

Inequality in the 21st Century: Climate, Digital Skills and Access to Education

Julia M. Puaschunder^{1,2}

¹*The New School, Parsons School of Design, Department of Economics, 6 East 16th Street, 9th floor 89, New York, NY 10003, USA, Julia.Puaschunder@newschool.edu, T 001 212 229 5700, F 001 212 229 5724, www.juliampuaschunder.com*

²*Columbia University, Graduate School of Arts and Sciences, Julia.Puaschunder@columbia.edu, http://blogs.cuit.columbia.edu/jmp2265*

ABSTRACT: In the 21st Century, inequality has many faces. This paper addresses three inequalities in the domains of climate change, digitalization and social justice in the eye of unequal access to education. The inequalities are first presented and then creative inequality alleviation strategies. Climate change requires attention for fairness that the costs of climate change mitigation and adaptation are spread equally within society, between countries and over time inbetween generations. Inequality arises in the access to quality healthcare that varies dramatically around the world. Access to good education is another area of inequality concern and in order to breed social upward mobility, a bundling strategy is proposed that aids excellent and struggling students.

KEYWORDS: Access to Education, Climate change, Digitalization, Equal Chances, Fairness, Inequality, Skills, Social Justice

Climate Justice

The Mapping Climate Justice project proposes a 3-dimensional climate justice approach to share economics benefits and the burden of climate change in a right, just and fair way around the globe. Theoretical foundations and macroeconomic modelling are justified and grounded on ethical imperatives. Building on the categorical imperative (Kant 1783/1993) to only engage in actions one would want to have incurred onto oneself and Rawls' (1971) veil of ignorance to evaluate ethical dilemmas without considering if one is on the benefitting or suffering edge of ethical dilemmata implications, the ethical climatorial imperative demands for an equalization of the gains of climate change around the globe in order to offset for climate change losses (Puaschunder, 2010; Puaschunder 2018).

First, climate justice within a country should pay tribute to the fact that low- and high-income households carry the same burden proportionate to their disposable income, for instance, enabled through a progressive carbon taxation, consumption tax to curb harmful behavior and/or corporate inheritance tax to reap benefits of past wealth accumulation that may have offset climate change. Secondly, fair climate change burden sharing between countries advocates for those countries benefiting from a warmer environment to also bear a higher responsibility regarding climate change mitigation and adaptation efforts. Macroeconomic modeling of Gross Domestic Product (GDP) change prospects in the wake of global warming reveal climate winners and losers. Based on the starting mean climate temperatures and GDP compositions of each country in the world as well as climate change temperature projections in the future and temperature peak conditions for GDP production; climate change gains and losses outlined helps find ways how to share the benefits and burdens of global warming in a fair way around the world. Thirdly, climate justice over time proposes an innovative tax-and-bonds climate change burden sharing strategy in order to share the burdens and benefits of a warming globe equally between generations (Puaschunder, 2017a, b; 2019a, b, c).

All these recommendations are aimed at ensuring to distribute the climate change benefits and burdens within society in an economically efficient, legally equitable and practically feasible way now and also between generations.

Future Climate Wealth of Nations: The novel project extension introduces Future Climate Wealth of Nations by the concept of climate flexibility defined as the range of temperature variation of a country. In a changing climate, temperature range flexibility is portrayed as a future asset for international trade of commodities but also for production flexibility leading to comparative advantages of countries. A broad spectrum of climate zones has never been defined as an asset or comparative edge in free trade. But future climate change lowering the overall range of temperature around the world will diminish territories' flexibility in terms of changing economic production possibilities. The more climate variation a nation state possesses, this novel project argues, the more degrees of freedom a country has in terms of GDP production capabilities, which will be a future asset and trade advantage. Temperature zones will be captured as strategic drivers of growth and trade assets determining the wealth of nations. Land and the productivity of land in a favorable climate is missing in standard growth theory and will be integrated into the contemporary economic theories. These preliminary insights aid in answering what financial patterns we can expect given predictions the earth will become hotter but also climate instability risks will be considered. Already now, the degree of climate flexibility is found to be related to human migration inflow and assumed to underlie commodity price fluctuations. The previously defined climate change winner and loser index will be blended with the novel insights on climate flexibility, leading to an unprecedented outlook on future climate wealth of nations in a world burdened by climate change. Lastly, future climate change induced market and financial changes are planned to be retrieved from scarcity of agriculture production and backtested with real-world price movements in a time series. Individual commodities price distributions will become the foundation for commodity price expectation estimates in the environmental domain. Market prospects and public policy implications are pursued to be derived in order to aid the greater goal to implement climate justice and environmental governance now and for future generations.

