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#### WILLIAM H. JANEWAY SAYS MORE ...

#### PUBLISHED ON PROJECT SYNDICATE ON MARCH 7, 2023

# THIS WEEK IN SAY MORE, PS TALKS WITH WILLIAM H. JANEWAY, A SPECIAL LIMITED PARTNER AT THE PRIVATE-EQUITY FIRM WARBURG PINCUS, AND AN AFFILIATED LECTURER IN ECONOMICS AT THE UNIVERSITY OF CAMBRIDGE.

**Project Syndicate:** You have often highlighted the power of state procurement to "overcome market risk by pulling innovative suppliers down the learning curve." What principles should guide demand-side interventions aimed at boosting innovation? Which existing models – state-led or otherwise – are worthy of replication?

William H. Janeway: Michael Kremer, a Nobel laureate economist and Director of the University of Chicago's Development Innovation Lab, recently devised a useful guide to such "market-shaping" initiatives. As a first step, the customer specifies their desired function and/or performance. This becomes the basis for an open competition, which brings, as a prize, a pilot procurement contract. That contract can be the basis for the sort of "advance market commitment" that has been successfully pioneered in the field of public health.

This approach avoids the need to "pick winners" among potential contestants. It can be viewed as the formalization of the procurement process through which the US Department of Defense (DoD) facilitated and accelerated all the technological advances that, together, created the Digital Revolution – from the first electronic computers to software and semiconductors.

PS: Today, what you call two "existential crises" are set to "legitimize a more positive, active role for the state in the economy: namely, climate change and the rise of China." Let's start with China, which you argue has contributed to the "rediscovery" in the United States of "the model of public/private partnership at the technological frontier." What lessons from China's rise are Western leaders missing?

**WHJ:** China seems to have spent the last two years or so getting in its own way, as President Xi Jinping has asserted autocratic control across the policy space. Previously, however, China's state-sponsored "opening up" generated enormous economic energy that enabled the country to reach dominance in high-tech manufacturing.

But this amounts to an effective provocation – not a relevant model – for the US. In fact, China now seems to be demonstrating that, while it is hard for a follower to reach the technological frontier, it is even harder to shift from follower to innovative leader. China's contribution to the transformation of American policy has been to force recognition that strategic leadership depends on more than primacy in design.

PS: You praise US President Joe Biden's administration for "framing the looming climate crisis as a legitimate occasion for state intervention in markets" – a step that you called for last year. Which insights from the history of innovation are vital to tip the scales away from a "greentech bubble" and toward a "green revolution"?

**WHJ:** One key insight is not to place "greentech bubble" in opposition to "greentech revolution." In fact, the former may well be a stepping stone to the latter. Like state procurement, speculative investment is decoupled from concern for visible economic value and therefore can finance the trial-and-error experimentation necessary for frontier innovation.

On the path to the Digital Revolution, we experienced two rounds of speculative mania. I am just old enough to recall the "-onics" mania of the early 1960s – Wall Street's first bout of speculative fever after the 1929 Crash – which focused on electronics and avionics companies and was exemplified by NASA (in particular, Project Apollo). In the 1990s came the great tech bubble, which served to fund both the physical infrastructure for the internet-based economy and the first major wave of experiments in the economic applications of that infrastructure, beginning with e-commerce.

With respect to greentech, we have witnessed how the frenzied speculation surrounding Tesla accelerated the global auto industry's shift from internal-combustion engines to electric – a process that has now gained so much momentum that not even Elon Musk's Twitter drama can stop it. These are examples of what I call "productive bubbles."

### BY THE WAY . . .

**PS:** In your book Doing Capitalism in the Innovation Economy, you write that, "contrary to the central dogma of neoclassical economics, efficiency is not the virtue of a market economy whose growth is a function of the creative destruction identified by Joseph Schumpeter as the

engine of economic development." How does an excessive focus on efficiency undermine innovation, and under what conditions can financial speculation – that is, the aforementioned "productive bubbles" – contribute to it?

**WHJ:** When investors focus exclusively on efficiency, they end up channeling resources toward the *least* risky projects, those for which the outcome can be credibly quantified at inception. But significant innovation demands funding for projects whose returns cannot be known in advance.

We can evaluate a financial bubble along two dimensions. First, does it *focus* on assets that have the potential to increase productive capacity, as railroads, electrification, and computers have done? And, second, is its *locus* in the liquid, public capital markets, where equity dominates and leverage is limited?

Bubbles always burst, as the sponsors of the "unicorn" tech startups are now learning firsthand. But the ones that do real damage are those that infect the credit system. When the housing bubble of the early 2000s imploded, it left behind only abandoned and unfinished houses. By contrast, when productive bubbles burst, they leave behind railway tracks, power-generating stations, and fiber-optic infrastructure.

**PS:** The pandemic highlighted the fact that there is also a tradeoff between efficiency and resilience. Are markets and governments moving in the right direction, such as by diversifying supply chains, to boost resilience, or do their efforts remain inadequate or misguided?

**WHJ:** We have learned the hard way about the value of investing in resilience, at the expense of lower short-term return on capital. Capital markets and governments can provide incentives and resources, but corporate managers are the agents responsible for the tangible and intangible investments needed to increase the economy's resilience, both at the national and global levels.

For corporates – which are subject to the tension between market incentives and government priorities – the least risky investment in the very short term is buying back their own shares. (It is worth noting that share buybacks were effectively banned until 1982.) Where government is the customer, however, it can emulate the DoD, which requires that contractors prevent supply disruptions by securing second sources of critical inputs and, more broadly, building robust supply chains.

**PS:** You released a revised and updated edition of Doing Capitalism in the Innovation Economy in 2018, six years after its original publication. What was the biggest difference between the two editions? If you were to publish another revision today, what would you be most eager to change?

**WHJ:** The decision to release a second edition was motivated by the Brexit referendum in the United Kingdom, followed a few months later by Donald Trump's election to the US presidency. There was plainly a major protest element in both shocking events, which I read as reflections of the economic, social, and political disruptions that the (state-sponsored) digital revolution had generated, through globalization, automation, and financialization. The second edition of *Doing Capitalism* thus delves into the failure of governments to prevent the adverse consequences of digitalization from causing undue harm to their constituents.

Since the second edition's release, there have been three significant developments that I would address in a new revision. The first is the unique character of the "unicorn bubble," which central banks directly sponsored. Unprecedented monetary expansion drove real interest rates into negative territory and spurred "nontraditional" investors to go into venture capital. My 2018 warning that this bubble was highly vulnerable to any move toward interest-rate normalization by central banks has proved accurate: recent monetary-policy tightening has had a major impact on speculative investment.

The second development is Biden's success in re-establishing – at least through 2024 – the American state as a positive force in the innovation economy. And the third is the accelerating reconstruction of economics as a discipline, from the micro to the macro level. This reconstruction will redefine the context in which policy is debated and decided, just as Milton Friedman's "free-market" economics shaped the neoliberal order that is now fading from view.