

# Moving People and Shifting Technologies: A Socioethical Heuristic Approach

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## Abstract

We develop a socioethical reasoning scheme that highlights dilemmas in juxtaposing resources and mobility. Offering an ethically guided perspective on value-driven policy-making, our thoughts develop with an eye on (a) the definition and implementation of a moral baseline regarding health, happiness, and human fulfillment, (b) the rationalization dilemma of moral cost trade-offs, (c) the scoping of common and public goods, and (d) the weighing of externalities, particularly in light of technological promises. In the center of our argument is the stipulation of an inclusive notion of Pareto efficiency that explicitly recognizes marginal utility, and rights and entitlements as limited resources. We underline our heuristic matrix with a discussion of the notion of the commons and synopsis of data that capture asset inflation in the condominium market. Private real estate functions here as a symbol for the commodification of what could be seen as a common good that happens to be increasingly withdrawn from playing a part in social mobility.

## Keywords

Inequality; mobility; Pareto efficiency; resources; technology

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## Introduction

Henry Ford's mass-produced gasoline-powered Model T, which sold for \$650 in the year 1912, famously managed to economically outperform electric roadsters that changed hands at a price tag of \$1,750 during the same time (Matulka, 2014). The battle of engines was ultimately decided with Charles Kettering's implementation of the electric starter, making the rather dangerous and cumbersome hand crank oblivious (Kettering, 1915). Similar to the modern water closet, which in the 20<sup>th</sup> century significantly helped improve the management of human waste, the modern car contributed initially to public health and sanitation by alleviating the 'horse manure crisis' that plagued major cities in the late 1800s. The replacement of horse carriages with modern cars that helped clean up cities during the early stages of the 20<sup>th</sup> century was a promising symbol of how industrialization and engineering could improve human life (Gartman, 2004). Equally, however, this paradigmatic innovation tells a story of economic contingencies and system dynamics. On the level of micro-motivation, a cheaper price point and substantially improved vehicle starter convinced the customer to opt for the internal combustion rather than the more silent electric engine (see Amatucci, 2015). Once these cars populated the big cities in order to replace horses for the operation of daily business, modern marketing has fed consumer sentiment with images of the individual vehicles being a deliberative force and a mirror of success. The world currently uses around two-thirds of crude oil for transportation, a number that has been relatively steady over decades (International Energy Organization, 2019). Hence, what started as a timely disruptive innovation that freed cities from horse manure defined ultimately one major axis of the modern macroeconomic plane and became an influential factor of geopolitics after World War II.

The 'Nixon Shock' from 1971 in response to stagflation officially derailed the 1944 Bretton Woods system and formally abandoned the gold-standard with the initiation of the 'petrodollar' (Wight, 2014). The gradual shift to free-floating currencies within an oil-fueled economy has had severe ramifications. For instance, the very phenomenon of modern fiat currencies is indirectly responsible for the mere possibility of quantitative easing that central banks have deemed necessary in order to mitigate the aftermath of the 2008 financial crisis (Reisenbichler, 2020).

Now, it is precisely in the current climate of volatile fiscal policy-making and economic uncertainty that also the issue of global warming has taken center stage in public affairs, questioning the traditional economic modus operandi (see Göpel, 2016). Independent from the merits one attaches to the claims and counter-claims in relation to the slightly heated debate concerning climate change and the potential responsibilities traditional economic sectors might carry, without exaggeration, one can build a dynamic link between the success story of the internal combustion engine to at least four idiosyncratic historical outcomes (Wilson et al., 2017). These outcomes are (a) geopolitically, the shape of the United States' monetary and military dominance in international affairs and the specific positioning of the Middle East, (b) fiscally, the particular dynamics of fiat currencies in international monetary policy-making, (c) environmentally, the impact on the environment and public health through the burning of fossil

fuels, particularly in densely populated areas such as cities, and (d) psychologically, the marketing of individual traffic as a form of status display.

In times when the aforementioned parameters of global politics are increasingly disputed, one may wonder whether history would have played out differently had the electric engine initially prevailed. Would major cities be as hazardously polluted, as it is presently the case? Would climate change be the prevalent topic it has become? Would renewable energy sources have been established much earlier as a scientific mainstream research target? Would we already possess significantly more efficient and durable batteries? Would the world economy have been taken over by the financial service industry and the shareholder paradigm? Would we face extreme wealth concentration and inequality? Would terrorist activities and wars post-1945 have shown different patterns? Would a heterogeneous socioeconomic and geopolitical force field have mitigated migration pressure and have recalibrated current motivations to move away from one's homeland and community?

It is doubtful whether a single innovation and technological implementation, such as the internal combustion engine, can be causally connected to the questions we have just raised, while we definitely would expect different probabilities for each of them in terms of an impact analysis. Our thought experiment for the opening of this paper, however, evokes a more profound methodological conundrum. Particularly Karl Popper (1957), in his seminal work, *The Poverty of Historicism*, questioned the scientific character of the social sciences with compelling arguments that he designed in order to withdraw the arena of history from predictability, which would make any attempt to formulate grand historical counterfactuals futile. Popper suggests as the only possible method for the scientifically controlled study of social dynamics what he coins 'piecemeal social engineering.' The 2019 Nobel Prize in Economic Sciences for experimental work on alleviating poverty that was jointly awarded to Abhijit Banerjee, Esther Duflo, and Michael Kremer can serve as an example for such an approach (see Trainer, 2019 for a comprehensive interpretation within a post-autistic economics framework).

Popper's methodological skepticism can be juxtaposed with Thomas C. Schelling's *Micromotives and Macrobbehavior* (1978). Schelling's seminal segregation model paradigmatically exemplifies how human intuition may fail to predict system effects that eventually reverse initial assumptions (namely, that under certain conditions, the explicit seeking of neighborhood homogeneity can lead to a less segregated community). However, social systems not only may behave in ways that do not match the initial intentions of individual agents. Furthermore, during the last decades, behavioral economics has added cracks to the methodological foundations of the social sciences by challenging the very idea of rational agency itself. Stipulating that evolutionary human psychology basically is unfit to master statistical principles and proper probability estimations in uncertain and risky decision-making contexts, behavioral economics concludes from what are still rather scattered mini-experiments that human beings are prone to cognitive short-cuts that often are misguided by biases and random situational framings.

