ITO didn't get off the ground. Instead, there was an initial agreement called the General Agreement on Tariffs and Trade (GATT). In 1994 and '95, GATT was transformed into the World Trade Organization. But for various reasons—disagreements on agricultural trade being one of the biggest ones—it has run out of gas, and now we're relying on unilateral liberalization and regional liberalization as the drivers of globalization. When I say globalization, I mean all the good things that have happened since the industrial revolutions.

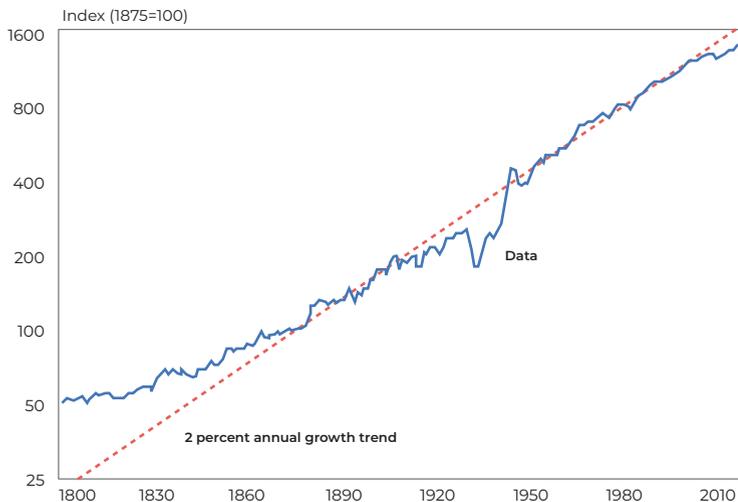
I am nervous about global warming. We have to do something about the climate change, but we also want to keep growing.

I want to talk about the United States a bit. Come on, I have to talk about my own research. I'm a professor. I mean, that's what I do, research, and I try to convince people of the importance of it. In a recent project, we look at the losses of jobs in manufacturing due to all of the trade deficits we've had with countries in East Asia—at the very beginning Japan and Korea started in 1992. And later, after 2000, with China. They lent us a lot of money that we could use to buy their goods cheaply, and that was a tremendous boon for the United States, but it cost jobs in manufacturing. But nowhere near as many jobs as have been lost because of improved technology.

What I will touch upon is to remind you of the big tension we have. The biggest trade war the world has experienced since the 1930s is the current one we have with China, and I think the Trans-Pacific Partnership (TPP) would have avoided it or at least we would have had allies on our side, and we threw away that opportunity.

I do not think we are going the right way now. Here is my economic history lesson, and I only want you to see two things here (Chart 1). This is the real GDP (gross domestic product) of people working in the United States. Sometime about 1880, we started growing at 2 percent per capita or per working-age person per year. That is what made us the richest country in the world because, of course, before the Industrial Revolution had started, we were only growing at 1 percent per year.

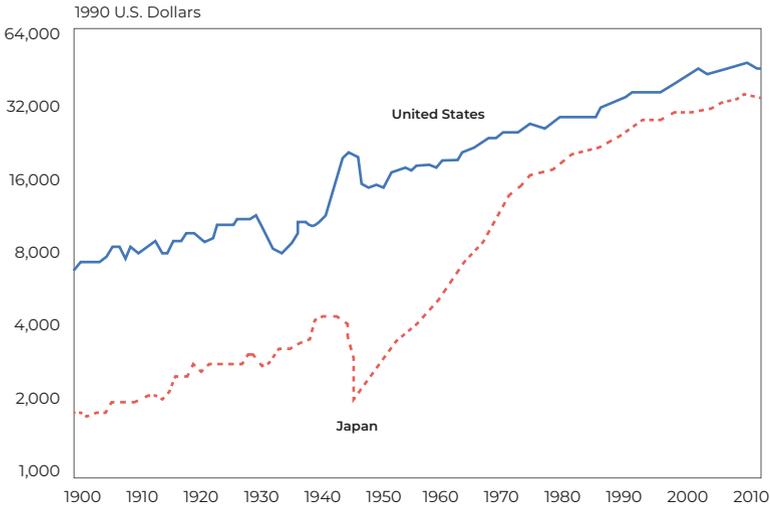
CHART 1: REAL GDP PER WORKING-AGE PERSON IN THE UNITED STATES



SOURCE: Kehoe Timothy J. (2019). "May You Live in Interesting Times," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/f/~/media/Documents/research/events/2019/19usmca-KEHOE.pdf>

So, here is kind of a theory of economic history that I developed working with Ed Prescott (Arizona State University) when we were studying depressions, but I am still working on it. This compares the United States, growing at 2 percent per person, with Japan (Chart 2). I would get the same picture if I put in Germany, the Netherlands or the U.K. They were poorer than the United States but also growing at roughly 2 percent in the early 20th century.

CHART 2: REAL GDP PER WORKING-AGE PERSON IN THE UNITED STATES AND JAPAN



SOURCE: Kehoe Timothy J. (2019). "May You Live in Interesting Times," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/f/~/media/Documents/research/events/2019/19usmca-KEHOE.pdf>

How much poorer? They (Japan) had 30 percent of the income of the United States. Then we, of course, had our Great Depression and World War II. Japan had the World War II destruction. After the war, of course, Japan was going to grow rapidly. Europe also had its capital stocks destroyed. But they, too, did more than go back to where they were before.

You remember back in the 1980s, we thought Japan was going to overtake us. No, they did not, but they are doing fine. Please do not let yourselves get confused by the journalists and politicians who do not understand economics. When you look at GDP growth, take out population growth. Japan only grows 1 percent per year now, but its population is shrinking by 1 percent. I find it heartening that this Asian country can still keep moving along at 2 percent per capita. We grow 3 percent, but our population is expanding by 1 percent. It is the same 2 percent per capita.

Chart 3 reports on work that I have done with some former students of mine. I was very inspired by Walt Rostow's work, *The Stages of Economic Growth*. Rostow was a bit of what we call a Keynesian. He did not really understand growth theory. But he had a clear vision that countries go through distinct stages of growth. You have countries that are stuck in the preindustrial revolution. The economist who analyzed this was Thomas Malthus in 1810, right at the time that his analysis was starting to stop being useful. There were always technological and economic advances, but expansion of the population ate it all up.

CHART 3: STAGES OF ECONOMIC GROWTH REVISITED

Stage 0: Malthusian trap

Stage 1: Growth like that of U.K. in the Industrial Revolution

Stage 2: Real GDP per working-age person at least 35 percent of industrial leader (U.K. in 19th century, U.S. in 20th, 21st centuries)

Stage 3: Real GDP per working-age person at least 65 percent of industrial leader

SOURCE: "The Stages of Economic Growth Revisited, Part 1: A General Framework and Taking off Into Growth," by Daniela Costa, Timothy J. Kehoe and Gajendran Raveendranathan, Federal Reserve Bank of Minneapolis, Economic Policy Paper 16-5, March 2016.

Then, we have what Rostow called the "Take-Off into Sustained Growth," looking like the U.K. at the beginning of the Industrial Revolution. Rostow thought about this back in 1960, and he was right that achieving sustained growth seemed very difficult. Now, it seems trivial; you do anything right in a country, and you are going to grow.

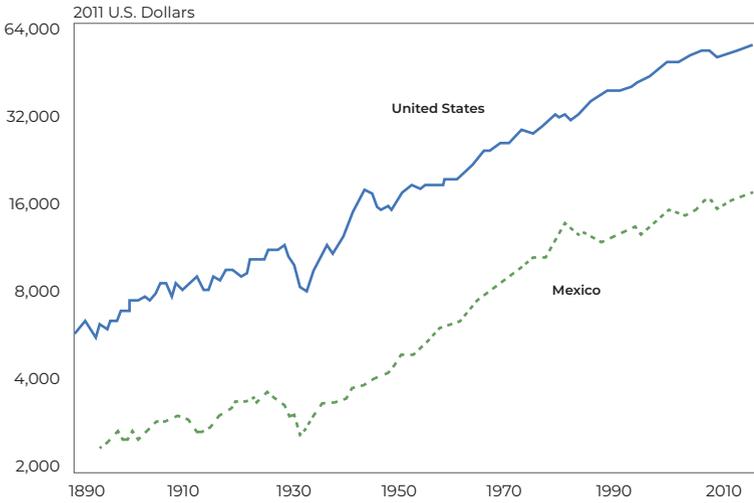
But then, you want to start catching up to the industrial leader, the U.K. in the 19th century, the U.S. in the 20th century, and get to where real GDP per working-age person is 35 percent of the industrial leader. Mexico has been there. But lots of countries are not there. In fact, that is a fear in countries like China. They call it "The Middle Income Trap." You start growing and then something is lost. The Chinese are right to be nervous about it.

Then, finally, you do what we call joining the industrial leader where you have at least 65 percent of their GDP—the countries in this group include a lot of countries in Western Europe. In fact, some of those countries in Western Europe do not particularly have lower productivity than the United States. They—just as societies or maybe through their tax systems, whatever—have decided they do not want to work as much as Americans do.

But in Chart 3, I am just looking at countries in 1960 by the classifications I have just given you and you see something that is shocking: In 1960, the majority of the of the world's population—52 percent—lived in countries that had never experienced any kind of industrial revolution. Now, that number is about 3 percent, and that is what I am saying. The majority of the world's population lives in countries that have gone through the industrial revolution since 1960.

I have to talk about Mexico because I love Mexico so much. But talking about the growth experience of Mexico makes me sad. Between about 1950 and 1980, Mexico was one of the fastest-growing countries in the world. When you take out the rapid population growth, the growth rate was lower, but it was still 4 percent per year. Mexico was catching up with the United States. Unfortunately, Mexico has stagnated since then (Chart 4).

CHART 4: REAL GDP PER WORKING-AGE PERSON IN THE UNITED STATES AND MEXICO



SOURCE: Kehoe Timothy J. (2019). "May You Live in Interesting Times," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/f/~/media/Documents/research/events/2019/19usmca-KEHOE.pdf>

My friend, Kim Ruhl, and I were asked to write a paper in the *Journal of Economic Literature* some years ago, talking about why Mexico had not benefited from all the reforms that it had implemented. Well, first, we say, “Why did Mexico grow so rapidly?” The answer was three reasons: Urbanization—people moved out of the countryside into the cities; industrialization—a huge expansion of the manufacturing sector; and basic education. Those are the same reasons that China has grown so rapidly in the past 30 years.

Why has Mexico stagnated? You know, I love Mexico. But we have to face the facts. There is a lack of rule of law, financial markets are a mess, labor market regulations are a bit of a mess, and those are the things that we think have held Mexico back. China has similar problems; certainly, in financial markets, China is far worse than Mexico. In terms of rule of law, I would argue that China is also worse (Chart 5).

CHART 5: MEXICO VERSUS CHINA

Why did Mexico grow so rapidly in 1950-1980?

- Urbanization
- Industrialization
- Basic education

Same reasons China has grown rapidly 1990-present

Why has Mexico stagnated since 1980?

- Problems in financial markets
- Problems in labor markets
- Lack of rule of law

China has similar problems

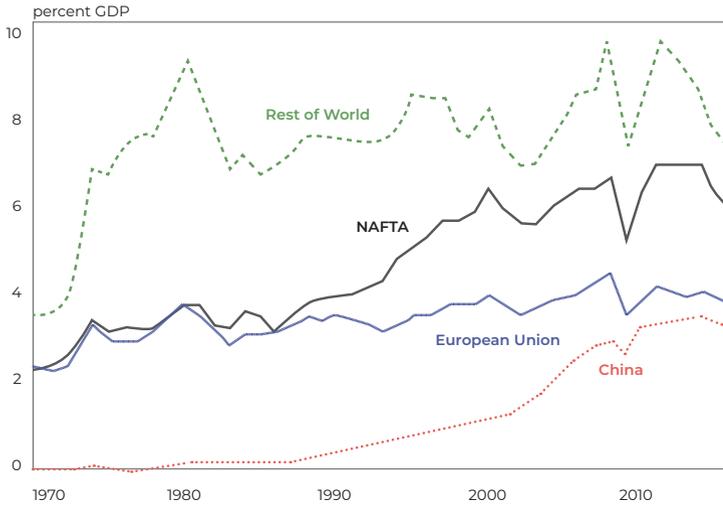
Significant difference between Mexico and China: Mexico was closed to trade and foreign investment during its rapid growth period, while China was open.

SOURCE: "Why Have Economic Reforms in Mexico Not Generated Growth?" by Timothy J. Kehoe and Kim J. Ruhl, Federal Reserve Bank of Minneapolis, Staff Report 453, November 2010.

China is doing well. It is not clear, however, that China has reached the level of Mexico yet. That is something to keep in mind. A significant difference between Mexico and China is that Mexico, when it was in its boom, was closed. We remember from our Mexican economic history that the boom was the period of Mexicanization, when the country was closed to foreign trade and investment. I am optimistic about the future for Mexico. I am optimistic about Mexico. There are just the problems to be overcome.

What about world trade? I did not mention one of the essential things in this picture that we always have to keep in mind. Looking again at Chart 1, we see that, except for the Great Depression and the World War II boom, the blue line is almost the red line except at the very end, following the 2007-to-2009 so-called Great Recession. There was nothing great about it. It was just global, and it affected all the countries in the world. What we see in Chart 1 after 2009 is shocking. We have never really recovered from the 2007–2009 recession. The U.S. economy is doing about the best of any major economy in the world right now, and for the last year or so, the labor market has tightened. But in general, we are not back. We are on a growth path about 10 percent below where we should be. And trade has stagnated in the United States because it collapsed during the global recession. It is the same picture for the whole world. Whom do we (the U.S.) depend on for trade? I tell you: It is Canada and Mexico and China. They are currently one, two and three as our trade partners. I do not think we can afford a trade war with China. We certainly cannot afford a war with all three of them (Chart 6).

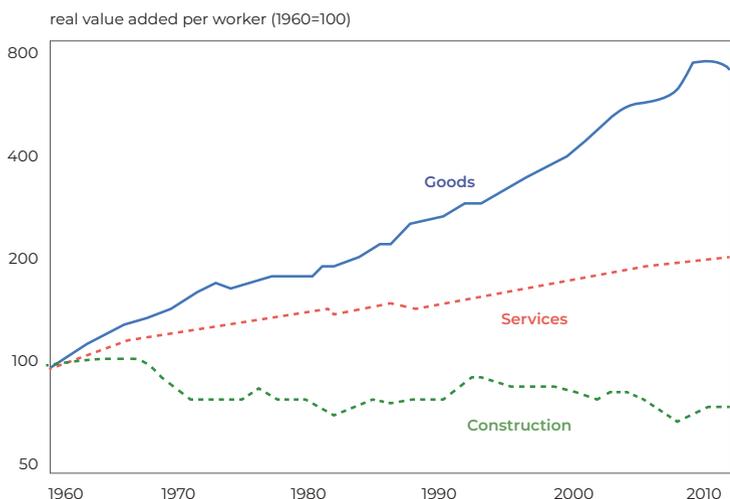
CHART 6: INCREASING IMPORTANCE OF REGIONAL TRADE BLOCKS
 U.S. International Merchandise trade (exports plus imports)



SOURCE: Kehoe Timothy J. (2019). "May You Live in Interesting Times," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-KEHOE.pdf>

What about the impact of deficits? These are simple facts. I published a paper with my friends, Kim Ruhl and Joe Steinberg, in the *Journal of Political Economy* last year (2018), and we were looking at what we called, “global imbalances,” and that meant the huge deficit the United States had with Japan, Korea and China. Here are just facts about labor productivity (Chart 7). Productivity in producing goods has grown at about 4 percent per year. Some people will call that “automation.”

CHART 7: GLOBAL IMBALANCES AND STRUCTURAL CHANGE IN THE UNITED STATES
 Labor productivity by sector (with Kim Ruhl and Joseph Steinberg 2018)



SOURCE: Kehoe Timothy J., Ruhl Kim J., and Steinberg Joseph B. (2018). "Global Imbalances and Structural Change in the United States." *Journal of Political Economy* 126(2): 761-796.

Suppose we stick that into a model of trade. We make the assumption in the model that, for some reason, the Chinese, when they get our dollars for their manufactured goods, do not want to buy our goods but rather they want to buy our government bonds. That is something we have to remember about China. We Americans seem to want to have government deficits. Somebody has to buy our bonds. Thank God for the Chinese.

Our model does a very good job with hardly any other driving forces besides foreign savings, mostly Chinese savings, in the United States in it. The model has constant productivity growth, no recessions, nothing but foreign savings in the United States. What happens to employment? What has happened in employment is what would have been there even without what former Fed Chairman Ben Bernanke called, "The Global Savings Glut." For some reason, the Chinese want to save in our country, which in principle is good for us, not bad. The loss of jobs in manufacturing is from our productivity increases.

What about trade and services? In measured trade in services, the U.S. is by far the world's largest exporter of services. Everybody has a story. They call their bank credit card company, and they talk to some guy who identifies himself as John but might slip up, and you hear his Indian accent and his name is Sanjay and so forth. India as a country has more than a billion people, and the educated people speak English. We get them to work at call centers. That is good for us and is good for India's economy.

India exports services, but we export a lot more. We export business services. The world's giant multinationals are headquartered in the United States. We do managerial services, design services, research services, and we also get all the income associated with copyrights and trademarks in entertainment, pharmaceuticals and so on.

Let me just give you an example that is simplified. General Motors U.S. sells design services to GM in Mexico. That is export of services. You do not find the exports from the United States to Mexico in the data. Actually, you can find it, but you have to know where to look. Whom does GM Mexico pay? They pay GM Bermuda. Why? There's no corporate income tax in Bermuda. How do they do that? It is really simple. All GM U.S. sells its patents to GM Bermuda. They sell the patents cheap, and some of them end of being worth nothing because they never get used. This is something you can do. GM U.S. sells all its patents to a wholly owned subsidiary in Bermuda, and that is whom Mexico pays. Corporate income taxes are high in Mexico, and before the tax reform, of course, in the United States. So, it is just a way of GM saving its money tax-free, like a 401(k) plan for big corporations.

The money is going to somewhere where the corporation does not have to pay taxes, and sometimes it involves three different entities. Kim Ruhl was explaining a lot of this to me in detail, and I did not quite understand all of it. But that is part of the point. And it is all legal. That is the way many U.S. corporations are minimizing their tax burdens, but it means the published numbers on bilateral trade deficits mean much less than some people in the current administration acknowledge.

Final point: The Trump administration is very right—but it is a complaint that goes back before them—regarding problems that countries like the United States have with China. U.S. firms want to get into China. China has the biggest and one of the fastest-growing consumer markets in the world. The Chinese had a formal system back in the 1990s. If you were a foreign company and you wanted to set up operations in China, you had to have a Chinese partner, and you had to share your trade and technological secrets with that partner. China then joined the WTO, and people pointed out, “Chinese government, your policy is in violation of WTO.” The Chinese government said, “Fine.” They erased the policy, but they still enforce it.

We have got to do something about China coercing foreign companies operating there to give up trade and technological secrets. My own view, perhaps the globalist view, is that we should have been doing this with our allies rather than resorting to a trade war, working through the WTO.

In conclusion, I want to be optimistic about the future like Secretary Guajardo, but sometimes I end up being a pessimist like Dr. Chiquiar.



CHAPTER 7

Liberalizing Trade of Services Offers Potentially Large Economic Gains

Michael Sposi, Southern Methodist University

Traditionally, when someone mentions international trade, the first thing that comes to mind is movements of goods—goods like agriculture; commodities like oil and steel; and maybe manufactured goods.

We're moving stuff across borders, and that is how we think about international trade and underpins the way that we developed trade models. International trade is kind of really based on the physical nature of goods.

Governments have a long history of using trade policy in the form of tariffs and quotas to possibly protect certain industries in the goods sector or subsidies to promote manufacturing in the form of industrial policy, for example. To produce the good in one location and consume it in another, you need to move the stuff. There is a cost to doing it, and the further you want to move it, generally, the more costly it is. This is how we traditionally think about international trade.

We typically ignore services, assuming services are not tradable. An example would be a haircut. It's produced where it's consumed, and that's true for a lot of types of services but not all. For example, transportation services. If you're flying out on an international airline, you are consuming something that's produced by residents in another location. Another example is international banking, such as consulting services via a multinational corporation, as well as consulting services for research and engineering.

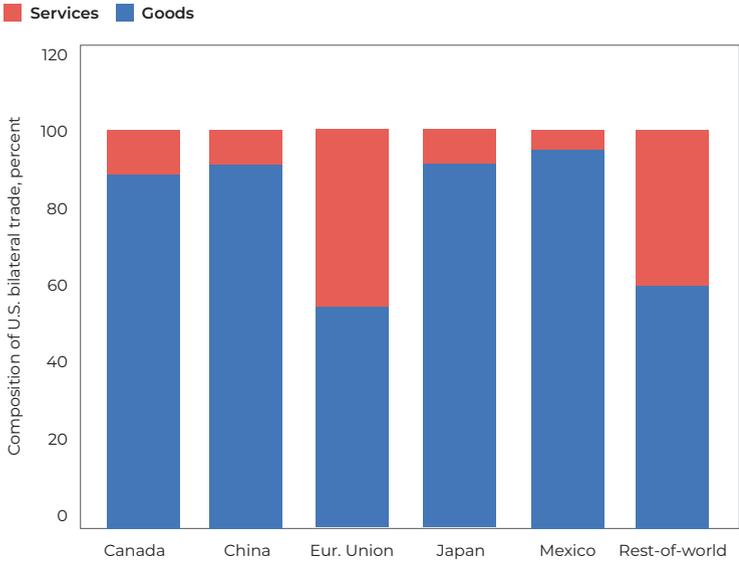
The output for such services could be stored digitally and then moved across borders. You write some software code to do some calculations, and you could send the results to someone in another location. You're still moving stuff, but it's very different than physically moving goods. So, we need to think about services trade a little bit differently than goods trade.

Chart 1 shows a breakdown of trade in goods versus services from the perspective of the U.S. with each of its main trading partners. Clearly, the majority of trade is still dominated by trade in goods, but services trade is non-

trivial, particularly when you look at U.S. trade with the EU and trade with the rest of the world.

CHART 1: RE-EXAMINING OUR VIEW ON INTERNATIONAL TRADE

Services account of sizable share of U.S. Trade

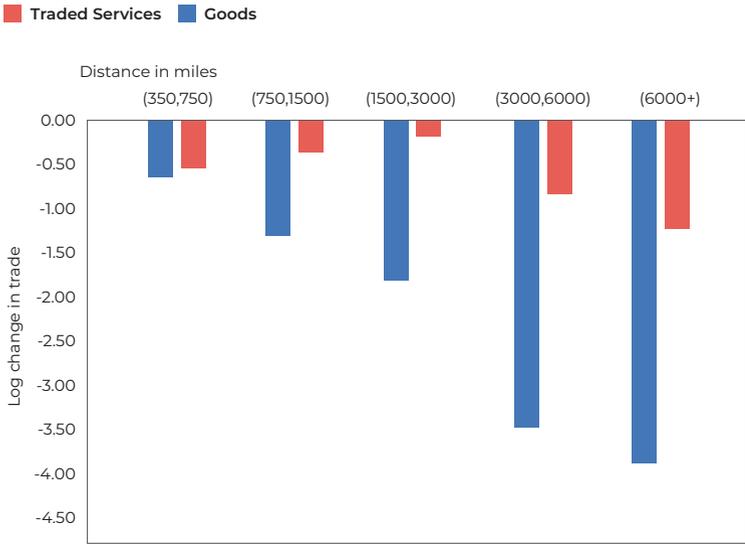


SOURCE: World input-output database; authors' calculations.

Services actually account for about one-third of U.S. exports. It's not something we want to ignore when thinking about trade. Trading goods between the U.S. and Australia is very costly because you have to physically move stuff, but this is less true for digital information or a lot of services production. When sending something by email, it doesn't matter if you are here in the same room with me or if you're all the way in Australia.

Chart 2 shows the average effect of distance on trade flows. When you're looking at goods trade, as the distance becomes greater, the amount of trade between those two locations declines very quickly. When you look at the same effect of distance on services trade, there is really not much of a difference whether we're 6,000 miles apart or only 350 miles apart.

CHART 2: RE-EXAMINING OUR VIEW ON INTERNATIONAL TRADE
 Distance is less of a barrier for services



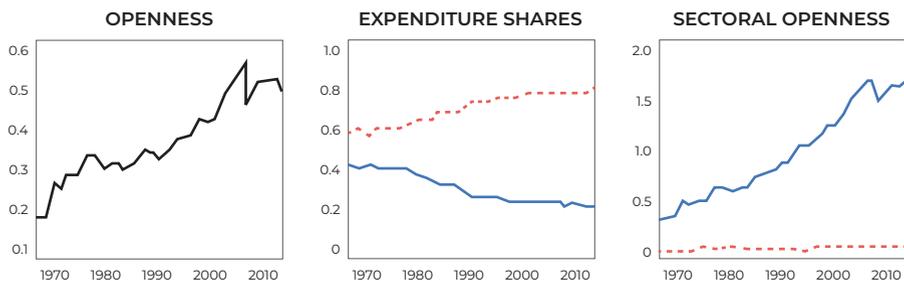
SOURCE: Authors' calculations

I want to shift now and put things into a more broad macroeconomic perspective. Trade has grown remarkably as a share of world GDP (gross domestic product). The share of trade over global GDP rose from 20 percent in 1970 to 50 percent today.

There have been several trends that have been very prominent features of the global economy. Trend No. 1: a massive increase in globalization. Trend No. 2 is something that economists refer to as structural transformation. The middle figure in Chart 3 demonstrates this process; there's a very sharp shift in resources from goods to services. Services are occupying a greater share of expenditures globally, and the goods share has been declining. However, openness is much higher for goods compared to services and has been increasing much more rapidly over time.

CHART 3: GLOBAL ECONOMY TRENDS

■ Services ■ Goods



SOURCE: Lewis, L., Monarch, R., Sposi, M., and Zhang, J. "Structural Change and Global Trade." Federal Reserve Bank of Dallas Working Paper No. 333.

Here, I have shares measured in terms of final expenditures. What I am measuring is final expenditures by households—the stuff that you purchase and consume day to day; fixed capital formation, spending on construction and other forms of investment like equipment and machinery; and government spending.

Goods are just the more open sector; a lot of stuff is being traded. What are the key drivers of openness? The impacts of declining trade barriers have come in many forms, including reductions in tariffs, making trade policy more transparent and declining physical transportation costs.

Standardized shipping containers and more efficient modes of moving goods from Point A to Point B have all resulted in more trade taking place. In addition, the industrialization of emerging economies has contributed to the increase in trade, as they have joined the global trading system. Globalization has lifted huge portions of the world's population out of poverty, improved quality of goods, promoted competition, increased product selection and generally lowered consumer prices of goods. The gains aren't shared equally by everyone, but this is, I think, a fairly uncontroversial statement to make: The aggregate benefits from trade have been positive.

Higher incomes and industrialization globally have resulted in greater income per capita. This additional income is being disproportionately spent on services relative to goods. As you get richer, you're going to spend a greater share of your income on luxury goods as opposed to necessities but also consume more education, spend more on health care, go out dining, to entertainment—all service sector activity.

However, there is a differential in productivity growth between goods and services. Productivity growth has been much faster in goods-producing industries than in service-producing industries.

What does this mean? In the macroeconomic sense, this is going to result in a reallocation of resources from goods to services. Goods become more

productive—you need to allocate fewer workers and fewer resources to the production of goods and reallocate them toward services. These resources are going to come with a cost—you pay a higher price for services over time compared with goods. This change in relative prices is also going to mean households’ budgets are going to be spent increasingly on services because they’re becoming more expensive.

Those are the drivers of structural change. The consequences are important in the context of thinking about openness. The economy is shifting from goods to services, but the service sector is not as open/tradable as the goods sector. It’s going to—all else equal—reduce openness or make the world look less open because we’re just consuming more and more of stuff that’s not traded as much, limiting the potential benefits you could realize from trade liberalization in goods.

