



A podcast about the economics of trade & policy  
with Chad P. Bown

## Episode 194. Industrial policy detectives: China's subsidies for shipbuilding

[Episode webpage](#)

November 5, 2023

Transcript

(lightly edited)



**Chad Bown:** China's industrial policy is now one of the most important trade stories around.

Take a sector like shipbuilding – over roughly a decade, China went from a bit player to dominating global production of the ships so critical for international trade. Shipbuilding is not alone. Over the 2000s, steel, aluminum, solar panels, and now electric vehicles all seem to have followed a similar script. China goes from zero to suddenly having a choke hold over the global industry.

China's industrial policy must have provided an important boost for these sectors, according to some versions of this story. But how? Though China reportedly uses different types of subsidies, almost none of them can be seen by the naked eye. There are very few direct payments from the Chinese government to companies that would leave a paper trail.

So how much of this China industrial policy story is fact and how much is fiction?



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This episode explores an incredible new technique to measure China's industrial policy as applied to shipbuilding. How big were China's subsidies? Did the subsidies make Chinese firms do better? Even if not, did China's subsidies somehow make foreign firms do worse?

To tackle all of this, I will be joined by a very special guest.

**Myrto Kalouptsidi:** Myrto Kalouptsidi, Harvard University.

**Chad Bown:** Myrto Kalouptsidi is an economics professor at Harvard University. She is an expert on shipbuilding, on China, and on industrial policy. Today, Myrto is going to share an amazing new approach that she has developed to identify and measure the size of China's industrial policy. She will also explain how China's massive subsidies for shipbuilding have impacted China as well as the rest of the world.

**Chad Bown:** Hi, Myrto.

**Myrto Kalouptsidi:** Hi, Chad.

**Chad Bown:** You are listening to an episode of *Trade Talks*, a podcast about the economics of trade and policy. I'm your host, Chad Bown, the Reginald Jones Senior Fellow, at the Peterson Institute for International Economics in Washington.

## THE EPISODE

**Chad Bown:** Myrto, to start, tell us about the main types of ships used in international trade and how these ships deliver things differently from port to port.

**Myrto Kalouptsidi:** There are three main types of ships. The vast majority of ship production is in tankers, container ships, and what are called dry bulk carriers.

Container ships are probably the ships that are most familiar to people – they are these huge floating boxes that are filled up with containers – these are aluminum boxes. And these containers are filled up with the vast array of different things – i.e., mostly manufactured goods like iPhones, furniture, and clothes. These ships tend to work like buses. They follow an itinerary from port to port and the trade is executed by a small number of companies.

Tankers carry mostly oil, but also chemicals and gasoline. There you have, again, a huge hull of steel that is filled up with oil, and it does specific trips like a taxi from point A to point B.



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And finally, dry bulk carriers operate similarly to tankers, but they will do dry bulk instead of liquid bulk. So, they will carry iron ore, steel, grain, bauxite, and they will also work like taxicabs. They will go from one point to another.

Then there are specialized ships, cruise ships, and LNGs (that carry liquefied natural gas) – these are the other main categories.

But for our analysis, we're going to focus on the first three types – i.e., container ships, tankers, and dry bulk carriers – which are about 90 percent of global production.

**Chad Bown:** How do companies make a ship?

**Myrto Kalouptsidi:** Ships are the largest factory produced product. What you need to build a ship is basically land - and actually land that is by the water, whether this is the sea or a river. And then the costs are 50 percent labor and 50 percent inputs – i.e., you need workers, cheap labor. You also need some basic inputs. Steel is obviously one of the most important inputs required to build a ship, but then it also helps to have producers that can provide things like engines, which are, or which can be, fairly complicated objects.

**Chad Bown:** In which countries has shipbuilding taken place historically?

**Myrto Kalouptsidi:** Historically, shipbuilding has had a very interesting path. This is an industry where we've always seen one, two, or maybe three countries dominating the market.