Following the apparent insufficiency of simple linear predictions and rational recipes, the autonomy of the individual is at stake in recent debates concerning 'dual-process models' of decision-making (see Brocas & Carillo, 2014 for an overview; Kahneman, 2011). Such frameworks posit that the human brain operates on two levels and engages heterogeneous neural circuitries

depending on whether it has to think fast or is given time to deliberate. While the former mode—being put under time pressure—is critically emotion-bound and indebted to ancient affect programs that are possibly unfit to cope even with relatively trivial daily challenges that modern societies pose (such as the selection of an insurance plan), the latter, deliberative and cognitive, modus appears equally insufficient to naturally supply humankind with the appropriate modeling of complex decision problems, particularly in relation to statistical foresight (how likely is it that the eradication of free plastic bags in supermarkets has an impact on climate change and the pollution of the oceans?).

One may conclude from such a diagnosis that decision-making for the betterment of society and its members must be handed over to experts who, at least to a certain degree, are able to look behind the curtain of psychological constraints of human behavior and carry insights into complex system behavior and game-theoretical constraints. For example, nudge theory (Thaler & Sunstein, 2008) posits that with the creation of appropriate context and visible alternatives in daily situations, social agents would freely and automatically make the choices they rationally would opt for if they had the appropriate information and cognitive skills to comprehensively negotiate their interest vis-à-vis a challenging environment and regarding the wellbeing of society as such. Nudging and behavioral social engineering, however, are hardly the (sole) remedy that a troubled world needs. On the level of pricing and taxation, for instance, it has long been applied in economics and policy-making (Stiglitz, 1987). Often, however, pulling the strings on the public turns out to be guided by propaganda and spin for shortsighted political gains, rather than being a responsible calibration effort of entrusted and wise global leaders.

In addition to the aforementioned, in recent years, the scientific community has been scrutinizing experimental knowledge under the banner of a ‘replication crisis,’ especially regarding the medical sciences (Coiera et al., 2018), psychology (Shrout & Rodgers, 2018) and social studies more generally (Blaszczyński & Gainsbury, 2019; Dreber & Johannesson, 2019). However, not only data collection and (statistical) interpretation challenge the study of social and cultural spheres. More fundamentally, as societies are ultimately ‘symbolic worlds’ in which intentional agents interpret meaning, explanations of agency in social spaces cannot merely be reduced to a universal natural causal nexus, nor can it be painted in the colors of steady ‘empirical facts.’

Social, political as well as economic and ethical theory are ultimately concerned with questions of human wellbeing that, under particular circumstances, can either improve or deteriorate. (Perceived) losses and gains, or pain and pleasure, form the peaks and valleys of life’s trajectory. Availability and allocation of resources, goods, and services create the economic and symbolic framing within which expectations are formed, and lives are shaped (see Stearns, 2006).

Migration paradigmatically exemplifies the aforementioned value-driven forces in social fields, with expected upward economic mobility being prevalent, ranging from refugees coming out of war-stricken Syria in order to seek, with often tragic consequences, rescue in Italy, to scientists emigrating to the United States because of more favorable research frameworks (Bailey & Mulder, 2017). Yet pure economic parameters increasingly fall short in explaining migration in its totality. Global information exchange through digital media platforms and the international travel boom

has created what has been coined 'lifestyle migration' (Benson, 2016; Benson & O'Reilly, 2009, 2016) that could be interpreted as a commercialized continuation of European exoticism (Forsdick, 2014).

Migration must indeed often be considered the result of a search for a better or more interesting life. Ponce (2019), however, posits that there is 'no evidence for a magnet effect to the most generous welfare states in the world net of other recognized factors,' stressing 'a negative influence linked to the region's high cost of living.' 'Migrants,' according to Ponce, 'are instead drawn by the promise of social and political inclusion, migrating to destinations where co-ethnics have become full-fledged citizens.' On the contrary, Agersnap et al. (2019) present evidence from an immigrant welfare scheme in Denmark that is supportive of the 'welfare magnet hypothesis,' which points at a possible motivational difference between international and local driving forces of migration.

Nevertheless, it is staggering that according to recent UNHCR data, 57% of their 25.9 million refugees flee exactly three troubled countries, namely Syria, Afghanistan, and South Sudan (The U.N. Refugee Agency, 2020). Over 37,000 cases of forced migration occur daily because of conflict and persecution (The U.N. Refugee Agency, 2020). While war zones and failed states cause the most tragic migration scenarios, it is equally notable that the International Labour Organization estimates 164 million migrant workers in 2017, with 55% of them living in either North America or Europe (International Labour Organization, 2018).

Those concerned with public affairs and policy-making are in a historically unparalleled position to have access to big data statistics covering both natural and socioeconomic phenomena globally (see Poel et al., 2018). In assessing data, like the ones we have just highlighted, empirical theories of individual and institutional behavior are indeed indispensable, in order to measure what is causally possible against normative ambitions. Ultimately, however, it is the notion of causality, i.e., the scope and limits of scientifically informed social engineering, which puts the social sciences in a peculiar situation. First, the predominance of correlation claims regarding social variables as compared to a thorough understanding of what causes social dynamics keeps sociology connected to the humanities in the traditional sense. Second, the recording of certain statistical data points in social studies intrinsically evokes ethical imperatives (for instance, the aforementioned number of warzone refugees can hardly be read other than with a negative moral qualification). These two dimensions in social research are at risk of creating a dynamic of self-fulfilling prophecies in handing over questions of values to the empirical sciences. For when human conduct is concerned, both as an individual and as a group, the often proclaimed impossible might simply be the possibility that has yet to materialize. We posit here that the social sciences need to work within this dialectic, rather than to solely emulate the methodology of the natural sciences.

This thought leads us to our methodological motivation for this article. It has been questioned whether decision-making that engages basic pragmatic guidelines and an experience-based heuristic is doomed to be inaccurate or statistically naïve. Gerd Gigerenzer (Gigerenzer & Gaissmaier, 2011; Gigerenzer & Selten, 2002) has particularly challenged the accuracy-effort

trade-off that, for instance, recent research in behavioral economics, seems to suggest. In contrast to behavioral approaches, Gigerenzer promotes the idea of an adaptive toolbox and an ecologically rational heuristic that can be relevant on both an individual and institutional level. Similar to scientific theory building, simplification and abstraction in decision-making may be key to epistemological success in guiding praxis as long as one is able to select appropriate categories and relations. The latter, however, might well originate also from implicit knowledge and an uncodified praxis. John Rawl's seminal idea of a 'reflective equilibrium' (see Rawls, 2009), which seeks to mediate between (moral) intuition and rationalization, comes here into play, particularly if one acknowledges a connection between social study, welfare economics, and the notion of justice. Along this line, in what follows, we shall contextualize basic ethical principles in looking for heuristic cornerstones in the exposure of socioeconomic and political decision-making in times of rapid technological transformations, with an eye on social mobility and potential drivers of migration.

