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The future: corporate Individualism. *Is the face of capitalism changing in the 21. century?*

Abstract

The author examines the economic, labour and social consequences of productivity from the Roman Empire (*societas publicanorum*) to 21st century (*corporate individualism*) in terms of technology and access to knowledge. The author also examines different roles of the state (government, legislation) and markets as well as education in automation, artificial intelligence and robotics pointing to one direction: accelerating digitization and reliance on artificial intelligence leads to another industrial revolution by challenging the nature of capitalism in 21st century. The argument introduces the notion of “post-renaissance polyhistorists” who could change the face of capitalism within the context of “corporate individualism”, which will revolutionize the world of work and education.

Keywords: artificial intelligence, artificial powers, automation, Christianity, Code Napoleon, colonisation, company, competitiveness, coronavirus epidemic, corporate individualism, COVID-19, digitalisation, education, entrepreneurships, incentive state, industrial revolution, innovation, jobless society, knowledge, labour market disruption, lifelong learning, manufacturing, markets, middle class, Post-renaissance polyhistorists, production cycles, productivity paradox, productivity, R&D, robotics, S&P 500 index, skills.

Perhaps in the future every human individual will be considered disabled and a kind of unit of a company or firm. You will be able to operate as a firm or a company such a large scale in terms of productivity like old companies in the 20th century. I argue that, based on modern technologies, even individuals with assistive and ambient technologies will be able to perform like companies in the 20th century.

First of all, let's glance at the evolution of the corporate world in human history. Historical show that as far back as the Roman Empire, the first empire of Europe providing modern legal concepts and institutions influencing business,

the corporate world has been the key to economic development in the so-called Western civilization. In Roman times, companies were basically founded to share risks and achieve better profits, especially in the maritime business as Rome was a naval power first. Even though this argument is still going on among historians, I think “societas publicanorum” can be considered the origin of modern companies based on the cooperation of individuals in the economy. Rome was a very important pillar of legal development in the field of doing business since in Roman law there were legal forms and institutions ensuring that entrepreneurs and their customers engaging in legal disputes could be protected by formal and effective safeguards. In my understanding it was the legal foundation for trade and hiring people to map out, organize, transport, and deliver goods – therefore to be entrepreneurs forming these Roman “companies” which also were able to assume rights and obligations, e.g., like being able to file actions against fraud or embezzlement, own property, and even inherit items (*habere res communes*).

When the Roman Empire stepped down at the dawn of the Middle Ages, Christianity took the lead giving a way to an entirely new culture and civilization grew from the ruins of the Roman law by the new combination of tribal laws and the ancient laws. During this transformation the Roman Catholic church was able to preserve many Roman legal institutions via procedures and in administrative and organizational frameworks. Perhaps the most distinguished and visible example is the election of the Pope or how he governs the Vatican now like a CEO with board members (bishops).

The French Revolution was another turning point for taking advantages of the entrepreneurial power of societies and communities. This process basically was accelerated by Scottish and English scientists and entrepreneurs during the first industrial revolution in the 18th and 19th centuries. It led to a higher level of production as more and more investors created huge firms to concentrate the hired labour force and optimize the output of production. They became owners with mass labour forces and mighty infrastructures leading to enormous companies operating for decades and unbelievable wealthy partly due to monopolies.

By the dawn of the 20th century, the most successful large companies developed their own corporate cultures to motivate workers to specialize in areas for higher profit and higher levels of production. It meant that corporations started recruiting the best workers by offering more lucrative conditions and valuable in-house training to maintain loyalty and increase competitiveness. The United States also stepped onto the world market with enormous resources, founded on the pillars of entrepreneurship and individualism based on the achievements of the French Revolution like Code Napoleon.