Start from the previous century with the UK being the largest producer. For the greatest part of the last 200 years, the UK, of course, had a strong maritime tradition. This coincided with the UK having an empire and trading a lot with its colonies. Then, Europe also became a big producer.

After World War II, Japan, in an effort to rebuild its industrial base, promoted shipbuilding, and shipbuilding in Japan became very big.

South Korea followed suit in the 1970s. And this is the first country where we see a disconnect between shipping and shipbuilding. South Korean shipbuilding from the very beginning was geared towards exports. And it's also worth noting that, at this point, because of flags of convenience, most ship owners will have ownership that is different from flag registration.



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This is the point at which the shipping market really became very flexible, in terms of where a ship owner is going to buy a ship. South Korea was the first country where actually most of the ships were not used domestically and were sold as exports to international ship owners.

**Chad Bown:** What was the global production landscape for the shipbuilding industry at the turn of the century – i.e., at the beginning of the 2000s?

**Myrto Kalouptsi:** In the early 2000s, the vast majority of ship building occurred in Japan and South Korea. They were by far the dominant countries and controlled more than 80 percent of the market. Western European, Scandinavian, and Eastern European shipyards had declined a great deal. They produced mostly niche products like high-end complicated cruise ships and LNG ships.

And by the early 2000s, China was a small player in the market. They've started entering and they control about 10 percent of the global market.

**Chad Bown:** At that point, in the early 2000s, what happens in China?

**Myrto Kalouptsi:** In the early 2000s, China decides to start targeting shipbuilding. It decides shipbuilding is going to be one of the so called pillar industries of the country. And specifically, in 2002, Premier Zhou inspects the China State Shipbuilding Corporation, the CSSC, which is still a major umbrella organization that has many shipyards and he points out that, “China hopes to become the world's largest shipbuilding country [in terms of output] by 2015.” And this is a common theme in China, these goals to become the largest producer in industry X, Y, or Z.

The major policy push comes in 2006 in China's 11th National Five Year Plan, where China now directly and explicitly implements a series of industrial policies to promote shipbuilding.

**Chad Bown:** China says it wants to have the largest shipbuilding industry in the world by 2015, and it starts using industrial policy to help it get there. But why? There are lots of industries China could have chosen to prioritize with government subsidies but did not. Why shipbuilding?

**Myrto Kalouptsi:** It's hard to know. Interestingly, shipbuilding has been used in many instances as an industry that is being subsidized. Economists have a few theories to potentially justify industrial policy type interventions.



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Perhaps the most well-known and frequent one is the argument for an infant industry. This is a situation where, in a particular country, an industry is very young, and it has a lot of what we call learning by doing to do.

As the expression itself suggests, the theory says that the more you produce and the more experience you obtain in a given production process the better you're going to be at it. I.e., your costs are going to be lower, and that is what you want. If you want to compete internationally, you want to lower your costs by being more experienced so that you can compete in the global market. And if there are what we call learning spillovers, which means that one firm can learn from another firm, this provides an incentive for a government to boost production so that firms can learn collectively and go down their learning curve – i.e., go down their cost curve and so be more competitive globally.

**Chad Bown:** Learning by doing is one theory for why a government might use industrial policy to promote a certain sector, like shipbuilding. What are some others?

**Myrto Kalouptsi:** Another theory is spillovers to other sectors. For example, with shipbuilding, its sister industry is steel. We know that steel is another sector that China is subsidizing. Shipbuilding could boost demand for steel, for example, and that could be another reason to boost the shipbuilding industry.

Yet another justification for industrial policy is what is called strategic trade. Here a good example is Airbus versus Boeing. Suppose you have two big firms from two different countries. The government may have an incentive to help its domestic firm gain a strategic advantage in this global market against the competing firm. If they can do so, this means that they are helping their firm gain a larger share of the global market, which is what the firms strive for.

