

Introduction: Political Economy and Artificial Intelligence

By Ajay Agrawal, Joshua Gans, Avi Goldfarb, and Catherine Tucker

As the economic potential of artificial intelligence (AI) becomes clearer, a number of questions arise as to its impact on the political environment, including with respect to regulation, competition between nations, and political preferences. To provide some structure to future economics literature on these questions, we organized an NBER conference in September 2024 in Toronto, where the goal set out in the invitation was “to set the research agenda for economics, emphasizing how AI might impact economic systems, their governance, and the relative power of individuals and nations.” We brought together a mix of economists and political scientists to identify open questions and provide frameworks for research going forward.

This volume contains a mix of invited articles and comments from that conference. It is organized into three key themes: the political economy of AI regulation, AI and military power, and AI and political identity.

The political economy of AI regulation

Beraja and Yuchtman first discuss various ways that AI might be disruptive to existing economic structures, such as labor markets and the role of privacy in society. The chapter then points out a previously underappreciated aspect of AI’s commercialization: that it will create new conflict over property rights for the inputs into AI applications. These include online content for generative AI, where current copyright policy does not provide clear guidance, and urban space for autonomous vehicles, including flying drones. The chapter, therefore, identifies important political forces that will shape the economic implications of AI, depending on how these property rights ultimately are allocated.

Farronato’s chapter discusses one aspect of Beraja and Yuchtman’s newly identified conflict over property rights: data. Building on the metaphor that Beraja and Yuchtman

emphasized at the conference, that data is the new oil, Farronato notes that property rights over information are particularly complicated, as Arrow (1962) highlighted. Therefore, the underlying economic frameworks for developing property rights for information will need to be different from those developed for non-information goods such as oil.

In contrast to the chapters by Beraja, Yuchtman, and Farronato, which discuss the regulatory challenges in newly contested property rights, Callander's chapter examines how incentives affect relevant policy outcomes, particularly with respect to regulation. The chapter discusses the role of interest groups and asymmetric information between policymakers and innovative firms. Politics affects the path of technology, and through interest groups, the anticipated path of technology can affect politics.

The following two chapters turn to the regulation of algorithms directly. Like Callander, Gillis et al. emphasize asymmetric information between firms and regulators. They provide a detailed framework for assessing the relative benefits of different regulatory regimes. If the regulator emphasizes inputs into the algorithm, that can limit the upside potential of AI. If the regulator emphasizes the outputs, that can punish firms for bad luck. They point out that regulation can also occur "ex-interim", where the process can be scrutinized in ways that, under certain conditions, incentivize efficient deployment.

Gans's chapter also highlights tradeoffs in regulating algorithms, noting that the economic approach to regulating through market design is generally more efficient than an approach that focuses on regulating the inputs to the algorithm or the algorithm itself.

Furman provides a broader discussion of the goals of AI regulation, emphasizing that there are meaningful differences between a "precautionary principle" approach and a cost-benefit approach. He identifies six principles to consider.

AI and military power

Economic power and military power are interconnected. To emphasise this connection, we invited national security expert Paul Scharre to discuss his book, *Four Battlegrounds*. His chapter serves as a transcript of his remarks at the conference. He examines each of the “battlegrounds” for AI dominance in military conflict: data, hardware, talent, and institutions. Gross’s commentary on Scharre’s chapter underscores that these four battlegrounds are primarily economic in nature, suggesting it could be framed as a “resource-based view of military performance.” Consequently, the relative military power of nations relies heavily on a specific set of economic resources that countries apply to the military use of AI.

Another political scientist attending the conference, John Lindsay, argued that political science is probably the “More dismal science”, partly because the consequences of military conflict are severe and partly because the implications of technological change on military power are difficult to ascertain. Thus, seemingly good news is often mixed with bad. Tying military outcomes to the role of judgment in decision-making (Agrawal, Gans, and Goldfarb 2018), Lindsay emphasizes that conflicts are often decided by willingness to pay costs as much as by military firepower. AI might not have much impact on national resolve even if it changes the ability of nations to inflict harm on each other.

AI and political identity

A third theme was the role of AI in shaping political identity. Fouka and Reich emphasize recent research on the role of education in shaping national identities. Nation building is a deliberate process, and it has long been recognized that education plays an important role in that process. Furthermore, there are reasons to expect that AI will lead to more effective and personalized education. Combining these ideas, they argue that AI could lead to more effective nation-building. They, therefore, connect disparate ideas on nation-building, education, and AI to suggest a novel pathway through which AI might affect political identity.

Petrova et al. discuss a different way that AI can shape identity: through its impact on politicians and voters. They document that the automation of factories likely increased the activities of right-wing populist politicians in affected areas and, in related work, note that this in turn likely influenced election outcomes in the United States. Colantone offers some suggestions to enhance this research. Mansell et al. highlight that support for AI is not necessarily stronger on the left. Using data from Canada, they show that both the far left and the far right are more sceptical of AI, while traditional conservatives appear to be the most supportive.

Acemoglu et al. develop separate models of how AI's use in social media and targeted political advertising affect political preferences and political outcomes. For social media, curated news feeds lead to polarization. For advertising, two political parties aim to reach voters with digital ads, which can be crafted and targeted by AI. Naive voters may be convinced by incorrect information, and this increases the effectiveness of digital ads for political purposes. Thus, their models suggest AI-powered media lead to polarization of voters, and that political parties respond to this by choosing polarizing policies. They note that competition between platforms will not solve these issues, and instead explain how regulation of the algorithms (enforcing social media feed diversification or weaker ad targeting) could reduce polarization. In addition to touching the theme of regulation, this concluding chapter provides particular mechanisms for an idea that is perhaps the central theme of this volume on AI and political economy, that politics affects technology and technology affects politics.

Political scientist Joshua Tucker commented on the presentation by Acemoglu and Siderius at the conference, which is related but distinct from the chapter those authors contributed to this volume. Tucker's comments highlight ideas similar to those of Beraja and Yuchtman, Farronato, and especially Callander, noting that regulation occurs in a contested environment. However, it remains unclear who would advocate for the policies in AI and online advertising that Acemoglu and Siderius's research emphasises.

We hope this volume on political economy and AI, while representing an early stage of thinking on the topic, provides some fruitful directions for future research.

SHORT SUMMARY/ABSTRACT

As the economic potential of artificial intelligence (AI) becomes clearer, a number of questions arise as to its impact on the political environment, including with respect to regulation, competition between nations, and political preferences. To provide some structure to future economics literature on these questions, we organized an NBER conference in September 2024 in Toronto, where the goal set out in the invitation was “to set the research agenda for economics, emphasizing how AI might impact economic systems, their governance, and the relative power of individuals and nations.” We brought together a mix of economists and political scientists to identify open questions and provide frameworks for research going forward.

This volume contains a mix of invited articles and comments from that conference. It is organized into three key themes: the political economy of AI regulation (with entries by Beraja and Yuchtman, Farronato, Callandar, Gillis et al, Gans, and Furman), AI and military power (with entries by Scharre, Gross, and Lindsay), and AI and political identity (with entries by Fouka and Reich, Petrova et al., Colantone, Mansell et al., Acemoglu et al., and Tucker).

Table of Contents (chapters in order)

Introduction

The political economy of AI regulation

Beraja and Yuchtman,

Farronato,

Callandar,

Gillis et al,

Gans

Furman

AI and military power

Scharre,

Comment: Gross

Lindsay

AI and political identity

Fouka and Reich

Petrova et al.

Comment: Colantone

Mansell et al.

Acemoglu et al.

Comment: Tucker,