Hi, I'm Erica Ramirez, founder of Ili and host of What About Your Friends, a brand new show on the Ringer podcast network dedicated to the many lives of friendship and how it's portrayed in pop culture.

Every Wednesday on the Ringer Dish Feed, I'll be talking with my best friend, Steven Othello, and your favorites from within the Ringer and beyond about friendships on TV, in movies, pop culture, and our real lives.

So join me every Wednesday on the Ringer Dish Feed where we try to answer the question, we also ask back in the day, what about your friends?

Today's episode is about a bold new experiment by the Biden administration to remake the US economy and the world.

Under President Biden, the US is pivoting toward what some people call industrial policy that is using the government to support key industries like green energy manufacturing or advanced computer chips.

Now, there is a very strong case against industrial policy in economics.

It's the idea that governments are stupid.

Governments do not know what markets to pick.

They don't know what companies to pick.

They're terrible at distinguishing winners from losers.

And when they try to pick winners, they end up just wasting money and distorting the economy. But there is another view, which is that industrial policy is actually the oldest idea.

In fact, laissez-faire, hands-off, pure, unbridled capitalism is not the dominant through line of the American story.

As Robert Atkinson, the founder of the Information Technology and Innovation Foundation has written,

industrial policy is the story of US economics.

Alexander Hamilton was the OG industrial policy guru, our first successful manufacturing firm, the Society of Useful Manufacturers, I love that, Useful Manufacturers, was funded by the state of New Jersey, industrial policy.

In the 19th century, Henry Clay and other Whigs devised what they called the American system and included tariffs to protect industry and federal subsidies for roads and canals, industrial policy.

The government subsidized the railroads.

The Navy helped create the radio.

The military contributed funding to Bell Labs, which invented the transistor and the solar cell.

The DARPA, the Defense Advanced Research Projects Agency in the Defense Department, had their hands in pretty much everything you associate with the iPhone, the touchscreen, GPS, the Internet, Eisenhower, limited liability for nuclear plants, which gave rise to the first nuclear plants.

He also signed the Highway Act, which gave rise to, obviously, the highways.

JFK birthed the Apollo Project, which by the way didn't just get us to the moon, it accelerated demand for microchips.

Richard Nixon expanded non-military research funding, which burned the modern biotech industry

in the 1970s.

You go on and on, but in the last few decades, industrial policy and government partnerships with the private sector have absolutely fallen out of favor.

But today, I think that's changing.

Three laws signed by Joe Biden, the Infrastructure, Investment and Jobs Act, the Chips and Science Act, and the Green Energy Provisions in the Inflation Reduction Act, altogether herald a new dawn in direct government support of the economy.

And that is some people very excited, and others very scared.

So to separate fear from fact, when we talk about industrial policy as it relates specifically to chip manufacturing, today's guest is Greg Ip, the chief economics commentator at the Wall Street Journal.

I'm Derek Thompson.

This is plain English.

Greg Ip, welcome to the podcast.

Thanks for having me, Derek.

So industrial policy has a bad reputation.

Why?

I think people intrinsically, when they hear that the government is going to be picking winners, they think, well, the government can't do that better than the private market can it.

And the mistakes that we've made with industrial policy tend to be remembered, you know, Selindra or the supersonic transport or fast breeder reactors or synchro.

These were all boundoggles where the government spent a lot of money and didn't have much to show for it.

I think the other reason is that the countries that were best known for pursuing industrial policy like Japan and Western Europe, they did very well up until around the 90s, and their economy started to slow down.

And the American economy, where we took a lighter touch, took off and everybody envied Silicon Valley.

And that history, I think, led the world in general to believe that maybe there was something to be said for the government just getting out of the way and letting the private sector do its thing.

It's something interesting about the idea that the success of Silicon Valley proves that the government should just get out of the way because as I'm sure some people thought when you mentioned those things side by side, it was government investments in the Defense Department that helped to give birth to Silicon Valley.

It was government investments that helped to lead to the takeoff of Tesla, which has created the richest man in the world.

So would you agree that industrial policy, while it has a bad reputation, I think it's true that it has in many different pockets a bad reputation, has also somewhat sneakily been a part of the American story for a lot longer than some people realize? I definitely agree with that, is that there is actually probably no advanced country that hasn't done industrial policy in some way, shape, or form, and the United States is no

exception.

As you probably know, Alexander Hamilton, our first Treasury Secretary, was a big fan of industrial policy.

He thought we should protect American manufacturers from British competition, either with tariffs or subsidies, until they were strong enough and competitive enough that they could survive on their own.

We're a high tariff country for the first century of our existence.

As you know, the Pentagon and the space program have been big spenders on technology, whether it was semiconductor chips or lasers or spacecraft or jet engines, all of which eventually had extensive civilian applications.