Shipbuilding is also very crucial for trade. China's trade obviously has increased dramatically over the past decades. We think a lot about Chinese exports, but Chinese imports are equally big in tonnage. And so there's been speculation that China subsidized shipbuilding to essentially bring down shipping costs – i.e., freight rates – and therefore boost both its imports and exports.

China mostly imported commodities and raw materials to build cities, factories, infrastructure as it was growing – these were carried in dry bulk carriers and tankers. And, of course, Chinese manufacturing is very export-oriented and this boosts the building of container ships.



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Finally, there are reasons outside of economics to subsidize an industry. For shipbuilding, military considerations are obviously very important. To the extent that becoming better at producing commercial ships makes you better at producing military ships, then this may provide an incentive to boost shipbuilding production. National pride may be another one – i.e., we want to be the biggest producer in this heavy industry in the world.

**Chad Bown:** There are then a lot of theories behind why China might have used industrial policy to develop a national shipbuilding industry. Some of these are noneconomic, but some are economic – and I'll ask you more about those momentarily.

But first, what about the exact policy tools? What types of policies did the Chinese government use to put this plan into action?

**Myrto Kalouptsi:** So, China did in shipbuilding what it did in many other industries. It intervened in several different ways, and I'll focus on four that I think were the most important ones.

First of all, China made it easier for shipyards to enter. This means giving them free land or giving them land at very low prices in coastal regions. It also means simplifying licensing procedures and shortening processing times.

These subsidies, which we call entry subsidies, had a huge impact. In the next three or four years after 2006, we saw a massive entry wave of Chinese shipyards – i.e., about 30 to 40 shipyards per year. Compare this to Japan and South Korea, where we barely saw one new shipyard per year.

The numbers are really staggering. I actually remember at the time I was doing my PhD; I was interviewing several shipowners and they were describing how they would place orders for new ships at these Chinese shipyards, which they called “greenfield yards.” They were taking orders and at the same time the shipyard was being built because they only had the land and they were getting the rest of the infrastructure in place while starting to build new ships.

**Chad Bown:** Incredible – this is a booming period for trade so the number of shipyards is expanding. But in major producing countries like Japan and Korea this expansion was one shipyard per year and in China, because of these entry subsidies, it was 30-40 new shipyards per year.



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OK, entry subsidies are one example of how China deploys industrial policy. What are some others?

**Myrto Kalouptsi:** The second type of subsidies that were very relevant for shipbuilding were production subsidies. These essentially were measures that are meant to directly boost the production of a given yard. Think of this as subsidized material inputs, for example, take steel. Steel is a major input into producing ships. The steel sector in China is also heavily subsidized. There are several state-owned enterprises that can sell steel to shipyards at below market prices.

The other form of production subsidies that is relevant are export credits. A ship costs several millions of dollars – it's not a cheap asset. Very often ship owners need loans to buy ships. Basically, ship owners across the world could get cheap financing to buy these Chinese ships from Chinese shipyards through the collaboration of Chinese shipyards and state-owned Chinese banks at the direction of the Chinese government.

The third type of subsidies were subsidies to capital investment. These are very cheap loans that shipyards could get from Chinese banks. These loans were crucial to expand the infrastructure of the shipyard and buy cranes and enter into the production of more specialized ships that needed more complex equipment.

Fourth, and finally, China used what was often called a “whitelist.” A whitelist is essentially part of a consolidation policy where the government picks winners. It picks a set of firms, and it prioritizes these firms into benefiting from these types of subsidies.

**Chad Bown:** This is fascinating, and it is consistent with one of the problems we often hear about China in that it offers so many different kinds of subsidies that it is impossible for analysts out there in the trading system to account for them all. Also, the Chinese system is so opaque that there is no way to see the government paying this many dollars to this company for the company to then do something like buy steel or make ships.

In your research, how do you get around these challenges?

**Myrto Kalouptsi:** This is an absolutely critical point, and it is really at the core of our research. One of the main challenges we have encountered while working on Chinese industrial policy is the opacity of this policy. We have very little – or even no – information on any direct or in kind subsidies. In plain words, we just don't observe the amount of money or the exact ways in



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which the Chinese government helps Chinese firms. If you think about it, we don't even have basic information about the Chinese economy. We don't even have the actual budget of the government, let alone these types of subsidies.