We’ve already exhausted a lot of the scope that we have for reducing trade barriers on goods. Tariffs and quotas are extremely low. Even in spite of the recent protectionist policies, by historical standards, tariffs are still extremely low. There is some scope for liberalization, but it’s limited. In addition, policy could do very little about changing the cost of moving goods—the physical transportation cost part of it.

What can be done to increase openness and realize more benefits from trade?

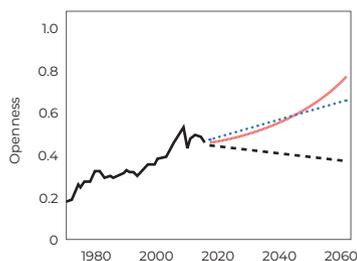
I did some projections based on a recent working paper with some co-authors of mine, Logan Lewis and Ryan Monarch from the Federal Reserve Board of Governors and Jing Zhang from the Chicago Fed.

The first thing I want to point out in Chart 4 is to ignore the colored lines; look at the black line—that is the trade to GDP ratio; the solid part of it is what we observed already since 1970. The dashed line is based on a simulation or projection going another 45 years into the future. The assumptions that I’m building into this calculation are that, suppose there are no changes to trade barriers, either in goods or services, either up or down. Trade barriers are constant.

CHART 4: WHAT DOES THE FUTURE HOLD?

Structural change will restrict growth in openness

— Baseline - - - Productivity Projection ····· With goods liberalization - - - With services liberalization



SOURCE: Lewis, L., Monarch, R., Sposi, M., and Zhang, J. "Structural Change and Global Trade." Federal Reserve Bank of Dallas Working Paper No. 333.

We also assume a differential in productivity growth between goods and services. The economy is gravitating continually away from goods toward services, and there's no increase in trade. Trade as a share of GDP is going to fall because we're going to just be consuming more stuff that's less traded. What you see with the dashed line is a decline in world trade as a share of GDP.

We're kind of limited to what we can do with trade policy on goods, but we should be thinking about what we can do with services trade. Services is 80 percent of the global economy; we should be seriously thinking about how we can benefit from trading these services. There are six chapters of the USMCA (United States–Mexico–Canada Agreement) that are either directly or somehow closely related to trading services. I want to give just a quick picture of how we think about the potential benefits from liberalizing trade in services.

Look at the colored lines in Chart 4. Let's start with the blue one. This is the same projection exercise. We're going to assume productivity growth is continuing at the same rate as it has in the past. And we're going to assume that goods trade barriers somehow decline at the same rate that they have in the past, about 1.5 percent per year. The blue line shows openness is going to just continue increasing at pretty much the same trend rate that it has in the past. Alternatively, suppose there are no reductions in trade barriers for goods, but all of the attention is focused on liberalizing trade in services (red dashed line).

We're going to reduce barriers for trade in services by 1.5 percent per year, just to make the calculations comparable. What you can see is that openness would increase productivity exponentially.

Why is that? There is a complementary effect of liberalizing services. We're consuming them in greater proportions, and if we could reduce prices in services, improve the quality of services—and that's the stuff that you're consuming a majority of—then the benefits are disproportionately large from doing that rather than focusing on goods. Policy toward the liberalization of trade in services is something that we should really think about.

CHAPTER 8

Digital Economy Finds a Home in USMCA Provisions

Anupam Chander, Georgetown University

The USMCA (United States–Mexico–Canada Agreement) can help create a North American digital free-trade zone. Even as we build border walls, people can jump them by using electronic means to participate in commerce across North America.

Services were left out of international trade agreements until the 1990s. It's not surprising then that, during the last century, trade in services across borders did not grow as fast as trade in goods. No one thought to add services to the international trade regime because people thought that services could not, for the most part, be traded across borders. The only way you could consume a service was to actually travel to that place—go get your hair cut in that place—to engage in trade in services. But of course, the electronic medium allows us to now deliver services across borders, often in real time without the buyer or seller leaving home or work. The electronic medium has made many services tradeable.

NAFTA (North American Free Trade Agreement) was one of the pioneering interventions in the space, creating a liberalized trading center for services across the U.S., Mexico and Canada. It offered national treatment; for example, Canada promised that it would treat an American or Mexican services provider operating in Canada at least equal to a Canadian service provider.

There were exceptions and grandfather clauses, but overall, that was the big picture in regard to NAFTA's innovation. The WTO (World Trade Organization) created a year later (1995) picked up on this. It globalized this desire to liberalize trade in services, but it did so in a much more limited form than NAFTA. The USMCA now takes that NAFTA intervention from 1994 and reinvents it for the digital age.

Tariffs and taxes can interfere with cross-border e-commerce. The USMCA raises the *de minimis* thresholds at which imports into a country are exempt from taxes and duty fees. Such *de minimis* thresholds are designed to make relatively low-value cross-border transactions cheaper, faster, easier and more

predictable. This directly impacts the ability to engage in e-commerce across borders especially for consumer products.

Another critical thing that USMCA does with respect to duties and customs is the prohibition of duties on stuff sent electronically. If you buy a music CD in the U.S., and you bring it to one of the NAFTA countries, you would have to pay duties. However, if you buy it via iTunes, you will not pay duties.

We first saw this approach in the WTO, with the Declaration on Global Electronic Commerce adopted by the WTO's Second Ministerial Conference in May 1998. This has now been adopted in the USMCA—prohibiting customs duties on digital products. This means essentially that you can now sell these digital products, music videos, e-books, and software across these three countries—that is, across the continent, without having to pay customs duties. It's possible that you might have paid sales taxes, which are different than customs duties, but the taxes have to be applied equally to domestic sellers and foreign sellers.

USMCA also prohibits data localization measures. Data localization is the idea that data is only safe if it's kept in this country. That is, data becomes unsafe, insecure or is unavailable for government purposes if it leaves the country. It's associated with the idea that data is the new oil, which is the term that you've heard many times. It is a metaphor that serves only to cloud the way that data is actually utilized by multiple parties.

It's worth pausing to reflect on that claim. There was a recent *New York Times* op-ed arguing that data is the new oil and we should regulate it as such. The reality is that you're producing a ton of data all the time, but most of it is not very valuable. Data only becomes valuable after it's analyzed. You might have tons and tons of files in your file drawer, but they are not valuable until they are analyzed. Data isn't inherently useful—a computer could spin out as much data as you want. It's very different than oil, which can be readily processed into something that society values.

Data localization is motivated by a number of different possible concerns. One, if the data leaves our country, it will be subject to foreign surveillance. That's a common concern you'll hear from governments: "We've got to keep this local, so that we don't have to worry about foreign governments accessing it." This was a concern raised against the U.S. especially in the wake of the (Edward) Snowden revelations (regarding National Security Agency practices), which suggested that the U.S. was widely surveilling electronic information.

Of course, the Snowden revelations also revealed that the U.S. was surveilling activities outside the U.S. Foreign surveillance doesn't only happen when on the shores of the government that is doing the surveilling. In fact, a lot of surveillance happens in other countries, and so, with the electronic medium, exfiltration of data, hacking, etc., as we saw in the 2016 elections, this surveillance did not have to take place in the U.S. itself. American data did not have to be abroad to be hacked from Russia. This idea that by keeping it here, you rid yourself of foreign surveillance is, I think, misbegotten.

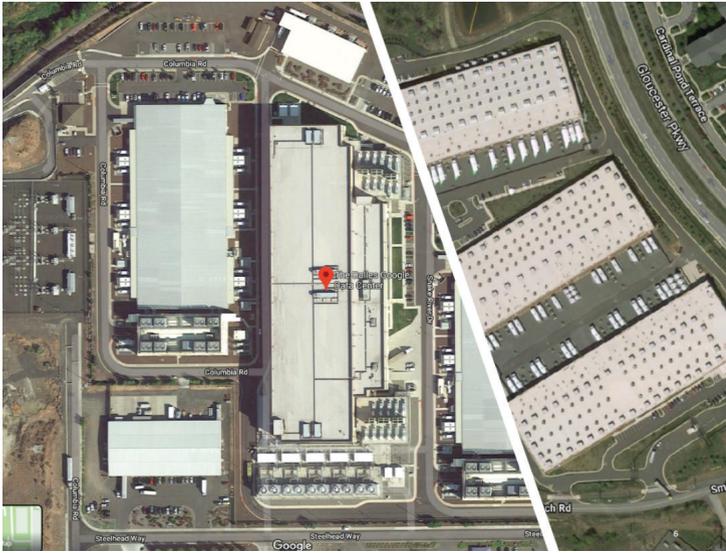
A second motivation for data localization is the idea that keeping data here is the only way to protect our privacy. When the data moves abroad, it becomes public in some way. The same notion arises in the context of any kind of activity that you might think. You can imagine a kind of food version of this. We can only eat food that's grown in the U.S. because only food grown in the U.S. is safe. In reality, it turns out that food grown elsewhere is safe, and also that food grown in the U.S. can be unsafe.

A privacy breach can occur domestically, so data might not be particularly safer if we keep it here. In fact, requiring data localization often increases privacy risks because you have to create huge data infrastructures across the world and replicate them in every country where you need to localize to provide services.

An argument is made that by keeping the data here, you generate local employment, and you're supporting a local digital economy. The problem with that argument is that much of the digital economy actually works by relying upon services provided by others. If you're opening a new startup, you don't buy your own server, you don't buy your own financial management systems. You don't manage all that yourself. You outsource everything. By not allowing outsourcing to other countries, where your data can be processed, you actually hamper your local startup economy. You now have to rely on local, pricier options that are often not as good as the global versions of that service.

Chart 1 shows images of server centers or server farms. The left one is a Google farm on the West Coast, in Oregon, and the right one is AWS, the Amazon servers, in Herndon, Virginia. One thing you'll notice about these facilities is that, despite their enormous footprint, there's almost no parking. It's just machines talking to machines. There isn't much in the way of employment in these places that are stuffed with electronic equipment. Unless your country is the one producing that electronic equipment, all that is being imported from somewhere else. Finally, these centers are enormous energy consumers. Thus, it makes sense to sell/export data services to other countries with high energy cost and a lack of infrastructure.

CHART 1



SOURCE: Chander Anupam (made using Google Maps), (2019). "Creating a North American Digital Free Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-CHANDER.pdf>

USCMA says data localization is not generally permitted unless it is both necessary and proportionate. In the USMCA, there's actually a sophisticated provision for data localization in financial services (Chart 2). Basically, what it says is: If you can't ensure that local regulators, like the Federal Reserve, can access this information when they need it in a timely fashion, then we might insist that you keep it locally. But if you can make arrangements to have this information made available wherever it is back to the regulators on an as-needed basis, then it can travel abroad, and it can be held abroad. USMCA has, I think, a better view of this than earlier exclusions of financial services entirely from the realm of data localization liberalization obligations.

CHART 2: SUMMARY OF DIGITAL TRADE IN THE USMCA

Data Localization

- Financial Information: Data localization with respect to financial services is subject to somewhat different rules.
- Article 17.18 allows regulators to require data localization if a business is unable to provide them with access to data. The goal is to balance the need for free flow of data with the demands of regulators.
- Financial regulatory authorities must be given "immediate, direct, complete, and ongoing access to information processed or stored on computing facilities that the covered person uses or locates outside the Party's territory." If an institution fails to provide such access, authorities shall provide "a reasonable opportunity to remediate" before imposing a data localization restriction on that institution.



SOURCE: Chander Anupam (made using Google Maps), (2019). "Creating a North American Digital Free Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-CHANDER.pdf>

Chart 3 summarizes a few more points about digital trade in the USMCA. There's information about authentication, electronic signatures, enforceable consumer protections and anti-spam rules. There are limits on a disclosure of source codes and algorithms. The motivation there is that companies don't want to disclose how their algorithms work to governments because they are worried about industrial espionage.

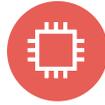
CHART 3: USMCA



Ensure that suppliers are not restricted in their use of electronic authentication or electronic signatures, thereby facilitating digital transactions.



Require enforceable consumer protections and anti-SPAM rules.



Limit governments' ability to require disclosure of proprietary computer source code and algorithms.

Introduction of "algorithms" is new. Protecting AI from industrial espionage. But concerns about legitimate needs for algorithmic transparency.



Limit the civil liability of Internet platforms for third-party content that such platforms host or process, outside of the realm of intellectual property enforcement, thereby enhancing the economic viability of these engines of growth that depend on user interaction and user content.

Largely modeled on CDA Section 230, which is seen as critical to the rise of US Internet enterprise

SOURCE: Chander Anupam (2019). "Creating a North American Digital Free Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-CHANDER.pdf>

A critical move on this front is limiting the civil liability of internet platforms for third-party content. This borrows from the Communications Decency Act Section 230 that many of you may have heard about in the U.S. This is a key pillar of U.S. internet law, one of the reasons for our unique success in creating the internet platforms that we have today. Section 230 is the 1996 congressional statute that provides legal immunity to digital service providers for the third-party information they disseminate.

Companies across Canada, Mexico and the U.S. will benefit from these provisions under the USMCA digital chapter, allowing them to enjoy the benefits of economies of scale by having access to digital service suppliers from all three countries. Consumers now have greater access to a broader range of suppliers, and businesses also benefit from having their business inputs from a broader range of suppliers.

Expansion of Digital Service Economy Offers North American Opportunities

Joshua P. Meltzer, Brookings Institution

If we think about this agenda more broadly, within the Americas, just improving internet access remains key. When we think about digital in the trade space, we tend to gravitate to our experience with Amazon or Google or Facebook. In fact, the commercial and economic opportunities are very much on the business-to-business end. It's not only about these large internet companies, but it's really about how the broad economy utilizes these digital technologies more effectively to improve productivity.

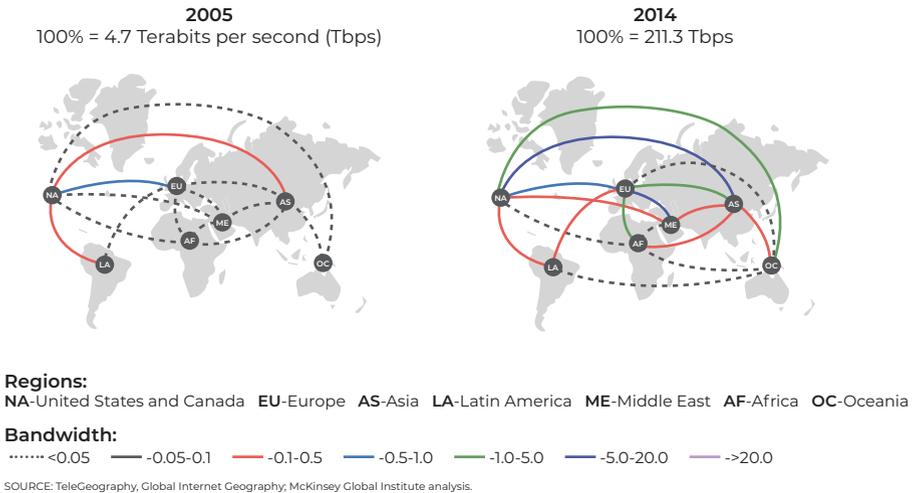
This is very much about manufacturing, it's very much about services, it's very much about agriculture, chemicals, energy, you name it. Different industries are adopting these technologies at different rates and becoming digitally intensive in different ways. From a policy perspective, that's really the opportunity and the challenge. It's not about how we use Facebook or whether or not Amazon delivers our puzzles quickly enough.

One of my points is about the enormity of the potential. A McKinsey study a few years ago estimated that the value of global data flows in 2014 was more than the value of trade in goods. Global data flows raised world GDP (gross domestic product) by 3.5 percent, or \$2.8 trillion in 2014, and the contribution will rise to \$11 trillion by 2025 (McKinsey, 2016). That's a trend, which certainly seems to be going upward and helps explain a bit of why we're seeing stagnation on the goods side. It is because we're seeing a lot of transformation and transition to value being traded across borders using data flows rather than traditional trade in goods.

E-commerce sales were over \$27 trillion in 2017 (United Nations Conference on Trade and Development, 2019); that is, \$27 trillion was essentially transacted over the internet worldwide. About 88 percent of that was business to business. This is also a global phenomenon. What I think is important when one thinks about Mexico—but also more broadly—is the opportunity for developing countries to participate in international trade in ways that were previously a lot of more challenging.

In terms of the digital opportunities for the U.S., I think the International Trade Commission (ITC) has done the best work on trying to calculate the benefits of the use of the internet and data. According to the ITC, U.S. internet and data use has increased U.S. GDP by 3.4–4.8 percent and supported up to 2.4 million jobs (ITC, 2014). The internet economy has grown significantly faster than the broader economy. Chart 1 shows cross-border data flows underpinning international trade. From 2005 to 2014, there was a 45 times increase in global data flows. That trend has essentially continued and actually grown.

CHART 1: CROSS-BORDER DATA FLOWS UNDERPIN INTERNATIONAL TRADE
Growth of global cross-border data flows 2005 vs. 2014



I want to talk about the ways that I see the use of data and digital commerce as transforming international trade and what it means. I'll focus in on services a bit more and map that onto what's happening with USMCA (United States–Mexico–Canada Agreement).

Regarding the platforms context, I simply mean here (it's) a typical e-commerce transaction. You may be on eBay, Alibaba, Etsy; I'm essentially transacting goods online.

Now, from a trade perspective, that essentially means that you could be a small business and where your customer base used to be—whoever walks past your store in a town and maybe the next town over—now you have access to consumers globally. eBay has some good data that essentially show that this (involves) small- and medium-sized enterprises. You can see that I've got data for the U.S. and Canada, but this plays out for Mexico, too. It's remarkably similar across the world. Essentially, you are almost entirely always exporting if you are on eBay as a small business, compared with offline peers. Importantly, there's a whole sort of ecosystem that comes with an e-commerce platform. You

have access to financial payment services. It's often tied in with express delivery services; so you have access to postal services.

There are various mechanisms for creating trust on the platform. This actually brings in other services to make the actual eBay or the broad e-commerce experience work effectively. In terms of the USMCA, there's a whole range of commitments to underpin growth in e-commerce, certainly within North America.

As Anupam [Chandler] mentioned, there's also a lowering in USMCA of the *de minimis* level. When you are importing a good, if it falls below a particular value, tariff rates and other duties don't apply. Often for the small businesses on e-commerce platforms, they're selling essentially low-value one good or two goods. If you can avoid the tariffs and duties and all the paperwork that goes with exporting, that can be the difference between that transaction being commercial or not. So, raising the *de minimis* level in USMCA for Mexico was important.

Investment commitments are very important because a lot of e-commerce happens under different business models. For instance, Walmart is trying to develop what it calls an omni-channel e-commerce strategy, which means that they've got the big-box stores, but also increasingly, you can go online. You can purchase or you can pick it up at the store or you can pick up at a designated post office box.

These fulfillment centers may be located in Mexico rather than the goods having to cross the border every time an e-commerce transaction is made. A lot of investment comes in behind the e-commerce strategy; the protections that are in USMCA are important there.

The USITC (United States International Trade Commission) looked at the benefits of this agreement for North America. It concluded that we would see increases in exports from the U.S. over e-commerce to both Mexico and Canada (Chart 2).

CHART 2: USMCA SHOULD INCREASE E-COMMERCE

- Cross-border flows of information, including financial information
- Improved market access for services industries
 - Express delivery
 - Logistics
 - Financial
- Raised *de minimis* levels
 - \$117 tariff-free threshold
- Investment-e.g. Walmart omnichannel ecommerce strategy
- USITC estimates increase of US ecommerce exports of:
 - \$332 million to Canada
 - \$91 million to Mexico

SOURCE: Meltzer Joshua P. (2019). "Services and Digital Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-MELTZER.pdf>

When it comes to trade and services, it's worth noting services are about 80 percent of U.S. GDP, and while there's been a sort of growing trade deficit in goods, there's basically been an ongoing trade surplus in services. In fact, this slightly picks up on the cross-border services trade between the U.S. and Canada and Mexico and the rest of the world (Chart 3A).

CHART 3A: U.S. CROSS-BORDER SERVICES TRADE, 2017 (\$BILLIONS)

	Imports			Exports		
	Canada	Mexico	Rest of World	Canada	Mexico	Rest of World
Travel services	8.6	17.1	109.3	17.4	17.9	175.4
Professional services	8.5	2.9	93.0	11.1	3.1	140.1
Professional and management consulting services	3.1	0.7	39.6	7.8	1.5	69.6
Legal services	0.2	0.0	3.0	0.8	0.2	9.0
Accounting services	0.3	0.1	2.4	0.2	0.2	1.4
Technical, trade-related, and other business services	3.1	1.6	21.0	3.0	1.4	28.9
Architectural and engineering services	—	—	—	1.0	0.4	8.9
Research and development services	2.3	0.5	32.5	0.4	0.2	41.6
Charges for the use of IP	1.7	0.7	48.9	8.4	3.6	116.4
Audiovisual and broadcasting services	0.7	0.6	11.9	1.9	0.7	19.0
Other charges for IP	1.0	0.1	37.0	6.5	2.9	97.4
Transportation services	5.4	3.1	93.2	7.0	4.0	77.6
Financial services	2.2	0.4	26.3	7.0	1.4	101.2
Computer services	3.9	0.6	27.5	2.8	0.9	19.2
Insurance services	0.6	0.0	50.1	1.8	0.4	15.8
Telecommunication services	0.3	0.4	4.8	0.6	0.3	10.0
All other services	1.8	0.3	30.9	2.3	1.3	50.6
Total	33.0	25.5	484.0	58.4	32.9	706.4

SOURCE: Meltzer Joshua P. (2019). "Services and Digital Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-MELTZER.pdf>

The U.S. exports not only travel services but also professional services. There are a lot of management consulting services, business services, R&D (research and development) and financial services. A lot of these services are actually increasingly delivered cross-border online. In addition, the U.S. also sells services via foreign affiliates in Mexico and Canada and has a surplus (Chart 3B).

CHART 3B: U.S. AFFILIATE SALES AND PURCHASES, 2016 (\$BILLIONS)

	Canada		Mexico	
	Sales of services abroad by U.S.-owned foreign affiliates	Purchases of services from foreign-owned U.S. affiliates	Sales of services abroad by U.S.-owned foreign affiliates	Purchase of services from foreign-owned U.S. affiliates
Retail services	23.2	12.0	9.1	—
Wholesale services	18.1	11.3	4.4	0.8
Professional, technical, and scientific services	15.8	9.4	3.8	
Legal	0.0	—	0.0	0.0
Accounting	0.6	0.0	0.1	—
Other professional	15.2	9.4	3.7	
Finance and insurance services	10.6	34.5	10.6	0.1
Information services	9.3	8.7	2.8	—
Data processing services	3.1	—	—	
Telecommunication services	1.2	—	—	—
Audiovisual and broadcasting services	1.2	0.4	0.3	0.0
Other information services	3.8	8.3	2.5	—
All other services	43.4	24.1	8.9	8.2
Total	111.1	100.0	39.6	9.1

SOURCE: Meltzer Joshua P. (2019). "Services and Digital Trade," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/media/Documents/research/events/2019/19usmca-MELTZER.pdf>

We've got approximately \$150 billion of services delivered through affiliates in Canada or Mexico. The U.S. purchases through affiliates located in the U.S., about \$110 billion, so there's about a \$40 billion surplus in there. You have some similar services there, but you see a lot more retail and wholesale services as well through these affiliates.

The USITC estimated how much of these services are digital. They believe that 61 percent of total U.S. services exports and 53 percent of U.S. services imports are digital. Why an estimate? This is because we don't actually have statistics on how services are delivered. We don't know if a service is delivered in person. We don't know if it's delivered over the telephone. We don't know if it's delivered online. So, you have to make an exercise where you assess what services could potentially be delivered online, and this is what is digitally deliverable. It's probably an upper bound of what actually occurs, but it also shows where opportunities for growth lie.

Canada is the second-largest market for digital services, and it's also one of the largest sources for the U.S. Mexico is a rapidly growing area of computer service exports as well. Certainly one would expect that there would be some growth in those areas within the North American context under USMCA. These are some of the kind of market access gains under USMCA from where we were under NAFTA. You do see that for instance, Canada has removed a lot of its provincial-level barriers to services—the citizenship test and commercial presence requirements.

Essentially, Canada is not saying anymore that if you want to deliver, you've got to be physically present in Canada. You can do that from the U.S., and an increase in digital technologies makes that possible. You've got some other services gains in Mexico—professional services gains, computer, environmental, transport and financial. Overall, we will see barriers to services trade coming down under USMCA.

In the context of an environment where you can increasingly trade services online, certainly reducing services trade barriers in USCMA expands the opportunity for more digital services trade between the U.S. and Canada and Mexico.



Lifting Mexican Red Tape Could Speed Energy Infrastructure Growth

Enrique Marroquin, Hunt Mexico

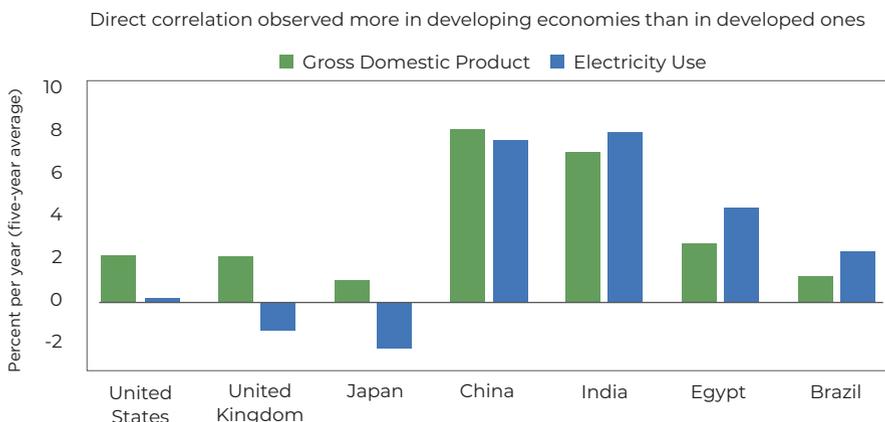
Those of you that know me, see me as very bullish on Mexico energy and on cross-border energy. I work in a company that focuses, among other things, on building electricity interconnections between the United States and Mexico. That has exposed us to a lot of interesting situations and opportunities in Mexico, particularly on the electricity side.

The growth of electricity in developing countries—not developed countries—closely tracks gross domestic product (GDP) growth. If you look at the growth that you’re seeing in Chart 1—China, India, Egypt, Brazil—Mexico is no exception. GDP is directly tied to electricity consumption, or electricity consumption is directly tied to GDP growth. There are many explanations for that.

One, they (countries) grow their demographics, and as they become “richer,” they consume more [goods and services]. Now, they can go more often to the theaters. They can go more to the malls. They can buy more electronics.

CHART 1: GDP AND THE ELECTRIC INDUSTRY

Gross domestic product and electricity use growth rates (2011-2015)



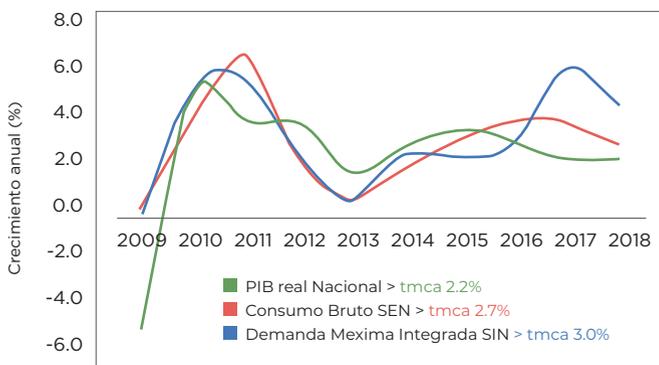
SOURCE: EIA Nov, 20 2017

Then the population starts aging. It becomes thriftier in how it consumes energy. There's more energy efficiency. So, in some countries, the GDP growth continues to be positive even as electricity demand decreases.