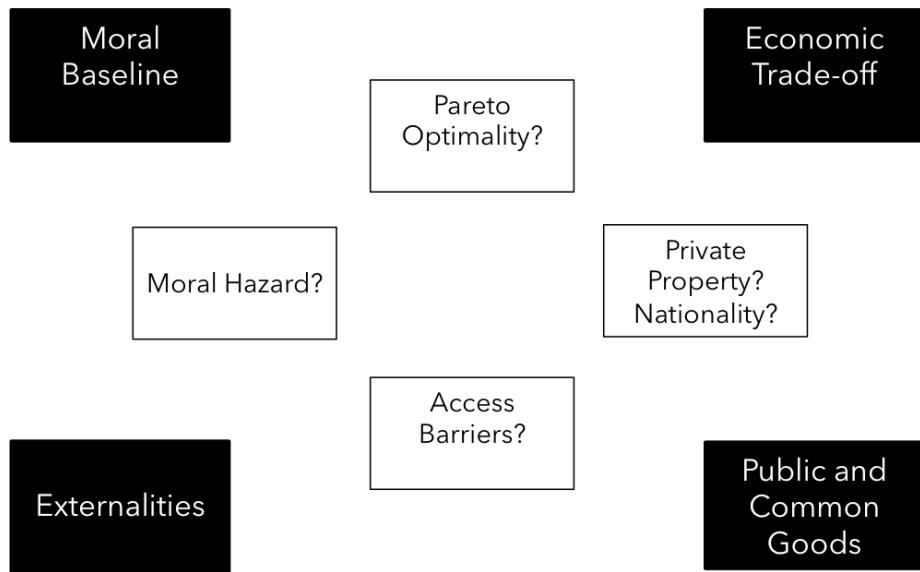
## A condensed socioethical heuristic

It may seem trivial to suggest that, in order to properly manage global migration and to create conditions for the global movement of people to transform into a free enterprise of supply and demand on the backdrop of guaranteed human rights, what is needed is the reduction of violent conflict and gradual closure of the gap between developing and developed countries through the implementation of fair economic exchange and support. However, the current economic *status quo* of advanced living standards in developed countries has ceased to serve as the unquestioned role model for how world citizens in the future can and should sustain themselves (Spash, 2020). Platforms like the Global Footprint Network have popularized statistical compressions that measure lifestyles in terms of the number of earths needed if a particular consumption of resources were adopted throughout the world. Such media-ready packaging of complex data and statistical estimations has become more than just a public relation stunt. Switzerland's Federal Statistical Office (2020), for instance, publishes a rather detailed discussion of the country's ecological footprint with the admirably honest declaration that 'the imbalance between Switzerland's ecological footprint and the world's biocapacity has been existing for several decades. This lifestyle is only possible through the import of natural resources and the depletion of global goods (such as the atmosphere). However, this lifestyle is not sustainable because Switzerland consumes 2.8 times the amount of natural resources that are available per capita worldwide (1.6 global hectares, gha). We are therefore living at the expense of future generations and other regions of the world.'

The aforementioned poses a challenge not only regarding the channeling of international migration but casts a shadow on social hierarchies and mobility as such. In a globally connected world, besides radically transforming nature, availability, and allocation of resources, goods, and services, technology often creates unaccounted externalities. What matters here from an ethical perspective is the interplay between what in his seminal discussion of poverty and famines Amartya Sen (1981) called entitlement and endowment.

We shall now present four socioethical challenges that we believe crucially intersect in the management of global affairs and determine the faith of actual policy-making, particularly regarding human mobility, resource management, and demographic shifts. We coin them: (a) the definition and implementation of a moral baseline for health, happiness, and fulfillment, (b) the rationalization dilemma of moral cost trade-offs, (c) the scoping of common and public goods, and (d) the weighing of externalities (see Figure 1 for a synopsis).

**Figure 1:** Synopsis of the main components and questions in the proposed socioethical heuristic



### **The definition and implementation of a moral baseline regarding health, happiness, and human fulfillment**

Disciplines that deal with questions of values invoke diverse paradigms and mechanisms as to what shall count as an anthropological standard from which both negative and positive moral conditions deviate. The formulation of human rights and definitions of poverty are the most prevalent attempts to codify basic requirements for the maintenance of human dignity (see, critically, Neuhäuser, 2016). In praxis, value judgments are predominantly relative ('*a* is better or worse than *b*'; see Cohen & Ahn, 2016), yet humanitarian progress necessarily implicates a discussion and, subsequently, implementation of moral absolutes that function as signposts for policy-making. For instance, while for a warzone refugee, almost any place in peace will offer improved circumstances, conditions in refugee camps have been criticized as not meeting humanitarian United Nations Refugee Agency camp planning standards (see Dhesi et al., 2018). Given the socioeconomic hierarchies that in most countries shape society, in order to better understand social mobility within and geographic mobility across such hierarchies, attempts to define the so-called social minimum need to be juxtaposed with realizations of a threshold for what can be termed (financial) comfort and, on top, the heights of abundance (see Schramm &

Pogge, 2016). An economically understood continuum that stretches from a social minimum through a zone of genuine comfort to sheer abundance can only in its initial stages be considered to quite naturally evoke positive moral endorsement. In a nutshell, although it seems reasonable to positively correlate economic value to dignifying processes on the bottom of the socioeconomic hierarchy, as it is the case in standard definitions of absolute poverty, the economic and moral trajectories dissociate in moving upwards (see for a balanced discussion Roberts, 2019). However, as much as economic freedom and independence are supposed to enable moral freedom and autonomy, meeting a particular moral baseline will require that one secures financial independence and convenience (see for an illustrative case study of the situation in Bangladesh Vaz et al., 2019). Yet, particularly from a virtue ethical perspective, if one rises further, it is rather apparent that wealth beyond a certain threshold does not necessarily guarantee an increase in autonomy, self-respect, and dignity. It appears that economic appreciation can go hand-in-hand with outright moral depreciation, for which greed and consumerism can give examples (see, for instance, in terms of tax avoidance, Bank, 2017). More fundamentally, standard economic theory stipulates that the marginal value of a dollar decreases with the increasing amount of dollars one holds.