The first part of our research is to actually try to infer and measure the subsidies that the Chinese government gives to Chinese firms. And to do that, we're going to rely on a combination of data and theory.

The data is detailed information on the shipbuilding industry globally. We're going to observe what Chinese and non-Chinese firms produce, for example, and do at a very micro level.

The theory part consists of us estimating the cost function of firms that are potentially subsidized, and we're going to be particularly interested in whether this cost function exhibits a break, or a gap, in 2006, which is the year that the Chinese government started subsidizing.

So when we estimate this cost function of firms, do we see it jumping discretely in 2006?

And if we do see this, we're going to say that this is a jump that our model – that can replicate what the industry does – cannot explain (this jump in costs) and hence this jump is attributable to subsidies.

The idea is to compare Chinese to non-Chinese firms before and after 2006. And if we see this weird behavior in Chinese costs in 2006, then this is what the subsidies are creating.

**Chad Bown:** So let me give a pretend example just to fix ideas. Maybe before 2006, Japan, South Korea and China all produce ships and sell them at cost at \$5. Then after 2006, Japan and South Korea continue to sell a ship at \$5 but China suddenly starts selling that same ship at \$3. Then you're going to infer that the \$2 difference is now what is being subsidized, because you have nothing else to explain it.

OK, leaving my pretend example and now going back to your formal model of global shipbuilding, how large were China's subsidies for shipyards over this period?

**Myrto Kalouptsi:** They were huge. So our calculation suggests we're talking about \$90 billion between 2006 and 2013, and this averages to about \$11 billion per year. As a comparison, this was about half of the total Chinese industry revenue in that time period.





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We also find that this amount was mostly spent on entry subsidies – i.e., about 70 percent of total subsidies were given to new firms in order to be established and start operating in the industry. And in contrast, production subsidies and investment subsidies were considerably smaller.

**Chad Bown:** You found evidence that China was providing massive subsidies to its shipbuilding industry. The second and maybe more important question is what were the implications of those subsidies? What did you do next?

**Myrto Kalouptsi:** So then we want to ask – OK, we find these subsidies – but do they matter? How would the world have evolved in the absence of these subsidies?

The good thing about having written down a quantitative model that can predict how the industry will evolve under different circumstances is that we can actually perform this exercise. We can take our model use it to see what would have happened had China not subsidized in 2006.

Now, you might ask me, can't we just look at before 2006 and compare it to after 2006? And the problem is that the world actually looked very different in the early 2000s versus the late 2000s. To give you one example, during 2006, we saw a big commodity boom. This was a time period where China was growing very fast. Its imports for raw materials and commodities were growing very fast, and this by itself created a huge demand for new ships that were absolutely necessary to execute this increased trade activity. So, our model needs to control for that. We need to be able to say, even during this period of peak demand for ships, how did subsidies affect the evolution of the industry.

**Chad Bown:** What did you find?

**Myrto Kalouptsi:** The industrial policy had a huge impact. So within a few years, China became the leading shipbuilding producer.

China easily beat the 2002 goal of becoming the largest producer by 2015. In fact, they beat it in 2009, a whole six years earlier than their original target.

It dominated the market with the largest market share, production shot up, entry shot up, investment shot up.



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At the same time, the actual return of the policy was very low. So if you look at the industry profitability, you will see that firm profits barely increased.

**Chad Bown:** This Chinese industrial policy has now resulted in Chinese shipyards taking over global production, but its firms are barely profitable, even with the subsidies? Why did this happen? These two things don't seem to line up.

**Myrto Kalouptsi:** This increase in output and production does not translate necessarily to efficiency gains or profitability gains. And in fact, when we compute the return on this policy – i.e., what are your cents on the dollar – we find very low returns.

