TONOMICS GITATO

Bob Simison profiles University College London's Mariana Mazzucato, tireless proponent of government-led innovation

ven around the dinner table, economist Mariana Mazzucato deployed her extraordinary skills as a communicator to keep her family engaged during the pandemic lockdown in London.

She and her husband, Italian filmmaker Carlo Cresto-Dina, insist on a sit-down family meal each evening in their London home, and everyone speaks a mix of Italian and English. They discuss school, work, movies, and economics.

"We talk about a theme, so every night is a massive debate between the teenagers and us," Cresto-Dina says. The four kids are ages 20, 17, and 14 (twins). "During lockdown she also assigned the twins a research project on the digital divide." There was, he says, "lots of yelling."

Outside the home, Mazzucato has been stirring the pot in economics and public policy for nearly a decade. Her main message is that governments around the world need to seize their power to lead innovation for the betterment of humanity. Just now she's immersed in applying her ideas to the COVID-19 crisis as a member of various task forces as well as in her customary role of economics agitator.

"We can't get out of the COVID problem," she says, "unless we actually rethink the role of the state. Literally, what is it for?"

Her controversial answer: Government is for setting big goals, defining the missions necessary for achieving them, encouraging and investing in innovation, and governing the process so that the public benefits. This contradicts the modern conventional wisdom that government is there to clean up after disasters and fix egregious market imbalances, but it should otherwise get out of the way so that private enterprise can lead innovation.

That kind of thinking led to the 2007–08 financial crisis and the damaging wave of government austerity that followed, especially in Europe, Mazzucato says.

"Hollowed-out" government capacity

"All I saw were cuts to social services and public investments—in the name of innovation," she says. As an expert in innovation, she was horrified. She made the case for rethinking the role of government in her 2013 book, *The Entrepreneurial State: Debunking Public vs. Private Sector Myths.* In it, she argues that much of private innovation in health care, technology, and elsewhere relies on government-funded research that private enterprise can't or won't invest in. "I'm not sure I would have

embarked on this had I not seen the suffering on the ground," she says in an interview.

The different levels of suffering wrought by the pandemic in different parts of the world reinforce the argument, Mazzucato says. The 52-year-old Italian-American is a professor of economics focusing on innovation and public value at University College London (UCL), where she is also the founding director of UCL's Institute for Innovation and Public Purpose.

"State capacity has really been hollowed out because of the narrow way that we think about the state," she says. "If the state is only there to fix market failures and then get out of the way, then there is not much incentive to invest in the knowledge-creation mechanisms to cocreate value." That's particularly evident in the United Kingdom and the United States, where political leaders defunded public health and devalued government itself, eroding public trust and government's capacity to respond to crises, she says.

By contrast, governments of several much smaller, much less rich nations responded more effectively to the pandemic than America and Britain, Mazzucato says. She cites Vietnam, southwest India's Kerala state, New Zealand, and Denmark, which made substantial investments over time in state capacity and were better able to manage the crisis in terms of lockdown measures, providing protective equipment and inspiring citizens' trust.

Woman on a mission

Mazzucato may be one of the world's highestprofile economists since the publication of *The Entrepreneurial State*. She expanded the discussion in 2018's *The Value of Everything: Making and Taking in the Global Economy*.

She's become a fixture on British TV news. She has appeared on CNN, PBS, and the BBC's popular "Desert Island Discs" radio broadcast. She gave TED talks this year and last. She regularly writes opinion pieces for the likes of the *Financial Times* and the *Guardian*. She has been profiled by *Wired*, the *Times of London*, the *New York Times*, the *Financial Times*, *Quartz*, and *Fast Company*, among others.

Along the way, Mazzucato has picked up a fistful of economics awards and become a sought-after advisor to policymakers. South Africa, Italy, and the Vatican drafted her for COVID-19 task forces. She's an advisor to the Scottish government on economics, the Organisation for Economic Co-operation and

Development on growth, Norway on research policy, and the European Union on research and innovation.

Born in Rome, Mazzucato came to the United States at the age of five, when her nuclear physicist father accepted a position at Princeton University's Plasma Physics Laboratory. She learned Italian cooking and baking from a mother who taught culinary arts. After completing public high school in Princeton, New Jersey, she did her undergraduate work at Tufts University in Massachusetts and her doctorate in economics at New York's New School for Social Research. She has worked in the United Kingdom most of the past 20 years, assuming her present position in 2017.

"She has changed the debate on the role of government," says Gregor Semieniuk, an economics professor at the University of Massachusetts, Amherst, who did postdoctoral work with Mazzucato at Sussex University in Brighton, England. "She is very eloquent in bringing across the point that government can be part of the solution rather than blocking progress."

In The Entrepreneurial State, Mazzucato points to the role of the US government in funding pharmaceutical research that helps drugmakers invent new treatments and in creating the technologies behind Apple's iPhone and related products. She argues that government can thus foster innovation, leading to job creation, economic growth, and broad gains in social welfare. The professor often cites the American government's 1960s mission to land humans on the moon, which uncorked a wave of innovation across dozens of fields.

Taking on the critics

Of course, not everyone buys it. To economist Arthur Diamond of the University of Nebraska, Omaha, Mazzucato's thesis sounds too much like centrally planned industrial policy, which he argues won't work because government is inherently unable to foster innovation. In his 2019 book, Openness to Creative Destruction: Sustaining Innovative Dynamism, he argues that what drives innovation is entrepreneurs who are deeply immersed in their subject and able to benefit from serendipity, pursuing hunches, and plain old trial and error.