Without debating the value-relative issue of which material conditions are exactly necessary for a human being to lead a basic dignified existence, and which circumstances of abundance might be jeopardizing a moral life, both concerning the individual character and social agency, we propose here a functional terminology in order to grasp the complexity of current discussions regarding poverty, inequality and development that factor also into the socioeconomic dynamics of migration and mobility.

- A negative change in the circumstances and situations in which human beings find themselves placed can become what we call '*more, less, or else equally dehumanizing*' when the modification leaves them below a stipulated moral baseline.
- Similarly, a positive change in the circumstances and situations in which human beings find themselves placed amounts to '*the creation of more, less, or else equal abundance*' when the modification occurs above a stipulated threshold of economic comfort.
- If a change in the circumstances and situations in which human beings find themselves placed carries them across a stipulated moral baseline, we call their move simply '*dehumanizing*' or '*dignifying*', depending on the direction of their fate.

These imperatives, in principle, can be applied to both individuals and nations that compete for resources. In terms of empowerment, the socioeconomic pyramid can be imagined as providing pathways for moving from passivity to activity, i.e., wealth creates opportunities and allows for selection, inclusive of moral choice on the one hand, and abuse of power on the other, while in poverty for an agent it must seem subjectively rational, if not morally right, to simply choose what lets her survive, once it is available. The following preamble to our subsequent arguments prescribes the gist of the matter that concerns us here:

*Acts that improve dehumanizing circumstances, or, ultimately, enable dignifying processes must gain priority over the increase of economic abundance*

*as soon as it can be shown that the latter inhibits the implementation of the former.*

Such stipulation recalls Immanuel Kant's famous version of his Categorical Imperative as "Formula of Humanity" — "so act that you treat humanity, whether in your own person or the person of any other, always at the same time as an end, never merely as a means" (Kant, 1785/1997, p. 429) — yet gives the Kantian postulate a socioeconomic spin. Indeed, we shall argue that the moral framing of the aforementioned must be inherently contextualized within socioeconomic reasoning.

## The rationalization dilemma of moral cost trade-offs

The definition of a moral baseline that sets a shareable modern living standard, both across regions and generations, is a challenge that the promotion of pure economic rationales will probably fail to meet in praxis (see Zamagni, 2017). To the degree that human dignity correlates with economic parameters, concerning our planet's future, there are basically three scenarios available to the pessimist in order to mitigate possible concerns:

- 1) The current consumer lifestyle in developed countries must be cut back, and developing countries that aspire to follow the so-called developed world change their economic role models.
- 2) Technological transformation and policy-making that is conscious of sustainability must drastically reduce the environmental impact of current patterns of economic activity that, under such conditions, can be maintained by adding new facets, particularly through technological innovation.
- 3) The unequal global distribution of lifestyles, economic standards, and opportunities should continue to exist in its current form, or, if necessary, even be furthered.

With the economic aspirations and recent technological development of particularly the richly populated BRIC countries (Mohanty & Sethi, 2019), notably China, the last item in the list appears illusory. Equally, one can hardly expect developed nations to principally question the achievements of industrialization and modernity, which leaves technology as a giver of hope of last resort. This, however, makes for a risky bet.

Scientific progress has allowed for technology to take charge of nature at its core and is supposed to become 'smart.' The expected structural changes associated with innovation amount to both environmental reparation efforts, such as research into carbon sequestration (see, for instance, Anwer et al., 2020), as well as the implementation of technologies that are supposed to reduce pollutants, for instance, the recent promotion of electric and autonomous vehicles. Development in technologies and infrastructure, however, provide a paradigmatic example for unpredictable system effects that only retrospectively can be fully accounted for, especially so-called induced demand for which roads (Hymel, 2019), air travel (Gössling et al., 2019), and the internet (see Dumićić & Zmuk, 2019; Tranos & Stich, 2020) provide powerful examples.

Notwithstanding the enormous behavioral impact of sociotechnical systems that can marginalize ethical orientation and principal questions of human value, the world often faces rather straightforward yet severe challenges, the solution of which cannot entirely be handed over to scientific innovation. For whichever modus of political intervention once chooses, the implementation and safeguarding of human dignity come at a cost. Countries like Australia and Italy, for instance, in the name of mere economic national interests, have been refusing to let boat people ashore (for a discussion, see Glynn, 2016). Such dilemmas connect to major basic distinctions in western ethics. For instance, Dworkin (2013), in *Taking Rights Seriously*, argues in favor of a deontological model that, at all possible societal costs, aims at protecting historically acquired human rights standards that would help ensure political equality and dignity.

On the contrary, such individual and civil rights a utilitarian balance model considers open to a trade-off for the sake of 'rights of society at large.' Dworkin's claim that 'it must be wrong to say that inflating rights is as serious as invading them' can be interpreted as a call for Pareto optimization of achieved human rights and liberties, arguing against actions that are detrimental to the rights of one or more individuals, although collectively, they may be seen as benefiting society as such. It remains contentious, however, whether a deontological standpoint can be given an international perspective, especially when established entitlements are seemingly conflicting. Connecting deontology, i.e., in our context, the *a priori* protection of fundamental rights, with the notion of Pareto efficiency may appear far-fetched, yet the juxtaposition of individual and collective utility is indeed central in Vittorio Pareto's (see McLure, 2016) writings (Pareto, however, interpreted 'utility' more narrowly as what he coined 'ophelimity,' in the sense of sole economic satisfaction). In formal terms, ethics and economics both negotiate the scope and limits of sacrificing individual interests for the sake of social utility at large.

