



STELIOS MISINAS

People in Economics

A Maritime Mind

Jeff Kearns profiles Harvard's **Myrto Kalouptsidi**, who is decoding how shipping and industrial policy shape the global economy

INTERNATIONAL TRADE HAS long obsessed the world's economists, but thanks to Harvard's Myrto Kalouptsidi, they're better able to gauge the business of physically transporting billions of tons of merchandise around the world.

The shipping industry's importance came into sharp relief as this century's historic disruptions exposed the fragility of global supply chains. The industry nearly collapsed in 2008 amid the global financial crisis. Then came seemingly unending shocks—the pandemic, overwhelmed ports, container shortages, Red Sea attacks, paralyzing mishaps from Suez to Baltimore, and roiling trade wars.

For the past decade and a half, Kalouptsidi has explored the maritime shipping industry and how it enables \$20 trillion a year in international trade. Her work has reshaped trade economics, uncovering the hidden mechanics that influence everything from supply chains to public policy. She and her collaborators demonstrate how shipping costs shape world trade, shed light on distortions from industrial policy related to shipbuilding, and show the importance of specific waterways.

“Myrto's work exemplifies how state-of-the-art microeconomic research can inform major policy debates, including the detection and evaluation of industrial policies,” said Pinelopi Goldberg, an economics professor at Yale and former World Bank chief economist. “Her research is widely regarded as a model for policy-relevant scholarship.”

Born, raised, and educated in Athens—an iconic seafaring hub for millennia—Kalouptsidi has always loved the sea. Athens is the center of the world shipping industry. A fifth of the global fleet is Greek, including a quarter of bulk carriers and almost a third of oil tankers. But it was by chance that shipping became the defining focus of her research.

Inspiration struck two decades ago, when Kalouptsidi was a doctoral candidate at Yale focusing on industrial organization. As she searched for a thesis on how industries evolve, a childhood friend from Athens introduced her to the market for ships, fueling an academic focus on the business of maritime trade and how it affects the global economy.

Kalouptsidi explores how the shipping industry shapes global trade.

The friend, Danae Bati, was working as a ship broker when she reconnected with Kalouptsidi over coffee in mid-2007. Kalouptsidi was just beginning to think about container shipping.

“She had something in mind, and she needed data,” Bati said. Kalouptsidi was curious about everything from vessel routes and charter rates to fleet sizes and commercial databases. Bati gave her printouts that illuminated a new world.

“It was phenomenal data,” Kalouptsidi said. “I didn’t know for years what I was going to do with it.” More meetings followed with others at Bati’s office in Piraeus, Athens’ Mediterranean port.

Bati introduced Kalouptsidi to her mentor, George Banos, a veteran broker and consultant. He gave her data, anecdotes, and British economist Martin Stopford’s textbook: *Maritime Economics*.

“He knew the ins and outs of how things worked because he’d started as a sailor, then was a captain, then he moved up,” Kalouptsidi said. Banos died in 2015.

Kalouptsidi’s work focuses on two areas: industrial policy and how transportation and trade broadly affect economies. In both, she came early to subjects that later captured the world’s attention.

“I’ve been digging into, for 15 years, how shipping booms and busts happen, how they affect the world around us, and the dynamic path of an industry,” Kalouptsidi said. “What I like most about this is how it reflects the macro economy—studying a microcosm of the bigger system.”

Industry introduction

Kalouptsidi, 43, says she grew up “between transportation and theory.” Her mother is a civil engineer whose work includes part of Athens International Airport, and her father is a mathematician and computer scientist.

As an undergraduate, Kalouptsidi studied economics at the University of Athens; in 2005 she earned a master’s in economics at Athens University of Economics and Business. She completed her doctorate at Yale in 2011. The *American Economic Review* published her thesis on how the time it takes to build bulk cargo ships affects investment in vessels.

“Myrto has a rare instinct for seeing importance long before the rest of the field does,” said Theodore Papageorgiou, Kalouptsidi’s husband, a fellow Athenian, an economics professor at Boston College, and a frequent research collaborator. Shipping wasn’t on economists’ radar, he said. “She’s drawn to problems nobody is working on but that matter enormously once you look closely.”

Shipping markets are much more volatile than stock markets, Kalouptsidi said. She learned that as she expanded her research just before the global financial crisis. “When I started interviewing ship owners, they were all ecstatic,” she said. “They thought it was the best time for shipping, and they were all buying ships—it was just exuberant.”

Then came the collapse. The global benchmark measure of bulk shipping rates, the Baltic Dry Index, quadrupled in two years—then plunged more than 90 percent in late 2008.

The ensuing upheaval “completely changed my interest” in research areas to focus on shipping, Kalouptsidi said. It was hard to watch her hometown during trips home as the crisis worsened. “Our favorite neighborhoods in downtown Athens were really just dying,” she said. “There was just this feeling of decay everywhere.”

Shipping suffered. Many vessels were scrapped. Kalouptsidi’s research took shape as she interviewed more experts. She focused on bulk shipping and the market for vessels. The container shipping work, however, would have to wait as she studied the intersection of industrial organization and international trade.

Transport and trade

Kalouptsidi showed that, despite maritime trade’s ubiquity and 5,000 years of history, its research possibilities are far from exhausted. Little is still known about how markets for transportation interact with the global market for traded goods, she said.

Kalouptsidi teamed up on that question with Papageorgiou and Giulia Braccaccio, a friend and research partner from her time at Princeton. They built a dataset tracking 5,398 ships between

2012 and 2016, with price and route data based on 12,007 shipping contracts. This yielded a model of the interactions between transportation markets and the global goods trade, including the process for matching cargo to ships.

