

Economic Values of Data and Cross-Border Data Flow, and Global Minimum Tax

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In the digital era, data is the key input to a firm's production. Firms using data to organize production, notably Big Tech, enjoy higher productivity and market valuations. However, policymakers in many nations are concerned that Big Tech has not paid its fair share of taxes. A major reason for the gap between expectations and reality is that the value of data has not been capitalized into a firm's financial statements. I find that Big Tech possesses a tremendous value of data, and capitalizing their value of data can increase their profit rates significantly, which can easily meet the criterion of a 10% profit margin for the global minimum tax. For example, capitalizing Amazon's value of data can increase its average profitability by 17%, with an annual growth rate of 12.2%. For Big Tech as a whole, the average profitability during the same period of time increases 11.4%, with an annual growth rate of 2.8%. Moreover, the estimated global value of data is around three trillion dollars. Nonetheless, even if the global Internet traffic continues to grow, the global value of data may saturate, or possibly decline, if Big Tech continues to gain a higher share of global data at a rapid pace. This paper also presents the first estimated economic value of cross-region data flows, which is of the order of several hundred billion dollars. The distribution of this value, however, is very uneven due to the inhomogeneity of cross-region data flows. My analysis is useful for policymakers to understand how much economic value of cross-border data flows may be at stake, and to understand the related transaction costs that businesses may incur under a data governance and tax policy. The analysis is also important for firms to evaluate the impacts of global minimum tax and data localization policy.