According to McKinsey,¹ productivity increased by 0.3% per year between 1850 and 1910, together with the accelerated growth of the population having

¹ J. Manyika, M. Chui, M. Miremadi, J. Bughin, K. George, P. Willmott, M. Dewhurst, *Harnessing automation for a future that works*, <https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works>, [access: 12.12.2022].

more wealth. However, in the second half of the 20th century a declining trend in productivity growth evolved in Western Europe, which took place after the age colonisation. At the same time, labour productivity in older EU countries has been steadily declining since 1995 compared to the US and Japan. Although the coronavirus epidemic has also accelerated the digital transformation, an analysis published in the Financial Times presented that, contrary to expectations, the seemingly rapid spread of digital services has not yet reversed the long-term decline in global productivity growth. Even more, while home office workers usually spend radically more time working from home, eventually they appear to be at a lower performance, so the so-called “productivity paradox” means that despite accelerating technological change, it still persists the weakening globally productivity.²

As the previously referred McKinsey study predicts, the growth in this area between 2015 and 2060 will be going up with the advent of smarter and cobot-based robots and digital networks. It follows that productivity could increase by as much as one and a half percent a year globally, which could mean 3–4 times the speed of the first industrial revolution. At the same time, earthquake-like – and not always positive – changes in the size of companies is expected as average life expectancy and the situation of employees are changing dramatically, and the nature of innovation will not only change (in terms of financing and market entry) but also increase fast. It also means that in the future the question of how much we know – and accept – capitalism in Europe as a “free” market-based system can come under pressure, giving way to a more stimulating (incentive) state with suitable power to influence and safeguard societal trends when more robots and AI-related solutions and challenges come, basically from Asia in the face of higher level of competitiveness in industry and later in service sector by the emergence of much more productive individuals with “artificial powers”.³

Not only society and economic leaders, but also the economic organizations themselves are facing a new situation. This was long before the pandemic, as the average life expectancy of leading companies in the U.S. of S&P 500 index has been steadily declining from 67 to 15 years over the past century.⁴ Not only is this an astonishing dynamic, but it also is becoming less expensive to enter the market in certain, primarily the service sector, as more and more technologies are being developed all round the world with better access to them and deployed with decreasing costs that can reduce production and service costs significantly. As

² R. Sharma, *Ten economic trends that could define 2022*, “Financial Times” 2022, <https://www.ft.com/content/432d78ee-6163-402e-8950-d961b4b1312b>, [access: 12.12.2022].

³ L. Lovász, *Corporate individualism – Changing the face of capitalism*, “IEEE Society and Technology Magazin” 2015, vol. 34, issue 4, pp. 20–22, <http://ieeexplore.ieee.org/document/7360305/>, [access: 12.12.2022].

⁴ S.D. Anthony, S.P. Viguier, E.I. Schwartz, J. Van Landeghem, *Corporate Longevity Forecast: Creative Destruction is Accelerating*, <https://www.innosight.com/insight/creative-destruction/>, [access: 12.12.2022].

early as 2016, a comprehensive study by KPMG and Harvard⁵ showed that it took almost twenty years for the high-tech sector (Internet and GPS) to apply to small and medium-sized businesses, but today it takes two to five years for innovative products and solutions to spread to smaller, SMEs operators or even individuals to start a new business.

According to Alex W. Chernoff & Casey Warman, the trend in the U.S. is quite clear in terms of technological advancement: COVID-19 may have accelerated workplace automation as employers increasingly invest in technology to bring the manufacturing process into line with current and future developments in order to adapt to potential and upcoming future pandemics. Researchers find that jobs held by women with medium or low wages and education are at the highest risk in the US and comparable data from another 25 countries supports this statement.⁶

Forrester, a notable US think tank, issued its 2022 forecast, predicts that 35 percent of service companies will introduce physical “robot workers” because by reopening restaurants and other service businesses after COVID-19 they will not be able to fill vacancies. The demand for health, food and logistics (warehouse) jobs, which are basically underpaid and involve heavy manual labour, will continue to increase over the next ten years, so the companies will be increasingly forced to invest in the automation of these jobs, in particular customer self-service, maintenance, delivery robotics, food preparation and remote (security) monitoring support.⁷

At a committee hearing before the US Congress in November 2021, Daron Acemoglu of MIT alleges that if this continues, labour demand will grow slowly, inequalities will increase and the prospects for many low-skilled workers will not be very good. He also puts that this is not an inevitable result, as scientific knowledge can be used to develop technologies that better complement workers. The problem seen by Acemoglu is that R&D is currently largely dominated by a few giant companies⁸ – let’s say they are clearly among the winners during the pandemic – that spend the most money on it, “The problem, however, is that without a push for redirection of technological change, the tech industry is currently much more focused on using AI and digital technologies for automation, rather than producing opportunities for workers.”⁹

⁵ *Harvard Business Review. Embracing Disruption with Innovation*, 2018. <http://kpmginfo.com/innovation/in3assets/EmbracingDisruptionWithInnovation.pdf>, [access: 12.12.2022].