So there's no pure free market economy here.

There's industrial policy everywhere, if you look hard enough.

It still seems to be the case that industrial policy, at least as we think of it, fell out of fashion for a while, say sometime between the 1970s and 1980s.

Why do you think it seems to be having a resurgence in the Biden administration? I think that the interest in industrial policy is part and parcel of a broader rethink of the sort of the free market globalization model that more or less held sway in the 1990s and the 2000s.

While it's true that the United States did much better than, say, Japan or Western Europe for a lot of those decades, starting with the financial crisis of 2008, I think there's been a lot of introspection about whether the world sort of like steered too hard towards the total free market model.

And then at the same time, you just can't ignore the fact that we've seen China, this economy, rise to such a prominent place of position and power.

And there's an economy where the government is involved at virtually every single level. The People's Republic of China lives and brings industrial policy, always has, never really bought into the so-called neoliberal model of free trade.

The fact that so many Chinese industries compete at the top level with Western industries reflects to some extent very interventionist behavior on the part of their government, whether it was subsidies and tariff protection or helping their industries steal the top technology secrets of their Western competitors.

When we're thinking about why this moment is happening now, you mentioned a couple really important culprits, the financial crisis or evolution to neoliberalism, the rise of China.

I want to add a couple other possible causes.

One is inflation and inflation plus shortages.

We have had in the news lots of stories about, oh, there aren't enough computer chips, there isn't enough baby formula, prices are rising as we're seeing shortages, either because of the pandemic or because of problems with international shipping.

And that I think has diverted a lot of attention in economics, especially among liberal economists and liberal economic thinkers, from the demand side of the equation, how do we give people enough cash to buy stuff, to the supply side of the equation, how do we create enough stuff so that if people have money to demand it, they actually can.

The other, I think, is that Democrats have for a while been interested in passing some kind of green infrastructure bill, whether it was the Green New Deal or other versions of climate policy.

And once they had something like universal control over the levers of legislative government, they saw an opportunity to enact those policies as well.

Any other things to throw into the causal jambalaya here?

Yeah, I think you've mentioned two things.

I think the supply chain breakdowns that accompanied the pandemic and the green energy transition.

And I'm going to mention a third, which is COVID.

And I think what all these three things have in common is there are large systemic problems that are what we call in economics externalities.

There's no private actor that sees that as their responsibility of something to take care of.

There's no profit to be made, essentially, replacing fossil fuels with something else unless the appropriate incentives are put in place.

The supply chain problems that we had coming out of the pandemic, if you think about it, they were a result of every company privately doing what was it in its own best interest, which was to achieve the leanest, meanest supply chain possible with just a handful of suppliers in the lowest possible inventory.

And it was a system that when everything worked well, it was incredibly fast and efficient and cheap and, you know, enabled us to get amazing bread, the products with the click of a button very quickly, but was extremely fragile and bent under stress under all the distortions that the pandemic created.

So I think if you take those three big events, the supply chain problems, COVID, and the green transition, they each present a plausible case for why the private sector cannot by itself solve the problem.

And it creates at least a plausible opportunity, if not the actual correct response, but it creates at least a plausible case for why the government needs to get involved and not simply leave the solution to the private market.

You and I could have an entire conversation about industrial policy and the new green economy.

I do think that is incredibly important, maybe one of the most important possible conversations we could have about policy, but it is another podcast.

What I want to talk about with you mostly is industrial policy as it affects computer chips.

You write that not only in the past few years, but maybe even going back further, the US has only just started to grasp that semiconductors are as central to modern economies as oil. The US invented the computer chip.

How did we lose the technological frontier?

Well, I think it wasn't just computer chips, but a lot of electronics manufacturing that the United States was once dominant eventually migrated to East Asia and did it for a couple of reasons.

First of all, a lot of that manufacturing is labor intensive and labor was cheaper over there.

Those were countries that pursued policies, including industrial policies, including things like subsidies and tariffs that made it an attractive place to build stuff, and then eventually they achieved what we call sort of ecosystems where the suppliers were all close together. This almost created, if you will, a large sunk cost that was difficult for the United States to get back.

It's not like the United States had nothing else in its return.

It turned out the people that used to make things in the United States found jobs doing other things that were extremely remunerative.

It's true that we lost a lot of the capacity to manufacture semiconductor chips, but it turns out we still design a lot of semiconductor chips.

Indeed, if you look at the actual value created in the chip ecosystem, a ton of that value is still created in the United States.

Companies like Nvidia, like Apple, that design chips, and then those designs are then taken to fabrication plants in other countries and made.

If there were no other considerations, one might say, well, you know, that's actually pretty logical.