"Government decision-makers won't be as immersed in the problems, won't have the detailed information, and won't be in a position to follow hunches toward breakthrough solutions," Diamond says.

Mazzucato's sharpest critic may be Alberto Mingardi, a historian of political thought who teaches at IULM University in Milan and is director-general of Italy's free-market think tank Istituto Bruno Leoni in Milan. In 2015 he published a 23-page critique of *The Entrepreneurial State* with a 32-entry reference list. Mazzucato's "evidence is shaky," and she "fails to prove that the specific government interventions that she hails as beneficial were purposefully directed to achieve the particular outcome in question," he writes.

"My contention is that the way she develops The Entrepreneurial State at its core is that military investment in technology had positive spillovers into the civilian economy," he says in an interview. "But she pretends that these are not positive spillovers but rather the result of directional policies, and she doesn't prove her thesis."

Such critiques, Mazzucato replies, ignore governments' record of supporting new technologies at the risky early stages. Apple's Steve Jobs and Microsoft's Bill Gates recognized that they were building on advances by government-funded organizations, she says. The American government's 62-year-old Defense Advanced Research Projects Agency was set up to take risks, and its research laid the foundations for much of today's information technology and the internet, Mazzucato adds.

"If the state is so unsuited to pursuing hunches and serendipity, how do you explain that the US was spending billions of dollars to establish the GPS system, long before it came to support billion-dollar taxi companies?" Mazzucato says. "If Uber is the poster child for creative disruption, how can it be that it depends so totally on an innovation entirely supported and developed by the government?"

Mazzucato also rejects the idea that she advocates central planning.

"Rather, the state should give direction to the economy—making the necessary investments early on but also governing the process to make sure that citizens benefit," she says. "This means making sure that patents are not abused and that prices of medicines reflect the underlying public funding so the taxpayer does not pay twice." She argues that this requires a market-shaping, not a market-fixing, policy approach.

Mazzucato wrote The Value of Everything, she says, "because even though my ideas in *The* Entrepreneurial State really caught on and eventually led to real policy change in so many countries, the underlying principles of who was a wealth creator needed tackling head-on, especially the ramifications for basic economic theory about 'what is value.'"

Undervalued essential workers

The pandemic puts a harsh spotlight on the issue as many of the workers deemed the most essential—from grocery store clerks to delivery drivers to nurses and hospital orderlies—are also some of the lowest-paid. This partly reflects accounting-related distortions in the economy: GDP calculations count financial services because they generate fees even though they don't create anything new, but it's hard to put a value on a sound public health or public education system, Mazzucato says.

"We need to value and resource the essential parts of the economy," Mazzucato says. "Value has not been shared with the workers, meaning that real wages have stalled behind productivity growth." In her second book, Mazzucato observes that while the American economy has tripled in size, wages adjusted for inflation haven't budged in four decades.

As they shore up economies and bail out businesses amid the pandemic, governments should use their leverage to tilt the playing field in significant ways, Mazzucato says. There should be strong conditions for grants and loans, she argues. In return for bailouts, for example, airlines should be required to lower carbon emissions.

In a July 1 New York Times opinion piece, Mazzucato urged "citizens' dividends" and government equity stakes in businesses linked to government funding. "It is simply admitting that the government, an investor of first resort, can benefit from thinking more like a venture capitalist around societal goals like a green transition," she wrote.

"The race for a coronavirus vaccine offers a good opportunity," Mazzucato said in the article. "The price that citizens pay for pharmaceuticals does not reflect the enormous public contribution—in 2019, over \$40 billion—to medical research. The pricing of COVID-19 vaccines must account for the public-private partnerships that build off public-funded research and make sure the patents around COVID-19 vaccines are shared in a common pool and the vaccine is universally available and free."

Training civil servants

In the six-story building on London's Russell Square that houses the two-and-a-half-year-old Institute for Innovation and Public Purpose, Mazzucato's team of 30 is developing a Master of Public Administration program focusing on innovation, public policy, and public value. She aims to train civil servants to apply her ideas in government. With a budget generated from teaching income, research grants, and policy consulting, the institute has already helped Scotland set up a national investment bank, the European Union adopt a mission-based research and innovation policy, and the United Kingdom develop an innovation and industrial strategy.

Mazzucato's principal contributions have been to challenge thinking about the role of government, highlight the disconnect between value and price, and reconnect theory and policy practice through her work with governments, says Carlota Perez, a British-Venezuelan scholar specializing in technology and socioeconomic development. An honorary professor at Mazzucato's institute, she wrote the 2002 book Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Ages.

"She is a very brave woman to confront the powerful economics establishment that has continued to espouse market fundamentalism despite its repeated failure to identify bubbles, predict crashes, and to give advice for truly successful policies," Perez says. And Mazzucato stands out in a profession where women have long been underrepresented. "She is a star, an excellent role model of what a woman can achieve," Perez says.

For her own part, Mazzucato sees her work as far from finished. This time around, there's been little discussion so far of government budget cutting as a cure for the world's pandemic-stricken economies. But she sounds a warning.

"Be careful," she says. Even as governments open the fiscal spigots to counter the pandemic's downward pressures, "don't assume that means that we won't have austerity." Already there's talk in Britain of "burden sharing," meaning that local governments may be expected to repay funds advanced by the central government, she says.

"That would mean cuts in the very services and systems and structures which we seem to have woken up to during the pandemic, calling them 'essential," Mazzucato says. "There's a huge battle ahead." 🔟

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