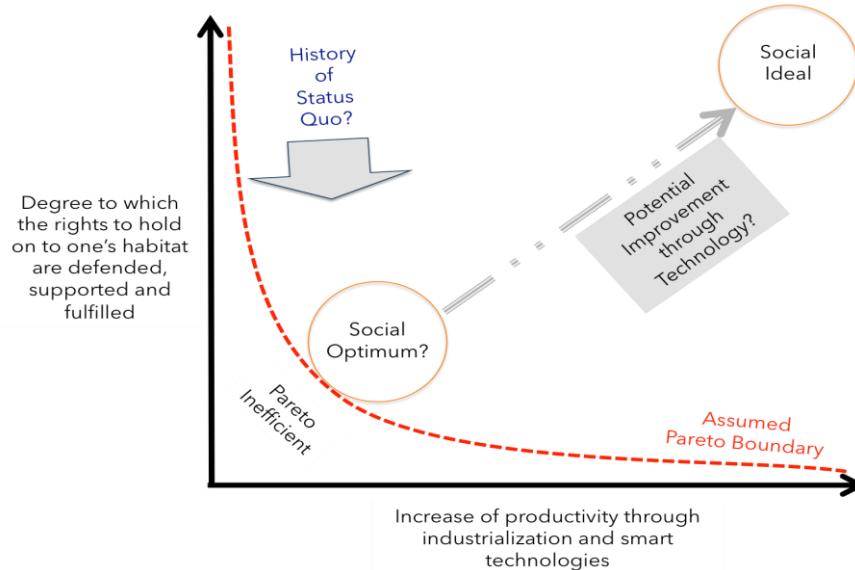
In free-market economies, it is voluntary trade that constitutes the main price discovery mechanism of goods and services, ideally establishing supply-and-demand equilibria, which form the backdrop of the very notion of Pareto efficiency. Ideal free-markets obviously do not exist, and both competition and trade are usually distorted, for instance, through asymmetries in access to information (see Rosser, 2003). Nevertheless, with its 'noninvasive' character, Pareto efficiency captures the human psychological tendency of not wanting to give up what one already possesses or to do so only in voluntary trades of mutual benefits. Hence, the notion allows for equitable distribution of wealth only to the degree that social agents are willing to engage in trade-offs that generate idealistic values of social utility, either in acts of charity or in accepting taxes for the sake of social welfare (or, more basically, a peaceful and secure society that will also benefit the elite).

However, even in a narrow interpretation, the notion of Pareto efficiency evokes ethical repercussions. For instance, if certain productivity gains (e.g., through factory farming) have indeed caused climate change, that with certain probability could take away the livelihood of people (because of rising sea levels, for instance) who themselves are not even beneficiaries of the economic practice in question, such profit margin augmentation, being causally linked to the loss of people's habitat, could hardly be qualified as Pareto efficient. Only a rather ruthless and naive utilitarianism, or else moral exceptionalism, can justify such practice. Our stipulation of Pareto

inclusivity regarding rights would be self-defeating if it necessitated the recognition of a right for the equitable distribution of resources. However, not every possible right needs to be accounted for according to our formulation. As a minimum requirement, the rights that are economically promoted (such as property rights) must be consistently universalized in terms of already accepted normative standards.

The aforementioned only addresses one side of the problem. The principle of Pareto efficiency instills the sentiment of conserving people's economic *status quo*, yet hardly withstands scrutiny from a wider historical perspective. The current allocation of resources and dynamics of international development are themselves the result of the outright frustration of the interests of millions, present and past, for which, say, European colonialism and slavery lend paradigmatic examples (see, for instance, Bhambra & Hollwood, 2018). Here it is indeed the case that current thinking in terms of moral equity, such as policies of affirmative action, is meant to respond to dilemmas that derive from the moral scoping of rationales that are intrinsically economic. The subsequent Figure 2 provides a synopsis of the described logic of Pareto inclusivity concerning rights with an emphasis on the history of the current economic and environmental *status quo*. Note that each point on the stipulated Pareto boundary is Pareto efficient and thus equivalent, yet moving along the boundary, either 'forward' or 'backward,' violates the Pareto principle.

**Figure 2:** Pareto boundary idealization based on possible consequences of climate change (with the potential rising of sea levels and the threatening of established habitats, see y-axis) as an exemplification of the interdependence between economic and ethical rationales. The graph's concave curvature is only assumed and serves as a thought experiment. In reality, the interdependence between loss of habitat in light of climate alteration and industrialization as a possible contributing factor could exhibit any rate of change.



Following our example, we stipulate here a socioeconomic corollary of what we call Pareto inclusivity concerning rights and entitlements that complements our initial moral preamble:

*If rights and entitlements as such are treated as resources that not only compete with each other internally, such as when individual rights are in conflict with the rights of society at large but also are explicitly accounted for in the construction of allocation mechanisms concerning economic resources, goods, and services, the gain/loss functions that draw Pareto boundaries become informative for socioeconomically more inclusive value propositions and political rationales.*

This statement should come rather unsurprising as in society, individual preferences and liberties create interference patterns that need to be smoothed through restrictions and duties, which is the outcome of the 'paradox of freedom' (see Schwartz, 2018).

We have highlighted that while Pareto efficiency is consistent with gains in productivity and an increase in goods and services, it clearly and (infamously) does not imply the equitable distribution of resources. The latter could only be achieved in free-market play, since, according to Pareto's notion, no external measure should improve the (socioeconomic) situation of an entity A if such change necessitates the worsening of the position of an entity B. Pareto himself addresses the issue from a social angle when he writes, "perhaps in a society of saints the desire of the millionaire to have an extra lira to give to the poor is as intense as the desire of the hungry to have a lira of bread. But for that society of saints, it will be necessary to study a new political economy, entirely different from the one that applies to the men in our societies." (Pareto, 2007, p. 82). In this brief passage, Pareto invokes the dimensions of desires in light of marginal utility (or final degrees of utility, how he frames the topic). Here, he differentiates between commodities that are consumed either out of 'urgent needs,' or else in order to generate additional pleasures. He states, "for man, thirst is an even more urgent need than hunger, but a small quantity of water suffices to satisfy it, and every increment to that quantity, provided it is still exclusively for drinking purposes, has zero utility. ... On the other hand, he derives little pleasure, if any, from an increment above the quantity he needs to have his fill." (Pareto, 2007, p. 85).

On the contrary, according to Pareto (2007), 'for those commodities whose consumption is more for the sake of pleasure than for urgent need, the curve of the final degrees of utility must be flatter...' (Pareto, 2007). Ultimately, the notion of marginal utility leads to the dynamics of consumer societies, "nothing is more certain than the fact that the man with a greater amount to spend does not limit himself to purchase greater quantities of commodities, but also buys new types of commodities." (Pareto, 2007, p. 140).