Artificial intelligence, big data and robotics in healthcare: The currently ongoing COVID-19 crisis challenges healthcare around the world. Public and private sector healthcare provision differ between countries. On an interconnected globe with a highly mobile 21st century population and a most contagious virus, global health appears as internationally-interdependent as never before in the history of humankind. More than ever before, pandemic precaution requires globally-carried solutions and risks management based on internationally-harmonized action. The endeavor of a commonly healthy world is hindered by the nowadays unprecedentedly-blatant health inequality around the world.

The global solution against a global pandemic but also to provide essential healthcare is likely to feature components of technological advancement and economic productivity as a starting ground for vital solution finding. Anti-corruption is a necessary prerequisite for healthcare provision and quality medicine in the public sphere. Market financialization of a society raises private sector funds for research and development in medicine. A market-oriented implementation of vital health provision appears beneficial and efficient in combating future healthcare crises. Technology-driven growth, corruption free-healthcare and well-funded markets fostering innovation account for the most prospective public and private sector remedies of the global COVID-19 crisis. The vital ingredients of technological sophistication, economic growth potential, market financialization of innovations, corruption-freedom and access to quality healthcare differ vastly around the world.

Puaschunder's (2020) in combination with Beerbaum (2020)'s macroeconomic model innovatively combines the mentioned facets in four different indices to highlight international

differences in economic starting positions as well as public and private sector healthcare provision potential around the world. Four indices were calculated in order to stress the different components' impact on artificial healthcare provision prospects. The results serve as indicator where in the world global pandemic medical solutions may thrive in the international arena. Reflecting the different pandemic crisis alleviation strategies concurrently allows capturing unknown interaction effects of internet connectivity being positively correlated to corruption freedom and general access to quality research. Pegging remedy credentials to certain regions of the world also holds invaluable insights on what territories of the world should take the lead in different sectors when bundling our common world efforts to overcome the COVID-19 pandemic together.

Based on macroeconomic modelling, my empirical research brought forward four indices shedding light on health inequality in the 21st digital century. In its entirety, the four indices highlight different facets of the future of medical care in order to bundle our common efforts strategically in overcoming COVID-19 and thriving in an overall healthier and more digitalized world to come. International data on digitalization, economic prosperity, healthcare standards and innovation market financialization revealed inequality in global connectivity being related to corruption-freedom and better general healthcare. The currently ongoing COVID-19 crisis has created awareness for the global interconnectivity of healthcare but also heightened attention to the drastic medical standard differences around the world, which unprecedentedly leverages the sustainable development mandate to grant equal access to healthcare for all. Artificial healthcare employing the use of telemedicine and big data-supported preventive medical care grant hope in bringing quality medicine to remote areas of the world (Puaschunder, Gelter & Sharma, 2020).

Artificial healthcare inequality and healthy preventive lifestyles connected to ecowellness: Future research should investigate how to overcome health inequality in combination with digitalisation and corruption. First, the unique opportunities (e.g., telemedicine, big data-enhanced preventive medical care, Bluetooth tracking of medical devices in order to overcome bottlenecks and fraud) but also the potential ethical pitfalls (e.g., privacy concerns, inequalities in access to internet connectivity, discrimination and stigmatization of groups and territories with unfavorable prevalences) of digitalization in the healthcare sector will be explored (Puaschunder & Beerbaum, 2020). The role of digitalization will be thematized with a heterodox view, questioning ethical imperatives in the big data age and envisioning the most innovative extensions in the digital century – such as robots having recently gained citizenship in Saudi Arabia and the legal implications of eternally living robo-citizens for society, democracy and sustainable development addressing space and resources constraints. Then the role of corruption in its negative relation to artificial intelligence and internet connectivity but also in light of its negative correlation with access to quality healthcare will be investigated based on country-specific case studies around the world (Puaschunder, 2019d, e, f). This will highlight case studies of positive and negative real-world examples of corruption and corruption alleviation being related to the state and access to healthcare. This will also qualitatively outline the vast differences and implications healthcare inequality in the 21st century. As for the global perspective of the research and the detected country-differences, the transferability from those leading on good AI and healthcare conditions to those low on the index, especially those with low internet coverage, will be addressed. Success factors but also potential pitfalls of AI innovations transfers between countries with particular attention to the role of corrupt and internet coverage will be investigated. In addition, access to healthcare and global connectivity innovations will be proposed and empirically-backtested based on market financialization parameters and price behavior in industry-comparisons and time series. Within society, healthcare inequalities will be addressed in order to debrief on nation-state internal health inequality. Access to medical aid based on social classes will be thematized in order to find