That's basically what's going on; Mexico is no exception. In the past 10 years, the consumption of electricity in Mexico or demand for electricity has closely tracked the GDP, as you can see from the graph and, in fact, it has outpaced the GDP in Mexico. Consumption has been growing on a gross basis around 2.7 percent, and the GDP growth in an average per year has been 2.2 percent. As you can see, Mexico is still developing (Chart 2).

CHART 2: GDP VS ELECTRICITY DEMAND IN MEXICO

In the last 10 years, the demand for electricity in Mexico has grown at an annual rate of 2.7% while GDP has grown at 2.2%



SOURCE: Prodesen, 2019-2033, Secretaría de Energía, <http://www.gob.mx>

That means that the more electricity consumed in theory, the greater the investments that one needs or the country needs [to make] in generation and in transmission and distribution. And whether the investments are done in the country or done outside the country and the electricity is brought in via transmission, that demand and that increase in demand is important to anchor investments. These kind of investments are long term; they're very capital intensive.

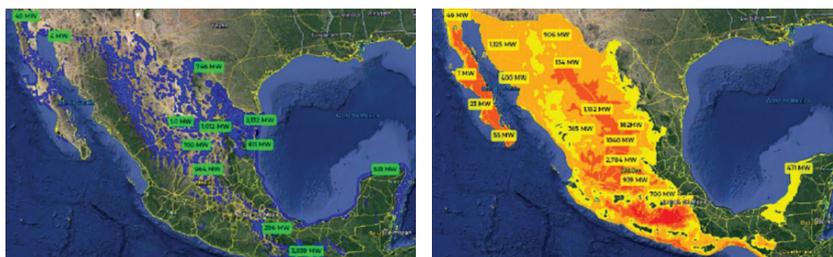
These projections actually are encouraging for those who are looking at the electricity market. At least for the next three decades, the annual projected growth is 2.7 percent. So, it's still probably higher than GDP growth.

Another interesting fact is that Mexico is a large country; I think it's the 14th-largest in the world, geography wise. The top panel of Chart 3 shows projects that have either been approved or are in the midst of being approved through the various processes in Mexico, whether regulatory or with interconnection to the grid. The chart also shows the amount of megawatts in the queue or that are being built is in the thousands (Chart 3, blue).

The bottom panel is the solar potential. The sun always shines down there, and in some places, it shines too much. There's a lot of solar potential in the country. Mexico has a unique opportunity. However, it requires investment to capitalize on its renewable energy potential. Hopefully, they won't squander it [renewable potential].

CHART 3: RENEWABLE POTENTIAL OF MEXICO

- Mexico has a vast and yet untapped renewable potential
- Industry estimates show that the impact to GDP could be \$30bn and create 200 thousand new jobs in 15 years¹
- Investments could trigger economic development in remote areas



¹ "Estudio de Energías Limpias en México 2018–2032" Sect. 2018 CESPEDES
Source: Prodesen, 2019–2033, Secretaría de Energía, <http://www.gob.mx>

As I'll mention later in the presentation, we'll see that though some of the current thoughts prevailing in the government circles in Mexico indicate otherwise, [but] the potential is there. The investments that could be attractive just on the renewable side are massive. Most importantly, the jobs and the economic development that they can create are to be reckoned with. For instance, some of you are aware that one of the policies of the AMLO (Andrés Manuel López Obrador) administration is to foster development in the southeast region of Mexico, which encompasses the states of Oaxaca, Chiapas, Tabasco, Campeche and Yucatan.

Oaxaca is one of the premiere wind-generation regions in the world—not in Latin America or in Mexico, (but) in the world. It has as high a potential [equal to] some of the regions that are famous here in Texas, in the (Texas) Panhandle and in North Dakota. Oaxaca is one of the most-impooverished regions in Mexico. If you match the large wind potential and the need for electricity that Mexico has, investments down there could generate a lot of change and economic development.

However, things are not going exactly how we want on the regulatory side. Chart 4 shows how attractive Mexico is for renewable energy projects. It is No. 19, falling six places from last year. Some factors affecting Mexico's ranking are changes in government policy, cancellation of electricity auctions and threats to modify existing contracts.

CHART 4: RENEWABLE ENERGY COUNTRY ATTRACTIVENESS INDEX

Some factors affecting Mexico's ranking:

- Change in government policy towards SOE
- Cancellation of electricity auctions
- Threats to modify existing contracts

Country	2019 Rank	2018 Rank
China (Mainland)	1	1
US	2	2
France	3	5
India	4	3
Australia	5	6
Germany	6	4
Japan	7	7
UK	8	8
Argentina	9	10
Netherlands	10	9
Mexico	19	13

SOURCE: EY May 2019.

In 2016, Mexico estimated that it would need about \$125 billion to keep up with the country's needs. That money has to come from somewhere, and that's where investors outside Mexico and even within Mexico could have a role. That's where the USMCA (United States–Mexico–Canada Agreement) can help and NAFTA (North American Free Trade Agreement) has helped.

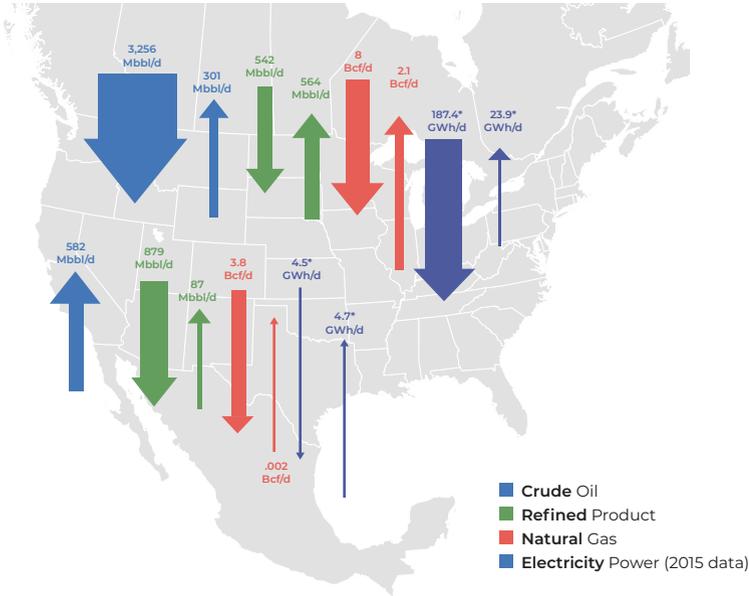
There are two chapters that talk about energy in the USMCA. The first one is Chapter 8.1, basically a Mexico-chapter only. It talks about the sovereignty that Mexico retains of the ownership of hydrocarbons. Basically, the U.S. and Canada are recognizing formally that Mexico can and will own the hydrocarbons in its territory. The other is Chapter 14, which talks about investor protections and the famous investor-state dispute settlement mechanism (ISDS). Some experts argue that the USMCA is a little more limiting than NAFTA regarding ISDS protections.

But when it comes to energy in Mexico, the majority of the projects and the majority of the contracts are going to be anchored by the government, whether it's Pemex or whether it's CFE (Mexico's Federal Electricity Commission). The ISDS will offer protection and [also] offer very clear guidelines on how investors could take advantage of arbitration protections, if needed. That brings a lot of certainty to the investments side on the energy sector because it protects against expropriation risk. That's encouraging about USMCA.

Chart 5 shows how NAFTA has helped the trade of energy commodities. The size of the arrows depicts how much trade is going on. The yellow one is crude oil. There's a lot of crude coming from Canada and Mexico into the U.S. However, the U.S. is sending more refined products, like gasoline, to Mexico. In addition, the majority of the natural gas that's being imported into Mexico comes from the U.S. There are some liquefied natural gas (LNG) imports through the LNG

terminals on the Gulf and in the Pacific. Mexico rarely, if ever, exports any gas to the U.S.

CHART 5



SOURCE: Reproduced courtesy of the American Petroleum Institute, North American Energy, 2017.

Canada has a larger trade balance in electricity. Canada’s electricity exports to the U.S. are mostly hydroelectricity and mostly to the northeast states. The tiny arrow that you probably can’t see is the amount of electricity that gets imported and exported between Mexico and the U.S., and that’s mostly due to lack of infrastructure. There are very few electrical interconnections between the two countries. But hopefully, the USMCA will enable the increase of electricity interconnections between Mexico and the U.S.

Unfortunately, Mexico’s current administration is not aligning public policy and investment objectives. Other countries, like Peru, have investor-friendly regulation that actually attracts a lot of investment in the mining sector and in the energy sector.

In Mexico, we have a misalignment. To be blunt, there’s a misalignment between what the government wants to do and what the investor community wants to do. There’s also an inefficient regulatory framework. You know, we have countries (the U.S. and Canada) again that have—I wouldn’t say pro-business—but more streamlined regulatory environments. You can see how the investment flows easily.

Mexico has as an inefficient regulatory framework, and it has had a lot of turnover in the ranks of the staff in the regulatory bodies. But also, the

regulations are incomplete. There are some things that are allowed in the constitution that haven't been yet put in writing in the form of regulations. There's a semi-transparent tariff-setting mechanism. One can argue that the tariff is set based on what the government wants to do as a monopoly, and that disrupts the market and makes it an uneven playing field.

Last, but not least, there's currently an unpredictable government, and I don't need to tell you how much pain and suffering there is among people who are developing energy projects right now in Mexico and how long it's taking for them to get a permit and how volatile the situation is. You know, it all depends on the president's [López Obrador] daily morning press conference.

Well, anyway, that's what's going on in Mexico right now. The government has had basic priorities in the energy sector: to strengthen Pemex and the *Comisión Federal de Electricidad* (the Federal Electricity Commission), which sort of fly in face of the private sector. The private sector wants to be independent, wants to have open markets and wants to invest and get the returns. The current government said that it wants to reduce energy imports and wants to build a new refinery. Nobody sees the logic in that investment.

So, anything that does not fit in the government strategy is sort of put in secondary or tertiary priority by the government. That is generating angst in the investor community. In addition, they [government officials] are basically dismantling the industry's regulators. The regulatory bodies are understaffed. They were understaffed before, and now they're in an even worse position.

The most recent high-profile case was the resignation of the director of the environmental regulatory agency for hydrocarbons. He clashed with the secretary of energy, Secretary (Rocio) Nahle, because she wanted to break ground on the refinery project, and they had not finished the environmental permitting. That's just a taste of what's going on right now, why perhaps the country is not looking that good. This year, it has stagnated basically, and maybe energy is just a sample of what's going on.

So, to wrap up, Mexico seems like a country that is like someone who has a Formula 1 (racing) car stuck in the garage ready to go. They want to move fast, they have this world-class driver sitting there, who's just waiting to go. And then suddenly, we find out that the tires are flat and there are no front tires, and they have asked the driver to push the car to get to the finish line.

We have a car, but it's incomplete. "So, let's push it *compadre*, because we're going to get there sometime." Hopefully, they'll get the car fully furnished, and we can really compete.

I would just say this. There is a saying: "You can't have something for nothing." Mexico and the president and the government of Mexico don't realize that they have to yield. They have to yield somewhat to what the international investment community wants in order to get investment flowing. I hope they realize that because on this side of the border, we want to write checks and we want to invest in Mexico, and sometimes it feels like they don't want it down there.

Pragmatism May Ultimately Guide Mexico's USMCA Energy Policy

Pedro Niembro, Monarch Global Strategies

I'll try to offer an alternative perspective to what you may have been reading and watching on news outlets regarding what's happening in Mexico's energy sector. This perspective is based on over 30 years of a close personal relationship that my boss, Ambassador Jim Jones (Monarch Global Strategies chairman), has had. He was ambassador in Mexico when NAFTA (the North American Free Trade Agreement) passed, and he developed a great friendship with (Mexican President Andrés Manuel) López Obrador and key sub-officers who are back in the administration.

Let me start by saying that all parties were able to claim a victory from the USMCA (the United States–Mexico–Canada Agreement) when it comes to energy (Chart 1). For the United States, the oil and gas industry can celebrate what did not change. Mexico and Canada were able to introduce provisions important to their interests. Despite initial threats to remove it, the investors' state-dispute settlement mechanism between the United States and Mexico was preserved for a handful of industries, including oil and gas and (electrical) power. As a result, investments are provided with much needed certainty over their ventures in Mexico.

CHART 1: ENERGY & USMCA: EVERYONE WINS

United States

- Investor-state dispute settlement mechanism remains in place
- Maintains NAFTA's tariff-free trade of raw and refined oil and gas products
- Grants equal opportunities to participate in Pemex and CFE tenders



Mexico

- Includes a statement-important to the nationalistic portion of the country that declares Mexico has “direct and inalienable ownership” of its hydrocarbons
- Keeps the capacity to introduce constitutional changes to the energy sector, but these cannot be contrary to the spirit of the USMCA



Canada

- The largely symbolic “proportionality clause” is wiped out
- Tariffs on diluent used to transport heavy oil are eliminated



SOURCE: Niembro Pedro (2019). “The Challenges to Mexico’s Energy Sector: USMCA and the AMLO Administration,” Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-niembro.pdf>

The agreement also maintains NAFTA’s allowance for tariff-free trade of raw and refined oil and gas products between the United States and Mexico. And it granted equal opportunities to participate in Pemex and CFE (Comisión Federal de Electricidad, the Federal Electricity Commission) tenders, which is very important given President López Obrador’s ambitious plans for the sector. For Mexico, the USMCA—as Enrique (Marroquin of Hunt Mexico) has mentioned—included a statement that was very important for López Obrador that declared that Mexico has direct ownership of its hydrocarbons. Meanwhile, Canada was able to wipe out the largely symbolic proportionality clause and to eliminate truck tariffs on diluents used to transport heavy oil. The USMCA should support continued integration of energy interests within North America.

The bigger determinant of future investments, I think, rests within the Mexican administration. Despite (its) initially slowing down the energy reforms, I believe that foreign expertise and investments will be needed to achieve AMLO’s (President López Obrador’s) social and economic goals. And the USMCA energy provisions should give investors the confidence to make this happen. It may be hard for outsiders to understand that a very significant portion of Mexicans view those natural resources as a source of national pride, almost as a divine right. AMLO’s opposition to the energy reform played a major role in getting him elected. However, AMLO is a very pragmatic politician, and he understands that private investment is needed in order to achieve his goal of 6 percent growth by the end of his administration. One other key issue—and it has been discussed previously—is that he wants to bridge the gap between the north of Mexico and the impoverished southeastern part of the country.

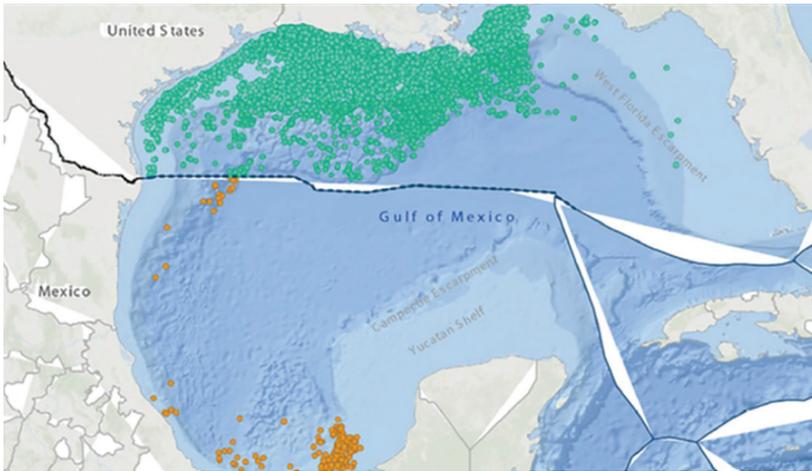
AMLO’s ambivalence on energy reform is revealed in his choices for the cabinet. The secretary of energy, the director of Pemex and the director of CFE are all nationalists who strongly oppose the energy reform. The office of the president

(which is in charge of the strategic relationship with international investors), the all-important finance ministry and the Mexican ambassador to the U.S. are all big proponents of open markets and an open energy arena. There can be little doubt that the energy team initially shaped the strategies and rhetoric for the energy sector. Oil and gas routes and electricity auctions were canceled. Regulatory agencies like Comisión Nacional de Hidrocarburos (CNH) (National Hydrocarbons Commission) and Comisión Reguladora de Energía (CRE) (Energy Regulatory Commission) came under attack right after AMLO's rise to power. But as the administration came to terms with the realities of governing, these strategies have been evolving at a modest pace.

The pragmatists in AMLO's team know that the energy sector is key for the successful implementation of their social policy. As proof of this evolution, the CNH has resumed the approval of oil development plans for privately held oil fields. And Secretary of Energy (Rocío) Nahle just announced this past week that auctions may come back shortly with some changes in the way that they will be implemented—but it's a welcome change. Exploration and production service contracts are under review to make them more appealing for companies. They are being linked to public-private partnership agreements.

Chart 2 shows how much needs to be done on the Mexican side of the Gulf. There is a big opportunity for business. Since peaking at 3.4 million barrels per day in 2004, Mexico's oil production has been falling. We estimated that in order to return to 2004 levels of production, Mexico will require anywhere from \$30 billion to \$40 billion of investment per year. Even to reach AMLO's own goal of increasing production to 2.6 million barrels per day, he'll need at least \$25 billion in investment. I mean, as Enrique (Marroquin) was saying in the case of CFE, Pemex does not have that kind of money—and I don't think they will ever have it—especially since the new refinery is being given a great deal of importance, and a big part of the budget for Pemex is being allocated to construction of that refinery.

CHART 2: EXPLORATION WELLS DRILLED IN THE GULF OF MEXICO (2018)



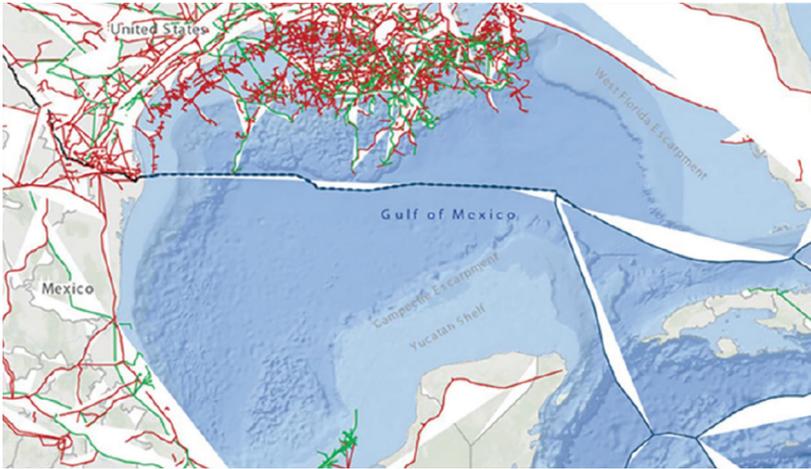
SOURCE: Offshore magazine. <https://www.offshore-mag.com/>

Pemex is the most indebted oil company in the world, and so money needs to come from a different alternative, and that alternative is private investors. The administration is beginning to understand the importance of continuing with the energy auctions, but it will still take them some time. The fact that service contracts are being sold as public or private partnerships on Pemex's 20 priority fields is a good sign. While these contracts might not be interesting enough for operators and oil giants given the lack of exploration upside—and are too risky for Mexican services companies—we're witnessing a nascent understanding of what the industry needs to be attractive. This understanding was not there when the president was elected. They are finally catching up with the reality of governing.

This new understanding also provides an opportunity to review and enhance the auction processes and take away what didn't work. Companies of all sizes operating on the U.S. side of the Gulf of Mexico will have a clear advantage given that they have the most experience and the technology they have developed over decades of exploration and production in shared geological columns.

As you will see in Chart 3, the infrastructure is already in place, and that should set American and Canadian companies apart from competition from other parts of the world. So, there is a pipeline infrastructure across the Gulf of Mexico. It shouldn't be hard to begin connecting that infrastructure to the Mexican side of the Gulf once investments get back on track.

CHART 3: PIPELINE INFRASTRUCTURE ACROSS THE GULF OF MEXICO (2018)



SOURCE: Offshore magazine. <https://www.offshore-mag.com/>

I won't describe much about midstream, but I think that one example of the evolution that I am talking about in AMLO's understanding of having partners in the energy arena is the recent pipeline renegotiation issue. To provide a quick recap, CFE Director (Manuel) Bartlett wanted to get rid of some pipeline development projects. Bartlett threatened to take the pipeline developers to international arbitration. However, President López Obrador immediately took matters into his own hands, appointing a representative from his office to lead talks. Although it was not made public, he made Bartlett take a side door and he did not participate in those talks. Of course, when the issue was resolved, Bartlett received the applause.

What I mean is that in the end, all parties were able to claim victory, and I think that companies were very happy with renegotiation. At least that's what my friends tell me; they celebrated. So, this self-inflicted wound was a key learning experience for the Mexican government, which brought uncertainty into an already distrustful investment ecosystem and unnecessarily endangered the support for the USMCA in the U.S. and Canada.

In the downstream sector—I won't talk much about it—but the refinery in Dos Bocas is perhaps AMLO's most controversial flagship project. However, there will be opportunities for investments in modernizing Mexico's existing refineries. One of them was built 70 years ago, and they really haven't kept up with new technologies because of a lack of funds. The administration is allocating a ridiculously small budget to revamp these refineries—about 30 times less than what conservative estimates suggest is needed. I mean, we're talking a need of about \$15 billion to \$20 billion. And this year, they were allocated \$250 million for modernization.

So, we will keep importing fuel for the time being. But another opportunity lies in the petrochemical industry, which is practically nonexistent in Mexico.

We think that if you want to do business in Mexico, you should first understand what the goals of AMLO's administration are and try to align your investment projects with his goals. In our meetings with him since his election, we have been very successful by putting things in perspective in a way that resonates with him. How does your project offer development to the people? Does it create technology transfer and/or knowledge transfer? All those things are important to him.

He's not a numbers guy, so if you begin talking about dollars and cents and the bottom line, you will lose him—you immediately lose him. When you bring up benefits for a community, for a region and how this project can help him achieve his goals, you get his attention back. Over the past 30 years, López Obrador has built a political persona he has to keep up with, and his public discourse is often inflammatory. Behind closed doors in his office, he allows his pragmatic side to surface.

Meeting Mexico's Demand for U.S. Natural Gas Depends on Adding Pipelines

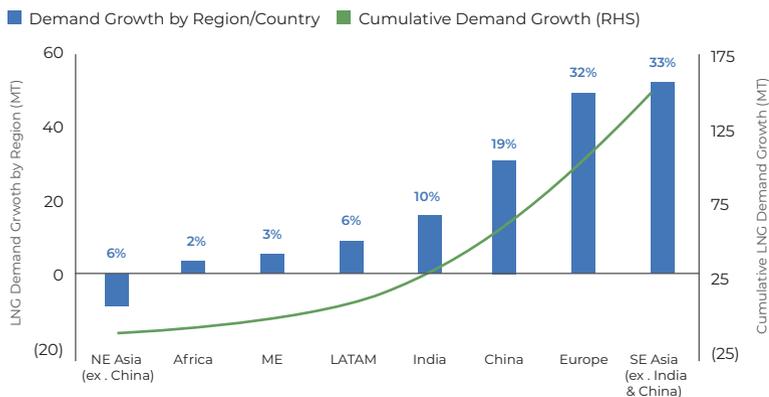
Curt Anastasio, GasLog Partners LP

I thought I would begin with a brief overview of the macro picture for LNG, or liquefied natural gas, and then dive into the United States–Mexico relationship as it relates to natural gas and LNG. The macro outlook looks very bullish for global LNG. The demand for gas is growing much faster than for any other hydrocarbon.

Natural gas is cleaner burning certainly than oil or coal. There's ample supply, it's cheap, it has a high energy content, it's relatively easy to move and to store. There are many environmental and economic benefits that are feeding the demand growth. When you see a continuing trend of natural gas and renewables displacing coal and oil for power generation, in particular, that's bullish for those involved in the supply chain—including my company, GasLog—in LNG transportation and storage.

We hear a lot about the growth of China, and rightly so. But it's interesting to note in Chart 1 that the forecast for demand is actually quite diverse globally. Over 80 percent of forecasted demand growth is from outside of China through 2025. You can see some of those regions in Chart 1—including Europe and Southeast Asia; quite big demand is there. It's not *all* about China.

CHART 1: FORECASTED DEMAND GROWTH IS GLOBALLY DIVERSE
 LNG Demand Growth 2018-2025 (MT)



NOTE: Over 80% of Forecasted Demand Growth is Outside of China During 2018-25
 SOURCE: Wood Mackenzie

Looking at the supply side, the biggest growth has come recently from Australia and the U.S., and about 60 percent of that new capacity is [attributable to] the U.S. In fact, the U.S. production capacity just about doubles over the next year or so. The other top exporters are Malaysia, parts of Africa and Russia.

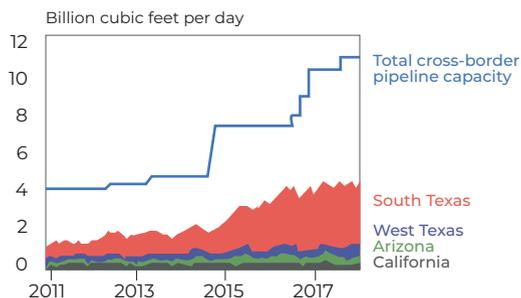
LNG prices are generally seasonal. They peak in the summer and winter months, and they're softer in the shoulder months, such as in the fall. But there's considerable regional variation even within countries. At the moment, a global economic slowdown and the U.S.–China Trade War are among the factors depressing LNG prices in the face of this new supply coming from the U.S., Australia and Russia. Currently, LNG prices are low, below \$5 per MMBtu (million British thermal units). Those low prices may further delay the next wave of supply development projects.

Turning to Mexico, the rising U.S. production has enabled the U.S. to become a net exporter. At the same time, you have rising demand in Mexico, mainly to natural-gas-fired power plants, together with shrinking Mexican supply, which make Mexico an importer. U.S. LNG exports to the world will be increasing very significantly over the next several years, as I've said, but the exports to Mexico are and will continue to be mainly by pipeline, so the three LNG import terminals in Mexico—Costa Azul, Altamira and Manzanillo—are really shrinking in terms of import volume. The gas import story in Mexico is not going to be LNG; it's going to be piped gas. This takes us back to the point Pedro (Niembro of Monarch Global Strategies) made about the infrastructure challenges of getting those pipes across the border to feed a potential plant in that location.

Chart 2 shows the increasing U.S. pipeline export capacity to Mexico. While gas exports by pipe started out mainly from the Eagle Ford (in south central Texas) and South Texas, producers now in the Permian Basin (in West Texas) have a huge incentive to export to Mexico. Pipeline capacity has been and is being

built to satisfy Mexican demand by companies like Enbridge, Kinder Morgan, Energy Transfer and Howard Energy, among others. Kinder just started the Gulf Coast express pipeline, and U.S. production is at an all-time high partly for that reason. Also, natural gas exports to Mexico are at an all-time high and rising.

CHART 2: U.S. NATURAL GAS PIPELINE EXPORTS INCREASE WITH COMMISSIONING OF NEW PIPELINES IN MEXICO
Monthly U.S. natural gas exports to Mexico by pipeline (Jan 2011-May 2018)



SOURCE: Energy Information Administration

The capacity of the projects that are already in service and those that are in progress will exceed by far the actual exports to Mexico. So, that's going to allow future supply growth to Mexico by pipe. But U.S. exports to Mexico will depend not only on cross-border pipelines but also on Mexican pipeline expansion and construction. However, there have been significant delays on the Mexican side that have resulted in low utilization of cross-border pipelines from West Texas.