The main reason for this has to do with the entry subsidies. What China did was it subsidized the entry of many new shipyards, and in fact, we saw hundreds of new Chinese shipyards appearing after 2006. This led to a very fragmented industry structure.

Instead of having a few large conglomerates, like in South Korea, China had hundreds of very small firms with very low scale of production.

**Chad Bown:** OK. Now I want to go back to some of those economic motives for why China might have used industrial policy for shipbuilding. Let's start again with the theory. As you explained earlier, sometimes industrial policy can improve upon market outcomes – say, if a subsidy to one shipbuilder promotes learning by doing that might benefit another Chinese shipbuilder, or if the subsidy to shipbuilders spills over to benefit some other sector of the economy like steel, or maybe China was doing this for strategic trade reasons.

Did you find any evidence of those explanations here?

**Myrto Kalouptsi:** We struggled a lot trying to understand what justifies these subsidies given the low returns that we find. We looked for evidence for learning by doing but we couldn't find any. If anything, we see that marginal costs tend to increase rather than decrease in past production, both at the firm level, but also at the industry level.

We also didn't find any evidence of spillovers, say upstream to steel downstream to ship owners (this is mostly exports), nor to employment.

On strategic trade, we also find no evidence that this is a reasonable theory here. And the reason is simply that this is a very fragmented industry globally. I.e., firms in all countries are



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fairly small compared to the total market, which suggests that there are very low returns – in terms of profit stealing – from the point of view of one government.

**Chad Bown:** There is no evidence of learning by doing or spillovers and the results also cannot be explained by China having done this for reasons of strategic trade policy.

All that being the case, did China's industrial policy for shipbuilding have an impact on its international trade?

**Myrto Kalouptsi:** Definitely. What we do see is that the subsidies had a substantial impact on China's imports and exports.

We can use our research to look at what happened to freight rates. And what we found is that, not surprisingly, these subsidies led to more ships in the water, and more ships in the water means lower freight rates and lower shipping costs for importers and exporters.

Since China is a very big player in international trade, it has a very big chunk of both imports and exports. What we see is an increase in Chinese trade by about 5 percent happening because of a decline of about 6 percent in freight rates – this amounts to about \$150 billion dollars annually of additional Chinese trade.

Now, this is more trade. I can't tell you if this is good or bad. This is more trade. It's not welfare. We cannot say that more trade necessarily means higher welfare for the world.

What we can say is that more trade from China intensifies what is often called the “China shock.” This increased trade from China affects the world in many different ways and these subsidies have a contribution to this Chinese shock.

**Chad Bown:** I want to dig more into the international implications of these Chinese subsidies for shipbuilding. These are the spillovers or externalities that China's policies impose on the rest of the world.

Let's start with potential winners. Are there some out there who benefit from China's subsidies for shipbuilding?

**Myrto Kalouptsi:** In some sense, our results suggest that China did the world a favor, right? It brought ship prices down, somewhat. It's not a huge effect, but it did bring ship prices down.



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This decline in ship prices trickles down and brings a decline in freight rates. Shipping costs for importers and exporters globally are going to go down from the higher supply of ships.

From that perspective, consumers of ships and of shipping services are going to benefit. I should note that this is not a very large benefit that we compute, but it's there.

**Chad Bown:** Are there losers in other countries from China's subsidies?

**Myrto Kalouptsi:** The losers here are obviously Japan and South Korea. They lost substantial market share. Japan's market share in particular declined pretty dramatically after 2006.

So let's suppose that these countries produce exactly the same ship – i.e., exactly the same dry bulk carrier, which are actually fairly commoditized products, dry bulk carriers. The Chinese subsidies increased production, but a good chunk of this increase in production was actually stolen from Japan and South Korea. So the same bulk carrier that used to be built by Japan is now being built in China.

We get the same product at a higher real cost, net of the subsidies. And this reallocation of production did happen at a very high cost because Japan and South Korea were actually more productive at producing ships.