The abundance of, say, currency one holds is often not used where it counts most, both economically and psychologically, namely for the fulfillment of the basic needs of others than oneself. Hence, if marginal utility and rights are accounted for, as well as preferences that initiate social exchange are considered to engage values other than a sole material surplus, the determination of Pareto efficiency does not simply coincide with exhaustive resource allocation. In light of marginal utility, one could claim that while Pareto efficiency must rule out the

confiscation of luxury goods from wealthy individuals in order to save the poor from starvation, the latter scenario generates higher overall social utility than the former (compare the utilitarian John Stuart Mill, “to save a life, it may not only be allowable but a duty, to steal...” (Mill, 1895, p. 95). Economics has grappled with the accommodation of asymmetric individual preferences and values, for instance, in the form of the so-called Lindahl equilibrium (see, Groot & Swart, 2018 for an application regarding carbon taxes), or, seminally, in tackling Sen’s ‘liberal paradox’ of mutually exclusive values. Pareto efficiency is naturally complemented by a call for a permanent increase in productivity rates and ‘value creation,’ particularly the stipulation of technological progress as a necessary condition for a more inclusive socioeconomic development of the most challenged. Yet as the climate change debate demonstrates, alleged progress may not only harm the most vulnerable stakeholders but potentially lead to the destruction of economic wellbeing even in more affluent sectors. Exchange and transfer of commodities and services characterize the socioeconomics of human societies, roughly taking the form of charitable actions (such as gifts), voluntary trading, imposed compensations (for repurposed land, e.g.), taxation or outright theft. Hence, given the aforementioned complexities in determining Pareto efficient constellations, making an individual ‘worse off’ must in such thinking intrinsically be connected to the notion of cohesion.

Since individual willingness to enter a trade defines subjective evaluation, any discussion of what counts as Pareto improvement must ensure transparency in terms of the degrees social agents can actually make free choices. This, however, is a contentious issue, for which particularly migration and social mobility can lend examples (see Hansen, 2019). First, in an interconnected world, especially technological transformation can create externalities that impose ‘indirect trade-offs’ on stakeholders, which our climate change example has exemplified. Such ‘blind’ trade-offs that one cannot escape (simply, for instance, because one’s habitat gets polluted) are characterized by space-time distanciation whose causal underpinnings can often not be reconstructed in detail. Second, in order to actually account for the preferences of stakeholders in impactful policy decisions and systemic sociopolitical changes, stakeholders need to be given a voice, which can only be achieved through a participatory *modus operandi* that takes a kind of ‘bottom-up’ communalism seriously. Finally, the notion of ‘free choice’ is itself questionable. An individual might choose freely to leave her country, yet would never have chosen that it got destroyed by war. Equally, one might seek an unrealistic lifestyle simply because of how values and living standards are presented on media platforms. Choice invokes alternatives, and both the promotion and annihilation of particular options interfere with how human values realize. Without such considerations, one cannot even begin to discuss whether a certain *status quo* of resource allocation is Pareto efficient or exhibits any other economic equilibrium.

## The scoping of common and public goods

In the heart of what we have coined, Pareto inclusivities are the notions of private property and national sovereignty, which both feed, if not legitimize, variations of moral exceptionalism. Nation-states ultimately soldier on in a world that is economically and technologically connected and interdependent, yet global politics mainly operates within the paradigm of competing governments, the role of which is to seek advantages primarily for their people and try to

outperform each other in attracting investment and private capital. Economic theory distinguishes between excludable and rivalrous resources that in a combinatorial matrix form the characteristics of private, public, common, and club goods, respectively. What particularly matters in our context is the 'tragedy of the commons' (Hardin, 1968) and limited awareness of so-called global commons that in international law comprise only of High Sea, Atmosphere, Antarctica, and Outer Space. Notably, land does not count as a global commons, although there are calls to govern it as such (Creutzig, 2017). Harvey (1989) characterized postmodernity through alterations in the relationship of time and space that he called time-space compression. Yet besides the technological acceleration of life, current developments in global socioeconomic geography are seemingly paradoxical. Particularly, the synchronicity of rural-urban migration with lifestyle migration and *wanderlust*, as well as the continuing formation of megacities in times of information technologies that, *prima vista*, should accelerate decentralization, are symptoms of a still rather old-fashioned economic reality where people physically move to a workplace that continues to be geographically defined. Technology promises a challenge to the 'economics of scale' that drives urbanization. No one, however, can conclusively predict the system effects of inherently decentralizing technologies such as 3D printing, the degree to which location-independent work that is based in information systems can offer a viable job market revolution or, say, whether online education platforms will eradicate most of the physically concentrated university campuses.

While the tragedy of the (unmanaged) commons reflects the danger of depletion that specifically free-riders can cause, the tragedy of privately-owned resources, particularly land, is the creation of either a reinforcing dynamic between economic rivalry and excludability or else outright withdrawal of scarce resources from the market. Subsequently, modern land-use planning is constrained by high access barriers or access prohibition. Managed commons like national parks, or public support for gentrification, however, can equally increase exclusivity, through the inflation of property prices and the cost of local services that alienate weaker socioeconomic groups.

Since Piketty (2014) published his controversial *Capital in the 21st Century* with its now-famous claim that, consistently, capital gains historically outperform economic growth, the unequal distribution of wealth has instilled academic debate and drawn substantial media attention. It can indeed be doubted whether Piketty's data hold up to the proclamation of a simple law of capitalism that implies inevitable and permanent inequality. Yet, on a basic plane, no one can deny that the young individual A in her 20s, whose parents are in the position to hand her an apartment in a good location, will in most parts of the world have a substantial advantage over her young friend B who has to rent her residence, especially in circumstances when both A and B rely on wages to make a living. Indeed, land use and ownership, particularly residential property in cities, are currently demonstrating a potentially impactful double-layered socioeconomic disconnect: Wages are increasingly losing access to property markets. At the same time, wealth creation becomes a distant target without what Sen called 'inheritance and transfer entitlement' (Sen, 1982).

In order to numerically highlight the aforementioned claim, we have read OECD data for a yearly average household net adjusted disposable income and net wealth against the prices of apartments in city centers, asking how many years of average income it would take to buy an 80 square meter apartment, and with how many years of income savings at a rate of one third, one could reach average net wealth (Table 1, Figures 3 and 4). Although especially the data set for property prices have to be taken as providing rough estimates at best, the results show a staggering disconnect between wages and property prices. Compared to the latter, the data demonstrate rather modest average wealth, especially considering the current cost of city apartments; however, with average income, it still requires in many cases more than half a working life to accumulate such holdings, even with high saving rates. Note that our comparison does not reflect income inequality. With income half the average, the numbers in figures 3 and 4 would double. Additionally, because of wealth concentration, the median wealth is far lower than average wealth. Nevertheless, it is, for example, remarkable to see Denmark having the lowest income/wealth ratio, which demonstrates the socioeconomic homogeneity of this traditionally egalitarian country.