The resulting paper broke new ground by modeling the transportation market to show how shipping costs shape global trade.

The Econometric Society published the work in its journal and awarded the paper its biennial Frisch Medal in 2022, recognizing it as “an outstanding example of the use of theory and data to analyze a new mechanism and trace its general equilibrium implications for the economy as a whole.”

The data and the model enabled experiments, including on the effects of ships serving on routes with demand in only one direction, such as by big exporting nations. They linked asymmetrical transportation costs to bilateral trade imbalances. And they found that ships sail empty close to half the time.

The model also allowed them to simulate the effects of an economic slowdown in China. Fewer imports would mean fewer ships visiting the country, which would hurt China’s exports. The work can also help policymakers understand the impact of crucial waterways. Closing the Suez Canal, for example, would reduce world trade by 3.5 percent, and in the Middle East trade would fall by a quarter and welfare metrics plunge.

“This paper provides specific, very policy-relevant messages,” said Braccaccio, an assistant professor at New York University. Kalouptsidi embraces experimentation and is open to being wrong, she said. “She’s a real scientist,” she said. “She wants to learn from everyone.”

While the economics of industrial organization often focus on one main trade-off, this research was like building a general equilibrium model with many more variables—making it difficult to identify the most important mechanisms. “It took years of playing with the model and going through revisions,” Kalouptsidi said. “And we did surprise ourselves.”

“Shipping is basically the spine of the economy. You want to trade? You need ships.”

Industrial policy

At the start of the 20th century, the United Kingdom dominated global shipbuilding. In the early postwar years, Europe took the lead, then Japan. Around the turn of the century Korea produced the largest share of commercial ships.

China was only a small player in 2002, when it set a goal of becoming the world’s top shipbuilder by 2015. It did so thanks to state-subsidized shipyards, generous loans, and other support.

Kalouptsidi set out to understand how these policies affected the domestic industry as well as the global market. But subsidies are complicated and often opaque.

Kalouptsidi built a model to detect subsidies by identifying the deviations between the data and what standard economic theory would predict. She further developed this in joint work with Panle Jia Barwick, now at the University of Wisconsin–Madison, and Nahim Bin Zahur, now at Queen’s University in Ontario, that showed how China’s support reallocated global ship production and took market share from Japan.

The project took more than a decade and required integrating detailed industry knowledge with a structural framework to understand China’s industrial policy, Barwick said. She credits

Kalouptsidi with bringing “a combination of deep economic intuition and rigorous methodological creativity.”

They showed that subsidies propped up many weak shipyards, inflated prices, sidelined more efficient producers, and left governments paying heavily for ineffective industrial ambitions.

The research also quantified how the policies drew in inefficient producers and contributed to excess capacity. Domestic producers recorded only modest profit gains—and their long-term returns amounted to only 18 percent of the total of subsidies, the authors write.

“Myrto’s work on China’s shipbuilding subsidies is among the best in the new wave of research on industrial policies—and she did it before industrial policies became a hot topic of research,” said Dani Rodrik, a professor of international political economy at Harvard’s Kennedy School of Government. “It sets the benchmark in careful combination of theory and empirics.”

More recently, Kalouptsidi worked with Brancaccio and Papageorgiou to explore how best to invest in port infrastructure, looking at major US facilities. A surprising lesson for policy was how ports in a region function like a network: Investment in one port can reduce congestion elsewhere as more ships load cargo more efficiently and get sailing again. So capital investment should be coordinated and targeted.

Incisive questions

Kalouptsidi has significantly influenced how economists and policymakers understand industry dynamics in global sectors, particularly shipping and shipbuilding, according to Laurent Daniel, head of the shipbuilding unit at the Organisation for Economic Co-operation and Development. “It has given policymakers a much clearer framework for assessing how subsidies and capacity expansions can reshape global competition and trade patterns,” he said.

At Harvard, Kalouptsidi’s students see her as a patient problem solver. “She has an exceptional ability to help you get unstuck—clarifying mechanisms, sharpening research questions, and

encouraging you not to shy away from ambitious ideas,” said Constanza Abuin, a former student of hers who will join Johns Hopkins University as an assistant professor.

Kalouptsidi asks incisive questions rather than giving direct answers, said Yixin Zhou, a Harvard doctoral candidate.

The next priority for Kalouptsidi is a return to what piqued her interest almost two decades ago: container shipping. The introduction of containerization more than a half century ago revolutionized trade by cutting costs, increasing efficiency, and enabling globalization. Much of her work has examined bulk carriers, which she said are more like taxis because they sail point to point on demand. Their ownership is decentralized. Container ship ownership is concentrated in a handful of companies, and they are more like buses, following fixed routes. Container pricing is harder to obtain, often set in private.

When she first started learning about container ships as a doctoral candidate, she looked for relevant data and never found it. This next step toward this new research—underway with Brancaccio, Papageorgiou and Nicola Rosaia of Columbia Business School—is possible because more data is now available.

Automatic identification system tracking of vessel names, locations, and other parameters is more complete now and the researchers have samples of some specific container rates and routes.

More broadly, Kalouptsidi has shown how shocks in one industry affect entire economies. Historically, it may have been easy to assume maritime trade’s dependability, but recent years have shown how serious the consequences are when trade is impaired, including for inflation.

“We’ve seen so much increase in trade, just-in-time production, and firms sourcing from farther and farther away—but for this to happen, you need the shipping industry working seamlessly,” Kalouptsidi said. “Shipping is basically the spine of the economy. You want to trade? You need ships.” **F&D**

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