It's comparative advantage, isn't it?

We have a comparative advantage in design.

We also, by the way, make a lot of the very sophisticated tools that are necessary to make chips.

Those countries that are over in Asia, they have cheap land and cheap labor, so maybe that's their competitive advantage.

What I think they're changed with chips was this realization, well, two things.

First of all, the pandemic you were just touching on, we discovered that things as varied as F-150 pickup trucks and CPAP machines for CPAP here didn't operate if they didn't have vital but cheap semiconductor chips.

People woke up and said, wow, there's just a lot of industries here that can't operate without a secure supply of chips.

That was number one.

Number two, I think, was this growing competition and this very adversarial relationship that's emerged between the United States and China, and a view that, holy cow, even if there was an economical logic to letting China make most of our chips, that would be really bad for US national security if one day they can withhold from us the chips that are vital to our economy, much the same as we used to worry about fossil countries withholding the supply of oil.

I think that created actually a bipartisan consensus that whatever you thought in general about the government getting involved in industrial policy, you could make an exception for semiconductor

chips and say, yes, there is a case here for the government to step in.

I'm really, really glad you brought China into this because I cannot imagine a world in which relations between the US and China were close to what they were in, say, 2014,

where you would have this kind of energy on Capitol Hill for the Chips and Science Act. Nonetheless, just to put it a couple of numbers to the story that you were telling, US share of global chip manufacturing declined from 37% in 1990 to 12% in 2020.

It declined by about two thirds.

Meanwhile, mainland China grew from zero to 15% Taiwan and South Korea each account for a little over 20% each.

I'm not sure, and correct me if you think this is wrong, I'm not sure it would matter that much to politicians.

If we were still buddy-buddy with China, that the manufacturing frontier had moved to East Asia, it is because of the shift in Chinese politics and the fear that China could establish dominion over Taiwan that would really, really threaten the US economy and national security. It's that fear to me that has really been critical in shifting thinking in Washington.

Do you agree with that?

Would we even be having this conversation, a world where China had not had the last, say, nine years of authoritarian lean that it had?

Well, I agree 100% Derek.

I mean, for example, let's go back in history a little bit.

This is in some sense a rerun of what we went through in the 1980s when the memory chip industry, by the way, which the United States pioneered, moved to Japan.

Companies like Fuji and so forth ended up becoming the dominant suppliers, and the US really withered away.

That wasn't for a watch of trying.

I mean, under President Ronald Reagan, an ostensibly free market fan, Japan, we had Japan impose voluntary restraints on exports and semiconductor chips, and we created a public private consortium called Semitech in order to try and jumpstart innovation here in the United States.

And neither of them really saved the US memory chip industry.

It all moved, virtually all moved to Japan from whence it then moved to South Korea. But nobody, at least almost nobody in the 80s saw this as a really existential national security threat.

To be sure, people did think it was a bad idea that we would never make chips again. But there wasn't anybody really thinking that Japan or South Korea was one day going to withhold this vital technology from us.

That's why the competition with China is qualitatively different from the competition with Japan.

Now, Derek, I do think actually it's the case that even in the absence of this competition with China, there would probably still be a lot of people pushing for industrial policy. I'll take one example.

That's the Inflation Reduction Act, because there's a lot of industrial policy in that law too.

We're basically offering electric vehicle subsidies and battery subsidies to vehicles if they're only assembled in North America and if the batteries are only made in the United States or its allies.

That's industrial policy, really.

The Biden administration is trying to actually create an indigenous electrical vehicle industry.

But no Republicans voted for that bill.

And a lot of Republicans did vote for the chips bill.

And I think that tells you something.

It tells you that while the case for industrial policy in the case of electric vehicles is

kind of like two-sided, it's not widely accepted.

When it comes to semiconductors, there is no partisan divide.

Both sides of the aisle can agree on that.

And it is precisely because of the China factor in that one.

Very well said.

That could reiterate it.

But I would just like listeners to underline, go back 30 seconds, re-listen.

I think that China is such an important story and such an important part of the story.

You have a great quote from Mike Schmidt, who heads the Department of Commerce office that oversees the implementation of the Chips and Science Act.

And he had a really, really interesting line.

He said, quote, there is zero leading edge production of chips in the U.S.

We are talking about making the U.S. a global leader in leading edge production and creating self-sustaining dynamics going forward.

There's no doubt it's a very ambitious set of objectives, end quote.

So I want to talk about what is in the Chips Act specifically before we get to some of the controversies that have arisen around the Chips Act.

What is the Chips Act?

What does it do?

The Chips Act appropriates \$53 billion in two chunks.

One chunk, it's around \$13 billion, is really to support basic level research and development to sort of maintain the U.S. edge in the design of semiconductors and all the associated stuff.

