

## AMERICAN POLITICAL ECONOMY, DISRUPTED

ORIGINALLY PUBLISHED ON PROJECT SYNDICATE ON AUGUST 31, 2018

With the help of markets and the state, technological innovations such as electrification and the steam engine have periodically transformed the economic system from which they emerged. But never before has a technological revolution defined the entirety of economic, political, and social life – until now.

NEW YORK – History shows that the interactions between a mission-driven state, financial speculators, and the market economy – what I call the Three-Player Game – can marshal the funding needed to drive technological innovation beyond the frontier of visible economic value and commercial exploitation. Over time, the fruits of such innovation have transformed the market economy itself.

Both World War II and the Cold War offered what even the Great Depression could not: a rationale for state intervention to direct the allocation of resources in the private sector. And within living memory, the state has played a decisive and legitimate role in guiding the development of information and communications technology (ICT).

In the 18 years since the collapse of the dot-com bubble, however, the relationship between the technology sector and the state has been reversed. ICT's growth to maturity depended on state-supported research and procurement. But now the sector is leading a full-fledged transformation of economic, social, and political life, comparable in scale and scope to the advent of the railroads and electrification.

In addition to attacking the legacy economy's market and regulatory structures, the ICT revolution is redefining the responsibilities of the state. Those at the forefront of digital change are no longer functioning as collaborative partners with governments in an extended process of invention and deployment. Instead, they are directly challenging the state at both the micro and macro levels, while arrogating both economic and political power to themselves.

## REFLECTIONS ON THE REVOLUTION IN SILICON VALLEY

At the micro level of individual firms pursuing opportunities in specific markets, the confrontation with the state is deliberate. As has always been the case, digital innovators are trying to disrupt established markets and destroy the incumbents who dominate them. But to do so, they are increasingly overriding and bypassing the ecosystem of state-sanctioned and state-enforced rules that co-evolved with the markets, and without which the markets would not function. Joseph Schumpeter's principle of "creative destruction" has been refashioned for the digital age.

At the macro level, digitalization, operating through the troika of automation, globalization, and financialization, has drastically widened income and wealth inequality. The ICT sector thus shares a good deal of responsibility for the populist counter-movement that has emerged as a direct consequence of these economic trends.

The evolution of ICT is best measured by the radical, discontinuous decline in the cost of digitalizing, through algorithms, hitherto physical products and processes. Such cost reductions go well beyond quantifiable time and money. Perhaps most important, one no longer needs to "think like a computer" to make use of a software program. The growing abundance of computing resources has allowed ever more layers of abstraction to insulate users from the digital hardware, thus making the digital realm more accessible to more participants.

But less friction is not just a benefit to users. The combination of free, open-source software and rentable cloud-computing resources has also reduced the cost of developing digital services, which now range from information discovery and retrieval to e-commerce and 3D prototyping. At the same time, an array of two-sided marketplaces such as Uber and Airbnb has emerged. In each case, certain tasks previously performed by human beings in physical space have been transformed into coded instructions executed by machines.

When a Google search is conducted, the work of finding relevant information by consulting physical repositories – with or without the additional help of a librarian – has been replaced. When a consumer buys a book on Amazon, massive economies of scale are deployed to reduce work that was previously distributed across multiple supply chains. When a designer uses a software program to specify the characteristics of a 3D-printable prototype, the work of handcrafting the physical model has been supplanted. When a customer requests transportation through Uber, or overnight accommodation through Airbnb, and the request is fulfilled by one of many possible suppliers, the work of physically matching demand and supply has been automated. In all of these examples, atoms have become bits.

To the extent that delivery of a service remains within the digital domain, its consumption will be as frictionless as its development and deployment. By contrast, when a service is delivered beyond the digital domain and the virtual becomes physical, bits are converted back to atoms, and frictions are bound to emerge. Whether it is purchasing a car ride or renting a bed, different types of transactions will produce different types of friction, depending on the social and cultural norms that have become bound up with those practices over the course of generations, if not centuries.

## FROM COLLABORATION TO CONFRONTATION

In the event, these disruptions may lead to confrontations with the state. But frontier digital firms will also encounter the state in more generalized ways. For starters, consider all of the issues that typically arise with monopolies, but which are even more acute when buyers and sellers have little choice but to converge on a single, dominant platform. Consider, also, the challenges implied by “virtual companies” that can easily configure their international governance structure to exploit opportunities for tax arbitrage.

Moreover, an issue that is already salient in Europe, but just beginning to surface in the United States, is the legal status of independent contractors whose livelihoods depend on digital platforms. The libertarian ethos of Silicon Valley treats the availability of “gig economy” employment as a one-dimensional increase in the freedom of contract. But the terms of that contract are entirely within the control of Uber or Deliveroo or TaskRabbit, and those terms typically exclude such standard employee benefits as compensation for injury on the job. Access to available alternatives – the “outside option” that confers some iota of countervailing power – also varies across geographical and political space.

