

Is capitalism a necessary condition for innovation?

Introduction

Wealth inequality worldwide is growing. The world's ten richest billionaires' combined wealth surpasses the total goods and services produced annually by nations such as Brazil, Australia and Indonesia (Institute for Policy Studies, 2023). This staggering wealth disparity is unsustainable and primarily driven by capitalist systems. In capitalism, one class of people controls the means of production and capital while another does the work. Today, extreme capitalism (**capitalism**) exacerbates wealth inequality. They include the debt-driven economy, financialisation and shareholder capitalism, which prioritises the interest of corporations and their shareholders. Contrast this with early capitalism - stakeholder capitalism, where corporations have multiple purposes, including social responsibility. Profit-making was a part of the process and not the sole purpose. Socialist systems (**socialism**), including governments, public universities, non-profit organisations and open-source software, own the capital and operate for public good. Innovations improve productivity, raise our standard of living and are now primarily driven by *capitalism* and markets. Markets that previously served society have become society's master today.

In this essay, I argue that *capitalism* is not a necessary condition (*unnecessary*) for innovation as alternate systems have introduced productive innovations. I examine what drives innovation and study if *capitalism* is superior to *socialism*. Finally, both systems are reconciled to mitigate the adverse effects of *capitalism* on societies.

Capitalism is unnecessary for innovation

Modern *capitalism* arose in the early 19th century, but inventions and innovations existed in many ancient societies. According to the renowned 20th-century economist, Joseph Schumpeter, **invention** is the creation of a new idea or technology such as a patent. Meanwhile, **innovation** involves the application of that invention that creates value in the marketplace by improving an existing product or converting a patent for practical use by the masses (Schumpeter, 1994). This distinction is relevant for discussion as innovation is the main reason for improved productivity, rising living standards and quality of life. Ancient China produced the "Four Great Inventions of China", namely paper, printing, compass and gunpowder. They were innovations as they created value and improved the lives of people. In modern times, innovations are not limited to *capitalism* as well.

The iPhone and its ecosystem, the App Store, revolutionise how humans live, work and play. Proponents claim that the iPhone is one of many examples of innovation that *capitalism* can bring. However, the iPhone utilises many technologies developed by *socialism*. For example,

the US Department of Defence created the GPS. Additionally, IEEE, a non-profit organisation, set the WiFi standard in 1997 (IEEE, 1997). ALOHAnet, an early version of WiFi, was first developed and demonstrated by the University of Hawaii. The classification of the technology as an invention or innovation depends on the impact on the public when released. The iPhone depends on many technologies created by *socialism* for it to succeed. People developed new technologies in *socialism*, where monetary compensation is not the greatest motivation, which leads to the question, if not money and *capitalism* what makes people tick?

Humans are primarily driven by status. Schumpeter and I agree that competition drives innovation. However, he believes that the entrepreneur's actions in capitalism disrupt the status quo and drive competition (Schumpeter, 1994) while I believe the desire for status compels people to play the "Status Game", which drives competition. In his book "The Status Game", Will Storr (Storr, 2021) and other studies (Anderson et al., 2015; Anderson & Hildreth, 2016) have shown that humans crave status. Status comes in different forms such as power, recognition, awards, feeling valued in a community and acceptance. The development of the GPS is said to be a result of the Cold War Space Race. Power rivalry between the US and Soviet Union intensified the "Status Game" which drove competition and innovations. Schumpeter may be partially correct as the entrepreneur's actions are mainly driven by the opportunity to become richer in *capitalism*, and is a form of status. The current capitalist system is a systemic and structural issue that exploits human desires by rewarding people monetarily in extreme amounts. There is a need to tap on other human desires to reduce the emphasis on monetary rewards. Next, we see innovations from socialist systems.

Objecting the superiority claim

Critics may say the thesis statement is a wrong framing of the issue, acknowledging that *capitalism* is *unnecessary* but arguing that it is a superior system of producing innovation.