Cities deserve a specific focus in our analysis because the world is witnessing an apparently unstoppable trend to urbanization. Policy-makers are betting on smart cities, particularly intelligent transport solutions, green buildings, and renewable energy, in order to create new urban ecosystems, for which there exist already some smaller role models (see, for instance, Aletà et al., 2017). However, given the growth rate and increase in the number of megacities, it is by no means foreseeable when, or if at all, the sustainable transformation of the modern city may happen. According to a recent WHO survey of over 4000 cities, 'only 20% of the urban population surveyed live in areas that comply with WHO air quality guideline levels for PM2.5. Average particulate air pollution levels in many developing cities can be 4-15 times higher than WHO air quality guideline levels, putting many at risk of long-term health problems.' (World Health Organization, 2020).

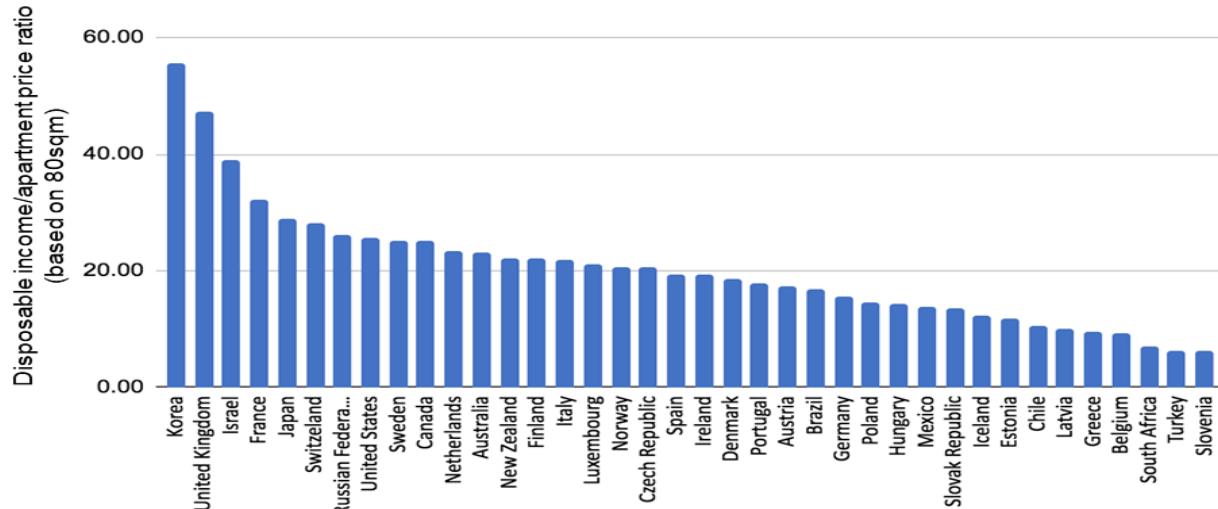
One has to consider the possibility of a future where an affluent minority owns or competes over either upscale urban property, real estate that provides recreational luxury or, at life's end, sophisticated facilities of geriatric care. Those without wealth, on the contrary, will be increasingly challenged to maintain or reach economic comfort even if they can find work in an increasingly competitive job market that often hires globally and may be revolutionized through automation. Education, for instance, is in the process of becoming, through information technologies, an increasingly less excludable and rivalrous service, which would probably put even more pressure on job seekers and increases competitiveness even further. Reducing access barriers to private ownership of land and property that comes with some form of utility, however, is an obstacle in times of asset inflation and urban concentration that only a complete reorientation and decentralization of the economic *status quo* could achieve. Private real estate, hence, is a symbol for what actually could be seen as a global commons being not only 'commodified' but, furthermore, increasingly withdrawn from playing a part in social mobility.

**Table 1:** OECD data for an average household net adjusted disposable income per year and net wealth, compared to the prices of apartments in city centers, years of average income it would take to buy an 80sqm apartment as well as years of income savings at a rate of one third needed to accumulate average net wealth.

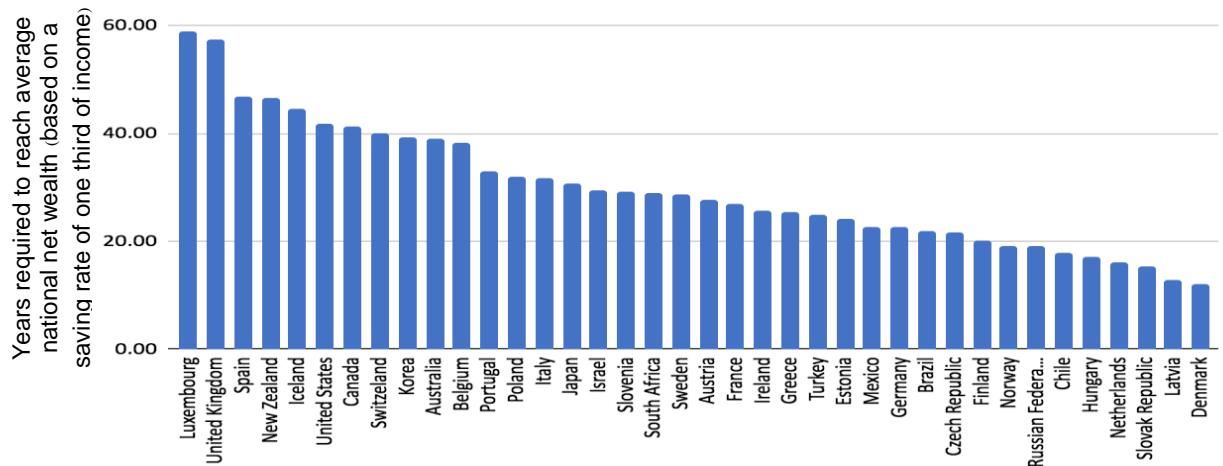
OECD Country	Average household net adjusted disposable income per capita in USD	Average household net wealth	Price per sq.m. for an apartment in the city center (capital city unless noted otherwise)	Disposable income / apartment price ratio (based on 80 sq.m.)	Number of years required to reach average national net wealth (based on a saving rate of one third of income)
Korea	21,882	285,980	15,233	56	39
United Kingdom	28,715	548,329	16,935	47	57
Israel	24,863	243,587	12,138	39	29
France	31,304	280,635	12,564	32	27
Japan	29,798	305,878	10,801	29	31
Switzerland	37,466	501,040	13,183	28	40
Russian Federation	17,831	113,972	5,822	26	19
United States	45,284	632,100	14,538	26	42
Sweden	31,287	299,779	9,854	25	29
Canada	30,854	423,849	9,676	25	41
Netherlands	29,333	157,824	8,549	23	16
Australia	32,759	427,064	9,431	23	39
New Zealand	25,074	388,514	6,969	22	46
Finland	29,943	200,827	8,271	22	20
Italy	26,588	279,889	7,239	22	32
Luxembourg	39,264	769,053	10,402	21	59
Norway	35,725	228,936	9,238	21	19
Czech Republic	21,453	155,324	5,508	21	22
Spain	23,999	373,548	5,840	19	47
Ireland	25,310	217,130	6,092	19	26
Denmark	29,606	118,637	6,857	19	12
Portugal	21,203	232,666	4,731	18	33
Austria	33,541	308,325	7,314	17	28
Brazil	12,701	92,904	2,667	17	22
Germany	34,294	259,667	6,716	16	23
Poland	19,814	210,991	3,604	15	32
Hungary	18,430	104,458	3,284	14	17
Mexico	13,965	105,745	2,421	14	23
Slovak Republic	20,474	104,747	3,480	14	15
Iceland	31,929	473,315	4,910	12	44
Estonia	19,697	159,373	2,925	12	24
Chile	16,949	100,967	2,223	10	18
Latvia	16,275	70,160	2,051	10	13
Greece	17,700	150,134	2,099	9	25
Belgium	30,364	386,006	3,570	9	38
South Africa	11,592	111,792	1,002	7	29
Turkey	18,301	151,221	1,441	6	25
Slovenia	20,820	203,044	1,618	6	29

