MATH2270 Assignment 1

Student Details

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Data/Visualization Source

Social Networks for Innovation & Productivity:-

https://ourworldindata.org/grapher/labor-productivity-per-hour-pennworldtable?time=1950..2017&country=AUS+BRA+CAN+CHN+DEU+IND+JPN+MYS+NLD+NZL+SGP+ZAF+KOR+SWE+THA+GBR+USA

https://ourworldindata.org/social-networks-innovation-and-productivity

Vodcast URL

https://drive.google.com/file/d/1MFtlEBvAMgxYQl6eyJ9u3ugeiv6v3H1m/view?usp=sharing

Transcript

Economies today are increasingly built on ideas. Consider, for example, An Airlines get the same airliner ready in about 10 minutes; half the time the same process took in the 1970s.

Paul Romer, Nobel Prize winner in Economics has precisely made this observation: the diffusion of ideas encourages economic and productivity growth. It made economists ask entirely new questions, where do ideas come from? How do ideas spread?

Their findings suggest social networks plays a key role. It facilitate the diffusion of ideas across individuals and firms, and because of this, they play an important role in productivity growth.

According to one research in US, patent citations were three to four times as likely to come from the same state as the originating patent – this is consistent with the our original idea of

social connections and proximity with each other; while inventor in a different part of the country can be partly explained by how well-connected their social backgrounds are.

The chart below depicts the productivity per hour worked measured in terms of GDP. It is adjusted for inflation. Globally, the total economic output per person is 4.4-times higher than in 1950 (even after accounting for inflation). This was gathered over a period when people tend to work fewer hours. So, we now produce more whilst working less.

As our chart here shows, this historical achievement is supported by productivity growth: in many countries, workers produce much higher output per hour today compared to 1950.

This is partly because of new machines and technologies, but also because we have new shared knowledge about how to work more efficiently.

We will now look at the bar chart, as can be seen, US, Australia & Canada are at the top initially, and then Netherlands, Sweden, UK & Germany came into race in early 90s when digitalization started and shuffled across as each of them have started using social platforms till 2017 when Germany reached first.

The results of this increase are great in the age of the internet. The development of new communication technologies, like social media, have opened new possibilities for creating and maintaining social connections, which is likely to have had a positive effect on the transmission of knowledge.

References

1) Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2015), "The Next Generation of the Penn World Table" American Economic Review, 105(10), 3150-3182, available for download at www.ggdc.net/pwt. PWT v9.1

2) **https://www.rug.nl/ggdc/productivity/pwt/**

3) Romer's seminal paper, with nearly 30,000 citations in Google Scholar is Romer, P. M. (1990). Endogenous technological change. Journal of Political Economy, 98 (5, Part 2), S71-S102.

4) **https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.usatoday.com%2Fstory%2Ftravel%2Fairlines%2F2019%2F05%2F14%2Fhow-long-it-takes-to-get-a-plane-ready-between-flights-airplane-turnaround-time%2F1123694001%2F&psig=AOvVaw3ZIT2DMs3fk9NNeXWlvaET&ust=1585049111270000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCKDw6KO-sOgCFQAAAAAdAAAAABAD**

5) https://www.google.com/url?sa=i&url=https%3A%2F%2Fdepositphotos.com%2F39376399%2Fstock-photo-diffusion-and-exchange-of-ideas.html&psig=AOvVaw1B-f6Ym8vxhKvpRCF1sgVQ&ust=1585049164662000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCOCXjra-sOgCFQAAAAAdAAAAABAD

6) https://www.google.com/url?sa=i&url=https%3A%2F%2Fmakeawebsitehub.com%2Fsocial-media-sites%2F&psig=AOvVaw1fQvgmai5r29r4m7ohcEDZ&ust=1585049190568000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCODN1cK-sOgCFQAAAAAdAAAAABAD