This had been happening before (Mexican President) Andrés Manuel López Obrador and (U.S. President) Donald Trump. Unfortunately, the lack of pipeline infrastructure rendered Mexico unable to capitalize on the lower gas prices that we're seeing with gas in the U.S. So instead, the country was forced on numerous occasions to cut gas supplies, especially to industry more than residential.

That said about the problems in Mexico, some of the pipelines have been placed in service within the past year, such as the La Laguna–Aguascalientes. So, there is good news and progress on that front. But I want to make clear that the U.S. also has some challenging dynamics.

Liquefaction capacity for one thing has lagged the supply increases. The delays on those projects are not just all commercial or financial, but also regulatory. We have our own opposition among citizens' groups to pipelines. Often, it's environmentalists who are opposed to all forms of fossil fuels. In addition, landowners even in the state of Texas are opposed to these pipelines. Kinder Morgan encountered such opposition to its \$2 billion Permian highway natural gas pipeline, trying to move gas from West Texas to the Gulf Coast.

In conclusion, I want to leave you with three takeaways. First of all, the global LNG supply demand outlook is robust, and that trend looks powerful and in

place. Second, increasing U.S. natural gas production and declining Mexican production have resulted in exports of pipeline gas to Mexico. Finally, there have been logistic challenges on both sides of the border—in Mexico and in the U.S.— that have impeded progress. The good news is they are being resolved.



USMCA Keeps the Peace, Fails to Improve on NAFTA

Christine McDaniel, George Mason University

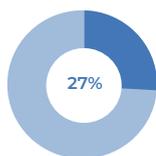
On Jan. 19, 2017, we had the Trans-Pacific Partnership, the TPP. The TPP was set to open up new markets for U.S. farmers and U.S. businesses, small, medium and large. It was designed to do everything NAFTA (the North American Free Trade Agreement) did and more across the Asia Pacific region. Four days later, the U.S. quit the deal.

Today, we have a revised NAFTA in front of us. The revised deal does nothing for our U.S. farmers or businesses across the Asia Pacific region. So, today, I'm going to talk about the economic implications of a situation where the USMCA (United States–Mexico–Canada Agreement) does not pass and the U.S. does withdraw from NAFTA. The key takeaways are going to be the following.

First of all, the U.S. would lose preferential access in our two largest markets, as speakers today spoke about at length. It would be devastating, especially for the small- and medium-sized businesses that rely so much on recent developments in trade preferences. It would also be a strain on every culture for sure. Ironically, we could actually have free trade in autos—that could be a bright spot—but greater uncertainty overall.

Without USMCA or NAFTA, U.S. exports lose preferential access to markets in Mexico and Canada, as you all know. Nearly 30 percent of U.S. exports go to these two markets, and we would be facing not only their MFN (most-favored nation) tariffs, but also bound tariffs (an additional tariff on specific goods that is above MFN rates), which could go as high as 45 percent for agricultural products in Mexico and up to 15 percent in Canada. Other goods could go up to 35 percent in Mexico and 5 percent in Canada (Chart 1).

CHART 1: U.S. EXPORTS LOSE PREFERENTIAL ACCESS (WITHOUT USMCA OR NAFTA)
27% of US exports go to Canada and Mexico



- With no USMCA or NAFTA:
 - US agriculture would face up to 45% tariffs in Mexico and 15% in Canada
 - US goods would face up to 35% tariffs in Mexico and 5% in Canada
 - Behind-the-border barriers



SOURCE: McDaniel Christine (2019). "Economic Implications for the United States of North America without NAFTA or USMCA," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-mcdaniel.pdf>

Currently, about \$740 million worth of U.S. beef exports, or 20 percent, go to Mexico duty free. Without NAFTA, without USMCA—so, with no deal at all—it would revert to a 20 percent tariff. Not only do we revert to a 20 percent tariff, but our competitors in Australia and Canada would continue to get zero tariffs. U.S. exports of beef would face those tariffs, plus all of those other messy, hairy things behind the borders that customs and retailers can do to foreign sellers.

We have Canada, where Canada has been opening its dairy market little by little over the past few years. It was not costless for them politically. Without a deal from the U.S., we would lose out on all those benefits. Right now, 7 percent of our dairy exports go to Canada, duty free. Without a deal, it would revert to not only an 11 percent tariff, but an additional \$2 per liter of milk, and that translates into a pretty large ad valorem equivalent, plus there would be all of those non-tariff, behind-the-border retail and shelf issues.

Lastly, beer: Last year, about 21 percent of our beer went to Mexico duty free and the competitors, they face a 20 percent tariff. We're talking about Belgium, Germany, Netherlands and the U.K. Without a deal, we would be facing that same 20 percent. Those are just three examples, but there are many more.

Now, let's look at the bright spot. If there is no deal, there could actually be freer trade in autos by only paying the 2.5 percent MFN tariff. However, when you're talking about the \$20,000 to \$80,000 automobile coming in, it still adds up pretty quickly. But there would be cost savings without rules of origin, so it could actually happen in the longer run. It could mean freer trade in autos. It might mean most production in autos stays in the U.S. It could also mean lower consumer prices for autos in the U.S.

I was just up in Traverse City, Michigan, last month and it was amazing. It was all those suppliers—the OEMs (original equipment manufacturers), the auto part suppliers. Detroit sees itself as the future of mobility for America and the world. But it doesn't see a future in OEMS anymore. To them, it's all digital, it is figuring out how to get people from A to B, and that does not always involve an automobile. It certainly doesn't always involve manufacturing an automobile in the U.S.

So, I got this feeling that Detroit and the state of Michigan are so far ahead of where Washington is in thinking about the auto industry and the future of mobility. With USMCA, we see stricter rules of origin, higher wage requirements,

which would hit Mexico, and strong and enforceable labor rules (Chart 2). With just NAFTA, we have those existing rules of origin—not as strict, but they’re still there—no wage floor and we’ve got weak enforcement of the labor rules. And with no deal at all: no rules of origin, no wage requirements, and we go back to a 2.5 percent tariff assuming that the U.S. respects the WTO bound levels.

CHART 2: POSSIBLY FREER TRADE IN AUTOS

USMCA	NAFTA	NO DEAL
<ul style="list-style-type: none"> • Stricter rules of origin • Higher wage requirements on Mexico • Enforceable labor rules 	<ul style="list-style-type: none"> • Existing rules of origin • No wage floor • Weak enforcement of labor rules 	<ul style="list-style-type: none"> • No rules of origin • No wage requirements • MFN tariffs imposed

SOURCE: McDaniel Christine (2019). "Economic Implications for the United States of North America without NAFTA or USMCA," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-mcdaniel.pdf>

When the current administration (of Donald Trump) is asked about the potential economic effects of USMCA, their report says very clearly that their baseline estimate is a small but negative effect to the U.S. economy. Small, but negative. This is the first time we’ve ever seen a small but negative effect on the U.S. economy of a potential trade agreement. It was only when the ITC (International Trade Commission) included the assumption that we would reduce policy uncertainty that the needle moves to the other side of zero.

If you assume USMCA will reduce policy uncertainty, then you get to a small, but positive, effect. I see USMCA as if it is NAFTA 0.8, but no deal at all is really 0.0, because really, losing all those preferential tariffs will be devastating for so many of our businesses and our farmers. When people say, “The USMCA is great, let’s pass it,” and you dig deeper, it’s usually because the alternative is Trump’s threat to withdraw. If it’s withdrawing from NAFTA or USMCA, of course, it’s going to be USMCA. That’s how I see this.

If you look at the deals that the U.S. has been doing or talking about doing, they are much more about damage control than they are about real market opening. If (only) the FTAs (free trade agreements) we are doing were really all about real market opening! But today, it’s really more about risk management, damage control and quelling uncertainty.

You look at the U.S.–Japan deal. What is Japan really getting from this deal? Why would they even do it? They’re doing it hopefully to get out of a [Section] 232 (national security tariff) on autos. Maybe they’re doing it just to keep the peace. But they’re really not getting anything out of it, if you look at the text. USMCA is not necessarily better than NAFTA. There is really no great market opening in there.

CHAPTER 14

Tariffs Only a Fraction of Trade Barrier Costs in Global Supply-Chain Era

Kei-Mu Yi, Federal Reserve Bank of Dallas; University of Houston

What I'm going to talk about really touches on themes that a lot of the earlier speakers already talked about in a lot of detail. I'm just going to go a little bit more high level. One thing I should say is that, as a member of the Dallas Fed, these views are my own and not those of the Dallas Fed or the Federal Reserve System.

I'm going to talk about the implications for the U.S. as well as for Mexico and for Canada of North America without NAFTA (the North American Free Trade Agreement). Just as a background and looking at Mexico's trade, I wanted to point out a couple of changes in Mexico's trade following NAFTA. The year before NAFTA, Mexico's trade with the U.S. was a little under 10 percent of Mexico's GDP (gross domestic product), and 25 years later, it's double that as a share of GDP. It's pretty clear that Mexico and the U.S. are more tightly integrated than before.

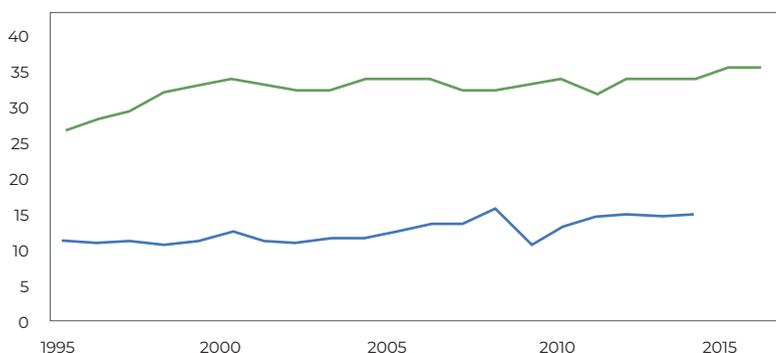
In addition, something you can't tell just from reading that headline number is that a key feature of this increased integration is the increased global value chain (global supply chains)—the idea that production processes are linked sequentially across countries. The way that I think about it is, imported inputs are basically used in production to make goods that are subsequently exported. Some part of the supply chain involves parts and components that are crossing multiple borders while the good is in process. This is an important feature of global supply chains, and I'll come back to that later.

We have a lot of granular evidence out there, but sometimes you want a national or industry-level number. This is one metric of the extent of global supply chains: It's the foreign value added from the perspective of a particular country. The foreign value added in, say, a dollar's worth of exports (Chart 1).

CHART 1: GSC METRIC: FOREIGN VALUE-ADDED EXPORTS

Foreign value-added share of exports (%)

■ Mexico ■ U.S.



Mexico's foreign value-added share of exports has increased significantly since NAFTA. World-wide, foreign VAX rose about 5 pp between 1995 and 2009 (Johnson and Noguera, 2017)

SOURCE: OECD, author's calculations

The green line is Mexico, and the time span runs from 1995 to 2016. Right around the time of NAFTA (which began in 1994), roughly 27 cents of every dollar's worth of Mexican exports represented foreign value added largely from the United States. Since then, it has increased so that, as of 2016, the latest year of these data, it was 36 to 37 cents in every dollar—an increase of 10 percentage points.

We don't have a definitive cause or reason, but clearly, some of this is due to NAFTA. The United States is in blue (in Chart 1). You wouldn't expect as much foreign value added embodied in U.S. exports because the U.S. is such a large economy. It has a lot of suppliers within the country. But even in the U.S., that number has increased over time from roughly 11 percent to 15 percent. This is going on globally as well. The bottom line is, firms and entire industries in countries around the world are relying more on imported inputs to make the stuff that they then export.

Now, I'm going to get more specifically back to what Alonso de Gortari (of Dartmouth College) talked about. The data that I just showed you comes from particular sources, but that data is too coarse, and is not granular enough to deal with the fact that many global supply chains involve specialized inputs and input specialized for the production process of a particular good. That data is too coarse to capture the examples that Alonzo talked about this morning (during a presentation on cross-border supply chains).

The foreign inputs that Mexico uses to make cars that they then export to the U.S. are very different from the foreign imports that Mexico uses to make cars that are exported to Germany. If you build in that extra granularity, you'll actually get measures that show an even greater increase in global supply chains, especially for a country like Mexico. It would be useful going forward

if we can implement these measures not just for particular goods, but at the national level as well as for industries (Chart 2).

CHART 2: KEY FEATURE OF GLOBAL SUPPLY CHAINS IS SPECIALIZED INPUTS

- Specialized inputs - using inputs specialized for the production process of particular good - are important
 - For example, as Alonso de Gortari showed earlier:
 - » 74% of foreign inputs that Mexico uses to make motor vehicles for export to the U.S. come from the U.S., but ...
 - » only 18% of foreign inputs that Mexico uses to make motor vehicles for export to Germany come from the U.S. (and only 38% come from Germany)

SOURCE: Yi Kei-Mu (2019). "Economic Implications for the United States of North America without NAFTA or USMCA," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/media/Documents/research/events/2019/9usmca-yi.pdf>

This is the backdrop following the greater trade integration that we all know about—a key part of that greater integration is more global supply chains. Now, we want to get to the question at hand, which is assessing the gains and losses from adding or removing a free-trade agreement and in particular, assessing the effects of, say, canceling NAFTA or the U.S. leaving NAFTA.

I want to just talk about the challenges that economists face in addressing and making these calculations. There are two kinds of calculations or exercises that you would do. One is an after-the-fact calculation: NAFTA happened in 1994; what have been the effects of NAFTA since then on the U.S., Mexico, Canada, etc.?

The key challenge is sorting out the effects of NAFTA from the effects of other events happening at the same time. Recall NAFTA happened in 1994; that was also the year that Mexico had a major financial crisis. Actually, their (Mexico's) output fell even more than it did in the Great Recession 10 years ago. During the 1994 financial crisis, the peso depreciated a tremendous amount, which affected their trade flows. It makes it very hard to sort out the specific effect of NAFTA from other things going on. That's a challenge in doing ex-post analysis.

As I said, there are roughly two kinds of calculations, and I'm going to focus on the kind that virtually all the economists who have talked here today have referred to. I'm going to call it a quantitative theoretical model. In the literature, the jargon is a "computable general equilibrium model." This is the standard framework that is used to assess the gains or losses from, say, going into a future trade agreement or pulling out of a trade agreement. Now, I should say, parenthetically, they (computable general equilibrium models) haven't performed well in the past, and that's why it's a challenge. In particular, they didn't perform well in the predictions of NAFTA, especially at the industry and the sector levels. But they are getting better over time. These models are black boxes, and I just want to spend a couple minutes filling back one layer of that black box and just try to explain how they work (Chart 3).

CHART 3: ASSESSING GAINS AND LOSSES FROM ADDING OR REMOVING A FREE TRADE AGREEMENT (E.G. NAFTA)

- After the fact, key challenge: Sorting out the effect of NAFTA from the effects of other events happening at same time
- Before the fact, key challenge: Need to use a quantitative theoretical model - have not performed well in past (but getting better). Typical framework and methodology:
 - Multi-country, multi-sector model of international trade
 - » International trade is based on “comparative advantage”
 - » Barriers to international trade: tariffs, non-tariff policy barriers (NTBs), all other costs of trade. If tariffs and other barriers are lowered, cost of imports fall - more trade, more specialization: good, overall
 - » Quantify model with data from input-output tables, national income and product accounts, and other sources
 - » Examine effects of increasing tariffs to typical U.S. tariff rate with its trading partners (MFN)

SOURCE: Yi Kei-Mu (2019). “Economic Implications for the United States of North America without NAFTA or USMCA,” Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-yi.pdf>

Typically, these frameworks have to have many countries and they have a lot of sectors, and then you have to have a motive for trade in the first place. A lot of these frameworks are based on this famous idea that goes back to David Ricardo, called comparative advantage. The key idea there is that it’s the relative differences in productivity that drive trade, not the absolute differences in productivity, so the fact that the U.S. might be more productive than Mexico in every single good doesn’t mean that the U.S. won’t gain from a trade deal with Mexico. It’s really about relative comparisons.

In these frameworks, since you’re evaluating the effects of trade agreements or the effects of pulling out of a trade agreement, you need to have barriers. Typically, these models have barriers like tariffs and non-tariff policy barriers, which are becoming more important over time because, globally, tariffs in the last 50 years have come down. And then there are other costs of trade, which Christine McDaniel (of George Mason University) alluded to— behind the barriers, behind the border barriers. The basic way these models work is pretty straightforward: If these barriers come down, the costs of imports are just lower. If it’s a broad, across-the-board reduction in barriers, then for everyone, for every country, every firm, every household, the costs of importing are lower, so everybody is importing more. If everybody is importing more, then the other side, of course, is that everybody is exporting more.

What’s happening within a country when you’re importing more and also exporting more? You’re specializing more. You’re getting out of activities that you’re relatively less good at and you’re buying them from abroad, and then you’re focusing more on those activities at which you are relatively good. Those are the activities that you’re exporting.

This actually goes to the idea that specialization is the source of the gains. This idea goes all the way back to Adam Smith; he had the pin factory example of specialization (where workers can produce more pins if the manufacturing is

broken down into discrete, specialized tasks). It's just that idea writ large, but at the national level, that's the main source of gains from trade.

The next step with these frameworks is, you have to put numbers to them. It's almost like an engineering exercise. You want to give them numbers or you have to put numbers into the parameters, and then you get data from input/output tables, national product accounts and other sources. Then, you're basically ready to do a simulation like an analysis of the effects of, say, increasing tariffs in the event that the U.S. pulls out of NAFTA.

I should just say, parenthetically, right now officially, all the tariffs within NAFTA trade are zero. If the U.S. pulls out of NAFTA, the standard presumption is tariffs would go up to the typical U.S. tariff rate with its trading partners, which are known as MFN tariffs—most-favored nation tariffs—but as Christine and others have alluded to, there's no necessary reason why the U.S. would raise them to that level; they could potentially raise them to higher levels.

That's the way these analytical frameworks worked as was talked about in (Banco de México's) Daniel Chiquiar's presentation (on Mexico and global trade tensions) and in the presentation on trade dispute costs by Eddy Bekkers (of the World Trade Organization). Tim Kehoe (of the University of Minnesota), the keynote speaker, also referred to research on that. They all belong to this framework.

So now, I'm going to briefly review the findings from one of these quantitative theoretical models, and it draws from a paper ("The Economics of Revoking NAFTA") by Raphael Auer, Barthélémy Bonadio and Andrei Levchenko that they did for the IMF (International Monetary Fund). It was specifically about the economic effects of removing NAFTA. These are just a couple of the results. This is the change in real income in each of these three countries from raising tariffs, which are currently zero between the three countries, to MFN levels and reporting two sets of results.

Now, MFN levels are actually not that high—they're on the order of about 5 percent. There's a lot of variation across goods. They also have another exercise where they try to implement some of these "behind the border" barriers. NTB stands for non-tariff barrier. There's another exercise they do— raise a tariff to MFN levels, but then a lot of non-tariff barriers also get imposed between the NAFTA countries. These are the numbers that come out of it (Chart 4).

CHART 4: BRIEF REVIEW OF FINDINGS FROM QUANTITATIVE MODEL
Economic Effects of Removing NAFTA

- Change in real income from raising tariffs to:

Country	MFN	MFN plus higher NTBs
USA	-0.00%	-0.22%
MEX	-0.25%	-1.81%
CAN	-0.06%	-2.15%

- Wide disparity in losses across sectors and U.S. states (with some even gaining)

SOURCE: Auer Raphael A., Bonadio Barthélémy, and Levchenko Andrei A. (2020). "The Economics and Politics of Revoking NAFTA." IMF Economic Review, Palgrave Macmillan; International Monetary Fund, vol. 68(1), pages 230-267, March.

One takeaway is the U.S., as I mentioned earlier and as we all know, has a very large economy, so even though Mexico and Canada are two of the top three trading partners, it's still a relatively small fraction of U.S. GDP. That's why the losses to the U.S. are smaller than the losses to Mexico and Canada. I should say, one reason why I chose this study is they also included all 50 states in this—they had about 40 sectors and I'm not reporting all the numbers—but they find a very wide disparity in losses across sectors and across U.S. states.

These overall numbers actually hide the fact that there's a tremendous disparity. You see, all the numbers here are negative. But, if we looked at the sector level, we would see that pulling out of NAFTA for some sectors would actually be beneficial. To summarize, this study—this quantitative model, which is pretty close to the state of the art—generates interesting and useful findings. That said, it misses on a couple of key things that people have talked about today.

The first, of course, goes back to the global supply chains. The framework that was used for the study I just mentioned doesn't allow for global supply chains with specialized inputs. Some of the work that I did a long time ago and, more recently, that Alonzo and his co-author have really generalized and extended in a beautiful way, suggested the losses from higher trade barriers could be magnified. I just heard from him that the number 10 times higher is probably an exaggeration so, I'm going to say 1.5 to two times higher once global supply chains are taken into account. I just want to spend one minute on why that is.

Why are the effects from higher trade barriers magnified? The basic idea is just that, once you have tariffs on both sides of the U.S.–Mexico border, if you're still going to do a supply-chain thing, then those like parts, like motor vehicle parts that the U.S. sends to Mexico, they're going to be hit by a tariff once they go into Mexico. Then they get put in a car. When the car comes back to the U.S., the car will be hit by a (another) tariff.

In effect, all of those parts that went to Mexico and came back are hit by a tariff twice. That's the basic reasoning why the higher tariffs affect global supply chains more negatively than standard conventional trade. The flip side is true, too, in a world where due to technological advances, global supply-chain possibilities are greater than the gains from even a small tariff reduction. That's the main intuition as to why, once you are in a world of global supply chains, then the effects of higher tariffs can be larger than, say, what you might think if they just go from 0 percent to 5 percent in a standard setting.

Then there's one other point that the framework in the study that I alluded to two slides ago doesn't account for, which is the long-run effects on capital investment. We saw in our energy panel today a lot of discussion about capital investment. If you get rid of a trade agreement, that could affect capital investment, and that's going to have follow-on effects, negative effects on real income. Some other research by Michael Sposi (of Southern Methodist University) and a co-author say that also could double the magnitude of the effects.

Putting the original numbers from the table that I showed a couple slides ago together with global supply chains and then capital investment, I'm just going to get a rough number (Chart 5).

CHART 5: ALSO, FRAMEWORK DOES NOT ALLOW FOR EFFECTS ON LONG-RUN CAPITAL INVESTMENT

- Research by Ravikuman, Santacreu, and Sposi (2018) suggests including for long-run capital investment doubles the effects of changes in barriers to trade

Putting all the numbers (conservatively) together suggests losses in real income of about 4 to 8 percent for Mexico and about 0.5 to 1 percent for U.S. in a world without NAFTA.

SOURCE: Yi Kei-Mu (2019), "Economic Implications for the United States of North America without NAFTA or USMCA," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-yi.pdf>

The reason is we still don't have a good framework that embodies all of these forces that suggest that the losses in real income to Mexico would be on the order of 4 percent to 8 percent and for Canada a similar-type number, and maybe 0.5 percent to 1 percent for the U.S. if we went to a world without NAFTA.

I want to put those numbers in context. I'm going to put them in the context of the Great Recession. In the Great Recession, U.S. real, or inflation-adjusted, GDP fell 4 percent. This was the worst economic crisis since the Great Depression; so, the worst event in 80-plus years. Another metric, the employment-to-population ratio fell 4 percentage points. In that context, then, pulling out of NAFTA could be like a quarter of the Great Recession.

So, it's not small potatoes and for Mexico, of course, it would be worse than the Great Recession there (when) inflation-adjusted GDP fell 7.5 percent in the peak-to-trough fall. Pulling out of NAFTA could be the equivalent of a Great Recession event for Mexico.

All of my discussions so far have completely excluded what's going on in real time. (By that) I mean, this NAFTA pulling-out thing at least for now still appears hypothetical. But what's going on in real time, of course, is the U.S. trade war with China. If that's going on and we pull out of NAFTA, then obviously, the losses to the U.S. would be greater, and it would become closer to a Great Recession-type event.

So, that's it. A world without NAFTA or the USMCA (the United States–Mexico–Canada Agreement) wouldn't be the end, but owing to increased linkages between the countries, the cost to ending NAFTA now could be significant (Chart 6). I've mentioned these analytical frameworks that economists use to study these agreements, and we still need to improve them.

Briefly, the last two bullets (in Chart 6), the non-tariff barriers—for example, labor market regulations or environmental regulations—they may have good consequences, but you do have to factor in the restrictions that they would impose on free-market activity. Research by Tim Kehoe—he didn't talk about it at lunchtime—shows that a lot of activity tends to happen in what are known as the least-traded products. I think our models need to capture that as well.

CHART 4: CONCLUSION

- A world without NAFTA or USMCA would not be the end, but owing to increased linkages between the countries, especially global supply chain linkages, the costs to ending NAFTA now could be significant
- Analytical frameworks used to study trade agreements need to be refined more to better capture:
 - Global supply chains with specialized inputs
 - Long-run capital investment
 - Non-tariff barriers
 - Least-traded products

SOURCE: Yi Kei-Mu (2019), "Economic Implications for the United States of North America without NAFTA or USMCA," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-yi.pdf>



CHAPTER 15

Reviving Free Trade Offers Best Chance for 'Happy' Global Outcome

Anne Krueger, Johns Hopkins University

You usually start by saying, “It is a pleasure to be here and thank you for inviting me.” That’s at least half true. It’s half true because the dinner talk is supposed to be a happy talk. It’s supposed to be a pep rally. I should try to tell you that everything is all right. You wouldn’t believe me, anyway, because it isn’t. So, I will not say I’m entirely happy to be here. I tried hard to think about how to make this a happy talk, and I did not succeed.

There is an anecdotal story, or there was at one time, when Mrs. Thatcher (former British Prime Minister Margaret Thatcher) visited Russia at the time of the May Day Parade. She was notably impressed with the tanks, and then shining missiles and smartly uniformed men went marching by. And then came a straggly series of columns, men, almost all scruffy, mostly with patches on the sleeves, trousers that were too long. As the story of that time went, she asked Khrushchev who those men were, and he answered, “They are the economists. You will be surprised how much damage they can do.”

I decided that tonight, that’s the appropriate story, except it’s not the economists who are doing the damage—it’s the politicians and the policymakers. That said, I’m going to try and spend a few minutes and see if I can put things a little bit in context. I want to start with the prospects for global trade mostly. I cannot even begin to think through how the USMCA (United States–Mexico–Canada Agreement) should go until it is put in context of the entire global trading system.

I want to start by saying that the WTO (World Trade Organization) is very much under threat. It is incredibly important, and I did not hear a word about it today. I think that’s a mistake on all of our parts.

Two countries with high tariffs that get together to trade aren’t going to gain as much as two countries with low tariffs, all else equal. This was true for Canada and pretty true, or is becoming true, for Mexico. That’s enabled them to get the benefits of the preferential trade agreement without the trade diversion

that might otherwise have happened. And let's recall the principles of the international system because they are important.

We have to have a rule of law, commercial law, if you like—the commercial code covering international trade and other international economic transactions. If you enter into a contract with your fellow countrymen and something goes wrong, one of you could take it to court and get it sorted out. To do business internationally, we need something of the same sort, and that's what the WTO provides the basis for.

The WTO is our rule of law for international trade issues, and it is crucially important. You cannot function bilaterally with over 200 countries. There are now 164 members of the WTO. Those other 30 will soon be there or they are in the waiting line. Basically, we need a multilateral system. WTO principles say we are going to have only tariffs, and the reason we're going to have only tariffs is because they are transparent, and your trading partner can know what you've been doing and businessmen can know what to expect. Everybody can set their own tariffs, but they have to be transparent and they have to be public.

Secondly, there must be nondiscrimination between trading partners except when there's a preferential trading arrangement. If you have a preferential trading arrangement, all tariffs must go to zero within a specified time. Nondiscrimination is terribly important as a principle of international trade, and it makes sense for the most part. If you're going to buy a home, certainly you'd like to buy from the cheapest source at least 95 percent of the time. The preferential trading arrangement brings you basically into an area in which the partners join a nondiscrimination area, and discrimination in the form of tariffs applies to the rest of the world.