The other \$39 billion is direct subsidies for building semiconductor fabrication plans, what we call FABS, the buildings and the sophisticated equipment that goes inside them.

And that's where the Chips Act is a little bit special because even though this country has a long history of subsidizing research and development, actually subsidizing the manufacture of the products that result from that R&D, that's relatively new.

Now we've done it for a long time at the state level.

Like practically every state has a program to offer incentives to establish a factory in their state and another state.

And we sort of understand that's basically business as usual, right?

I mean, no governor wants to go to their boat and say, I did nothing to try and attract that like Volkswagen factory or that whatever factory, right?

And in some sense, the Chips Act is doing exactly the same thing at an international level.

It's saying that these FABS could go anywhere, they could go to South Korea, they could go

to Taiwan, they could go to China, they could go to Malaysia.

We want them to come to the United States.

They won't come to the United States with us throwing a little bit of money into the pot to put our thumb on the scale.

Let's get into this game just like everybody is and make sure that the United States is at least at the table as a preferred option when these companies decide where to put their FABS.

Now here's where things get interesting.

As you just said, the Biden administration really, really wants these companies to make a decision to move their FABS to the US.

So you look at the rules.

What does it take to open a FAB right here in the United States?

The Biden administration seems to be using industrial policy and computer chips to pursue some broader goals.

So for example, to receive funding for one of these FABS, recipients must provide, quote, affordable, accessible, reliable, and high quality childcare for both facility and construction workers.

They also have to pay union scale wages for construction and preferably use unionized labor.

Greg, tell me why this has been controversial among some economists.

I think it's controversial because what the Biden administration is trying to do here is use one program to accomplish two very different goals.

One goal is establish more chip manufacturing in the US instead of China.

And the other goal is further various important progressive priorities like universal childcare, more unions, more union pay, and stop companies from using cash to buy back shares.

We could have a separate podcast about the relative merits of all those policies.

I think in the current context, what we worry about is that by establishing the second set of social goals, you actually make it harder to achieve the first set of economic goals.

Why might that be?

Well, remember, these companies, I heard somebody, another economist make the following point. When you demand that highways in the United States be built with union labor and American products, the highways are going to be more expensive, but at least the highways will get built.

It's not like we're going to lose that highway to South Korea.

The highway has to be built here, right?

But that's not the case with these FABS.

There is a global contest for these FABS, and the companies that make them are extremely profitable and extremely competitive, and they have choices.

They don't have to put that fab in the United States.

And when they make that decision, they're going to look at all the costs and benefits of putting it here versus somewhere else.

And on the cost side, you're already starting with the fact that American labor is more expensive than Asian labor.

American land is more expensive than Asian land.

And now you're adding all these other costs.

You have to bring us childcare.

You have to pay union scale wages.

You cannot buy back your stock.

If you have unusual profits, you must share them with the government.

Every time you add another condition, you make the proposition a little less attractive, and you make it a little bit less likely that a company is not actually going to apply for this money.

That is not a good outcome.

We want companies to apply for this money, and not just any companies.

We want the best, most successful companies, the Samsung's, the Intel's, the Taiwan Semiconductor Manufacturing Companies of the World, to apply for this money because they're the ones who are going to be around for a long time.

They're the ones with the leading technology.

Those are the ones we want building factories here.

And every time we add another condition that makes it a little bit less attractive to build it here, they may think twice, number one, about whether they'll apply for the money and build it here, or how much they'll build here, and that's not something we want.

And if I might, we know this is a factor because we've got a history of attaching these conditions, and it does affect companies' behavior.

In 2008, we bailed out a bunch of fantasies or something called the Troubled Acid Relief Program.

And because people didn't like banks very much and thought they were greedy, retouched a lot of conditions, you can't pay your CEO's bonuses and so forth, that turned tarp money into the Scarlet Letter.

And every bank that received it worked really hard to pay it back as quickly as possible. And one result was that instead of using that money to expand lending, it was no longer there all because of the stigma.

Look at the CARES Act that we passed in 2020 to help industries make it past the pandemic.

There was money in there for the defense aeronautics industry that was more or less crafted for Boeing, which was really suffering because a lot of aircraft orders were being canceled.

But the money was only going to go to Boeing if Boeing also agreed to give up equity to the government, plus abide by a lot of other conditions like no share buybacks.

Boeing looked at this and they finally said, no, thank you.

In other words, we created money, it was got a foreign industrial policy in which the conditions that were so stringent that the company was aimed for decided it didn't want the money.

And I would say that we do not want to end up in that situation with the semiconductor program.

You do not want the money to become so burdened with these other entirely separate objectives that the only companies you end up attracting are the weakest companies.

