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Value of Data: There's No Such Thing as a Free Lunch in the Digital Economy

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The Facebook-Cambridge Analytica data scandal demonstrates that there is no such thing as a free lunch in the digital world. Online platform companies exchange “free” digital goods and services for consumer data, reaping potentially significant economic benefits by monetizing data. The proliferation of “free” digital goods and services pose challenges not only to policymakers who generally rely on prices to indicate a good’s value but also to corporate managers and investors who need to know how to value data, a crucial input for the innovation of digital goods and services. In this research, we first examine the data activities for seven major types of online platforms based on the underlying business models. We show how online platform companies take steps to create the value of data, and present the data value chain to show the value-added activities involved in each step. We find that online platform companies can vary in the degree of vertical integration in the data value chain, and the variation can determine how they monetize their data and how much economic benefits they can capture. Unlike R&D that may depreciate due to obsolescence, data can produce new values through data fusion, a unique feature that creates unprecedented challenges in measurements. Our initial estimates indicate that data can have enormous value. Online platform companies can capture most benefits of the data, because they create the value of data and because consumers lack knowledge to value their own data. As trends such as 5G and the Internet of Things are accelerating the accumulation speed of data types and volume, the valuation of data will have important policy implications for innovation, investment, trade, and growth.