Third is national treatment—and this is crucial—yet we forget it all the time. The WTO gives us all assurance if we run afoul while dealing with another country or a business in another country. National treatment means that I have the same right to go to court in Mexico as a Mexican has, and a Mexican has the same right in U.S. courts as a U.S. resident has.

The final important WTO principle is that there must be a safety belt. Unfortunately, that has come to be used too much for the U.S. That's the (Section) 301 (provisions allowing the U.S. to impose trade sanctions on countries determined to violate trade agreements) that you hear so much about, and they are misused by the United States. It certainly would be desirable to have those rules stricken, or at least amended to make them correspond to cases where there might be an economic rationale for the measures. But at least there are some rules in the WTO that prevent things from getting even worse.

Additionally, the WTO has sponsored multilateral trade negotiations. There have been some big disputes that didn't make headlines because they got settled. You may recall there were at least two chicken wars between the U.S. and Europe. We've had disputes over and over again—the GMO arguments (over genetically modified agricultural programs) with the Europeans; Canadians and lumber. There are many of these. There has to be a mechanism internationally to sort

them out. Although the president of the United States (Donald Trump) seems to think that he should be judge, jury and executioner, most of us would agree that you need a third party to adjudicate cases and serve as an impartial judge.

The WTO dispute-settlement mechanism is far from perfect. The WTO dispute-settlement mechanism basically goes through an appeals process and negotiation. The court of appeals has seven judges and, for any given case, it has to be decided by a majority of at least three (they normally have five (judges) per case). Right now, the appeals court has only three judges left. No. 1, that means that if anyone is sick, there can be no decision. It also means as one of them leaves—his term ends in December (2019)—there will be no more dispute-settlement mechanism process within the WTO, which is disastrous.

This is serious. The reason we don't have any more (judges) is because there have been some nominees, and the U.S. administration has refused to approve any of them. I do not hear as much pressure as I would like from other countries, including Mexico, on that score, and yet it is at least as important for Mexico's future and for NAFTA's (the North American Free Trade Agreement's) future.

There are proposals out there for new judges. A number of countries got together and put forward proposed changes in an attempt to satisfy the U.S. However, the Trump administration has turned down the proposals so far for any amendment or any way to change things in such a way that they (U.S. officials) say they would be satisfied. So, we have a World Trade Organization that is under threat, and a serious threat, and what happens to it is going to matter for NAFTA—which I will keep on calling it even though, of course, I should say USMCA.

During the first 25 years after World War II, we had the fastest rate of economic growth for the world economy that we know of in recorded history. Developing countries think they didn't do so well, but they actually grew just about as fast as the developed (countries)—partly because there was a healthy growth of international trade because of the WTO, which enabled prosperity in all kinds of ways, and because commodity prices held up pretty well. Tariffs for manufactured goods among the advanced countries were about 47 percent on average in 1947—and in 2003 or 2004, they were 3 percent. There have been a few peaks; it's not all good, but it's much, much better than it was. The remaining problems that need to be resolved involve cultural trade, services trade, intellectual property, digital commerce and other new issues. It's not perfect; there's more to be done. But on the other hand, we have had some tremendous successes.

One thing that happened—I'm getting closer to NAFTA, as you'll see in a minute—was, of course, that the European Union, or the European common market, started after the Second World War. Europeans had very high tariffs. The U.S. Marshall Plan came in, but as a condition, the Europeans had to stop their bilateral trade and clearing arrangements, go to multilateral clearing and begin lowering their tariffs.

The Europeans had an average tariff rate of about 70 percent to 75 percent. The international economy was getting rid of its restrictions, and so for Europeans, their internal tariffs went to zero. For the rest of us, it (tariffs) went to 3 percent. And yet people saw the European Union and thought the preferential trading arrangement was a success. Now, I would assert that the European Union was a success, no doubt about it, but it was a success, in part, because of the external tariff lowering at the same time as it was lowering tariffs to zero among themselves in general. European integration on top of that enabled them to do even more.

Most countries stayed with the multilateral system—except for the European Union—until the 1980s. There were few preferential trading arrangements. There was one in Latin America, where all of the import substitution finance ministers or trade ministers got together and (in essence proposed), “Would you please take my high-priced washing machines while I take your high-priced refrigerators?” There was one in East Africa, same kind of thing. India has one now. As far as I know, there may be 10,000 items that they don’t allow in duty-free out of some 12,000, or something like that. It’s not really a preferential trading arrangement in any sense of the word.

Until the 1980s, nothing big changed. In the 1980s, Canada approached the U.S. and said, “We want a free-trade agreement.” That seemed fairly easy. They were a neighboring country. The U.S. had tried twice before to get Canada to do it, and they said, “No.” Finally, in the late 1980s, Canada negotiated with the U.S., and the CUSFTA (Canada–United States Free Trade Agreement) was formed. And then, of course, Mexico wanted to join, so in 1994 it became NAFTA.

When the Berlin Wall fell (in November 1989), all of the newly independent countries—if that’s the word I should use—had to establish some kind of trade agreement. You don’t get into the WTO fast, so in the meantime, many of them wanted preferential trading arrangements, usually free-trade areas with the European Union. All of a sudden, within a year, you went from a world in which there were maybe five (preferential trade agreements)—I don’t know the number—but it was very small, to 90. We now have something like 250. Free-trade areas are all over the place. Some of them are more meaningful than others.

Unfortunately, recent events have reversed the trend toward greater integration both multilaterally and through free-trade agreements. We had, of course, the renegotiation of trade agreements. Korea finally decided that they’d rather take a quantitative restriction on steel exports to the U.S. They agreed that they would cut back to 70 percent of the average level of steel exports in the past three years. Only later, the U.S. informed them that was true for each kind of steel that they exported to the United States. They found out that the U.S. delineated 59 types of steel. Not only that, any time you want to import it, you had to specify all kinds of things. I think there are seven different dimensions that have to come in on each application. I’ve forgotten them all, but they include tensile strength, chemical composition, whatever the finish is, shape, thickness and a couple more.

In any event, all of this has led to a large bureaucracy in the U.S. It is busy trying to administer the Korean quotas, waivers and everything going with that. The Trump administration thought there would be about 20,000 applications for waivers in cases where it (manufacturing) couldn't be done in the U.S. I know of one company alone that filed 10,000 applications for waivers—one small company. Every waiver is good only for a year for one specific product for one purpose, and those things must come in quarterly. If you wanted, for example, to have steel to build snowplows for next winter, you kept bringing it in during the summer because you can't get it all in during the winter.

They have now, I think, up to 60 people in the Department of Commerce who are looking through those applications. The last I heard, they are six months behind in deciding what to do with them. The United States has gotten itself in one glorious mess already on that issue.

And of course, the Koreans were big exporters to China, so that creates complications there. Then there's the Japanese situation and, of course, they don't like things the way they are. Meanwhile, the Koreans are now mad at the Japanese, so we've triggered some really bad stuff there. The Japanese are trying to renegotiate with the U.S. As of yesterday, the Japanese would not sign the deal. They would not sign the deal because they said, "OK, we'll give you a lot of the stuff you want. But if you put auto tariffs on us, we'll take it back." "No," the Trump administration said. That was not satisfactory.

We have the China trade war; we have all kinds of things going on that aren't making a lot of sense. Vietnam's exports to the United States have gone up something like 50 percent in the past year. Nobody thinks they're all from Vietnam, including the Trump administration. The Trump administration is now mad at Vietnam, of course, because they're allowing the (Chinese) goods to come in that way.

Trade in the world is in a mess. So, what do poor people in Canada and Mexico do and people like me who think the international trading system is worth saving? I think the first thing is, we have to think in terms of what can happen to the world economy, and this is where I started. I think there are really three outcomes.

The first is the optimistic one, and that is basically simple. The damage is being done and there's a lot that becomes sufficiently evident, sufficiently fast. Either a new administration in Washington reverses it quickly, or the Trump administration does what it has once or twice before: declare victory and walk away and let things go back to normal. I can hope for that; I don't think we should bet on it.

The second one: Things continue to deteriorate and countries form trading blocs or smaller groups. That's very negative for world economic growth, and it is a very poor outcome for the trading nations.

I think, however, there is a third possibility, which I want to address. There are enough countries in the rest of the world that want to keep open and don't like this. So, they could form some kind of mini WTO, almost like the TPP (the Trans-

Pacific Partnership) did, and then implement basic WTO-type rules and anybody who wants to join can, according to those rules.

That one I think is an optimistic scenario, not because I want it to happen. Because if it does happen, the countries who'd do that will get ahead, relative to the countries that try and put up protective barriers. And, over time, people (will) begin to see that the free-trading countries in this new group are actually thriving and prospering more than the United States, which is now the Argentina of the 21st century. It could turn things around, and I think it would eventually. How long would it take? I don't know.

I happen to have spent a lot of time in Australia over the years, and the Australians and New Zealanders were very cocky earlier on because, of course, they would go to Europe and say that they were much richer than Europe. But then the Europeans kept growing, and they (Australia and New Zealand) didn't grow as rapidly. Finally, Australia and New Zealand changed trade policies because they saw that, indeed, they were losing out.

I think the same has happened to some other countries. They see that, indeed, the ones that are open to trade are doing better.

I don't know what will happen. I don't know which of these scenarios will happen. Maybe there's some fourth alternative I haven't thought of. But what I do know is that right now we have to worry about NAFTA or USMCA, whichever you want to call it.

We also have to worry about the world trading system. No matter how good the outcome is right now for NAFTA—even with the effect of this NAFTA 1.0, the old one, which we agree is better than the new one, which in turn certainly is better than none—it will not be as good as it once was unless we get the WTO sorted out as well.



CHAPTER 16

Keeping North America Globally Competitive Requires Its Economic Integration

Raymond Robertson, Texas A&M University

I realize that most people in this audience probably already are convinced and believe in North American (economic) integration. Nevertheless, I would like to present some points of view that maybe you haven't heard and, hopefully, they won't be too redundant.

One of the things I teach to my public policy master's degree students is that we really want to try to train technocrats. People who are going to be basing decisions about policy should do so not on ideology but on evidence and especially on what economists know about how markets work.

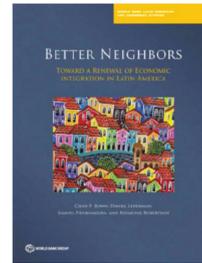
I think it is important that we start thinking about our grand strategy for both the United States and the region. While it's not clear what our grand strategy is, what our role in the world is going to be or what it should be, I think it starts with North America, and I think that's really important.

I would like to argue—and I think most of you will probably agree with me—that we need to base this vision on the reality of integration that we already have. I know that a lot of the talk yesterday highlighted this: Alonso de Gortari (of Dartmouth College, speaking about supply chains) was one of them, and there were several others, including Christine McDaniel (of George Mason University, discussing the United States–Mexico–Canada Agreement).

I'm going to be making the case that integration within North America is not just important because we believe that having good neighbors is important, but also because that integration is important for us vis-à-vis the rest of the world. I'll explain that as we go along. That's going to be based on the realization that better neighbors—which are Canada and Mexico, in our case—make us stronger domestically, but also more competitive with the rest of the world. That's really important in an increasingly integrated global economy. This is a project that I worked on with some folks from the World Bank, Samuel Pienknagura, Chad Bown and Daniel Lederman (Chart 1).

CHART 1: THE BENEFITS OF INTEGRATION

- Regional integration makes the region stronger relative to the rest of the world
 - Exporters gain experience and knowledge
 - Optimal regional input sourcing minimizes the costs
 - Allowing finance to flow where needed
 - Facilitating worker movement to optimized skill allocation across borders
- Promoting regional integration acknowledges the power of gravity
- Other regions are increasingly integrated
 - Europe
 - China with East, South East Asia



SOURCE: Robertson Raymond (2019). "US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-robertson.pdf>

Basically, the argument here is that regional integration makes the region stronger relative to the rest of the world. One of the main reasons is that when you are regionally integrated, your new exporters—people who are trying to enter the export market—can export locally (within the region), and this is how most exporters get started. You start exporting to your neighbors first, and that allows the accumulation of knowledge and expertise that then makes you more prepared to export to the rest of the world. Having a very tight integration in your region facilitates new exporters entering into the global market.

Another reason is that optimal regional input sourcing minimizes costs. I think this is something that we're all aware of. The option to have different producers within the region allows for cost minimization, and that's another reason why you become much more competitive with the rest of the world.

Another reason that's really important is that it allows finance to flow where it's needed. Our report talks a lot about the integration of capital markets and how having well-integrated capital markets can make up for some of the deficiencies in your own country. One of the big problems that we see with entrepreneurship and getting people started in the export market is lack of finance; this happens in a lot of countries. Having regionally integrated financial markets helps solve some of those problems and allows flexibility and diversity for new exporters.

We also would argue in this report that facilitating worker movement allows us to optimize skill allocation across borders. There's been a lot of work this year and last year on something called "the place premium." I published a paper on this as well. Those very large differences in wages across countries create opportunities for migrants that generate efficiency gains. Moving workers from low-wage countries to high-wage countries generates efficiency gains that end up contributing to the economy.

Yet another reason is that promoting regional integration acknowledges the power of gravity. The idea here is that most trade is occurring between countries that are geographically close because transportation costs matter, and there's a number of other factors that feed into that. The very fact that you have strong regional integration basically acknowledges this power of gravity and proximity—the benefits of proximity—and allows you to take advantage to build up your supply chain or even your own production. The power of gravity is obviously very important, and having regional integration promotes that.

We worry a lot about China, and we worry a lot about competition from other parts of the world. What we don't always acknowledge is that these other regions are increasingly integrated. Obviously, Europe pursued very deep integration. They formed a market that now rivals the size of North America, rivals the size of the United States. That kind of integration has obviously made them much stronger in many ways. China is increasingly integrated with East Asia—Southeast Asia in particular—and moving a little bit into South Asia. There's the recent agreement between China and Pakistan. There are other examples of China taking advantage of the differences across countries to integrate, and that makes them stronger. Our lack of initiative puts us behind. Without a clear vision of what we want to do as a region, we're going to be falling behind.

Let's talk now about integrated labor markets. Some of the work I did on my dissertation showed that U.S. and Mexican labor are closely integrated and migration, which is one force of that, has changed dramatically. We now know that net flows into the United States from Mexico are negative—more Mexicans are returning to Mexico than coming to the U.S. And there's also been a very significant change to the demographics of migrants. The main message from this—from my point of view, based on my research—it's really a mistake to think about the Mexican labor market as a separate labor market from the United States. The Mexican labor market is deeply, deeply integrated into North America. Thinking about the Mexican labor market as a separate market is just simply not factually accurate. It's one continuous North American labor market.

There are benefits of this either way. Probably a lot of you saw the Dallas Morning News article a while ago, so you're aware that almost a third of businesses in Dallas are owned by immigrants who only make up 24 percent of the population. Immigrants come in and they start businesses, and this contributes to the regional economy.

Fostering this labor market integration increases economic efficiency. As a result, putting up barriers between us only ends up hurting ourselves, right? Because it reduces the benefits of that integration.

Falling manufacturing employment is very costly for workers, and I think we don't fully appreciate that. There's been a lot of recent research in international economics—and I had one paper estimating this cost for Mexico—for the United States and for other countries that shows that when people lose their jobs or are displaced, these events often incur permanent and lasting effects. And these adjustment costs include moving between jobs or between regions and are

estimated to be as high as eight times annual income. People don't like to move, and if they are forced to move involuntarily because they lose their jobs, that's an extremely large real cost for people.

So, the fact that we haven't fully appreciated the costs partially explains why a lot of us are mystified by why we've seen elections go the way they've gone.

Of course, it's unclear whether the main force behind these changes is trade or technology. If you look at some of the more recent research from Peter Schott, Justin Pierce and Teresa Fort ("New Perspectives on the Decline of U.S. Manufacturing Employment"), they argue that it's difficult to tell the difference between trade and technology. It's not like trade is the only culprit or technology is the only culprit; there might be some mix, and the contributors might not be separable. But there have been (other) people—and here's another paper ("Looking for Local Labor Market Effects of NAFTA") that points a finger at Mexico—blaming it (Chart 2).

CHART 2: THE CURRENT CLIMATE

- Falling manufacturing employment is very costly for workers (adjustment costs: 8x income?)
- Teresa C. Fort & Justin R. Pierce & Peter K. Schott, 2018. "new Perspectives on the Decline of US Manufacturing Employment," Journal of Economic Perspectives, vol 32(2), pages 47-72 show a mix of trade and technology that may not be separable contribute to falling manufacturing employment
- Several point the finger at Mexico (Shushanik Hakobyan and John McLaren, 2016. "Looking for Local Labor Market Effects of NAFTA," The Review of Economics and Statistics, MIT Press, vol. 98(4), pages 728-741, October)
- Others point to rising trade deficit with Mexico as evidence to U.S. losses



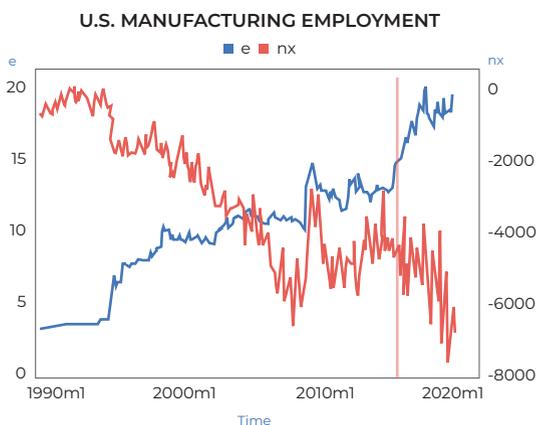
SOURCE: Robertson Raymond (2019). "US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/media/Documents/research/events/2019/19usmca-robertson.pdf>. Bureau of Labor Statistics.

When I was meeting with a congressional representative from Pennsylvania yesterday, he pointed a finger at Mexico and said, "This plant, in my district, left and moved to Mexico. We lost 1,600 jobs, and it was very costly." We (economists) need to acknowledge that and try to figure out what to do about it. It's not clear that trade policy is the best way to solve that. It might make more sense to directly address the concerns of these workers than change trade policy. Nevertheless, many others have pointed to the rising trade deficit with Mexico as evidence of U.S. losses, which if you studied international economics, you'd know that that's not right. That's not the right way to think about it, but people are very fixated on this trade deficit.

I'd argue that without a coherent vision about trade policy, uncertainty raises costs for businesses and actually contributes to the trade deficit (Chart 3). The trade deficit between the United States and Mexico has gotten worse. But if you look at a very simple introduction to an international economics model, it shows that a lot of that is driven by changes in the real exchange rate. The Mexican real exchange rate has been depreciating. Every time there's some threat against Mexico, the exchange rate gets worse, or depreciates against the dollar, and that makes the trade deficit worse. Hence, beating up Mexico is actually counterproductive (if you believe the trade deficit is bad) because it depreciates their currency and worsens the deficit.

CHART 3: WITHOUT COHERENT VISION, UNCERTAINTY RAISES COSTS

- USMCA: Already discussed by some of the very best in the field (Christine McDaniel, Kei-Mu Yi)
- 11.30.2018: USMCA signed. Mexico ratified the treaty in June 19, 2019.
- USMCA scheduled to be reviewed in 6 years (most business investment has a longer timeframe)
- 6.7.2019: Trump's threat of putting tariff on Mexico goods
- 7.3.2019: Trump demanded that Mexico deploy its troops to half migrants.
- Economist (8/17/2019), Baker, Bloom, and Davis: Rising uncertainty has real effects (lower investment, employment)



Source: Robertson Raymond (2019), "US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/media/Documents/research/events/2019/19usmca-robertson.pdf>; Bureau of Labor Statistics. Peso plunges vs. the U.S. dollar after Trump announces Mexican import tariffs," CNBC, May 31, 2019. www.cnbc.com/2019/05/31/peso-plunges-vs-the-us-dollar-after-trump-announces-mexican-import-tariffs.html

The next thing, of course, is whether or not U.S. and Mexican workers are competing with each other. That's the big concern when you talk to representatives from Pennsylvania, for example. They believe that Mexicans are taking U.S. jobs. I have a paper ("Are Mexican and U.S. Workers Complements or Substitutes?") with the (Mission Foods) Texas–Mexico Center (at Southern Methodist University), where I use labor demand models and econometrics to see how much U.S. and Mexican workers actually compete. My paper shows that before NAFTA (the North American Free Trade Agreement), U.S. and Mexican production workers were actually substitutes.

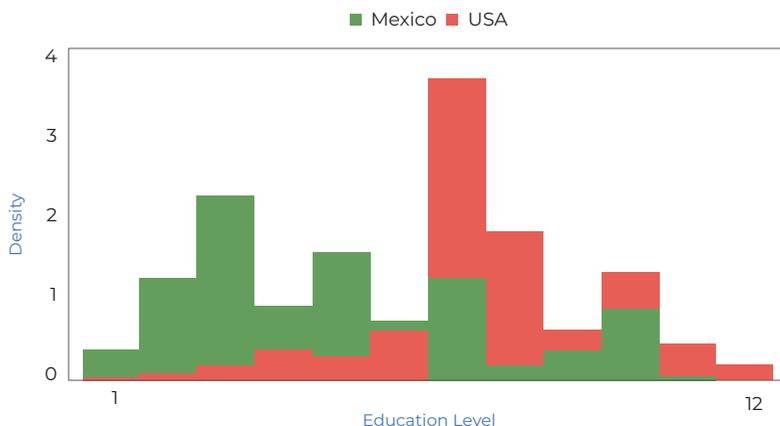
So, this was a reality before NAFTA happened, but as I'm sure a lot of you heard probably yesterday, the current estimates (after NAFTA) would suggest that U.S. and Mexican workers are now complements due to a restructuring of the North American value chain or global value chains. So, now Mexican workers and U.S. workers are working together to produce different parts of the same output, and

I'm going to show you some graphs that represent this. The policy implications here—whether you're talking about the labor market side or the production side—[is that] North America is best thought of as a common market. It's a single production unit where we're working together across the three countries to produce different things.

I'll give you a real good example of this. After 9/11, we had to shut down our borders for obvious reasons. As a result, several automobile plants in the United States had to close because they couldn't get the parts they needed from Mexico. The Mexican parts are complementary to U.S. employment. Putting barriers or tariffs or reducing Mexican production reduces the demand for U.S. workers. We can show that econometrically, and it's also intuitive. This labor demand approach, I argue, works very well to represent the economic restructuring that followed NAFTA and shows that now, particularly in autos but in other industries as well, we're working together.

We are also “natural complements.” Chart 4 shows the educational distribution back in 1992 of the United States and Mexico. Mexico is in green; the United States is in red. You can see that we complete each other in the educational distribution in the sense that there's going to be parts of the educational distribution in Mexico that fill the gaps in the U.S., and then optimal allocation of tasks across these borders increases the demand for workers on both sides.

CHART 4: NATURAL COMPLEMENTS

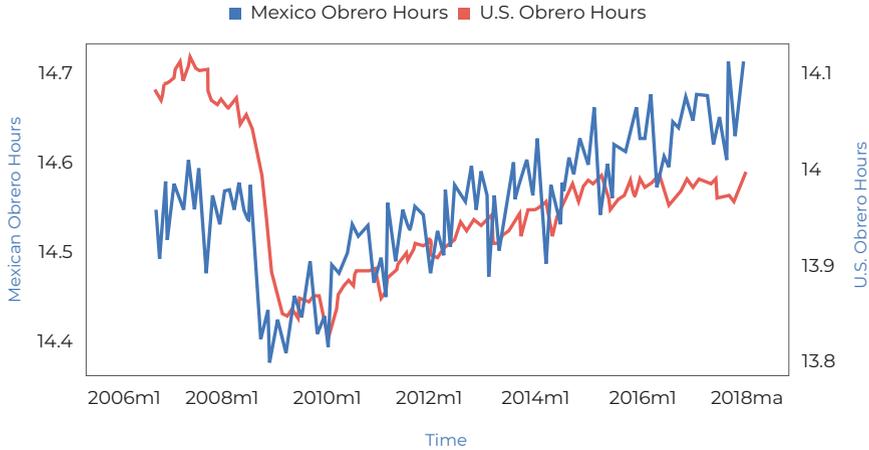


"US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-robertson.pdf>

If you look at the graph of U.S. production workers and Mexican production workers over time, they don't move in an opposite direction, which is what you would expect if we were competing with Mexican workers for jobs (Chart 5). They actually are very closely integrated; they move together. When

our employment falls, their employment falls. When our employment rises, their employment rises. You can see from the graph that this happens in the short term and the long term.

CHART 5: MEXICAN AND U.S. PRODUCTION WORKERS



SOURCE: Robertson Raymond (2019). "US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-robertson.pdf>

The correlation is stronger in some industries than others. It's not so much true in chemicals because you don't have much of a value chain in chemicals, and (it's) a little bit less in food products. It's very strong in the things you'd expect, which should be industries like apparel and automobiles. If you look at the automobile industry, in particular, North America produced 17 million vehicles in 2018. Mexico produced a very small share of that total. They exported 2.5 million to the United States. While U.S. content in vehicles produced in Mexico pre-NAFTA was less than 5 percent, now it's more than 40 percent.

The USMCA (United States–Mexico–Canada Agreement) increases administrative costs and domestic content requirements for autos. But having some sort of agreement in place that's going to facilitate that (trade) movement is really important. The labor demand estimates, like I said, show that (U.S. and Mexican) automobile workers strongly complement one another, and they're not substitutes. That's just something most people don't realize because most people haven't done the econometrics.

On the flip side, this integration with the United States actually has big implications for Mexico. Mexican employment really depends on the U.S. market. Chart 6 shows Mexican exports to the United States in textiles and employment in textiles. Mexican employment is directly linked to U.S. apparel imports from Mexico.

CHART 6: MEXICAN EMPLOYMENT DEPENDS ON U.S.

- Falling Mexican employment directly linked to U.S. apparel imports from Mexico
- Use a local-labor market approach to estimate the effects on employment
- Apparel is especially important because it is a gateway for women to enter the formal labor force



SOURCE: Robertson Raymond (2019). "US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/media/Documents/research/events/2019/19usmca-robertson.pdf>

If you look at U.S. apparel imports in 2000, we imported more from Mexico than from China. But if you look at 2016, the Mexican share almost disappears and the Chinese have greatly taken over the U.S. apparel market. If you look at just the time series graph, as the imports from China have gone up, the imports from Mexico have gone down. When Mexico wins, China loses, and when China wins, Mexico loses. If we're thinking of a unified North America, and we're very concerned about China as a competitor, we need to think about how this is also affecting Mexico. Here I'm building on the work of Daniel Chiquiar (of Banco de México), who's done awesome work on this.

When Chinese apparel exports to the U.S. increase, apparel employment in Mexico goes down. But then these workers leave apparel, and they go into food and they go into leather, and they're also incurring those adjustment costs. The cost on workers of switching industries is really high, and it's painful. When I estimated the adjustment costs of changing employment in Mexico, it was an order of magnitude larger than in the United States. Mexicans by these data do not like to change jobs; it's very costly.

Last week, I was in McAllen (Texas), and I was meeting with the economic development corporation there. They were extremely enthusiastic about the U.S.–China trade war because they believed that it was going to bring in lots of investment to McAllen, and I thought, "That would be great if that would happen." They actually noted several advantages relative to China: lower

shipping costs, Mexican companies maintaining independent operational control, and a lower minimum wage even relative to China. It's very possible that the maquiladora program might bring competitive advantages. They were very optimistic about the possibility that the trade war would bring investment. We have some supporting anecdotes. For example, Apple is going to be producing its new computer in Texas now, bringing it back from China. There are some (other) anecdotes, and that's going to be an interesting part for research.