health and quality of life equalizers. Lastly, the connection of prevention via a healthy lifestyle with eco-friendliness will be explored in order to find governance directives how to implement sustainability via healthy lifestyles. Methodologically, case studies and legislative but also corporate governance tools will be compared cross-sectionally between countries and over time in historical progress in order to derive inferences on success factors but also downfall risks in strengthening healthy lifestyles that are also eco-sensitive with attention to exploring heterodox Post-Keynesian interaction variables, such as the role of the state, unions, nutrition, arts and culture. Mitigating disease risks and the prospect of access to affordable quality healthcare for all are thereby innovatively also coupled with sustainability thanks to an ecowellness lifestyle. Media studies will address the role of information transfer online communicating global pandemics in creating social volatility causing economic turmoil will be addressed as creative and easily implementable communication nudge that may prevent bottlenecks and system downfalls in the healthcare sector. Overall, this research on the use of digitalization for access to healthcare would serve the pledge for pandemic prevention at a low coverage cost that is balanced within the ecological limits to growth.

Organizations: Educational inequality

Educational inequality: Thomas Piketty's (2014) *Capital in the 21st Century* revolutionized economic thoughts on inequality. Started by the 2008/09 World Financial Crisis and thematized in the subsequent Occupy movement but also revitalized in the post-COVID-lockdown period, attention to rising inequality regarding wage, opportunity and wealth led to advocacy for a more equal society.

Economic wealth transfer in dyads of exchange between crystallized value based on heritage (e.g., royal families, legacy admits) and merit-based equality represented by outperforming overachiever offsprings from families with underprivileged backgrounds. The theoretical economic model argues for beneficial economic outcomes if social capital holding legacy admits connect with outperforming ambitious strivers of underprivileged backgrounds who represent excellence at higher education institutions. On the societal level, within networks favorable environments may serve as transformation hubs if connecting social capital with merit-based underprivileged excellence.

Overall, this research strives to grant hope in Piketty's outlook of rising inequality. Innovatively finding economic merits of inequality when paying attention to undescribed value transfer and economic growth opportunities, when social capital of legacy admits' social capital and social networking connectivity is directly exchanged for excellence strategies and intellectual reputation of merit-based outperformers. In the 21st century, however, excellence should be debunked and democratized by being coupled with diverse opinions in the need the most pressing social justice pledges of our times.

Discrimination of excellence: Future projects should pay attention to social justice and phase in minorities but also try to unravel the socio-psychological foundations of inequality in order to find creative equalizer strategies. Discrimination of excellence, which is the unjust treatment of outperformers and overachievers, will be described in order to propose an inequality alleviation strategy in connecting overachievers with discriminated-against groups and bundle these two groups in a mutual exchange transaction strategy to alleviate inequality. While overambitious individuals offer insights and practice to be productive and striving for excellence, minorities may offer novel and timely excellence in diversity and very much needed discrimination alertness strategies.

After a theoretical foundation of Discrimination of Excellence and introduction of strivers as uebergroups in society, the research will empirically focus on qualitative case studies, diary technique collected data and an external review report in the higher education

sector to vividly capture discrimination based on excellence (Study 1). Qualitative analyses of PhD studies blog entries reveal a pattern of outperformers being forced out of higher educational institutions to successfully continuing in higher-ranked institutions (Study 2). Evidence of intangible admission criteria, unfair testing situations and delayed or unsuccessful academic promotion statistics serve as additional evidence on discrimination against excellence. Resistance to share information on testing and promotion criteria transparently are detected to allow for discrimination (Study 3). Macro-economic analyses reveal industries that are prone to breed discrimination based on excellence (Study 4) to estimate the short- and long-term losses of discrimination of excellence based on economic trickling down and too-big-to-fail arguments but also Keynes' multiplier innovatively applied in endogenous growth theory alongside including health and societal risks in the wake of discrimination (Study 5). Macro-economic cross-sectional and time series analyses in the laboratory of modern world history outline socio-economic costs of slowing outperformers and abolishing intellectual advancement (Study 6). Artificial intelligence increasing the currently unprecedentedly wide divide between skilled and unskilled labor is predicted to even higher importance of attention to excellence in the future (Study 7).

Search for creative inequality alleviation strategies: While theoretical presenting a preliminary idea of an economic model of value transfer between equality and inequality, my subsequent research will test qualitative and quantitative empirical data on direct and indirect transactions and interaction outcomes between equality and inequality representing agents within societal networks. Further, a field experiment and applicability check in real-world settings are endeavored to be pursued.