Let's say that I love industrial policy.

I love industrial policy for semiconductors specifically.

I also separately love the idea of an abundance of affordable, accessible, reliable and high quality childcare for all Americans.

If putting my second goal into my first goal is the bad way to conduct policy, what's the good way to conduct policy?

How might an economist that you speak to who's critical of industrial policy, but not critical of the concept that we could really use better childcare, how would they go about getting both goals?

Well, they would probably pass two different laws.

One law would be the CHIPS Act, which is to attract the particular industries that we want for national security policy.

The other law would be one that expanded childcare, paid more subsidies either to the families or to the providers of childcare.

So that affordable childcare was in the places where it was needed.

And indeed, the president did have a plan, it's called the Build Back Better Plan that intended to do just that, but for various reasons was not able to get that passed.

So I suppose the simple answer is use the right instrument for the right goal.

And if you actually try to achieve too many goals with one instrument, you end up achieving any of those goals, or at least not doing a very good job any of them.

Look, the argument's been made, and I have some sympathy for it, that having affordable quality childcare is actually economics policy, it is a factor to having a high quality labor force.

I get that.

The fact of the matter is that these companies, if they perceive that they are having trouble attracting the right people because they lack the childcare, they will have the incentive to offer that childcare themselves without having to be spotted to do that by the government. And indeed, a lot of the companies I am told that we're aiming this CHIPS subsidy money at already do offer childcare.

So in fact, it's a little bit redundant.

But if in fact they're not offering childcare, or if it in fact is a burden, then you've essentially asked this very vital industry to shoulder a tax in order to provide a benefit that we want the entire country to have.

And I would suggest that's not the optimal way to go about it.

I would say there's one other risk to larding industrial policy with a bunch of mission creep.

And it's that if you lose out on a bunch of Samsung factories, you don't just lose the value inherent in those Samsung factories.

If the policy fails, it might poison the well of industrial policy and domestic semiconductor manufacturing for many years or decades, the same way that Selindra was held over the heads of green economic types for years and years, despite the fact that unfortunately no one would point to Tesla and say, actually, the policy of subsidizing some green economy company seemed to work.

So if you see what I'm saying, it seems like there's an externality to industrial policy failing in a catastrophic way, which is that if you are a fan of industrial policy in certain

narrow segments, which I am, I want it to succeed.

And therefore, I'm worried that its short-term failure may lead to its long-term abandonment. Does that make sense?

I think it makes a lot of sense, and in fact, I'm really glad you brought that up.

I think that there's a, I quote Larry Summers in one of my pieces, he says, I like my industrial policy advisors the way I like my generals.

The best generals, they hate war, but when they know that war is necessary, they fight. And the best industrial policy advisors are the ones who are reluctant to do industrial policy but want to get it right when they do it.

I worry about people who do industrial policy just because they love doing industrial policy. So I think what we know from history, if you look at things like Operation Warp Speed, which gave us these COVID vaccines, or if you look at the space program and the missile program that gave us semiconductors and rockets, industrial policy works when the goals are really focused, when the government says, here's a bunch of money, put a man on the moon, give me a COVID vaccine, go out and do it.

It's least successful when the goals are really diffused.

I'm not even sure that Slinger is the best example because that same program also helped companies like Pre and Electric Lighting and I think Tesla.

So I'm not even sure that's a clean example, but I'll give you another perfectly good example. That's shipping.

The Jones Act was passed in 1921 with the theory that we needed a domestic shipbuilding industry so that our Navy would always be ready to build ships.

And here we are 100 years later, we still got that thing and one result of it, this law requires us to use American-built ships to move between American ports.

It makes shipping very expensive, products very expensive.

It's one of the reasons why Puerto Rico is poor because they have to get so many of their products through this expensive shipping and it has done nothing to save the American shipbuilding industry.

And failures like that, I think, sort of like give industrial policy a bad name.

Look at Donald Trump's famous effort to build an LCD plant in Wisconsin, remember that one? As far as I know, it still hasn't been built and it was just subject to endless ridicule because let's face it, nobody who actually knew anything about the needs of the electronic industry or the LCD industry thought that that was a good place to build one.

It was, they chose that place because Wisconsin was a swing state and I think that it just creates a bad taste in the mouths of everybody when the government says we're going to dole that money for these companies to go this place or the other.

So I guess what I'm saying a long way is, Derek, I agree 100% with you.

I think it's incumbent on the folks who are doing industrial policy now to really do their best to get it right and to be not distracted by the extraneous objectives.

I want to ask you about the Buy America provisions in some of this industrial policy that's coming down the pike from the Biden administration, especially in the Infrastructure Act and in the IRA, which handles more of the green economy industrial policy stuff.