Note: Columns 1 and 2 are based on the OECD Better Life Index (2020, 5 January), <http://www.oecdbetterlifeindex.org>; column 3 derives from Numbeo (2020, 4 January), Property Prices, <https://www.numbeo.com>; the data for Australia, Brazil, Canada, Switzerland, and the United States in the third column apply to Sydney, Rio de Janeiro, Vancouver, Geneva, and New York respectively.

**Figure 3:** Diagrammatic illustration of the high-to-low ordering of the fourth column in table 1.



**Figure 4:** Diagrammatic illustration of the high-to-low ordering of the fifth column in table 1.



## Conclusion: The weighing of externalities

We have argued for the inclusion of moral rights in defining Pareto optimal states. Particularly, externalities of economic actions are not only of financial nature but must account for the possible hindrance of acts that could improve dehumanizing circumstances or disable dignifying processes. Such consideration implicates action as much as non-action, and direct as well as indirect causal relationships. Resistance against change can be as ethically damaging as premature change. At the same time, consequences that lack immediate visibility can morally not simply be abandoned, especially if they could turn out to violate the basic rights of those affected. The current wave of the promotion of electric vehicles provides here an example. Cities would benefit from the introduction of cars that do not emit CO<sub>2</sub> and are quieter. Traditional carmakers, however, have been rather slow in adaptation, and electric vehicles can serve as an example where, at least partially, the state has disrupted industries (see Meckling & Nahm, 2018). However, electric or hybrid vehicles must be powered by renewable energy in order to reduce their overall carbon footprint (see Onat et al., 2015) and therefore do not transfer the burden of pollution simply out of the city without actually reducing it. In addition, current battery technology is dependent on lithium mining, which has substantial socioeconomic and environmental repercussions in countries that hold the largest reserves of this light metal (see, for instance, Barandiarán, 2019).

The aforementioned complexities in determining economic and moral externalities call for skepticism with regards to the role of technology as the sole pillar for finding solutions to growing contemporary environmental and socioeconomic problems. While one can hope for a natural self-correction in climate change, demographically beneficial generational replacement rates in overpopulated areas, implementation of technological remedies, fairer future trajectories of developing countries in terms of wealth distribution, or, even more idealistically, internationalization of the Scandinavian welfare state, what looks more likely is an increasing competition of a growing number of people worldwide for a shrinking reservoir of rivalrous goods, services and opportunities, especially land, wealth creation mechanisms and jobs. A mixture of lifestyle expectations, limited social mobility opportunities at home, and possibly false social mobility expectations in areas other than home, especially regarding megacities, could ultimately cause an elevation of barriers that are necessary to be passed in order to achieve both financial and moral autonomy. Subsequently, we derive the following 'rules of thumb' for policy-making from our framework:

- *Smaller and localized technological solutions to socioeconomic challenges, particularly under consideration of those who do not live on a social minimum, should politically take precedence over systemic technology changes with unclear estimations of externalities that point at unforeseeable patterns of resource consumption, could create a social divide, may hinder instead of increase social mobility or likely become vehicles for solely boosting shareholder value.*
- *A dialectic between principal access to wealth creation mechanisms and the role of public welfare must be acknowledged. If the attainment of financial independence and socioeconomic mobility is structurally made impossible for those who nevertheless have historically been pushed into operating within modern business logic and market forces, the only mechanism available in order*

*guarantees human dignity is public spending on basic goods and services such as housing, health care, and education.*

These two guidelines in relation to both basic endowment and entitlement can only be seriously contemplated upon if the notions of economic comfort and abundance themselves become legitimate targets of critical socioeconomic discussion and the very idea of human welfare and the magnetism it radiates is recalibrated. Consumers' material aspirations that particularly modern marketing and advertisement aim to push further must be allowed to depreciate in a more comprehensive debate on human values. Policy-making in the 21<sup>st</sup> century can only be successful if it abandons traditional ideological categorizations and emancipates from one-dimensional economic rationales such as fixations on GDP growth or the uplifting of public companies' shareholder value. The stubborn trendline of historical contingencies in relation to acquired entitlements of nations, social groups, and individuals will continue to be a subject of moral scrutiny. In moving forward, however, particularly the externalities of development and innovation need to be given a true data-driven global price tag. A consistent and inclusive application of the rather conservative principle of Pareto optimality that acknowledges and negotiates free choice of all stakeholders could indeed guarantee that history does not repeat itself.

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