

Producing AI Innovation and Its Value Implications

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Abstract : We quantify the proliferation of artificial intelligence innovation since 1990. Then, studying publicly traded firms, we find that they direct their production of innovation toward AI, motivated by their own and their customers, labor's exposure to AI technology. We instrument actual AI production by interacting with exogenously measured innovation capacity and AI exposure. We find that consistently during the past three decades, producing AI transitorily increases profitability, durably decreases risk (both systematic and idiosyncratic), and increases a firm's future stock returns. We can empirically distinguish the production of AI innovation from AI adoption, automation, and other potential confounds. The results suggest that AI innovation is a firm value increase that is underestimated by investors.

Keywords : artificial intelligence, innovation, technology, labor, firm value, corporate investment, asset pricing

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