⁶ A.W. Chernoff, C. Warman, *COVID-19 and Implications for Automation*, “NBER. National Bureau of Economic Research” 2020, <https://www.nber.org/papers/w27249>, [access: 12.12.2022].

⁷ C. Le Clair, *Predictions 2022: The Pandemic’s Wake Drives Automation Trends*. “Forrester” 2021, <https://www.forrester.com/blogs/predictions-2022-the-pandemics-wake-drives-automation-trends/>, [access: 12.12.2022].

⁸ Note: Apple’s market capitalization on the first day of 2022 went over \$ 3 trillion, which is already higher than the UK’s GDP. *Apple Becomes 1st Company Worth \$3 Trillion—Greater Than The GDP Of The UK*, “Forbes” 2022, <https://www.forbes.com/sites/zacharysmith/2022/01/03/apple-becomes-1st-company-worth-3-trillion-greater-than-the-gdp-of-the-uk/>, [access: 12.12.2022].

⁹ D. Acemoglu, *Written Testimony House Select Committee on Economic Disparity and Fairness in Growth, Hearing on Automation and Economic Disparity*, <https://fairgrowth.house.gov/sites/democrats.fairgrowth.house.gov/files/documents/Acemoglu%20Testimony.pdf>, [access: 12.12.2022].

One of the most important presidential think tanks, the National Intelligence Council, also released its 2040 forecast in 2020. The NIC not only confirmed its previous report's statement in 2012, but with some modifications, the Council considered that, given the expanding power of artificial intelligence as well as that of computing speed, the question is now whether economies can create enough number of new (type) jobs and the workers themselves have the necessary skills. As the paper puts it, in the coming decades, AI is likely to follow the trend of previous waves of innovation, resulting in a net job creation surplus over time. The real challenge is to create new jobs faster with available, well-trained workers as old ones disappear. In addition, the report also mentions that some economists question whether the spread of AI would actually lead to labour market disruptions, as machines are actually becoming more sophisticated, leading to the mass loss of traditional jobs, which might lead us to a jobless society¹⁰. At the same time, not only have production cycles and innovation-driven adaptation processes been shortened over time, but individualized production and service scales can be continually expanded to increase consumption and need for more jobs, as comprehensive study¹¹ conducted by KPMG and Harvard concluded in 2016. The most important aspect is that to so-called cutting-edge technology, which took almost a couple of decades to be applied at the level of small and medium-sized enterprises (SMEs), now takes only two to five years. Moreover, the Future of Jobs Reports of the World Economic Forum (WEF) published in 2020 have also predicted that "by 2025, the time spent on current tasks at work by humans and machines will be equal"¹².

Automation will create an entirely new momentum. Why? Because workers' skills and experience remained relatively limited for centuries due to the speed and quality as well as access to education and training. Whilst automation stepped into the shoes of classes of undereducated workers, the costs of recruiting the best experts on the market to increase efficiency and productivity of producing ever more complex products and services were increasing all the time. It led to that it was the best interests of a company to keep its labour and knowledge together to prevent competitors from having better access to new technology and innovation. Eventually it then led to workers having new and more predictable careers, and a more secure future for their development and rights. This, in the end, gave rise to the so-called middle class to prosper.

Nevertheless, European and US companies, being on the road to be global players, continued to have exclusive access to knowledge and relevant infor-

¹⁰ *Global Trends 2040: A More Contested World*, 2021, p. 47, <https://www.dni.gov/index.php/gt2040-home>, [access: 12.12.2022].

¹¹ *Harvard Business Review. Embracing Disruption with Innovation*, 2016. <https://hbr.org/sponsored/2016/09/embracing-disruption-with-innovation>, [access: 12.12.2022].