In other words, of the increase in China's market share, part of it is an actual increase in producing more ships overall, but 70 percent of that increase in market share is in fact market share that is stolen from Japan and South Korea.

**Chad Bown:** Yes, Japan and South Korea lose market share and so have a reason to be upset by China's subsidies. But another concern you are identifying is from the perspective of global efficiency: China's subsidies are taking shipbuilding away from efficient firms producing at scale in Japan and Korea. The subsidies end up moving production to this highly fragmented Chinese industry with lots of small, unproductive firms with yards that are not operating at scale and which suffer from excess capacity.

OK, going back again to the Chinese perspective, can you tell us more about the sequencing of these various industrial policy instruments the Chinese government used for shipbuilding.



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**Myrto Kalouptsi:** In 2006, China started subsidizing shipbuilding. They begin doing so with entry subsidies. These entry subsidies were open to any firm, and so a lot of firms take up these subsidies and enter. There was a massive entry wave of new firms at this point.

It turns out this policy was quite inefficient because who are going to take these entry subsidies are going to be firms that could not have begun operations – i.e., could not have entered – if you hadn't given them this boost. It was the marginal firms. And as such, they are the most inefficient firms. What these subsidies are doing is they're allowing the most inefficient guys to enter the market.

In a period of boom, it may be OK to have all these small scale firms, but when the bust comes – and mind you, this is a very cyclical industry – when the bust comes, these small firms are going to be idle. They're going to be plagued by excess capacity, and they're going to exacerbate the bust that the industry is going over by providing this excess supply.

After the financial crisis of 2008, the Chinese government realized this and they imposed a moratorium on entry. They said no more entry in this industry.

In addition, the Chinese government issued a whitelist. They essentially picked specific firms – a good chunk of which were state owned – and they prioritized these firms for governmental support. And, in the future, whatever subsidies they were going to hand out were only going to go to these firms.

The idea being that China wanted to now create conglomerates that were going to compete globally and become world leaders in production.

**Chad Bown:** The way China implemented its industrial policy for shipbuilding beginning in 2006 was to start with a lot of entry subsidies, a little production and investment subsidies, and then the eventual consolidation policy of the whitelist.

Another thing you do in your research is to imagine China had chosen a different combination of subsidies for shipbuilding. How do you do that and what do you find?

**Myrto Kalouptsi:** Shipbuilding provides actually a very nice example of how hard it is to design these types of policies. If you're going to do them, there is a question of how do you actually do them? And this story of China using some measures, then changing course, nicely illustrates how hard it is to know what works and what doesn't and in which ways.



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What we do in our research is try to evaluate the performance of different types of policies and policy mixes. And to do that, we essentially look at the net returns of the policy. And by that, what I mean, what is the net lifetime profitability of shipyards over a long horizon over what is the cost of providing these subsidies?

Once we have this measure, we can compute it under different scenarios. What if you did only production subsidies? What if you did a mix of investment and production subsidies? What if you do permanent versus temporary subsidies? What if you target firms?

What we find is that entry subsidies are probably the least efficient way to subsidize an industry. The reason is that entry subsidies attract the most inefficient firms. These are the marginal firms – the ones that couldn't enter on their own, but needed this boost to enter. These are bound to be the lowest productivity firms and you are letting those in which can be problematic.

Production and investment subsidies tend to do better. In fact, if the objective of the government is growth – i.e., is output, you just want a big industry – even in the case of Chinese shipbuilding, you have positive returns. The reason is that these types of subsidies end up being taken up by the most efficient firms. These firms grow and industry composition becomes better. It is tilted towards more productive firms.

This also suggests that if you're a policymaker, you may want to target the firms that you are subsidizing. You don't want to do blanket policies.

Now, of course, you might argue that, in some countries, you might have political economy considerations. You might worry about targeting firms. But if we abstract from that, and you could really target the most productive firms, this is something you would like to do as a policymaker.