Capitalism appears to facilitate innovations better and is therefore considered superior to *socialism*. Nevertheless, many foundational inventions came from *socialism*, including GPS and WiFi. These are used by major technology companies today. Additionally, *socialism* has produced innovations as well. Singpass, developed by the Government Technology Agency (GovTech) of Singapore, delivered tangible benefits to Singaporeans through innovation by enabling simple online transactions with the government. The SingPass team won a Service Delivery Excellence Award in 2020 (Kurohi, 2020). The competition among public agencies for awards and recognition are types of status that exist in *socialism*. While capitalist firms can build such systems, they may not develop them without profit incentives. Moreover, large technology firms have a poor reputation for data privacy, raising concerns. Ultimately, in

capitalism, firms prioritise profitable consumer products and invest to ensure the bottom line and shareholders' benefits. In *socialism*, long-term research and development (R&D) is undertaken, such as public health research. It may be unprofitable in the short term, but it benefits the masses. *Capitalism* is not superior to *socialism* due to unprofitable products being overlooked and the reliance on socialist inventions.

Another flaw with the superiority argument is the base rate fallacy, where capital is concentrated in capitalist firms, and people have a misguided belief that more innovations come from *capitalism*. The fallacy is a cognitive bias when individuals give more weight to specific information whilst ignoring others. While status drives human behaviour to innovate, capital is also needed. As an example, Apple ended 2022 with cash and investments amounting to \$165.5 billion (Kranz, 2023). This parallels misinformation about COVID-19 vaccines, where individuals falsely believe that vaccination causes increased deaths. However, as more individuals become vaccinated, it is natural to see more vaccinated individuals contracting or dying from COVID-19 (Washington State Department of Health, 2023). Instead, an appropriate comparison is to use a framework such as the Global Innovation Index (GII). Measuring innovations is more challenging than inventions, where patents are quantifiable. In addition to the base rate fallacy, productivity growth driven by innovation has slowed since the 1970s (World Intellectual Property Organization [WIPO], 2022). This coincided (1970s) with the rise in *capitalism* and financialisation, characterised by a shift from value creation to value extraction. Ideas such as "the only mission of a corporation is to maximise shareholder value was popularised by conservative economists like Milton Friedman in 1970 and operationalized by business school professors, notably Jensen and Meckling in 1976" (Lim & Heng, 2021). Empirical evidence refutes the claim that the rise in *capitalism* led to increased innovation, measured by productivity growth. However, this is one of many ways to measure innovation; other metrics may tell a different story. The base-rate fallacy, unequal capital distribution and innovation-driven productivity slump rebut the idea that *capitalism* is superior.

Lastly, critics miss the point when arguing that *capitalism* is a superior system for innovation. When discussing superiority, proponents of *capitalism* only discuss the amount of innovation while neglecting the shortcomings. The impacts of wealth inequality are multi-dimensional, encompassing economic, social and political. In 1965, the CEO-to-worker compensation ratio was 20:1 but skyrocketed to 320:1 in 2019 (Economic Policy Institute, 2020). Amidst the energy crisis in 2022, oil companies made record profits amounting to \$200 billion (Ferris, 2023) and paid out \$110 billion in dividends and share buybacks (Bousso, 2023). Corporations and shareholders benefited as the average person struggled through winter amidst soaring

living expenses and record inflation. Wealth inequality negatively impacts social mobility, physical and mental health. They undermine faith in democracy and lead to a rise in populist ideologies (Lim & Heng, 2021). In totality, these effects, driven by *capitalism*, threaten the fabric of societies. The disadvantages of *capitalism* are clear to all. Critics should consider superiority in its entirety and not just the amount of innovation.

Conclusion

This essay explored inventions and innovations in various systems, strengthening my stance that *capitalism* is *unnecessary* for innovation. A primary factor of human behaviour is the desire for status which drives competition, consequently spurring innovation. A paradigm shift is required to organise societies and incentivise people by fulfilling other desires. This essay adds to the mainstream discussion, challenging readers to rethink if *capitalism* is the only effective way to drive innovation. This essay addresses the drawbacks of *capitalism*, and there is a need to acknowledge that there is no perfect system; *socialism* has its set of disadvantages too. Where possible, a hybrid system that achieves an optimal balance between less extreme capitalism and *socialism* should be adopted. Using status, co-ops, semi-state-owned enterprises, public-private partnerships with profit and risk sharing, market socialism (Cohen, 2001) and markets with socialist characteristics - enhanced redistribution policies, are ways to reconcile both systems. It will lead to a more egalitarian, cohesive and fairer society.

(Word count: 1498)

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