There are some lines and some policies that essentially say you have to buy all or a certain

share of the products in this category from an American producer and Buy America has to pull very well, I mean, it sounds absolutely fantastic.

Tell me a little bit about the Buy America provisions in these bills and what some of the risks of Buy America are?

Yes, so Buy America, as President Biden loves to point out, it's been around for a very long time, decades, I think, and what he's trying to do in the Infrastructure Act and I think if you are the programs is really toughen them up and make sure that they're really observed.

And yeah, you're right, they pull really well.

I mean, if we're going to build a bridge, why don't we use American cement and American steel and so forth?

But the fact of the matter is that the American suppliers are more expensive, if they were cheaper, we wouldn't need a lot of tell our contractors to use them.

And so what are we getting in return for that?

Well, I guess it's obviously good if you're in the industry of supplying these materials or building stuff, it's not great for the taxpayer.

And we know for a fact, because studies have shown this, that Buy America raises the cost from governments and taxpayers to build basic things like their infrastructure and so forth. And it means that for a given amount of money to spend on infrastructure, we get less for it.

And in the case of some of the things that are subject to Buy America are simply very difficult to source in America.

Certain types of steel aren't available or they're not available in the right quantities or the right types or the right specifications.

So specifying Buy America, I think, means that some stuff simply can't be done and you need to find a way around those rules.

And I'm not even sure that the fundamental rationale makes sense.

I mean, it supposedly creates jobs.

Well, we have a 3.4% unemployment rate, the jobs that we create with Buy America are essentially jobs that are not created in some other part of the economy that desperately needs them.

And those jobs might be as good if not better for us.

It's not bad to go back to our basic economics and ask why people like Adam Smith and David Ricardo thought three trading compared to a band of great things.

We can't make everything in the United States alone and we shouldn't want to.

It's not efficient for us to make absolutely everything at home.

Joe Biden wants us to, all American infrastructure to be made with American lumber and American drywall.

Why?

What is special about American lumber, American drywall?

What is wrong with buying a lumber, the drywall from Mexicans or the Canadians if it's just as good?

The people who would otherwise be making that lumber and drywall here in the United States can make something else like semiconductor chips.

You know what I mean?

There is a reason why economists think that the division of labor and comparative advantage is a good thing.

Everybody ends up richer for it.

Buy America is generally speaking not a great idea.

Yeah, I prefer the concept of some people call it friend shoring.

I think of it as an abundance agenda needs an abundance of help.

I think that building a relatively and globally resilient network of key materials is probably the right approach here.

I've been very persuaded, for example, by America's experience with baby formula last year.

The US government essentially has something very much like a buy America policy for baby formula.

As a result, there are very few approved baby formula manufacturers in the US that can actually sell to American consumers.

It's extremely concentrated, which means that if one node is knocked out, we're in a lot of trouble.

Guess what happened last year?

A node got knocked out.

There was a bacteria infestation at a plant in Michigan.

As a result, thousands of parents seemed to struggle to find baby formula for their kids and people freaked out.

This is exactly what you should expect if you reject friend shoring, if you try to make everything that is essential within the US borders, you're creating an unresilient network for a critical supply or for a critical material.

That's where I want to move to the supply chain of stuff that is necessary to build computer chips.

I've talked about an abundance agenda.

I want government policy to focus on an abundance of that, which we decide is most important for American life, but I'm become more interested in what I think of as vertical abundance.

How do we create an abundance of things that are necessary in order to build, say, houses? You want an abundance of electric vehicles?

That means you need an abundance of lithium ion batteries.

You need a bunch of lithium.

How do we create an adequate supply of lithium?

It's the same story with chips.

We want a bunch of leading edge chips.

We would prefer that many of them be manufactured in the US, but that means we need to think about the whole supply chain that sums up to an advanced computer chip all the way down to something like the lasers that imprint tiny circuit blueprints on silicon wafers using purified neon gas.

This is a story that you've reported on.

Tell me about the lasers, Greg.

Why does the US have a shortage of purified neon gas and why is it so important that we solve problems like this?

Yes.

Well, it turns out that semiconductors aren't just really sophisticated products.

They're one of the most complex also with multiple steps.

There are so many parts and so many vital ingredients.

It turns out that one of the things you need to make semiconductors is a very purified form of neon gas.

The raw neon gas is actually a byproduct of steel production.

Well, it turns out the US doesn't make that much steel any longer here in the United States that produces the raw neon gas.

We have to get it from other countries.

In fact, up until recently, the two big producers of it were Russia and Ukraine.

Well, as you can imagine, there are issues with getting those supplies from Russia and Ukraine

Now, so what's the correct response to this situation?

It's not good that a vital industry like semiconductors is dependent on only a handful of suppliers in very risky parts of the world.