¹² *The Future of Jobs Report 2020*, 2020, p. 5 https://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf, [access: 12.12.2022].

mation based on growing and extensive research within the company. Research and competitive knowledge became the greatest importance and, as laws and legal institutions followed the path, these were becoming the property of companies who had been heavily investing in it.

When personal computers and their wide application in general started triggering R&D activities in computer science opening up to mass consumption, also a new momentum has risen, not to mention the coming of the so-called data computing, which in turn, started replacing thousands of employees in data-related services. And now we are in the age of the smartphone, which has brought about newer momentum in technology and development since these devices are much more than simple phones with more computing capacities than Moon rockets or space cabins had in 1960s.

Six decades later the use of smart software and applications already became a fundamental tool not only for work but also in every sphere of life. That is why even the Economist issued a special briefing on the future of work, pointing out that “the ubiquitous platform of the smartphone to deliver labour and services in a variety of new ways will challenge many of the fundamental assumptions of 20th-century capitalism.”¹³

Referring back to the access to information regarding the global companies in terms of talents and resources, in the 21st century much more information about employees’ professional skills, performance, and their work history has also become available online and even smart algorithms can find the best candidates. (However, algorithms also have serious bugs and dysfunctional skills and errors.)

The real competition has only just begun since the increasing price of talents as human power investments is becoming a reality. It follows a situation where the best of the best workers and experts, together with smarter environments and tools, will be themselves individual corporations by creating a kind of “corporate individualism” equipped with smart and effective solutions, available online all around the globe. However, without doubt, the risk is that even these “winners” become bogus entrepreneurs, since less and less working hours will belong to humans, too.

Along these growing risks, the middle class can be redefined from a classical point of view. The trend is quite frightening when looking at the situation of the middle class, the spine of every society, especially during the past 30 years in America. According to the U.S.-based Pew Research Centre, between 1970–2010 aggregate household income among the middle class changed dramatically: it dropped from 62% to 45%, whilst that of the upper income segment grew 29% to 46%. (NB: The lower income figure has remained the very same.)

¹³ *There’s an app for it*, “The Economist” 2014, <https://www.economist.com/briefing/2014/12/30/theres-an-app-for-that>, [access: 12.12.2022].

Despite the goal of achieving higher education for more people in the last few decades (a clear link between lower unemployment and higher income status of higher education has become common), it must be understood that higher education will need more educated kids to pursue their studies to upper education which follows that better general education should be provided to more children in the future. That is why the Japanese government – with very high educational enrolment – wants to reform the general education to prepare the upcoming generation of children to adapt to robots and smart environment better to help people be those who are capable of being co-creative and collaborate with artificial intelligence in symbiosis, and who can continue to train themselves (life-long learning). Therefore, in the future, more and more “post-renaissance polyhistor” may be needed even in the service sector, which already accounts for 80% of employment. It means that these post-renaissance polyhistorians will be such corporates which can be eventually considered as individuals with enhanced productivity. Instead of hiring more human workers, these corporate individuals will be producing with increasingly advanced artificial intelligence-controlled robots and algorithms (even as part of a larger, global group of companies) and / or providing much more personalized services with fewer workers aiming at an increasing scale of products and services leading to larger markets as well as reaching to more customers who will be able to buy more products and services from other post-renaissance polyhistorians.¹⁴

Thus, as a conclusion, I see productivity and incentive state (government) as the most important issues in automation, artificial intelligence and robotics, as all current indications pointing to one direction: accelerating digitization and reliance on artificial intelligence could create a whole new situation, too, together with a fast pace of growth rate of up to 400% compared to the first industrial revolution. Thus, as I usually put it, everything will have to be understood “a little better” (or even much better) through philosophy and psychology to physics and chemistry; that is, there will be an increasing demand for “post-renaissance polyhistorians” in general, which are also suitable for life-long learning, all of which means an even more complex and state-determined employment-regulatory environment by an incentive state and policy in order to create, support and nurture of much more extensive talent management infrastructure to find the uncut diamonds even in the last settlement in the countryside.

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