So, what are our next steps along this new path? I think it really needs to be recognized that North America is a single production unit and (we should) support trade agreements and policies that are going to facilitate that kind of integration (Chart 7). I think that's really important, not just for Texas, but also for the rest of the country—and (we should) recognize that this integrated production makes us stronger relative to the rest of the world.

CHART 7: NEXT STEPS ALONG THE NEW PATH

- Articulate a vision of a unified and integrated North America
- Recognize North America as a single production unit and support trade agreements and policies that facilitate integration
- Recognize that integrated production makes us stronger relative to the rest of the world
- Implementing meaningful migration reforms based on a changed reality and medium-term needs
- Implement effective compensation mechanisms to help those adversely affected by trade
 - Review of what has worked and failed with current programs
 - Supporting people linked to occupations rather than industries
- Attracting investments
 - HR support programs that help foreign capital succeed
 - Identifying skill gaps in Texas and elsewhere based on a vision of integrated production

SOURCE: Robertson Raymond (2019). "US-Mexico-Canada: All for One and One for All?," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-robertson.pdf>

I think the migration is a critical part of that unified vision, but it's irresponsible for us not to acknowledge that there are people who are adversely affected by trade, and we need to be better at designing effective compensation mechanisms. We have not done a good job. I mean, that's been probably the most significant failure in that area, whether it's in the United States, Canada or Mexico.

We need to review what has worked and what has failed with our current programs and support people, linking them to occupations rather than industries. One of the concerns we had about the trade adjustment assistance that happened with NAFTA was that it was directly linked to industries as they lost jobs, and it wasn't recognizing the Stolper-Samuelson effects that show that these changes in demand don't just affect workers in a particular sector. When workers in a particular sector are affected, that ripples out and affects the same kind of workers in other sectors.

Here is another anecdote. It occurred when people were campaigning in Iowa, and they went to the John Deere plant, and John Deere was exporting machinery and lawn mower tractors all over the world. They went to the workers, and they said, “How do you feel about this free trade?” And they were like, “This is a disaster for us.”

But you’re in a company that’s exporting all over the world. “Yeah, but we’re workers, we’re production workers,” and trade can push down and affect production workers generally, not just in particular industries.

We need to understand how the economy works and design assistance programs appropriately to give compensation, because if we don’t, people are going to continue to vote against trade, and they’re going to vote for protectionists, and it doesn’t matter if they’re on the right or the left. I mean, both political sides have protectionist parts of the parties, and we need to try to address that by better helping people who have lost from trade.

And the other final thing, and these are really specific policy proposals, but they did come out in the discussion I was having down in McAllen about attracting this investment. Apple is going to be producing in Texas again, but if we’re going to be bringing in investment from other countries, there are two things that we really do need to focus on. No. 1 is that we really need human resources support programs. I think one of the big concerns that’s holding up Democrat support of the USMCA in Congress is working conditions in Mexico. I have done a huge amount of work on working conditions in the past 10 years. I argue that working conditions are a function of human resource policies.

Human resource policies are a form of technology, just like any other kind of production technology. It’s a technology that can be shared, like helping companies in Mexico, whether they’re U.S. companies, Chinese companies or whatever, adopt what we would consider to be modern human resource policies. We need to facilitate understanding from foreign capital coming in of our human resource policies and why they’re so successful.

The other key point of focus, of course, is identifying the skill gaps in Texas, in particular, and elsewhere based on this vision of integrated production.

What we really mean by that is what the folks down in McAllen were saying: “We can attract this high-tech investment, but we don’t have the skills that we need to work on the high-tech production.” We need to identify what those skills exactly are and then try and help the local universities, University of Texas-El Paso and a whole bunch of others in the (Rio Grande) Valley to train the people to really take advantage of this kind of production.



CHAPTER 17

As Mexican Mass Migration to U.S. Ends, New Arrivals Come from Central America, Asia

Jeffrey S. Passel, Pew Research Center

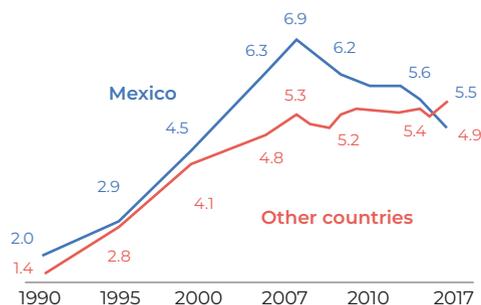
I'm at the Pew Research Center. This is our disclaimer. We call ourselves a fact tank. The main thing is that we don't take policy positions. If I happen to say something policy-related, please don't quote me. I'm a demographer. I'm not an economist. There are going to be a lot of numbers, but the main thing is not the numbers per se but the trends and the patterns.

The focus is on immigration today, and I have to say I think there's a mismatch between what the data show about immigration and immigrants and the politics and the rhetoric of it. In particular, unauthorized immigrant numbers have been going down for about a decade now. The total number is the lowest it's been since 2004.

We had rapid growth in the unauthorized immigrant population until 2007, dramatic declines right after that and the numbers have been drifting down ever since. This is especially true of Mexico. Mexican mass migration to the U.S. has essentially stopped. The huge drop in the number of unauthorized immigrants living in the United States is due to more Mexican people moving from the U.S. to Mexico than from Mexico to the U.S., and that's been true for a while, and it has sort of slipped under the radar (Chart 1).

CHART 1: MEXICANS DECLINE TO LESS THAN HALF U.S. UNAUTHORIZED IMMIGRANT POPULATION

U.S. unauthorized immigrants by origin, in millions



SOURCE: Pew Research Center

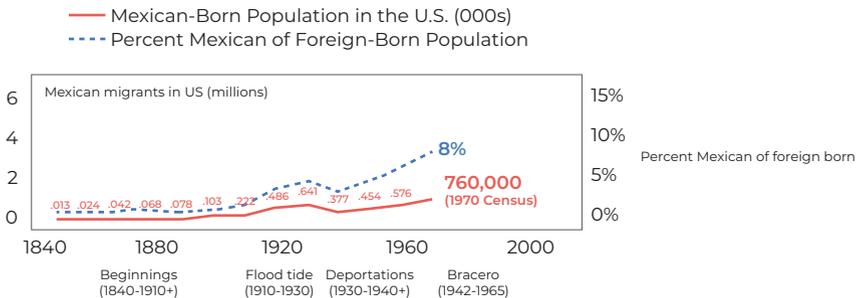
To the extent we are getting new unauthorized immigrants—and the numbers are going down—mostly, they are visa overstayers. Apprehensions of Mexicans at the southern border are at a 50-year low. I would say deterrence seems to be working. It’s a question of enforcement, deterrence and we’ve heard a lot about things that are happening in Mexico, as well. The low flow and the shifts in the origins of unauthorized immigration have consequences both for the migrants themselves and for the country. The fact that the unauthorized population here today has been living in the United States for a long time means that they (the immigrants) put down roots and have families. Lawful immigration numbers have essentially remained unchanged. Immigrants play an important part in our labor force and in labor force growth over the next several decades (Chart 2).

CHART 2: IMMIGRATION TODAY

- **Mismatch between data and political rhetoric**
- **Unauthorized immigrant #s lowest since '04**
 - Unauthorized immigrant numbers grew rapidly, 1990 to 2007
 - Dramatic declines for 2 years then slow drop
- **Mexican mass migration has essentially stopped**
 - Drop in unauthorized since '07 due entirely to Mexican reversal
- **“New” unauthorized are mostly *visa overstayers***
 - Apprehensions of Mexicans are at a 50-year low
 - Deterrence seems to be working on Mexicans
- **Low flow and origin shifts have consequences**
 - Longer duration of residence & more families
 - Lawful immigration numbers remain unchanged
 - Key labor force role of immigrants today & in the future

This is a graph of the number of Mexican immigrants (solid dark line) living in the U.S. For just a little history, the numbers weren’t very big in 1970. There were only three-quarters of a million Mexican immigrants living in the U.S. (Chart 3).

CHART 3: MEXICAN POPULATION IN US GREW SLOWLY BEFORE '90; BY 1970, “ONLY” ABOUT 3/4 MILLION MEXICANS IN US



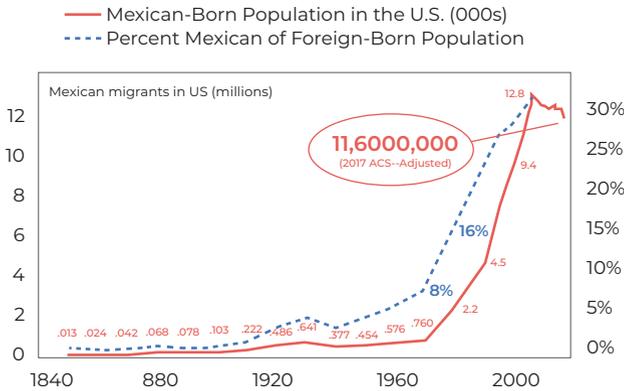
SOURCE: Pew Research Center estimates based censuses and augmented CPS (1995-2004) and ACS (2005-2017)

Then something happened, the numbers went straight up (Chart 4).

By 2007, there were about 17 times as many, almost 13 million Mexicans living in the U.S. They accounted for about one-third of all the immigrants in the U.S. and represented about 10 percent of all the Mexicans in the world. And then, again, the growth all of a sudden stopped. The recession had a lot to do with it, but enforcement made a difference, too. We had a kind of steady downward drift. Now, there's under 12 million—about 11.6 million Mexicans in the U.S.—about one-quarter of all the immigrants in the U.S., instead of one-third.

So, there were very dramatic changes from 1970 to 2007, and since then, a complete reversal.

CHART 4: GROWTH CEASES & DRAMATICALLY REVERSES, 2007-2017; STEADY DOWNWARD DRIFT AS RETURNS TO MEXICO CONTINUE

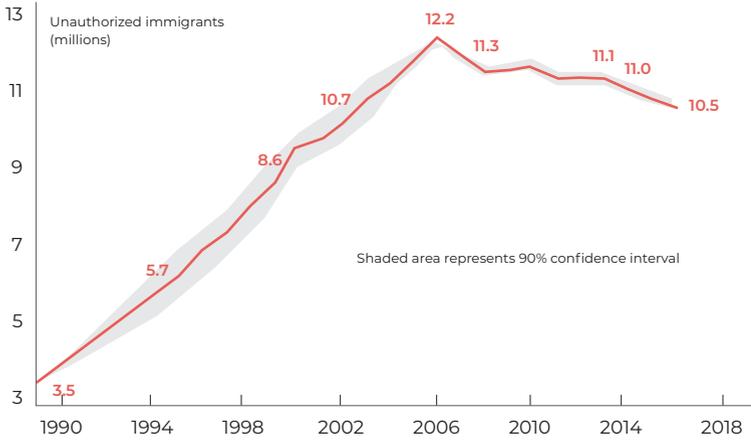


SOURCE: Pew Research Center estimates based censuses and augmented CPS (1995-2004) and ACS (2005-2017)

This is unauthorized immigrants in total—not just Mexico—and here you can see the numbers were going straight up. This is net growth of about 500,000 a year for about 17 years (Chart 5). And for the numbers to grow by 500,000, it means that we were probably getting 700,000 to 800,000 new unauthorized immigrants every year for this long period of time.

Then again, sudden reversal. For the numbers to drop, it means people have to leave the country. And we saw a drop of about 500,000 a year for two years. And again, we were continuing to get new ones, so it meant something on the order of 700,000 to 800,000 left the country each year for two years. Since then, the numbers have kind of leveled off and [are] drifting down. Our estimate is there are about 10.5 million unauthorized immigrants in the country, and that's roughly what it was in 2004.

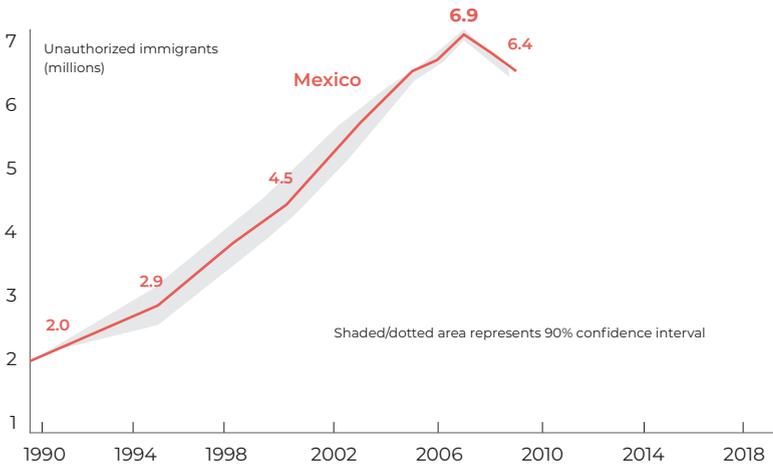
CHART 5: STABLE FOR '09-'14, THEN REAL DECLINES IN '15-'17 UNAUTHORIZED IMMIGRANT #S DROP TO '04 LEVEL



SOURCE: Pew Research Center estimates based on residual methodology

So, there were several big changes here along the way. This is Mexico (Chart 6). The number of unauthorized Mexicans in the U.S. peaked in 2007. It's just under 7 million and again, dropped by about 500,000 over the next two years.

CHART 6: UNAUTHORIZED MEXICANS PEAK IN '07, TOO; DROPPED BY 500,000 OVER NEXT 2 YEARS



SOURCE: Pew Research Center estimates based on residual methodology

Since then, overall, the numbers have continued to go down for Mexicans—the last year showed a particularly big drop. We're under 5 million, according to our estimates, which showed a drop of about 2 million unauthorized immigrants from Mexico living in the U.S. in a 10-year period (Chart 7).

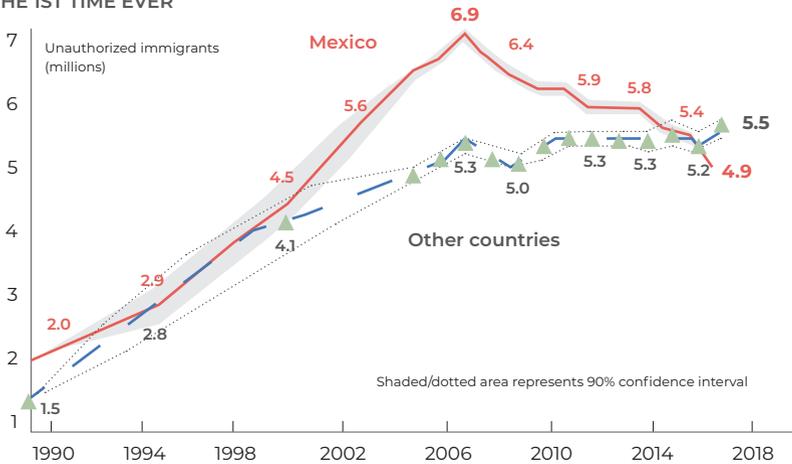
CHART 7: UNLIKE TOTAL, MEXICAN DECLINES CONTINUE - DOWN BY 2 MILLION FROM PEAK



SOURCE: Pew Research Center estimates based on residual methodology

From other countries, the pattern is a bit different. The numbers went up (Chart 8). Since 2007, we’ve seen small increases. Central America plays a role here. And Asia, interestingly, played a role. But what has happened, if you overlay the Mexico line is that there are more unauthorized immigrants from places other than Mexico living in the U.S. now than unauthorized immigrants from Mexico. Mexico is still by far the largest, but it’s not a majority. And this is, from what we can tell, the first time this has ever happened. It just happened in 2017.

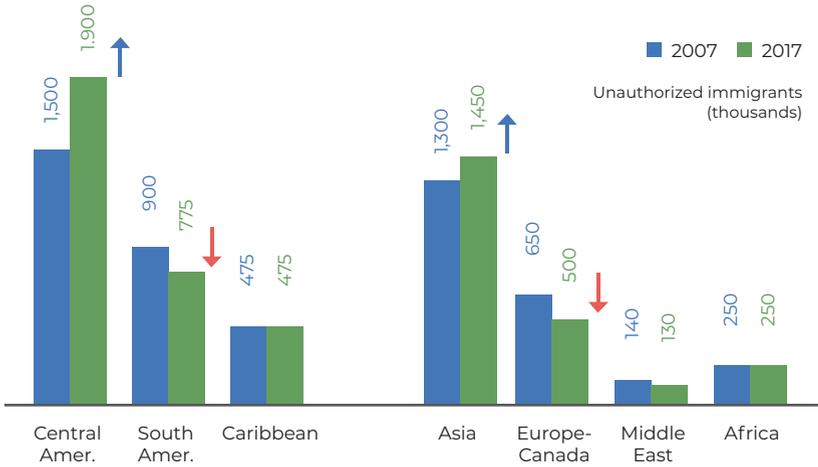
CHART 8: MEXICANS DECLINE TO LESS THAN HALF OF UNAUTHORIZED IMMIGRANTS FOR THE 1ST TIME EVER



SOURCE: Pew Research Center estimates based on residual methodology

We haven't made estimates for 2018, but the numbers that came out yesterday from the American Community Survey show a very small drop in the total number of Mexicans living in the U.S. So, I don't expect to see any big shift in these trends over the next year or so. So, Mexico is down 2 million. Central America is up from about 1.5 million to almost 2 million. Asia is up a little bit, at 1.3–1.5 million. The number of unauthorized immigrants from South America and Europe has dropped a little bit, and other places have basically been stable. And this is a 10-year pattern we're talking about (Chart 9).

CHART 9: MEXICANS DOWN 2 MILLION SINCE '07; CENTRAL AMERICA, ASIA - UP; SOUTH AMERICA, EUROPE-CANADA - DOWN; OTHERS STABLE

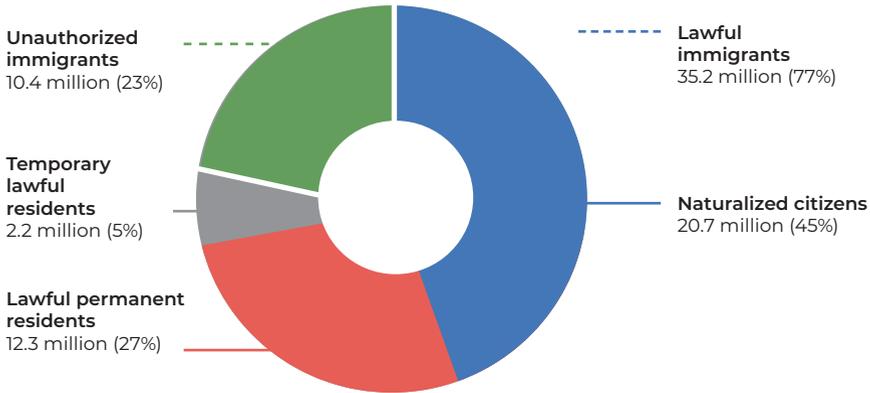


SOURCE: Pew Research Center estimates based on residual methodology

The next four largest countries are the Northern Triangle countries—El Salvador, Guatemala and Honduras—and India. All of these have shown increases since 2007. It's worth pointing out—we're talking Mexico is at 4.9 million. So, Mexico has many more, even with the large drops. These others' increases in terms of numbers are much smaller, but these four are trending up. The next-largest country is China. It, along with the Dominican Republic, Brazil and the Philippines, basically stayed about the same for 10 years. Since we continue to get new unauthorized immigrants, the stable numbers mean the ones already here are either leaving or, in some cases, becoming legal.

Unauthorized immigrants account for 10.4 million of the almost 46 million immigrants living in the country (Chart 10), or slightly less than one-quarter. It's been as high as one-third, but it's been going down as legal immigration continues. The total immigrant population grows, and the unauthorized (population) is falling.

CHART 10: ABOUT ONE-IN-FOUR U.S. IMMIGRANTS ARE UNAUTHORIZED
Total U.S. foreign-born population: 45.6 million

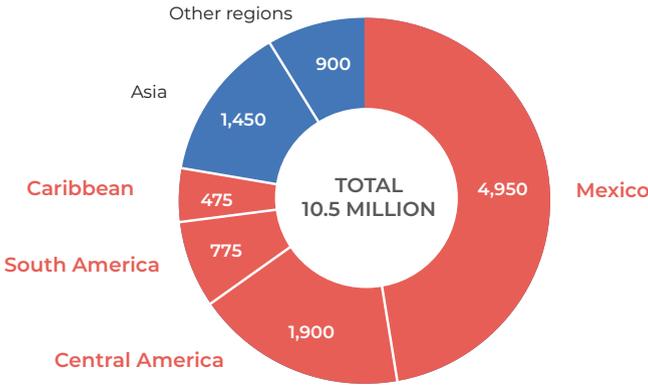


SOURCE: Pew Research Center estimates based on residual methodology

The largest group of immigrants in the country is naturalized citizens. These are people who came here as legal immigrants and have become U.S. citizens. This group, which is just shy of 21 million, is the only one of these that's been growing. What happens is we get new immigrants who aren't citizens, but a lot of these people who are non-citizens become citizens. This is the growing part of the immigrant population. Lawful permanent residents, these are green-card holders who have not become U.S. citizens, are a little over a quarter (of the immigrant total). This number, about 12 million, is about the same as it was 25 years ago. In addition, there are about 2 million people who were here legally on temporary visas that allow them to live and work in the U.S. The biggest groups here are foreign students and guest workers—H1B and other types of guest workers.

This next chart shows the same data I showed a little while ago. It's just a different look. Mexico and Latin America are 75 percent to 80 percent of the total. Asia and other regions are much smaller shares of the unauthorized immigrant population (Chart 11).

CHART 11: UNAUTHORIZED IMMIGRANT POPULATION DOMINATED BY MEXICO, LATIN AMERICA
Unauthorized immigrant population (thousands)



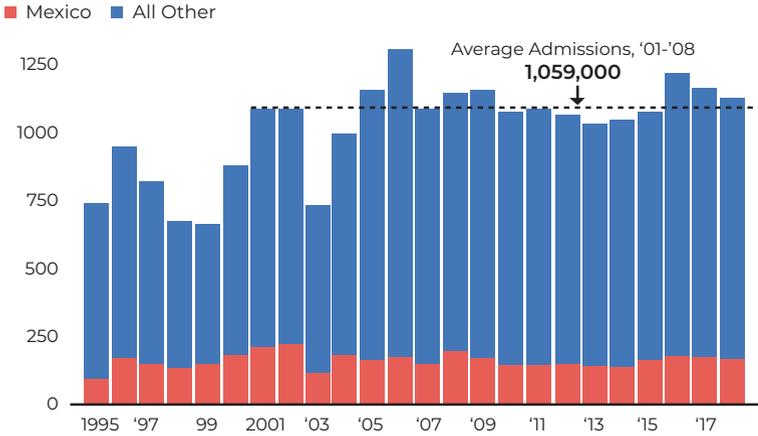
SOURCE: Pew Research Center based on augmented 2017 ACS.

Mexico is our largest source of legal immigrants in terms of both the number coming to the U.S. and the number living here. There are about 6.5 million legal immigrants from Mexico, representing about one-fifth of all the legal immigrants living in the United States. The rest of Latin America is about a quarter. Asia is almost a third. It's a group that's been growing, with significant numbers from other parts of the world as well.

This is legal immigration—green cards (Chart 12). The numbers have not gone down. They have remained unchanged since about 2001, when new laws kicked in. 2003 was a bit of an aberration. We didn't reduce the inflows; we increased the security background checks. And so, it was a queuing problem more than anything else; the numbers were made up in the next couple of years.

CHART 12: LEGAL ADMISSIONS UNCHANGED SINCE '01 (EXC. '03) "GREEN CARDS" EXCEED 1 MILLION/YR ROUTINELY

Lawful permanent immigrants admitted by fiscal year (thousands)



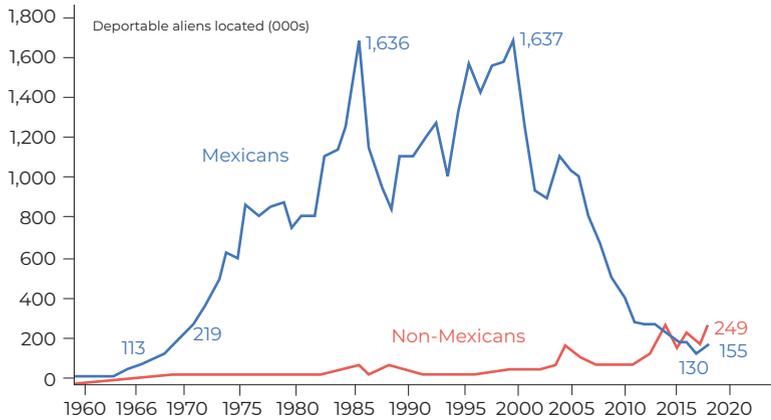
SOURCE: DHS YEARBOOK OF IMMIGRATION STATISTICS AND SUPPORT DATA.

We're averaging a little over a million new legal immigrants (green-card holders) a year and have been for basically 20 years. The numbers at the bottom are Mexico. Mexico is usually the largest source of green cards.

So, the overall pattern—growth and then decline, as you can see, is driven by Mexicans, and the drop in new arrivals—that is, new unauthorized immigrants coming to the country—is also driven by Mexicans. Most unauthorized immigrants from places other than Mexico and Central America are visa overstayers. Most from Mexico and Central America are what the border patrol calls EWIs—Entries Without Inspection—people sneaking across the southern border.

My sense is the southern border is generally secure. The apprehensions of Mexicans are at a 50-year low (Chart 13). In addition, there are some statistics that are put out by DHS (Department of Homeland Security) that suggest they're doing a much better job of catching people trying to sneak in.

CHART 13: NON-MEXICAN APPREHENSIONS EXCEED MEXICANS, BUT STILL LOW



SOURCE: Department of Homeland Security and INS, CBP apprehension statistics

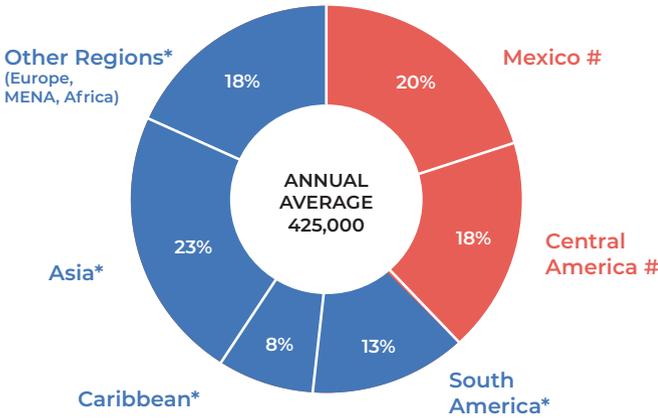
The big increases in the last several years are Central Americans, in particular families. Again, my sense is they're not trying to evade capture, they're coming to the border and actually turning themselves in. The historic notion that for every one immigrant we catch, some larger number get away—in the case of Central Americans—is probably not correct.

Our enforcement strategy seems to have worked. We have fences in the places where it's easy to cross, which has forced people to try to cross in deserts and mountains and rugged terrain. We've greatly increased the size of the border patrol over the last 20 years. They have much more technology available in terms of sensors and drones and the ability to spot people trying to sneak in. And in Mexico itself, it's hard to get to the border.

CHART 14: NEW UNAUTHORIZED IMMIGRANTS IN 2017 ARE NOT ILLEGAL ENTRANTS (#) BUT LIKELY OVERSTAYS (*)

Share of unauthorized immigrants arriving 2012-17

Approximate Overstays (*) 62% 260,00/year

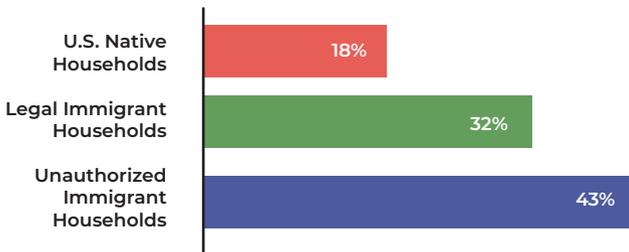


SOURCE: Pew Research Center based on augmented 2017 ACS

The current increase in illegal immigration is mainly due to visa overstayers (Chart 14). We're getting, according to our estimates, about 260,000 overstays a year added to the U.S. population. The majority of them are from Asia, South America and other parts of the world. With this change in the pattern and the drop in new arrivals, the unauthorized immigrant population is increasingly rooted here in the U.S. About two-thirds of all unauthorized immigrant adults have been here for 10 years or more. Ten years ago, it was about one-third. In the case of Mexico, the numbers are ever more extreme. Five out of six (83 percent) unauthorized Mexican immigrants have been here 10 years or more and only about 8 percent have been here less than five years.