I don't think the answer is autarky.

I don't think the answer is all that neon gas must be produced here in the United States because, as I mentioned with the example of lumber and drywall, we can't make everything in the United States.

We don't have enough people.

If we ask them to make everything in the United States, there'll be something less that they'll be making up and everybody will be paying a higher price for it.

Now, I think that's what the appeal of the idea of French shoring is.

I mean, if the issue is that free trade left its own devices would leave us dependent on countries that may be hostile to us, let's make a very minor intervention and carve out the countries that we're worried about, call them Russian China, and then have free trade among the rest of us.

And that really is kind of the essence of French shoring, and it has a lot of appeal.

A lot of these products, like semiconductors, require extremely high economies of scale.

You can really only achieve their low costs if you're making them for a market which encompasses most of the world.

You want to not, it's not just economies of scale, but there's competition involved,

is that when you have a lot of companies competing in this space, the products get better.

They make each other better.

You don't have the complacency that comes with having a monopoly at home.

Good as French shoring sounds, I think it is actually right on that perimeter of where we get to the debate about when does industrial policy go too far.

And a good example is, again, the Inflation Reduction Act, where there's a debate right now about whether we wrote that law so narrowly that we're being a little unfair and insisting that only batteries and cars made in the United States or in the allies of the United States

would qualify.

I don't think you can make the same case that EVs are as vital, or electric vehicle batteries are as vital to national security as semiconductor chips are.

And I think it's also the case that we know for a fact that a lot of the electric vehicles, a lot of great electric vehicles and batteries are made in countries that are our allies and our friends, like Germany, like South Korea, like Japan, like Canada and Mexico. So it's difficult for me to see the rationale that we use for industrial policy in the Chips Act translating to the Inflation Reduction Act.

I think that with respect to the Inflation Reduction Act, you want to actually draw the perimeter fairly wide and say, rather than say, this is an industry that is so vital, some of it has to be in the United States, sort of say, our only priority here is that we not depend excessively on China.

Everybody else is OK.

And that has a number of benefits.

It does just have the economic benefits of allowing more competition in economies of scale.

It has geopolitical benefits, right?

We've been going to the Dutch and the Japanese and the Koreans saying, we want you to join our controls on the export of sensitive semiconductor equipment to China.

We don't want you doing it.

And they're saying, well, fine, but you're telling us you don't want us to sell to China, but in the Inflation Reduction Act, you're telling us you don't want to sell to the United States either.

That doesn't seem fair.

I think that if we expect our allies to be there when it comes to not doing business with China, they need us to be there when it comes to doing business with each other in the field of electric vehicles.

I'm thinking about putting these two concepts side by side.

On the one hand, that industrial policy, as we're conceiving of it, is about narrowly and with clear prioritization, ensuring that America has the capacity to make really important stuff right here in the US.

That's why we're subsidizing things like advanced computer chips and solar panels, maybe wind turbines as well.

But at the same time, it seems like it's a little bit in tension with the concept of Frenchoring, which says that actually it doesn't so much matter what country certain key materials are being manufactured in.

So long as they're being manufactured within a network of friends who can trade freely with each other, and maybe if there was some kind of emperor of America and its allies overseeing all the industrial policies happening among all these countries, Japan and America, Germany and the UK, whether that emperor would actually say, Germany, you're taking wind turbines and you are going to have an industrial policy for wind turbines.

Go.

Japan, you're going to take semiconductors, you're going to have an industrial policy

for chips, UK, you're going to take solar panels and you're going to figure out how to have the most extraordinary policy for subsidizing the exquisite manufacturer of photovoltaics, et cetera, et cetera.

Is there a weird, and I'm just thinking of all this out loud, is there a weird argument for coordinated industrial policy so that we're all not throwing a lot of government funds at the exact same thing and trying to steal a scarce, marginal Samsung fab from Germany to UK to Canada to the US?

I mean, it's not just, it's not weird at all.

In fact, it's actually explicit policy.

Gina Raimondo, the Commerce Secretary, talks about this all the time that she realizes that the United States can't and shouldn't want to do this alone and needs to talk to its allies.

Mark and Fistar, the competition commissioner for the European Commission says the same thing.

Europe can't afford to do it all its own.

On industries like these things where there are large economies of scale, there has to be cooperation between like-minded partners.

And there do exist a few forums to help this along.

There's something called the Trade and Technology Council, which is essentially a body made up of the top policymakers of the United States and the European Commission that meets a couple of times a year to discuss these things.

It's good in theory.

Like, hey, you make the three nanometer node chips, we'll make the five nanometer node chips.

You make the chips for home appliances, we'll make the chips for cars, and we'll have free trade among each other.

