

BOOKS *et al.*

## ECONOMICS

## Data rich

If liberal democracies can resist the urge to micromanage the economy, big data could catalyze a new capitalism

By **Andrew W. Lo**

**C**apitalism is a powerful tool: By compressing enormous amounts of information regarding supply and demand into a single number—the market price—buyers and sellers are able to make remarkably intelligent decisions simply by engaging in self-interested behavior. But in a big-data world, where a super-computer can fit into our pocket and a simple Internet search allows us to find every product under the Sun, do we still need it?

In *Reinventing Capitalism in the Age of Big Data*, Viktor Mayer-Schönberger and Thomas Ramge argue that big data will transform our economies on a fundamental level. Money will become obsolete, they argue, replaced by metadata. Instead of a single market price for each commodity, sophisticated matching algorithms will use a bundle of specifications and personal preferences to select just the right product for you. Artificial intelligence powered by machine-learning techniques will relentlessly negotiate the best possible transaction on your behalf. Capital

will still be important, they concede, but increasingly just for its signaling content. “Venture informers” might even replace venture capitalists.

Mayer-Schönberger, professor of internet governance and regulation at Oxford University, and Ramge, a writer for *The Economist*, believe that the untold gigabytes of data we generate daily will catalyze a restructuring of the economy into one of small, flexible firms that quickly adapt to changing economic conditions. However, this isn’t so much a reinvention of capitalism as a new release—“Capitalism 2.0”—with more complex market signals and optimization algorithms.

The authors’ vision of the future is of a decentralized economy with thick markets of small data-rich firms, reminiscent of Germany’s famous *Mittelstand* and Adam Smith’s “nation of shopkeepers.” This may sound like a utopia, but if it is, it’s a carefully tended one.

Although they believe that large “superstar” information companies are merely a temporary phenomenon that profits from regulatory arbitrage, Mayer-Schönberger and Ramge are wary of the concentration of data in the hands of too few. Their remedy is aggressive antitrust action and a mandate for companies to share proprietary data proportional to market share.



**Reinventing Capitalism in the Age of Big Data**  
Viktor Mayer-Schönberger and Thomas Ramge  
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Big data could catalyze a shift toward small firms that can adapt quickly to economic conditions.

Mayer-Schönberger and Ramge caution that liberal democracies might be tempted to use big-data capitalism to bring the economy under the greater control of the state, citing an experiment conducted in Chile in the 1970s as an example. During the Allende administration, we learn, much of the country’s production decisions were placed under government control, directed by a complex cybernetic model named *Cybersyn*. Although the technological capacity to fully manage an economy didn’t exist at that time, the Chilean system managed some partial successes before it was ended after an America-backed coup d’état in 1973.

This brings us to an important conundrum in *Reinventing Capitalism*’s thesis: The same technologies that could bring us a decentralized, big-data world could also bring about a resurgence in central planning and totalitarianism.

The high-growth, high-tech economy of Communist China is now the envy of many countries. Could this emerge as an alternative to big-data capitalism? The authors seem to think so, as they articulate in a chapter entitled “Unbundling Work.” Here, they discuss the potential realization of the Marxist slogan: “From each according to his abilities, to each according to his needs.” They do not, however, explore the darker implications of proceeding down this path.

Clearly technophiles, the authors focus on the positive roles that technologies can and do play in shaping society. But to venerate Moore’s law without acknowledging Murphy’s law is a mistake. Threats to privacy and cybersecurity, increases in systemic risk, automation-driven unemployment, and manipulation of elections and public opinion by social media hacks are new realities that we’ll need to reckon with in the coming years.

Technological advances also create a form of inequality in their own right—an elitism that separates the technologically savvy from the less sophisticated. Will the high priests of data science become the new bourgeoisie, eventually leading to another Marxian dialectic in which the proletariat will have nothing to lose but their blockchains?

*Reinventing Capitalism* is a thought-provoking book that takes current trends in business, economics, and the information sciences and extrapolates them in a surprising manner. Nevertheless, its conclusion should not be taken as a prediction of the future, but rather as an idealistic sketch of one possible outcome. ■

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