These families—immigrants, especially unauthorized—are more likely to be couples with children (Chart 15). About 43 percent of households headed by unauthorized immigrants are couples with children.

CHART 15: IMMIGRANTS, ESPECIALLY UNAUTHORIZED, MORE LIKELY TO BE COUPLES WITH CHILDREN

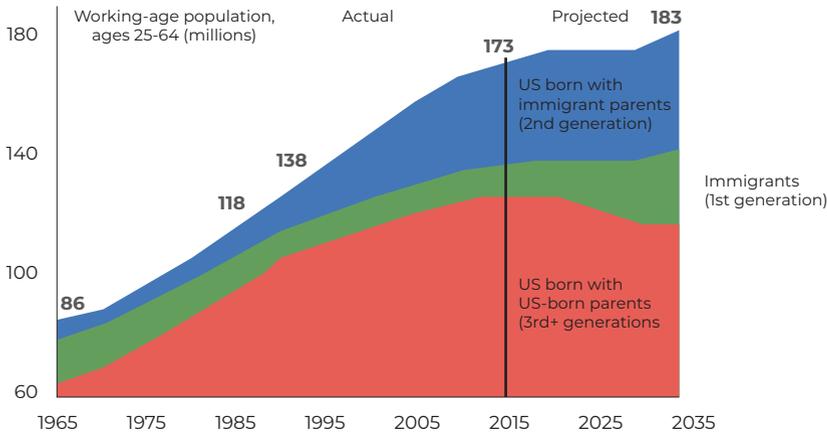


Percent of group's households that are couples with children. 2016. Source: Pew Research Center based on augmented 2016 ACS

The share among U.S. native households is only 18 percent and, a lot of those native households are old. About 91 percent of unauthorized male immigrants are in the workforce. That compares with 79 percent of U.S. natives in the same age span. Legal immigrants fall in between. In the case of women, the pattern is reversed. About three-quarters of native women of working age are in the workforce and only 60 percent of unauthorized immigrant women. The main difference between these populations is the presence of children under (age) five in a household. A lot more of the unauthorized immigrant women appear to be staying home with young children than native women.

This next chart goes back to something (Federal Reserve Bank of Dallas President) Robert Kaplan said yesterday: What does this look like going into the future? For the next 20 years, all growth in the labor force will come from new immigrants and U.S.-born children of current immigrants (Chart 16). The labor force numbers among the third-plus generation—U.S. born with U.S.-born parents—will go down. This is the baby boomers aging out of the workforce.

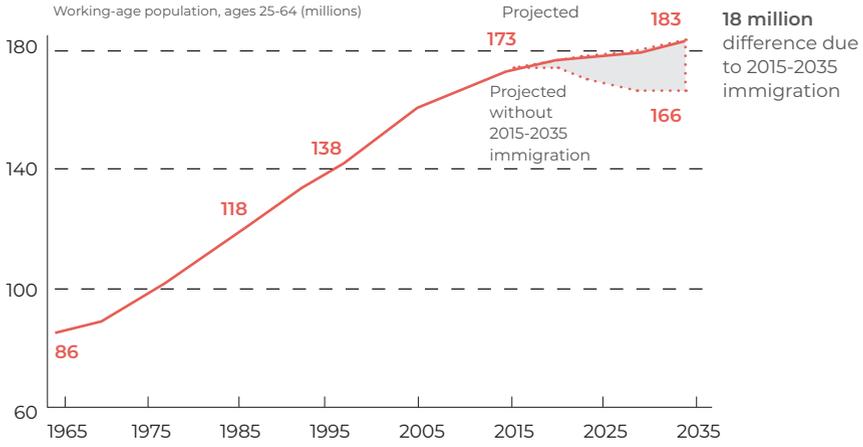
CHART 16: NEXT 20 YEARS, ALL GROWTH COMES FROM NEW IMMIGRANTS AND US-BORN CHILDREN OF CURRENT IMMIGRANTS



SOURCE: Pew Research Center (2016) "historic" projections.

But what would happen if we didn't have immigrants coming in? The working-age population would decrease by 2035 (Chart 17). Basically, any growth in the labor force that we're likely to see over the next 20 years is going to come from immigrants who are not yet in the country. Thank you.

CHART 17: WITHOUT FUTURE IMMIGRANTS, WORKING-AGE POPULATION WOULD DECREASE BY 2035



SOURCE: Pew Research Center (2015) "historic" projections.

U.S. Wage Growth Provides Greatest ‘Pull’ for Mexican Migration Decision

Madeline Zavodny, University of North Florida

A lot of what I’m going to talk about draws on my research with Pia Orrenius (of the Federal Reserve Bank of Dallas). We wrote a paper for the Center for Global Development that looked at unauthorized inflows of Mexican workers for the past 20 years or so.

I think you all agree, certainly living in Texas, that Mexican worker migration matters. It matters a lot to us in Florida as well. But on a grand scale, it’s important to the U.S. economy that about one-sixth of our workers are foreign born and Mexicans alone are about 5 percent of workers in the United States. They’re an incredibly important source of workers. They’re also our neighbors. They’re students. They’re colleagues. They are very important as consumers, workers and friends.

They’re also important to the Mexican economy. When the Mexican economy experiences a downturn like the Tequila Crisis, for example, the U.S. has historically served as an outlet for those workers to leave. That helps stabilize the Mexican economy as well as potentially benefiting the U.S. economy. In the same way, 50 years ago when Mexican women were having six kids instead of two, the United States once again served as an outlet for that excess labor force.

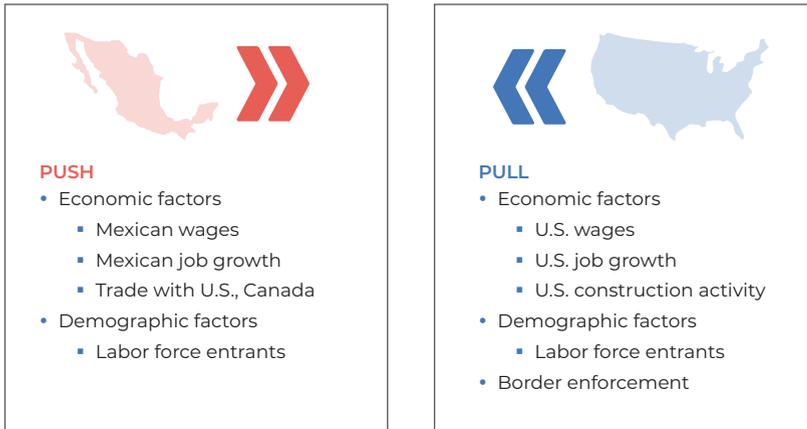
Another important thing to Mexico that perhaps we haven’t talked about as much over the last day and a half is remittances that Mexican workers in the United States send back to Mexico, on the order of \$25 billion annually. And that really helps stabilize the Mexican economy. It’s an incredibly important source of funds to a lot of communities and families. And perhaps those funds going there affect the number of people who are coming to the United States as well.

Looking ahead, changes in demographics in the U.S. and in Mexico make these flows and what’s going to happen to them very important. I think perhaps the most jaw-dropping thing that Jeff Passel (of the Pew Research Center) just showed us was what the future of the U.S. labor force would look like without immigrants. It is hard to understate the importance of immigrants to the future

of the U.S. workforce. Historically, many of those immigrants have been from Mexico, but that has been changing.

As economists, the way that we think about immigration is typically push versus pull factors (Chart 1). What's pushing them to leave their country, and then what's pulling them into another country as well. Thinking about the push factors from Mexico, one important set of factors is economics. What's happening with Mexican wages? When they're going up, we would expect fewer people to be pushed out.

CHART 1: PUSH VERSUS PULL FACTORS



SOURCE: Orrenius, Pia and Madeline Zavodny (2016), "Unauthorized Mexican Workers in the United States: Recent Inflows and Possible Future Scenarios" Center for Global Development Working Paper 436 (September), <https://www.cgdev.org/sites/default/files/unauthorized-mexican-workers-united-states-inflows.pdf>

When jobs are growing in Mexico, when you have rising employment particularly in the formal sector, you would also expect a weaker push factor. Trade with the United States and Canada, the creation of NAFTA (North American Free Trade Agreement) and then what's happened after NAFTA could, of course, be an important factor in whether or not Mexican workers are feeling pushed out into the United States.

Although it pains me as an economist to say, economics is not all that matters. Demographics matter as well. In particular, this is where the age structure and that drop in the number of children born to the average woman in Mexico matters a whole lot. If you're part of a baby boom, when you enter the labor market, you're facing a lot of competition. There's a big increase in labor supply at the same time as you're joining the workforce. For a lot of people in Mexico, that baby boom, when it was happening 40 to 50 years ago, eventually acted as a push factor. That has, of course, diminished a lot as birthrates have fallen.

Switching over to the United States—thinking about Texas, California and the whole rest of the country—we act as a magnet that is potentially strong, potentially weak, in attracting workers from Mexico and elsewhere. Again, here economics is important. What we would expect is, as U.S. wages are rising,

either overall or for the type of people who might enter, we would have a stronger magnet when U.S. jobs are more plentiful and the unemployment rate is low. We'd expect again a stronger magnet. When we think about Mexico, one important economic factor is what's happening with U.S. construction activity.

When you think back to the early 2000s, when we had a housing boom in the United States, it was potentially a very strong magnet attracting lots of workers. Then, we have the housing bust starting in about 2006, and suddenly that magnet just really disappeared. As we've been going back through another housing boom—weaker, but still a boom in the last few years—potentially that magnetic pull is back.

Again, economics isn't all that matters. There's also U.S. demographics—what's happening with the aging of the U.S. population, how many potentially competing workers there might be for Mexicans who might consider coming to the U.S.

Finally, one potential block on that pull factor is border enforcement, particularly during the period that Pia Orrenius and I looked at—the 1990s and early 2000s. Whereas now, we would also be very concerned about rethinking interior enforcement as well.

In this paper, we estimated the inflow of unauthorized Mexican workers. We took a whole bunch of U.S. government data that's publicly available, and we tried to count the number of people in the U.S. labor force who were born in Mexico and who appeared to have not been in the country in the last year (Chart 2).

CHART 2: NITTY-GRITTY DETAILS

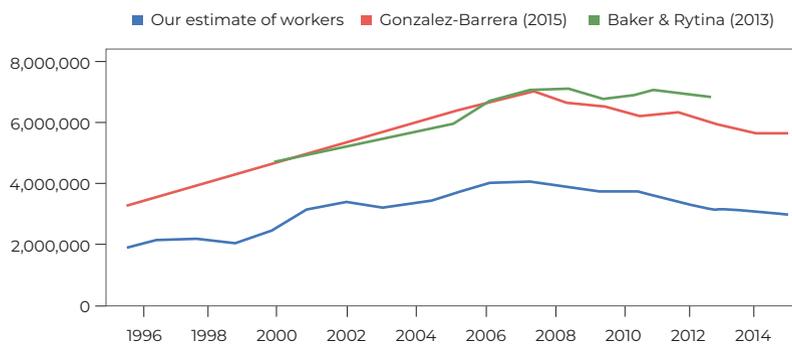
- Current Population Survey 1996-2004, American Community Survey 2005-2014
- Mexican-born workers who entered U.S. within last year
- 3 methods to estimate # unauthorized:
 - Imputation: Predict legal status based on characteristics, 2007 Survey of Income and Program Participation
 - Residual: Weighted count minus temp worker visa issuances
 - Proxy: Based on education or other logic-based proxies
 - 20% adjustment for undercount

SOURCE: Orrenius, Pia and Madeline Zavodny (2016). "Unauthorized Mexican Workers in the United States: Recent Inflows and Possible Future Scenarios" Center for Global Development Working Paper 436 (September). <https://www.cgdev.org/sites/default/files/unauthorized-mexican-workers-united-states-inflows.pdf>

We think about this inflow as new entrants; that is, the gross inflow of Mexican workers. What we were particularly interested in in this paper was how much of that gross inflow of Mexican-born workers appeared to be unauthorized. Here we adjust for an undercount. The government does not ask people if they are unauthorized because who would answer that accurately? People are kind of reluctant to cooperate with government surveys. They're long. They're intrusive, and if you're an unauthorized immigrant, you're particularly reluctant to cooperate with these surveys. So, the surveys undercount the number of

immigrants in the U.S., in particular the number of unauthorized immigrants. We are interested in the gross inflow—the number of workers newly coming over the border—and also in the stock. At any point in time, how many unauthorized Mexican workers appear to be in the United States? This is what one estimate of our numbers looked like (blue line in Chart 3). We think it's a pretty good number because it follows closely estimates from the Pew Research Center (red line) and estimates coming from the Department of Homeland Security (green line).

CHART 3: COMPARISON TO ESTIMATES OF TOTAL UNAUTHORIZED MEXICAN IMMIGRANT POPULATION



SOURCE: Orrenius, Pia and Madeline Zavodny (2016). "Unauthorized Mexican Workers in the United States: Recent Inflows and Possible Future Scenarios" Center for Global Development Working Paper 436 (September). <https://www.cgdev.org/sites/default/files/unauthorized-mexican-workers-united-states-inflows.pdf>

What you tend to see here is that the stock of unauthorized Mexican workers or the immigrant population as a whole, as Jeff Passel was saying, was going up through the Great Recession, until about 2007, and then it started to fall.

What does the widening gap (between the blue and red lines) mean? If we're right in our estimates, it is the fraction of unauthorized Mexicans who are (not working) here in the United States. You still have a decline in the unauthorized Mexican immigrant population in the U.S., but you have an even bigger drop in the number of those who are working. Why is that occurring? Why are fewer unauthorized Mexican immigrants working? Probably because we've made it harder for them to work through interior enforcement, through E-Verify (the federal worker eligibility verification program), through Secure Communities, through the U.S. Immigration and Customs Enforcement Program 287g (cooperation between federal, state and local law enforcement), through a lot of these programs that are discouraging work within a population that has no safety net to fall back upon.

What we're interested in is, of course, the why. What was going on? What were the drivers of this inflow with regard to push versus pull factors? We ran these regressions, and we have a whole bunch of regression results. What are the takeaways from all of these numbers?

One is that U.S. wages are a very important magnet. If U.S. wages are growing 1 percent faster, inflows of unauthorized immigrants from Mexico are about 8–14 percent higher (Chart 4). The better the U.S. economy, the more people try to come. Mexican wages act as a push factor when they fall (more people leave); with a 1 percent drop, about 3 percent more leave. But they (Mexican wages) don't matter as much as U.S. wages do. The pull factor is more important than the push factor. Border enforcement matters. Construction activity does not matter a whole lot. But the size of those birth cohorts matters as well.

CHART 4: DETERMINANTS OF UNAUTHORIZED IMMIGRANT INFLOWS FROM MEXICO: REGRESSION RESULTS

	(1)	(2)	(3)	(4)
U.S. Average Wage	14.18***	14.22***	--	8.47**
Mexican Average Wage	-3.14**	-3.32*	--	-3.99
U.S. Construction Permits	--	-0.05	--	-0.52
U.S. Total Employment	--	--	9.60**	6.96
Mexican Total Employment	--	--	-6.17	-5.95
Border Enforcement	-1.11***	-1.17**	-1.45**	-2.25**
U.S. Births 15-19 Yrs Ago	-17.42**	-20.47	11.50	-28.32
Mexican Births 15-19 Yrs Ago	21.32***	22.40***	-3.63	18.71**

*** p <0.01, ** p<0.05, * p<0.1
 SOURCE: Orrenius, Pia and Madeline Zavodny (2016). "Unauthorized Mexican Workers in the United States: Recent Inflows and Possible Future Scenarios" Center for Global Development Working Paper 436 (September). <https://www.cgdev.org/sites/default/files/unauthorized-mexican-workers-united-states-inflows.pdf>

What might happen in the future? What might we expect? Well, if things continue like they've been for about the last five years, these gross flows will be about 100,000 per year. Is that high or low? Well, that's a very normative question, but what is important is that this is very low in a historical context. When we go back to before the Great Recession, those numbers were about 220,000, gross, coming over per year, and more of them were staying. So, we predict much lower flows. But if U.S. economic growth were to strengthen, those flows would increase considerably. If the Mexican economy were to weaken, those flows would also strengthen, but not by as much. Remember, the pull is bigger than the push, and of course, you know there are lots of caveats—they're hard to predict.

So, what does this mean for policy? This is all talking about unauthorized immigrants. I think most of us would agree that we would prefer that immigrants come to the United States legally, but the problem is U.S. legal immigration programs are a mess, both on the permanent side and on the temporary side. And it is so much easier for an employer to hire someone who's already taken the risk of crossing and is here illegally than to try to bring in a worker legally. The paperwork and the wait time for a visa and the uncertainty associated with trying to do that is tremendous.

If we want to reduce unauthorized immigration into the United States, we need to stop the pull magnet, and we need to provide employers with better legal ways to get the workers that they want. We need visa portability and automatic adjustment of visa numbers over business cycles (Chart 5). The other thing is, we do have this shrinking stock of unauthorized immigrants who are already here. Many of them are working, and so one thing we might strongly want to consider is legalizing this population, enabling them to move more easily across jobs, to have better futures for themselves and their U.S.-born children.

CHART 5: POLICY IMPLICATIONS

- Need more, better work visa programs and want employers to use them
 - Spot market is key to employers
 - Visa portability
 - Automatic adjustment over business cycle
 - Allocate visas to employers who want them the most
 - Couple with stricter worksite enforcement
- Legalization program for those already here

SOURCE: Orrenius, Pia and Madeline Zavodny (2016), "Unauthorized Mexican Workers in the United States: Recent Inflows and Possible Future Scenarios" Center for Global Development Working Paper 436 (September), <https://www.cgdev.org/sites/default/files/unauthorized-mexican-workers-united-states-inflows.pdf>

Our immigration trends in the United States really are shifting away from Mexicans to Central Americans and Asians. Their patterns of work tend to be very different from those of Mexican immigrants. The Central American inflows that we've focused on so much in the United States over the last couple of years have very low labor force participation rates. The flows are mostly women and children, and they come seeking asylum. They're much less likely to work than the types of migrants that the U.S. used to attract, and that has large economic and demographic implications for the U.S.

Canada Presents More Accommodating Approach to Immigration than U.S.

John B. Sutcliffe, University of Windsor

There are similarities between the Canadian and American immigration systems, but there are also important differences. We can look at several ways in which the Trump presidency has had an impact on the Canadian immigration system as well as, of course, on the American immigration system and on the USMCA (United States–Mexico–Canada Agreement). I'm going to argue it (the impact of the USMCA) is not major and won't be the major cause of change, assuming it is ratified (Chart 1).

CHART 1: OVERVIEW

- There are similarities between the Canadian and American immigration systems.
- As the same time, there are important differences.
- The Trump Presidency has had an impact on Canadian immigration and the movement of people between Canada and the United States.
- The USMCA is not - or will not be - the major cause of change.
- The biggest impact comes from US immigration decisions already taken and the general prevalence of uncertainty.

SOURCE: Sutcliffe John B. (2019). "Forging a New Path in North American Trade and Immigration," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/f/media/Documents/research/events/2019/19usmca-sutcliffe.pdf>

The biggest impact in immigration has come from decisions already taken and, typically, American decisions already taken and the uncertainty that's evident in this process. In Canada, as in the United States, regulating the movement of people into and out of the country is a very complicated process. Part of this is because of the sheer number of people we're talking about. The other part of the complexity is because of the different types of people we're talking about. People coming for short-term visits, such as tourists or students; people arriving for short-term work, short-term positions; people coming permanently, moving for a job offer to look for work and family reunification; people coming to join family members already present in the country; or people coming to escape problems in their home country, who on humanitarian grounds can apply for refugee status.

I think for both Canada and the U.S. and indeed for all countries that are net recipients of immigrants, there are a number of core questions. How many people are to be admitted? Where should they come from? Where do they go? What are they being admitted to do? And what are the conditions attached to their entry?

Typically, most of the entry is on short-term visas or sometimes with no visa at all, but a significant percentage of foreign arrivals (are) on different types of permanent visas. Both Canada and the U.S. already have sizable immigrant populations or people born outside of the country (Chart 2).

CHART 2: U.S. AND CANADA: SIMILARITIES

- Both countries have sizeable immigrant populations. And these populations will increase.
- Both countries have different visa types and different policies dealing with different categories of migrant.
- Both have three main categories of permanent immigrant - family class; economic class; refugee/asylum seekers.
- Both also deal with the movement of people who do not intend to reside permanently.
- Some of the movement of people between Canada and the US for temporary work is covered by NAFTA.

SOURCE: Sutcliffe John B. (2019). "Forging a New Path in North American Trade and Immigration," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-sutcliffe.pdf>

As we've seen, these numbers are set to increase over time. In the U.S., the foreign-born population stands at around 45 million, approximately 13–14 percent of the total population. The absolute number in Canada is a lot smaller, 7.5 million, but it constitutes a much higher percentage of the existing population and it's somewhere in the range of 22 percent. And that's again set to increase, as we heard yesterday. On a couple of occasions, immigration growth is going to be critical to overall population growth. It already is particularly in Canada and that, in turn, is going to be central to growth of the labor force.

As for similarities, both countries have a vast number of different visa types and different policies dealing with different categories of migrants. Simplifying, there are three main categories of permanent immigrant: those entering as a family class, family reunification; those entering under an economic class visa of different types; and those arriving as refugees or seeking asylum in the country.

Both countries also have to deal with some movement of people who don't intend to reside permanently, and some of this category of people is covered by or is connected to the NAFTA (North American Free Trade Agreement). There are various migration categories within NAFTA, and they include the TN visa (for Canadian and Mexican professionals working in the U.S.), NAFTA professionals, intra-company transfers, traders and investors. Some of the key differences between the U.S. and Canada acknowledge that Canada places much more emphasis on the economic class of immigrant compared with the U.S.,

which has placed the main emphasis on family reunification. This situation has been broadly the case since the 1960s. In the U.S., over 60 percent fall under the family class of immigration, whereas in Canada, it's almost the direct opposite over the last 30 years—family class is a much smaller category, and the economic class of immigrant is much higher.

Another difference is that Canada uses a point system to select immigrants under the economic class. Applicants receive up to 100 points. Applicants receive points for level of education; their age; their linguistic skills, whether they speak French or English; and whether they have a letter or a job offer already in place in Canada. This kind of merit-based system to some extent is what Donald Trump has been advocating for the U.S. He is certainly, and in much more vehement terms, very critical of the family class and the emphasis of family class of immigration in the U.S.

I think it's important to note though, that the difference isn't perhaps as great as it appears on paper. This is because the economic class of immigrants entering Canada also includes their immediate dependents. So, that absolute number is not just the principal applicants but also the family members coming with them. When you start to look at those numbers, the difference isn't as big.

In 2016, for example, about 44 percent of the applicants coming in under the economic class were the principal applicant. The remaining 56 percent were family members coming with the principal applicant.

I think in the modern (era)—talking about the time period we're in now particularly—the Canadian government and Canadians are more accepting of immigration and immigrants generally.

Multiculturalism is embedded in the Canadian national identity—and again, this has been for many years now and it crosses the political spectrum—and there's a continuing openness to the idea of immigration. For example, on the day in January 2017 when Trump signed the first of his attempted immigration bans, (the) travel bans on citizens from mainly Muslim-majority countries, (Canadian Prime Minister) Justin Trudeau tweeted out: "To those fleeing persecution, terror and war, Canadians will welcome you regardless of your faith, diversity is our strength and #WelcomeToCanada."

Again, just earlier this summer, when Trump was tweeting to four Democratic congresswomen saying they should return to where they came from, Justin Trudeau responded saying, "That's not how we do things in Canada." Some of it is moral high ground, but it still reflects Canada's commitment to openness.

It is significant to know that the Canadian government, the liberal government, currently is planning to increase the amount of immigration and the number of immigrants coming to Canada. You could see the increase, the projected increases across the different categories (Chart 3).

CHART 3: CANADIAN GOVERNMENT AND CANADIAN DIFFERENCES

Immigration Category	2018	2019	2020	2021
Economic	177,500	191,600	195,800	202,300
Family	86,000	88,500	91,000	91,000
Refugee and Protected Persons	43,000	46,500	49,700	51,700
Humanitarian	3,500	4,250	4,500	5,000
Total	310,000	330,800	341,000	350,000

SOURCE: Sutcliffe John B. (2019). "Forging a New Path in North American Trade and Immigration," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-sutcliffe.pdf>; Statistics Canada.

Just yesterday, Trump again suggested that they (U.S. government officials) are going to lower the number of refugees admitted to the U.S. in the next year to 12,000 or 18,000. To put that in context, the Canadian government is suggesting they're taking 46,500 next year.

Just quickly to note, that while there are differences, I don't want to overstate these. Public opinion polls in both countries show sort of similar things. Canadians tend to support immigration in principle, but you do see all kinds of different positions when asking about specific types of immigration and practice.

Recent polling suggests a growing number of Canadians are cautious about or argue for a reduction in immigration. We now have the People's Party of Canada, a populist party created by a former Conservative government minister. When he failed to win the Conservative leadership, he went off in a huff and formed his own political party, the People's Party, and one of the central planks of this party is to stop, as they call it, mass immigration. However, they only have about 2-3 percent of the public opinion or potential voters.

Probably more serious is Quebec, the French-speaking province. There have been various examples of ambivalence or concern about immigration in that context, the threat that (immigration) might pose to Quebec's linguistic and political culture and its very existence. (The province of Quebec's) Bill 9, recently passed, introduced a values test for potential immigrants to Quebec. (The province's) Bill 21, again a fairly recent legal measure, introduces a ban on religious head scarfs or religious symbols for public servants, police officers and teachers. It actually highlights another key difference between Canada and the U.S., which is the provinces have a much bigger role in the immigration process than I think the states do in the U.S.

Regarding NAFTA, the original idea was to allow highly skilled workers to travel across the border to support the increased trade in goods and services that NAFTA was designed to create. Within that, one of the pieces of the NAFTA agreement, Chapter 16, was to list the professions that were covered. That allowed TN visas (for professionals) to be issued. One of the problems has been, of course, that the list was created in the 1990s and has not really been

updated. So, it creates a great deal of ambiguity. Unfortunately, USMCA doesn't fundamentally change that ambiguity. The wording is slightly changed, but in essence it (terms for TN visas) remains the same. They didn't revise the professions covered. What that means is that there is a greater role on the part of border guards to assess to what extent applicants meet the requirements to get TN visas at the border checkpoints.

I would argue that the most significant change is not USMCA, but it's the uncertainty introduced to the movement of people and services across the U.S. border (Chart 4). In the context of the Trump presidency, I think there's even more license for CBP (U.S. Customs and Border Protection) officers to increase scrutiny of cross-border movement, and my talking with immigration lawyers and business leaders provides some degree of evidence that this is impacting decisions.

CHART 4: THE TRUMP EFFECT

- The most significant change is not the USMCA. It is the uncertainty that the Trump presidency introduces to the movement of people and goods across US borders.
- In the context of the Trump Presidency, there is perhaps greater license for Customs and Border Protection officers to increase scrutiny of this form of cross border movement.
- Immigration lawyers and business leaders provide anecdotal evidence of increased border delays and the impact that this is having on business decisions.