The gig economy, like traditional sources of “casual” employment such as construction and fruit picking, provides gainful employment to those trying to enter the market economy. But the same kind of software is also allowing legacy-economy employers to profit from on-the-fly scheduling for minimum-wage employees working under “zero-hour contracts.” It is not hard to see how the digitally enabled gig economy could become the ultimate realization of Marx’s “reserve army of labor” – fully commodified human beings, available to capitalists on demand.

Clearly, there will be speed bumps on the road to a fully digital future. After all, history will always reassert itself, and it is precisely on this issue that the technically brilliant digital pioneers are most disadvantaged. It is not surprising that those who know they are inventing the future should have minimal, if any, interest in understanding what has happened in the past. To a digital disruptor, taking seriously the historical evolution of taxi or hotel regulations may seem as pointless as asking a modern cosmologist to master the Ptolemaic model of the universe.

Nevertheless, innovators ignore history at their peril. Some might think that we have entered a libertarian golden age in which digital technology has freed us from traditional constraints on market behavior. And yet firms that succeed in disrupting the old physical economy will have to manage the political and cultural elements of the ecosystems they have entered, whether they like it or not. For evidence of this, look no further than the ongoing controversy over Facebook’s dissemination of misinformation and disruption of the news industry.

## AN OLD-NEW PROBLEM

Technological revolutions inevitably generate political spillovers. In the late nineteenth century, the transcontinental railroads’ ability to control Midwestern farmers’ access to the market spawned the Populist Movement. Electrification, in turn, engendered fierce debates over whether the new, essential resource should be publicly or privately owned. Pennsylvania Power and Light triumphed over Pennsylvania Governor Gifford Pinchot when he proposed the creation of a state-owned “GiantPower” in the 1920s. By contrast, President Franklin D. Roosevelt succeeded in establishing the Tennessee Valley Authority just a decade later.

Moreover, contemporary disruptors would do well to consider the history of the US telephone industry, which experienced a stormy and destructively competitive maturation, marked by fierce clashes with local, state, and federal authorities. Things didn’t settle down until 1913, when AT&T’s president, Theodore Vail, negotiated an antitrust settlement that ratified his company’s unique place in the American political economy. Vail’s successful navigation of contending interests and cultural, political, and economic forces led to the establishment of “Ma Bell” as the universal service provider. AT&T’s Bell Labs would go on to serve as a uniquely powerful engine of innovation for the next 75 years.

Today’s valuations of Uber, Airbnb, and other “unicorns” are not based on those companies’ proprietary technology, but rather on the possibility that they may be able to establish a “natural monopoly” in markets of enormous scale. Doing so would allow them to reap monopoly profits from the attendant network effects if – unlike AT&T in the heyday of telephony – they managed to escape regulatory oversight of their pricing practices.

But as AT&T’s experience shows, establishing and maintaining such monopolies requires the buy-in of a wide range of affected stakeholders – not just the company’s own stockholders. For the disruptors who managed to close the loop from atoms to bits and back again, long-term success will depend not just on mastery of the STEM disciplines (science, technology, engineering, mathematics), but also on proper application of lessons from the humanities. History, for example, shows that insofar as tech pioneers are willing to share their profits fairly, there will be less pressure for the state to mandate redistribution.

## THIS TIME IS DIFFERENT

Still, beyond its economic consequences, digitalization has also opened up a new front in the age-old confrontation with the state. At issue is the integrity of the underlying political process itself and the authority that the state derives from that process. To be sure, there is a long history of media giants abusing their power for political ends. In 1800, the second contested US presidential election was distinguished by the dissemination of falsehoods and calumny by a partisan press. A century later, the newspaper tycoons William Randolph Hearst and Joseph Pulitzer more or less precipitated the Spanish-American War. And a century after that, the arrival of Fox News deepened the polarization of the American body politic.

For its part, digital media is uniquely powerful as both a polarizer and an amplifier, owing to its narrowcasting capacity and frictionless means of distribution. The sheer volume of digital communications renders the task of filtering and validating what is posted online technically impossible. After the 2016 US presidential election, those economically responsible for the new distribution channels could expect to be held politically responsible for the content they disseminate. But, if anything, that further validates the de facto power they already wield.

After being sponsored by the state and funded by speculation, the IT revolution is not just transforming the market economy, but also undermining the state's capacity to address markets' coordination failures and self-destructive outcomes. As the new technology confers ever more political and economic power on established firms, all other market participants increasingly operate under conditions of radical uncertainty.

In this way, the IT revolution is reconfiguring the Three-Player Game. After World War II, the state, finance, and markets were constructively aligned; together, each player had a key role in creating the digital revolution. But now the game has shifted from alignment to polarization and paralysis. Looking back, this is most evident in the state's failure to protect its constituents from the economic consequences of the technological transformation that it spawned. Looking ahead, it is foreseeable in the US federal government's premature abdication from any meaningful role in the coming Green Revolution. The question now is whether a Three-Player Game with Chinese characteristics will succeed where America's is failing.