

Changing the framework for industrial policy: recognising the state's true role in driving innovation

The work of Mariana Mazzucato debunks the myth of the state as a bureaucratic nanny that stifles creativity in industry, and instead recognises the vital role of state-led investment in driving innovation and shaping and creating new markets from the internet to biotech to clean tech. Her work has influenced policy across the world, changing the political discourse on how governments should invest in and drive innovation.

Overview

There is a common conception that it is primarily the private sector that drives innovation and economic growth, while the state, at best, plays only a housekeeping role in 'fixing market failures'. Under the surface of this myth lies a different story, one where some of the most innovative economies in the world have been shaped directly by state-led investments. By failing to recognise the state as a source for major business innovation we run the risk of economic stagnation and the loss of inventive new technology.

In her 2013 publication, *The Entrepreneurial State: debunking private vs public sector myths*, Mariana Mazzucato (Reginald M Phillips Professor in the Economics of Innovation, SPRU – Science Policy Research Unit, School of Business, Management and Economics) demonstrates how the state, through direct funding of high-risk areas and mission-oriented planning, has provided courageous and risky investments leading to the development of new technologies

and sectors. She argues that major technological revolutions, from the internet to biotech, to clean tech today, have required an active 'entrepreneurial state' that is willing to invest in innovation – and that economists have no words to describe this process of state-led market creation.

In a detailed case study, Professor Mazzucato shows how every bit of technology that makes Apple's iPhone so smart was 'picked' by public-sector funding: the Internet, GPS, touchscreen display and the voice-activated SIRI. And even Apple Inc. itself received some of its early-stage financing from a public grant. Similarly, state-sourced support has underpinned major innovation in other fields, such as biotechnology; 75 per cent of the most radical new medicines come from publicly funded research like that of the US National Institutes of Health.

Mazzucato's work highlights the need for governments and the private sector to acknowledge the state as an entrepreneurial force. She challenges governments to take direct action to support broadly defined missions, eg tackling climate change, and technologies that require direct finance to high-growth innovative companies. Risk-taking inevitably produces a high rate of loss (Mazzucato says that: 'for every successful investment, as that in Tesla, there are ten Solyndras'). Thus, Mazzucato encourages policy-makers to consider how to use some of the profits from the 'upside' to fund losses in the 'downside', so that a public 'innovation fund' is replenished to fund



'Professor Mazzucato's vision has had a significant impact on current policy discussions in the Netherlands on innovation policy, specifically in relation to the role of mission-oriented research and the role the government can have in this area.'

Dr JK Wesseling, Deputy Director-General for Enterprise and Innovation, Dutch Ministry of Economic Affairs

the next round of investments. While traditional economic theory maintains that this 'return' should come through taxation, Mazzucato argues that tax systems are not playing this role and suggests that policy-makers consider specific mechanisms, such as income contingent loans, direct equity stakes, or retaining a 'golden share' of intellectual property rights.

Achieving impact

The major impact of Professor Mazzucato's research has been to change political and public discourse on how governments should drive



innovation. Evidence of such influence is demonstrated in speeches and public endorsement of her work and by concrete action observed in changing policies and new government programmes in the UK, US and Europe.

Both the UK government and the opposition have taken on board Mazzucato's view that the state has a more direct role to play in innovation in industry. Minister of State for Universities and Science, the Rt Hon David Willets, has credited Mazzucato with introducing into the UK the concept of the state shaping markets. He also acknowledged the influence of her work on the government's approach to 'picking' technologies for investment, in changing his understanding of technologies needing direct support (the basis of his '8 Great Technologies' initiative), and influencing the UK's Life-Sciences Strategy. Mazzucato's research has also influenced the growth strategy of Secretary of State for Business, Innovation and Skills (BIS), the Rt Hon Vince Cable. Cable cited Mazzucato in his 2013 speech on the set up of Catapult centres: a network of centres where the best of UK's businesses, scientists and engineers collaborate on late-stage research and development to transform high-potential ideas into new products and services.

Similarly, her work has impacted on the Labour Party's Shadow BIS Strategy, with Special Advisor to Shadow Business Secretary, Chuka Umunna MP, stating that their flagship 'Active State' agenda was greatly influenced by her insistence on a new framework for government-led innovation growth. The Labour Party has also claimed, in an article in *Research Fortnight*, that Mazzucato's points about risks and rewards have been influential in how they think about innovation and inequality. She also directly advised recent reports, including Lord Heseltine's *No Stone Overturned* and the LSE Growth Commission, and her work was cited several times in the BIS Economics White Paper, which underpinned the 2012 Growth Strategy.

Abroad, Mazzucato's presentations to various ministries including, most recently, the Norwegian Ministry of Trade and Industry, the Chinese Ministry for Science and Technology, the Dutch Ministry of Economic

Affairs, Italian Parliament, and key appearances in national TV news and newspapers across the globe, have led to a significant impact on international policy discussions on innovation. Her work has also had a strong impact on the European Commission, where she sits on two high-level panels influencing innovation policy. Besides 30 international speeches given over the last 6 months, she recently (February 2014) delivered two keynote speeches in the US, on the core ideas developed in *The Entrepreneurial State*: one as a keynote to 2,000 energy experts for the prestigious ARPA-E Energy Innovation Summit; the other at an event organised by the Atlantic Council on her book where the audience included, among others, Obama's key science and technology advisors. In April 2014, the US Senate Appropriations Committee discussed her book as key evidence for the economic impact of federal funding of innovation, and *The New York Times* recently ran a long editorial dedicated to discussing the impact of her work for Obama's administration.

Mazzucato's research has gained influence through high-profile media activity throughout the world, including regular appearances on the BBC, Bloomberg and Sky News. She has written various articles for *The Guardian* and the *Financial Times* and is cited regularly by business journalists for the *Independent*, *Financial Times* and *The Economist*. *The Entrepreneurial State* has been reviewed positively in over 100 international newspapers, has featured in the *Financial Times*' 'top economics books of the year' list, as well as top books for 2013 for *Forbes* and *Huffington Post*. It has consistently been between 1st and 5th place in Amazon's rankings for economic books. A recent review in *The New York Review of Books* called it 'one of the most incisive economics books of the decade'. Her TED Global talk has over 570,000 viewers and was very favourably reviewed by the international press, including *Le Monde* and *The New York Times*.

Future impact

Professor Mazzucato's has recently been invited to contribute to *The Economist's* prestigious 'Schumpeter Blog' and *The Entrepreneurial State* is currently competing for the Foreword's 2013 Book of the Year Awards in the

'Business & Economics' category. Mazzucato gave a talk on the 'sharing economy' at the OECD Forum and has been invited to present the details of her work in a private meeting with OECD Secretary-General Angel Gurría. In July 2014, Mazzucato is organising a large international conference on 'Mission-oriented finance for innovation: rethinking public & private risks and rewards', funded by her grant from the Institute for New Economic Thinking and hosted by the Rt Hon Vince Cable in the UK Parliament. In 2014, her speeches include invited keynotes to various international governments and public agencies, including the World Bank, the World Economic Forum, the Norwegian Research Council, and the US Department of Energy.

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For more on the work of SPRU visit:

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