

Readings for Erik Brynjolfsson's NBER AI Tutorial

September 22, 2021

AI, Intangibles and Productivity Growth

Recommended readings:

1. Brynjolfsson, E., Rock, D., & Syverson, C. (2019). Artificial Intelligence and the modern productivity paradox: A clash of expectations and statistics. In A. Agrawal, J. Gans, & A. Goldfarb (Eds.) *The economics of artificial intelligence: An agenda* (pp.23–57). National Bureau of Economic Research Conference Report. University of Chicago.
<https://www.nber.org/papers/w24001>
2. Corrado, C., Hulten, C., & Sichel, D. (2009). Intangible capital and U.S. economic growth. *The Review of Income and Wealth*, 55(3): 661-85.
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1475-4991.2009.00343.x>
3. Brynjolfsson, E., Rock, D., & Syverson, C. (2021). The productivity J-curve: How intangibles complement general purpose technologies. *American Economic Journal: Macroeconomics*. University of Chicago, Becker Friedman Institute for Economics Working Paper No. 2019-33:
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3346739

Optional readings:

4. Hall, R.E. (2001). The stock market and capital accumulation. *American Economic Review*, 91(5), 1185–1202. <https://www.aeaweb.org/articles?id=10.1257/aer.91.5.1185>
5. Trajtenberg, M. (2019). 6. Artificial Intelligence as the Next GPT: A Political-Economy Perspective. In *The Economics of Artificial Intelligence* (pp. 175-186). University of Chicago Press. <https://www.degruyter.com/document/doi/10.7208/9780226613475-008/html>
6. Brynjolfsson, E., Collis, A., Diewert, W.E., Eggert, F., & Fox, K.J. (2021). GDP-B: Accounting for the value of new and free goods in the digital economy. Working paper. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3356697

Background readings:

- Bresnahan, T.F., & Trajtenberg, M. (1995). General purpose technologies ‘Engines of Growth’? *Journal of Econometrics*, 65(1), 83–108.
<https://www.sciencedirect.com/science/article/pii/030440769401598T>
- Brynjolfsson, E., Hitt, L.M., & Yang, S. (2002). Intangible assets: Computers and organizational capital. *Brookings Papers on Economic Activity*, 1, 137–98.
<https://www.brookings.edu/bpea-articles/intangible-assets-computers-and-organizational-capital/>
- Brynjolfsson, E., & Saunders, A. (2016). Valuing information technology related intangible assets. *MIS Quarterly*, 40(1), 83-110. <https://misq.org/catalog/product/view/id/1756>
- Brynjolfsson, E., Hui, X., & Liu, M. (2019). [Does machine translation affect international trade? Evidence from a large digital platform](#). *Management Science*, 65(12), 5449-5460.
- Brynjolfsson, E., & Collis, A. (2019) How should we measure the digital economy? *Harvard Business Review*, 97(6), 14-48 (Nov-Dec). <https://hbr.org/2019/11/how-should-we-measure-the-digital-economy> DOI: 10.1257/aer.20170491
- Brynjolfsson, E., Collis, A., & Eggers, F. (2019). Using massive online choice experiments to measure changes in well-being. *Proceedings of the National Academy of Sciences*, 116(15), 7250-7255. <https://www.pnas.org/content/116/15/7250>
- Byrne, D.M., Fernald, J.G., & Reinsdorf, M.B. (2016). Does the United States have a productivity slowdown or a measurement problem? *Brookings Papers on Economic Activity*, (Spring), 109-157. <https://www.brookings.edu/bpea-articles/does-the-united-states-have-a-productivity-slowdown-or-a-measurement-problem/>
- David, P. (1990). The dynamo and the computer: An historical perspective on the modern productivity paradox. *American Economic Review*, 80(2), 355-361.
<https://www.researchgate.net/publication/4724731>
- Eisfeldt, A.L., & Papanikolaou, D. (2014). The value and ownership of intangible capital. *American Economic Review*, 104(5), 189-194.
<https://www.aeaweb.org/articles?id=10.1257/aer.104.5.189>
- Feldstein, M. (2017). Underestimating the real growth of GDP, personal income, and productivity. *Journal of Economic Perspectives*, 31(2), 145-164.
<https://www.aeaweb.org/articles?id=10.1257/jep.31.2.145>
- Hall, R.E. (2000). E-Capital: The link between the stock market and the labor market in the 1990s. *Brookings Papers on Economic Activity*, 2, 73–118. <https://www.brookings.edu/bpea->

[articles/e-capital-the-link-between-the-stock-market-and-the-labor-market-in-the-1990s/](#)
DOI: 10.1353/eca.2000.0018.

Haskel, J., & Westlake. (2017). *Capitalism without capital: The rise of the intangible economy*. Princeton, NJ: Princeton University Press.

McGrattan, E. R., & Prescott, E. C. (2010). Unmeasured Investment and the puzzling US boom in the 1990s. *American Economic Journal: Macroeconomics*, 2(4), 88-123.
<https://www.aeaweb.org/articles?id=10.1257/mac.2.4.88>

Peters, R. H., & Taylor, L. A. (2017). Intangible capital and the investment-q relation. *Journal of Financial Economics*, 123(2), 251-272. DOI: 10.1016/j.jfineco.2016.03.011
<https://www.sciencedirect.com/science/article/abs/pii/S0304405X16301969>

Syverson, C. (2011). What determines productivity? *Journal of Economic literature*, 49(2), 326-365. <https://www.aeaweb.org/articles?id=10.1257/jel.49.2.326>

Syverson, C. (2017). Challenges to mismeasurement explanations for the U.S. productivity slowdown. *Journal of Economic Perspectives*, 31(2), 165–86.
<https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.31.2.165>

Varian, H. (Sep 2016). A microeconomist looks at productivity: A view from the valley. Presentation, Brookings. <https://www.brookings.edu/wp-content/uploads/2016/08/varian.pdf>