SOURCE: Sutcliffe John B. (2019). "Forging a New Path in North American Trade and Immigration," Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-sutcliffe.pdf>

There has been an impact in Canada already. This reduction on the annual cap on refugees (admitted into the U.S.) and other measures like the attempt to remove temporary protected status for individuals from selected countries, have been responsible for an increase in asylum claims in Canada. Looking at the year before Trump entered office, (there were) 23,000 to 23,500 such claims, increasing to over 50,000 in 2018.

The safe third country is the kind of agreement that Trump is now trying to impose or to get applied in Central America. There is already a safe third-country agreement in place for Canada and the U.S. Asylum seekers who arrived at the border with the U.S. from Canada are denied that asylum or the right to make that claim; they should have made the claim in Canada as a safe country. Similarly, asylum seekers arriving at the Canadian border from the U.S. are denied entry with the expectation that they should have claimed asylum in the U.S.

There is one loophole in this agreement. The Canada-U.S. agreement in this context only applies to the official ports of entry. Immigrants who arrive between those official points of entry have their asylum claims heard. What we've seen in the context of the Trump presidency is an increase in the number of asylum seekers arriving in Canada between official ports of entry. (In the

first year of Trump (being) in office, 20,000-plus such asylum seekers arrived on the Canadian border, compared with 2,000 the year before. This has put huge pressure on the Canadian asylum processing system.

Some positive effects for Canada were mentioned yesterday. More Americans are now seeking to move to Canada, and there are more international students. In 2017, Trump's first year, the number of international students coming to Canadian universities went up 16 percent. In 2018, it was up 20 percent. In the U.S., the number is down 6 percent.

Immigration is a politically charged issue in the U.S. and in Canada (Chart 5). However, the debate about immigration (in Canada) has not reached the intensity observed in the U.S. Finally, as I said before, the biggest change with USMCA is the uncertainty introduced to the decision-making processes regarding immigration policy.

CHART 5: CONCLUSIONS

- Immigration is a politically-charged issue in the United States.
- It is possible to identify some of the same debates, issues and tensions surrounding immigration in Canada.
- But immigration (and opposition to immigration) has not reached the same intensity in Canada as it has in the US.
- With respect to immigration and migration, the biggest change of the Trump presidency is not the negotiation of the USMCA but increased uncertainty and changes made as a result of other immigration decisions.

SOURCE: Sutcliffe John B. (2019). "Forging a New Path in North American Trade and Immigration." Forging a New Path in North American Trade and Immigration, Federal Reserve Bank of Dallas, Dallas, TX. <https://www.dallasfed.org/-/media/Documents/research/events/2019/19usmca-sutcliffe.pdf>



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Anastasio is the chairman of GasLog Partners LP, a subsidiary of GasLog Ltd. He was appointed executive chairman in February 2014 and led the initial public offering of the company in May 2014.

Anastasio serves on the board of Par Pacific Holdings Inc., where he serves as chairman of the Audit Committee. He also serves on the board of The Chemours Company, which spun off from DuPont in 2015, and as a director of the Federal Reserve Bank of Dallas.

He previously served as president and chief executive officer of NuStar Energy LP. Under his leadership, NuStar grew from a small business to a Fortune 500 company. Anastasio was also president and CEO of NuStar GP Holdings LLC.

Anastasio has held various positions in the upstream and downstream oil and gas industry, which have included responsibility for supply, trading, transportation, marketing, development and legal. He worked in the energy industry in Canada for several years.

He received a BA from Cornell University and a JD from Harvard Law School. After graduation, he practiced corporate law in New York City.

Eddy Bekkers

Research Economist, World Trade Organization

Bekkers is a research economist at the World Trade Organization, focusing on quantitative trade modeling. Before that, he was a postdoctoral researcher at the University of Bern and assistant professor at the University of Linz.

He conducts research on a wide range of topics in international trade such as firm heterogeneity, gravity modeling, traded goods prices, trade wars, food price pass-through, foreign affiliate sales and trade in services.

He has published in peer-reviewed journals such as the *Economic Journal*, *European Economic Review*, *Canadian Journal of Economics*, *Review of International Economics*, *Economics Letters* and *World Economy*.

Bekkers holds a PhD from Erasmus University Rotterdam.

Jesus Cañas

Senior Business Economist, Federal Reserve Bank of Dallas

Cañas is a senior business economist at the Federal Reserve Bank of Dallas analyzing regional economic growth. His research also focuses on issues pertaining to the Mexican economy, the U.S.–Mexico border economy and cross-border manufacturing.

He has written articles for academic journals such as *Annals of Regional Science and Growth and Change* and co-edited *Ten Gallon Economy: Sizing up Economic Growth in Texas*. His publication “Texas Border Cities Illustrate Benefits and Challenges of Trade” has been mentioned in the *Wall Street Journal* as well as in all major Texas newspapers.

Cañas is a member of the Mission Foods Texas–Mexico Center Faculty Advisory Board at Southern Methodist University, charged with the task of improving the Texas–Mexico relationship in its economic, political, social and cultural aspects. He is also an adjunct professor at Texas Christian University.

He holds a BA in economics and finance and an MS in economics from the University of Texas at El Paso.

Anupam Chander

Professor of Law, Georgetown University

The author of the book, *The Electronic Silk Road*, Chander is an expert on the global regulation of new technologies. He practiced law in New York and Hong Kong.

He has been a visiting law professor at Yale, the University of Chicago, Stanford, Cornell and Tsinghua. He previously served as director of the California International Law Center and as Martin Luther King Jr. Professor of Law at the University of California, Davis. A member of the American Law Institute, he has also served on the Executive Council of the American Society of International Law, where he co-founded the International Law and Technology Interest Group. A recipient of Google Research Awards and an Andrew Mellon grant on the topic of surveillance, he has served on International Center for Trade and Sustainable Development/World Economic Forum expert groups on the digital economy.

He also serves as an adjunct senior research scholar at Columbia University’s School of International and Public Policy, a faculty advisor to Georgetown’s Institute for Technology Law and Policy, and a faculty affiliate of Yale’s Information Society Project.

Chander is a graduate of Harvard University and Yale Law School.

Daniel Chiquiar

Director of Economic Research, Banco de México

Chiquiar is currently the director of economic research at Banco de México. As chief economist of the central bank, he is the chief economic adviser to the Board of Governors. Among other responsibilities, he directs the Economic Research Division of the central bank, providing intellectual leadership and direction to the efforts aimed at contributing to the understanding of policy recommendations on current economic events and diverse issues. Much of the research is used as the basis for advice to the Board of Governors and published in top academic journals.

During his career, he has held professional appointments in both the private and public sectors. At Grupo BIMSA, he was appointed vice president of research, and later, director of economic policy in the Finance Ministry of Mexico. In 2003, he joined Banco de México as an economic researcher, advancing to his current position. He has also been an adjunct professor at Instituto Tecnológico Autónomo de México (ITAM) and Centro de Investigación y Docencia Económicas.

He graduated from ITAM and earned a PhD in economics from the University of California San Diego.

Roberto Coronado

Senior Vice President in Charge and Senior Economist, Federal Reserve Bank of Dallas, El Paso Branch

Coronado oversees the law enforcement functions and economic education programs across all offices of the Eleventh Federal Reserve District.

He also has oversight for the El Paso Branch and the Bank's economic research and outreach functions in West Texas and southern New Mexico and recruits branch board members. Coronado is also a senior economist and member of the regional group of the Bank's Research Department. In that capacity, he provides regional input into the Dallas Fed's monetary policy process and is responsible for monitoring and tracking economic and business activity in West Texas and southern New Mexico.

Coronado is a clinical assistant professor at the University of Texas at El Paso where he teaches in the Executive MBA program.

He holds a BBA in accounting and economics and an MS in economics from the University of Texas at El Paso and a PhD in economics from the University of Houston.

Alonso de Gortari

Assistant Professor, Dartmouth College

De Gortari recently joined Dartmouth College as an assistant professor of economics following a one-year postdoctoral research fellowship at Princeton University.

His research has been presented in the world's foremost research universities and policy institutions and has been quoted in media outlets such as *The Economist* and *The New York Times*.

De Gortari holds a BA in economics from Instituto Tecnológico Autónomo de México (ITAM), an MA in economics from Harvard University and an MA in economic theory from ITAM. Alonso earned his PhD in economics from Harvard University. His dissertation, titled "Essays on Globalization," won the 2018 World Trade Organization's Best Essay Award.

Luisa del Rosal

Executive Director, Tower Center for Political Studies, Founding Executive Director, Mission Foods Texas–Mexico Center, Southern Methodist University

Del Rosal serves as the executive director of the Tower Center for Political Studies and founding executive director of the Mission Foods Texas–Mexico Center at SMU.

She has strategic and operational responsibility over both centers, staff oversight and board relations. Her leadership role ensures that all programming, research and fundraising align with the mission of each center.

Previously at the SMU Cox School of Business, she oversaw strategy and development of new global partners to engage in networking, leadership and business development for the Latino Leadership Initiative.

Prior to SMU, she was the community relations manager for Education is Freedom, a college access program. Previously, she was a manager of international business development for the Dallas Regional Chamber and held various positions with public relations firms. Through these positions, Luisa developed expertise in a host of areas including developing strategic initiatives, marketing, client services, fundraising and program administration.

She holds dual bachelor's degrees in political science and sociology, as well as a master's in higher education policy and leadership from SMU.

Marc Giannoni

Senior Vice President and Director of Research, Federal Reserve Bank of Dallas

Giannoni is senior vice president and director of research at the Dallas Fed. He joined the Bank in 2017.

Giannoni previously was a research economist and assistant vice president in the macroeconomic and monetary studies function of the Federal Reserve Bank of New York. He is a native of Switzerland and began his career as an economist with the Swiss National Bank in Zurich in 1992.

He joined the New York Fed as an economist in 2000 before leaving to begin an academic career at the Columbia University Graduate School of Business. Giannoni rejoined the New York Fed in 2011 while continuing as an adjunct professor of finance and economics at Columbia.

He holds BA and MA degrees in economics from the University of Geneva in Switzerland and MA and PhD degrees in economics from Princeton University.

Ildefonso Guajardo Villarreal

Former Secretary of Economy of Mexico, Mexico's USMCA Representative

For more than three decades, Guajardo has served in various public positions, specializing in international trade, trade negotiations, economic competition, industrial policy and regulatory reform.

He began his career as chief economist of the Brazil Section and associate economist in the Fiscal Affairs Department at the International Monetary Fund. Subsequently, he was appointed director of the North American Free Trade Agreement office at the Mexico Embassy in Washington, D.C.

Throughout his career, he has held several senior management positions at the federal and public levels including Secretary of Tourism, chief clerk of the Ministry of Foreign Affairs and head of the Office of the Governor of Nuevo León.

Guajardo served as Secretary of Economy of Mexico from 2012 to 2018, where he coordinated the design and implementation of industrial policy, foreign trade, support for small and medium enterprises, business regulations, mining, regulatory reform, industrial property and consumer protection.

He earned a BA in economics from the Autonomous University of Nuevo León, a master's in economics from Arizona State University and pursued doctoral studies in public finance and economics at the University of Pennsylvania.

James F. Hollifield

Professor and Director, Tower Center at Southern Methodist University

Hollifield is Ora Nixon Arnold Chair in International Political Economy, professor in the Department of Political Science, and director of the Tower Center at Southern Methodist University.

Hollifield has served as an adviser to various governments in North and South America, Europe, East Asia and the Middle East and Africa, as well as the United Nations, the World Bank, the Inter-American Development Bank, the Organization for Economic Cooperation and Development, the International Labor Organization, the International Organization for Migration, the European Union and other international organizations.

He is a member of the New York Council on Foreign Relations and a global fellow at the Woodrow Wilson International Center in Washington, D.C.

He is a fellow at the Center for U.S.–Mexican Studies at the University of California San Diego, the Institute for the Study of Labor (IZA) at the University of Bonn and the Global Migration Centre at the Graduate Institute of International and Development Studies in Geneva.

Hollifield earned a BA in politics and economics from Wake Forest College, a DEA in applied economics from Sciences Po Grenoble and Paris and an MA and a PhD in political science from Duke University.

Robert S. Kaplan

President and CEO, Federal Reserve Bank of Dallas

Kaplan has served as president and CEO of the Federal Reserve Bank of Dallas since September 2015. He represents the Eleventh Federal Reserve District on the Federal Open Market Committee in the formulation of U.S. monetary policy and oversees the 1,200 employees of the Dallas Fed.

He was previously the Martin Marshall Professor of Management Practice and a senior associate dean at Harvard Business School. Prior to joining Harvard in 2006, Kaplan was vice chairman of Goldman Sachs Group Inc. He is the author of several books on leadership and management.

Kaplan serves as co-chairman of Project A.L.S. and co-chairman of the Draper Richards Kaplan Foundation, a global venture philanthropy firm that invests in developing nonprofit enterprises dedicated to addressing social issues. He is also a board member of Harvard Medical School.

Kaplan holds a bachelor's degree in business administration from the University of Kansas and an MBA from Harvard Business School.

Timothy J. Kehoe

Professor, University of Minnesota

Kehoe is the Distinguished McKnight University Professor in the Department of Economics at the University of Minnesota, where he has been a professor since 1987. He is also an adviser at the Federal Reserve Bank of Minneapolis.

His career has included numerous visiting professorships at universities across the globe, authoring more than 100 book chapters and academic articles and supervising 50 PhD theses in economics. He has received numerous research grants and awards and has been a fellow of the Econometric Society since 1991. In 2008, he was made Doctor Honoris Causa by the Universidad de Vigo in Spain.

Kehoe has taught at Wesleyan University, the Massachusetts Institute of Technology and the University of Cambridge in England. His research and teaching focus on the theory and application of general equilibrium models.

He received his BA in economics and mathematics from Providence College and his PhD from Yale University.

Anne Krueger

Senior Research Professor, Johns Hopkins University

Krueger is the senior research professor of international economics at the School for Advanced International Studies, Johns Hopkins University. She is also a senior fellow of the Center for International Development (of which she was the founding director) and the Herald L. and Caroline Ritch Emeritus Professor of Sciences and Humanities in the Economics Department at Stanford University.

She was first deputy managing director of the International Monetary Fund from 2001 to 2006. Prior to that, she taught at Stanford and Duke universities. From 1982 to 1986, she was vice president of economics and research at the World Bank. She had earlier been professor of economics at the University of Minnesota.

She is a distinguished fellow and past president of the American Economic Association, a senior research fellow of the National Bureau of Economic Research, and a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the Econometric Society and the American Philosophical Society.

She has published extensively on economic development, international trade and finance and economic policy reform.

She holds a BA from Oberlin College and a PhD from the University of Wisconsin.

Enrique Marroquin

President, Hunt Mexico

Marroquin is president of Hunt Mexico. In this role, he is responsible for expanding Hunt's presence in Mexico by seeking development and investment opportunities in the energy sector, and he currently oversees Hunt's operations in Mexico. He also leads all of Hunt's development activities in the desert Southwest region of the U.S.

Previously, Marroquin served as chief financial officer for Grupo Vanguardia in northern Mexico. Before that, he served in different business and infrastructure development roles at Grupo Cydsa in Monterrey, Mexico.

He is currently a member of the U.S. Section of the U.S.–Mexico Energy Business Council, a member of the Wilson Center Mexico Institute Advisory Board and a board member at the Southern Methodist University John Goodwin Tower Center for Political Studies. He also works closely with the Mission Foods Texas–Mexico Center at SMU.

Marroquin is a graduate of the Monterrey Institute of Technology with a BSc in chemical and systems engineering. He also earned an MASc in chemical engineering from the University of Waterloo and an MBA from the Edwin L. Cox School of Business at SMU in Dallas.

Christine McDaniel

Senior Research Fellow, Mercatus Center, George Mason University

McDaniel is a senior research fellow at the Mercatus Center at George Mason University. Her research focuses on international trade, globalization and intellectual property rights.

McDaniel previously worked at Sidley Austin, LLP, a global law firm, where she was a senior economist. She has held several positions in the U.S. government, including deputy assistant secretary at the Treasury Department and senior trade economist in the White House Council of Economic Advisers. She has worked in the economic offices of the U.S. Department of Commerce, U.S. Trade Representative and U.S. International Trade Commission.

McDaniel spent three years in Australia as deputy chief economist in Australia's patent office. She has published in the areas of international trade, intellectual property and empirical trade analysis and modeling.

She earned a BA in economics and Japanese studies from the University of Illinois at Urbana–Champaign and holds a PhD in economics from the University of Colorado.

Joshua Meltzer

Senior Fellow, Brookings Institution

Meltzer is a senior fellow in the Global Economy and Development program at the Brookings Institution. At Brookings, he works on international trade law and policy issues with a focus on the World Trade Organization and large free trade agreements such as the Trans-Pacific Partnership Agreement.

Meltzer has testified on trade issues before the U.S. Congress, the U.S. International Trade Commission and the European Parliament. He teaches digital trade law at Melbourne University Law School and has taught international trade law as an adjunct professor at Georgetown University Law School and Johns Hopkins School for Advanced International Studies.

Prior to joining Brookings, he was posted as a diplomat at the Australian Embassy in Washington, D.C., where he was responsible for trade, climate and energy issues; prior to that, he was a trade negotiator in Australia's Department of Foreign Affairs and Trade.

Meltzer holds law and commerce degrees from Monash University in Melbourne, Australia, and an SJD and LLM from the University of Michigan Law School in Ann Arbor.

Pedro Niembro

Senior Director, Monarch Global Strategies

Niembro leads the energy practice at Monarch Global Strategies (formerly ManattJones Global Strategies). Based in Mexico City, he has extensive public and private sector experience across a range of industries, including energy, infrastructure, tourism and agribusiness. Through Monarch's "business diplomacy" approach, he helps his clients capitalize on the opportunities created by Mexico's liberalization of the energy sector.

Before joining Monarch, he served in leadership roles at the ministries of tourism (SECTUR) and energy (SENER), where, at the latter, he served as a liaison with the Office of the President of Mexico, the state-owned companies Pemex and CFE, and the legislative branch and state governments, lobbying for passage of the 2008 energy reform and in support of the National Energy Strategy. Niembro has also served as country manager in Mexico for a renewable energy company where he built a +1 GW portfolio in solar- and wind-power projects.

Niembro earned a bachelor's degree in business administration and management and an MBA from the Universidad Anáhuac del Sur, A.C.

Pia Orrenius

Vice President and Senior Economist, Federal Reserve Bank of Dallas

Orrenius is a labor economist working on regional economic growth and demographic change. She manages the regional and microeconomics group in the Research Department at the Dallas Fed and is executive editor of the quarterly publication *Southwest Economy*. She co-edited *Ten-Gallon Economy: Sizing Up Economic Growth in Texas*.

Her academic research focuses on the labor market impacts of immigration, unauthorized immigration and U.S. immigration policy. She is co-author of the book *Beside the Golden Door: U.S. Immigration Reform in a New Era of Globalization*. In 2004–05, Orrenius was senior economist on the Council of Economic Advisers in Washington, advising the Bush administration on labor, health and immigration issues.

Orrenius is a research fellow at Southern Methodist University's Tower Center for Political Studies and Mission Foods Texas–Mexico Center, as well as at the Institute of Labor Economics (IZA). She is also an adjunct scholar at the American Enterprise Institute and adjunct professor at Baylor University.

Orrenius holds bachelor's degrees in economics and Spanish from the University of Illinois at Urbana–Champaign and a PhD in economics from the University of California, Los Angeles.

Jeffrey S. Passel

Senior Demographer, Pew Research Center

Passel is a senior demographer at the Pew Research Center in Washington, D.C., an organization he joined in January 2005. His research interests include the demography of Hispanics and immigrants, integration of immigrants into American society and worldwide immigration trends. He has developed measures of immigration flows, especially estimates of the unauthorized immigrant population and components of change that are widely cited by all sides in debates over immigration and its effects. He also works on generational dynamics, population projections, defining racial/ethnic groups and measuring census undercount. Previous positions include principal research associate at the Urban Institute and various positions at the U.S. Census Bureau.

He has served on committees for the Population Association of America and panels for the National Academy of Sciences and the Social Security Advisory Board. He is a fellow of the American Association for the Advancement of Science and the American Statistical Association. In 2004, *American Demographics* magazine selected him as a “demographic diamond,” one of the five demographers/social scientists most representative of influential work in the last 25 years.

Passel holds a BS from the Massachusetts Institute of Technology, an MA from the University of Texas and a PhD from Johns Hopkins University.

Raymond Robertson

Professor and Director, Mosbacher Institute for Trade, Economics and Public Service, Texas A&M University

Robertson is director of the Mosbacher Institute for Trade, Economics and Public Policy at Texas A&M University. He is also a professor and holder of the Helen and Roy Ryu Chair in Economics and Government in the Department of International Affairs at the Bush School of Government and Public Service. He is a research fellow at the Institute for the Study of Labor in Bonn, Germany, and a senior research fellow at the Mission Foods Texas–Mexico Center. He was named a 2018 Presidential Impact Fellow by Texas A&M University.

Widely published in the field of labor economics and international economics, Robertson previously chaired the U.S. Department of Labor’s National Advisory Committee for Labor Provisions of the U.S. Free Trade Agreements and served on both the State Department’s Advisory Committee on International Economic Policy and the Center for Global Development’s advisory board.

Robertson earned a BA in political science and economics from Trinity University in San Antonio, Texas, and an MS and a PhD in economics from the University of Texas.

Matthew Rooney

Managing Director, Bush Institute–Southern Methodist University Economic Growth Initiative, George W. Bush Institute

Rooney joined the Bush Center in June 2015 following a career as a foreign service officer with the U.S. Department of State. At postings in Washington and abroad, he focused on advocating market-driven solutions to economic policy challenges in both industrialized and developing countries, and on protecting the interests of U.S. companies abroad.

In Washington, Rooney was on loan to the U.S. Chamber of Commerce to create a high-level private sector advisory body for the Summits of the Americas, working closely with the U.S. private sector and with companies and business associations from throughout the Americas to negotiate an agenda to promote economic integration in the region. Previously, he was Deputy Assistant Secretary responsible for relations with Canada and Mexico and for regional economic policy.

Abroad, Rooney was Consul General in Munich, a consulate providing a full range of consular and export promotion services. As Counselor for Economic and Commercial Affairs at the U.S. Embassy in San Salvador, El Salvador, he laid the groundwork for free trade negotiations between the United States and

the five countries of Central America and promoted market-based reforms for electrical power.

Rooney studied economics, German and French at the University of Texas and received his master's in international management at the University of Texas at Dallas.

Michael Sposi

Assistant Professor, Southern Methodist University

Sposi is an assistant professor of economics at Southern Methodist University.

His research explores the role of international trade in explaining real exchange rates and relative prices, the links between international trade and the process of economic development, the global effects of demographic change, the dynamics of external imbalances, and the structure of production through input–output linkages. His work has been published in peer-reviewed academic journals and Federal Reserve System publications.

Prior to joining SMU, Sposi was an economist at the Federal Reserve Bank of Dallas and provided economic analysis and policy briefings to the Bank's president in preparation for Federal Open Market Committee meetings.

Sposi earned a BA in economics and operations research from Central Connecticut State University, an MS in economics from the University of North Carolina at Charlotte and a PhD in economics from the University of Iowa.

John B. Sutcliffe

Associate Professor and Department Head, Political Science, University of Windsor

Sutcliffe is head of the Department of Political Science at the University of Windsor in Ontario, Canada. He has worked at the university since 2000.

Sutcliffe's current research focuses on the Canada–U.S. border. One element of this research is the reform of the Detroit River crossing. This ongoing reform of the border crossing draws attention to the reality that the Canada–U.S. border is influenced by a diversity of actors, policy sectors and functions. This was the subject of his book, authored with William Anderson, *The Canada-US Border in the 21st Century: Trade, Immigration and Security in the Age of Trump*.

Sutcliffe's earlier research focused on the place and importance of local government within the European Union and in Canada, both as single case studies and in comparative perspective.

Sutcliffe earned a PhD from the University of Cambridge.

Kei-Mu Yi

Senior Vice President, Federal Reserve Bank of Dallas

Yi is senior vice president in the Research Department at the Federal Reserve Bank of Dallas. He is on leave from the University of Houston, where he is the M.D. Anderson Professor of Economics. He is also a research associate for the National Bureau of Economic Research in its International Trade and Investment, and International Finance and Macroeconomics programs.

His current research involves the linkages between international trade and structural change, long-run growth, and global value chains.

Prior to coming to Houston, Yi held positions with the Federal Reserve Banks of New York, Philadelphia and Minneapolis. In Philadelphia, he was the head of the macroeconomics section, and in Minneapolis, he was director of research and, subsequently, special policy adviser to the president.

He has also held positions with Rice University, the University of Iowa, the University of Virginia and the Wharton School at the University of Pennsylvania, as well as adjunct positions at Columbia University and New York University.

He received a PhD in economics from the University of Chicago.

Mine K. Yücel

Senior Vice President and Senior Research Advisor, Federal Reserve Bank of Dallas

Yücel is senior vice president and senior research advisor at the Dallas Fed. She joined the Bank in 1989 and has served as director of research, head of the micro/regional/energy group and director of publications. She is an expert on regional and energy issues and has published numerous articles on energy and regional growth.

She is president of the National Association for Business Economics and serves on the University of Texas at Dallas' Energy Advisory Council and the Global Interdependence Center Advisory Council. She was president of the International Association of Energy Economics in 2011 and the United States Association of Energy Economics in 2005.

Yücel has BS and MS degrees in mathematics from Bogazici University in Istanbul, Turkey, and a PhD in economics from Rice University in Houston.

Carlos E. Zarazaga

Senior Research Economist and Advisor, Federal Reserve Bank of Dallas

Zarazaga is a senior research economist and advisor at the Federal Reserve Bank of Dallas.

In this position, Zarazaga regularly briefs the Dallas Fed president and board of directors about economic conditions in the U.S. and abroad. In addition to his policy-oriented responsibilities, Zarazaga carries out scholarly research on topics such as business cycles and economic crises, inflation outcomes under alternative monetary and fiscal policy regimes, fiscal policy and sovereign debt defaults, and growth and economic development.

He participates in academic and policymaking forums throughout the world and publishes his research in books, Dallas Fed publications and peer-reviewed journals.

Zarazaga worked at the Central Bank of Argentina as an economist in the Public Finance Department and, while on leave from that institution, as an economic advisor for the Fiscal Affairs Commission of Argentina's Senate. He joined the Federal Reserve System in 1992 at the Federal Reserve Bank of Philadelphia before moving to the Dallas Fed in 1994.

He holds a licenciatura in economics from Universidad Nacional de Buenos Aires, Argentina, and a PhD in economics from the University of Minnesota.

Madeline Zavodny

Professor, University of North Florida

Zavodny, a professor of economics at the University of North Florida, is also a research fellow at the Institute of Labor Economics (IZA), a fellow at the Global Labor Organization and an adjunct scholar at the American Enterprise Institute.

Much of her research focuses on economic issues related to immigration. She is co-author of *Beside the Golden Door: U.S. Immigration Reform in a New Era of Globalization* and *The Economics of Immigration*. Her research on immigration has also been published in the *Journal of Labor Economics*, *Industrial and Labor Relations Review*, *Journal of Policy Analysis and Management and Demography*, among others.

Before joining UNF, she was a professor of economics at Agnes Scott College and Occidental College and an economist with the Federal Reserve Banks of Atlanta and Dallas.

She holds a BA in economics from Claremont McKenna College and a PhD in economics from the Massachusetts Institute of Technology.

Notes



The U.S., Mexico and Canada have benefited from over two decades of openness to trade, migration and investment through the North American Free Trade Agreement (NAFTA). Businesses in these nations utilize North America's world-class manufacturing platform to be more efficient and increase their competitiveness worldwide. In turn, consumers have enjoyed lower prices and greater product variety. This conference explored what the future may bring to this deep economic relationship and the challenges and opportunities presented by the proposed United States–Mexico–Canada Agreement (USMCA).

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