**Chad Bown:** China did finally get to the stage of targeting firms and picking winners when, as you mentioned, it adopted its whitelist consolidation policy after the global financial crisis. But did China target the right firms? What did you find there?

**Myrto Kalouptsi:** What we find there is that again, targeting is good, so you do want to target specific firms and only allow them to benefit from the subsidies. However, when we look at the actual firms that were chosen by the Chinese government, we see clearly that they were not



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the most productive firms. In fact, if anything, the list was tilted towards state owned enterprises more than more than what was optimal.

We also explore a scenario of a hypothetical whitelist that actually chose the firms that were most productive before 2006. And what we see is that this (hypothetical) whitelist outperforms the actual list chosen by the government.

**Chad Bown:** China's industrial policy approach for shipbuilding – was this a unique one off experience?

**Myrto Kalouptsidi:** Not at all. Shipbuilding is actually a typical example of what China was doing in the 1990s and 2000s. What we saw then in several sectors, including solar panels, steel, auto parts, was that, through entry subsidies, China intervened in these industries and created fragmented market structures.

Each of the Chinese provinces would have its own steel industry, its own auto parts industry, and its own solar panel industry – all consisting of many, many small firms.

This approach shifted substantially after the financial crisis. The current Chinese plan – the “Made in China 2025” – is taking a very different orientation toward creating big firms that are going to be world leaders. It also shifts to more high-tech sectors.

**Chad Bown:** Myrto, as my last question – for Chinese policymakers, or policymakers anywhere thinking about using industrial policy – what lessons would you like them to take away from your research?

**Myrto Kalouptsidi:** This is complicated. There is a first question, which is about, should one engage in this type of policy or not? And I think it's important to know what it is that we're trying to achieve, what it is that we're trying – from an economics perspective, is there something in the market that we're trying to correct? And is this the right way to correct the problem?

The second question is, now you know you're going to engage in industrial policy, *how* do you do it? And I think our work from an economic standpoint does provide insights into parameters of this problem.



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An important message is that design is hard. There are many aspects that come into this – such as how different firms are, the cyclical nature of the market, the different types of measures and instruments that one can use.

The important message is that one needs to consider all of these together when designing such a policy. Of course, a caveat is that there are obviously factors that have nothing to do with economics that come into this like geopolitics, and of course, this gets us into a much broader discussion.

**Chad Bown:** Myrto, thank you very much.

**Myrto Kalouptsi:** Thanks for having me.

**Chad Bown:** To conclude this episode, I wanted to make one last point.

Myrto's innovation here is incredible. For a long time, on the issue of China's subsidies, the WTO system has just been stuck. The United States, European Union, Japan and other countries have been complaining about China's subsidies, but unable to do anything constructive about them. First, no one has been able to measure their size – or how big China's subsidies are. Second, without being able to see them or measure them, governments have been unable to assess the impact that China's subsidies have had on their economies.

Myrto's new approach to identifying China's subsidies and measuring their impact may someday provide a path forward for the WTO. This kind of research may be the first step policymakers need to restart conversations about how to create fair and enforceable subsidy rules that would apply to all countries in the international trading system.

Myrto's research should give us hope.

## **GOODBYE FOR NOW**

**Chad Bown:** And that is all for *Trade Talks*.





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A huge thanks to Myrto Kalouptsidi at Harvard University. Do check out Myrto's paper with Panle Jia Barwick at the University of Wisconsin and Nahim Zahur at Queens University titled "Industrial Policy Implementation: Empirical Evidence from China's Shipbuilding Industry." It will soon be published in the journal *Review of Economic Studies*. Myrto has some other incredibly interesting articles on Chinese shipbuilding – I will post links to all of them on the episode page of the Trade Talks website, that is [www.tradetalkspodcast.com](http://www.tradetalkspodcast.com).

Thanks to Melina Kolb, our supervising producer. Thanks to Sarah Tew, on digital. As always, thanks to Collin Warren, our audio guy.

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<insert super funny double underscore joke here>. ■

#### Read more...

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