In addition, planned research will focus on finding legal codifications, economic action and public policies as well as corporate workplace incentives to protect performance free from discrimination. The concept of overachieving strivers will be compared to disability in the light of the negative socio-psychological consequences outperformance may face in the general public. Awareness building, transparency and mandatory access to information on hiring, testing and promotion criteria appear as natural remedies besides legal action to restrict discriminating individuals, institutional and systemic structures. Cultures-of-excellence safe havens but also rescue funds for those whose career has taken a hit due to discrimination of excellence are economic monetary-grounded loss alleviation strategies. Sociological and psychological attempts to combat discrimination of excellence will target at overcoming a polarization between outperforming uebergroups and outgroups by transfer strategies that advocate for exchange between excellence ingredients of outperformers in lieu of knowledge on discrimination coping strategies of underperformers.

Overall, planned research will capture excellence as an asset of the economy and society. As a most innovative extension on the knowledge of economic growth, the research will also address the socio-economic value of luxury in its purest form representing excellence in society as a Gestalt that represents more than the sum of its pieces, a unique mastery over the world that serves a shared common purpose and works towards long-term endeavors. But it will deconstruct the traditional form of luxury and excellence by peeling it off from the elite with monetary means in connecting excellence with diversity and beauty in social inclusion. In particular, the strategic alliance of out- and underperformers offers the vision of a more productive and anti-discrimination-sensitive workplace, economy, democracy and society. Respect for excellence offers individual well-being derived from meeting diverse human beings with elevating equal respect and dignity. Attention for discrimination of excellence coupled with sensitivity for diversity promises economic prosperity grounded in large-scale individuals' striving and societal advancement that is ennobled by mind-opening diversity.

References

- Kant, I. 1783/1993. *Grounding for the metaphysics of morals*. Cambridge, MA: Hackett.
- Piketty, Th. 2014. *Capital in the twenty-first century*. Cambridge, MA: Harvard University Press.
- Puaschunder, J.M. 2010. *On corporate and financial social responsibility*. Vienna, Austria: University of Vienna.
- Puaschunder, J.M. 2017a. *Intergenerational responsibility in the 21st century*. Wilmington, US: Vernon Press.
- Puaschunder, J.M. 2017b. *Global responsible intergenerational leadership: A conceptual framework and implementation guidance for intergenerational fairness*. Wilmington, US: Vernon Press.
- Puaschunder, J.M. 2018. *Corporate social responsibility and opportunities for sustainable financial success*. Hershey, Pennsylvania: IGI.
- Puaschunder, J.M. 2019a. *Corporate and financial intergenerational leadership*. Lady Stephenson, Newcastle upon Tyne, UK: Cambridge Scholars Publishing.
- Puaschunder, J.M. 2019b. *Intergenerational equity*. Cheltenham, UK & Northampton, MA: Edward Elgar.
- Puaschunder, J.M. 2019c. (Ed.), *Intergenerational governance and leadership in the corporate world*. Hershey, Pennsylvania: IGI.
- Puaschunder, J.M. 2019d. Stakeholder perspectives on Artificial Intelligence (AI), robotics and big data in healthcare: An empirical study. *Report on behalf of a European Parliament Agency*. New York, New York.
- Puaschunder, J.M. 2019e. *The legal and international situation of AI, robotics and big data with attention to healthcare*. Report on behalf of a European Parliament Agency. New York, New York.
- Puaschunder, J.M. 2019f. *Big data, Artificial Intelligence and healthcare: Developing a legal, policy and ethical framework for using AI, big data, robotics and algorithms in healthcare*. Report on behalf of the European Parliament European Liberal Forum in cooperation with The New Austria and Liberal Forum Lab. Vienna, Austria, European Union.
- Puaschunder, J.M. & Beerbaum, D. 2020. "The future of healthcare around the world: Four indices integrating technology, productivity, anti-corruption, healthcare and market financialization." In the *Proceedings of the 18th Interdisciplinary RAIS Conference*, at Princeton, New Jersey, United States, August 17-18. [Held online due to COVID-19].
- Puaschunder, J.M., Gelter, M. & Sharma, S. 2020. "COVID-19-Shock: Socio-technological, legal, corporate, economic and governance changes." In the *Proceedings of the 18th Interdisciplinary RAIS Conference* at Princeton, New Jersey, United States, August 17-18. [Held online due to COVID-19].
- Puaschunder, J.M. 2020. *Governance and climate justice: Global South and developing nations*. New York, New York: Palgrave Macmillan. Cham, Switzerland: Springer Nature.
- Rawls, J. 1971. *A theory of justice*. Cambridge: Harvard University Press.