It sounds like really smart, doesn't it?

I think actually actualizing that, putting that into practice is really hard.

And I've actually put the question to folks at commerce and elsewhere, and haven't yet got a good reason about how in practical terms they plan to do this.

I mean, you can imagine one way they might do this is simply by talking to the companies, right?

Commerce sits down with Intel, or they sit down with Samsung, or they sit down with SK Hynix, and they say, if we subsidize this plan for this type of chip here, where will you put your other plan?

They'll say, oh, in that case, we'll talk to the Germans about that plan.

And maybe it'll just happen, right?

There's a finite number of companies you have to talk to.

There's a finite number of markets that are involved.

It shouldn't be that big of a coordination problem.

I do worry, though, that we're in a world where, in spite of the theoretical benefits of cooperation, we are sliding into a world of, in some sense, national competition.

That is really what industrial policy is about.

And the political incentives do not line up in favor of people doing that.

The Europeans were so upset with the subsidies in the Inflation Reduction Act, they came to the American to us, and they said, look, we're your friends.

German automobile makers love doing business in the United States.

We welcome American automobile companies to do business in Europe.

We should be trading with each other, not sort of like putting up these walls.

You shouldn't have subsidies that discriminate against our European companies.

In Catherine Tide, the US Trade Representative, her response was basically, well, if you don't like our subsidies, you should offer your own.

It wasn't, they did not suggest cooperation.

They suggested just do what we're doing, which doesn't sound like cooperation, right? I mean, it sounds like it has a bit of a race to the bottom feel to it.

I'm not sure that's the ideal outcome.

I'm thinking about all the various ways that this era of industrial policy could fail.

And I want to just enumerate what I think we've come up with and then ask you if there's something else that you're afraid of.

Number one, we talked about mission creep, this idea that if you take the incentives for building fabs in the US and you lard them up with all sorts of social policies, that next marginal fab just doesn't arrive in the US, and so industrial policy simply fails in the crib.

That's mission creep.

Number two is my fear that by America provisions raise prices, that it's time that we actually want to reduce the price at which a lot of these things are bought or a lot of these things are made, and it reduces resiliency for key materials, the same way that our infant formula was unresilient to the bacterial infection of one Michigan plant.

And then number three is this fear of it scrambling our relationships with allies, scrambling the French shoring network building that we're trying to do, and might just result in a bit of wasted money, because if we spend \$200 billion trying to subsidize X and then Germany spends \$100 billion trying to subsidize it in the UK, this isn't the worst thing in the world, but it just means that maybe some money is going to be wasted in this kind of race to the bottom.

Is there something else that you're most concerned about when it comes to the implementation of industrial policy in the next few years?

Yeah, I'd say that I'm most worried about the possibility that we're backing the wrong horse, that we have incorrectly diagnosed the criticality of semiconductors in general or specific types of semiconductors.

I don't think anybody anticipated that integrated circuit would be as important as it was back in the 50s and the 60s, and the fact that it did reflected in some sense the serendipitous discoveries and the decisions of a bunch of disconnected entrepreneurs.

I don't think anybody anticipated that logic chips would displace memory chips in the 90s as the source of the most important semiconductor advanced knowledge.

I don't think that folks anticipated that the foundry model, which TSMC pioneered, would become so successful and make possible all these standalone design firms like ARM, Qualcomm,

and so forth.

If we had thought that all of our money should go into chip manufacturing, we may not have those fantastic design firms today because those are firms that essentially only thrive because they did not have to sink a lot of capital into manufacturing facilities.

I don't think anybody realized beforehand that graphical processing chips that were mostly used for things like video games would become so important for artificial intelligence, which is why NVIDIA is the most valuable semiconductor company in the United States today.

These kind of technological developments, which often reflects serendipity in things that no government can guess, and I think those are the smartest people in the Wall Street do not guess them, that our inability to predict those things.

We will put money into the wrong place.

Intel right now, as you may know, is struggling.

It's struggling because it guessed wrong on what the next generation of processed technology would be.

TSMC guessed right.

They bought the right machinery from ESML, which is a Dutch company.

Intel guessed wrong.

Five years late, there are several years now behind TSMC, and they're struggling to keep up with.

If we lose Intel, we have lost the last essentially American-based logic chip manufacturer.

The chip industry right now is going through one of its periodic down cycles.

They're all cutting back.

They're all losing money.

They're all having second thoughts, and at exactly this moment, every government in the world is subsidizing even more capacity at a time when we actually don't need more capacity. If you ask me to worry about it, it is a possibility that in spite of the best of our intentions, we will end up subsidizing too much of the wrong industry.

Greg Yip, the Wall Street Journal.

Thank you very much.

All right, Derek.

Thanks for having me.

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