SOCIETAL OPTIMALITY AND ECONOMY OF EFFORT

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Abstract:

The article brings forward the path to optimality, as a way to support improving society's economy of effort. The approach is pluri-methodological, based on a modified and generalised theory of social systems and focussing on Pareto optimality and Markowitz's portfolio selection. The author discusses optimality and its complementary measures and foreshadows a path to optimality in society. This originates in the constitutional amendment and the release of Buchanan's "return of increasing returns", and continues with Markowitz's quantitative method, complemented by Pareto optimality. Finally, the paper concludes, highlighting the need for a metric of socio-human energy, which would allow estimates of social wealth, well-being, and suffering.

Keywords: *economy of effort, Pareto optimality, Markowitz`s portfolio theory*

JEL classification: *D70, K10, O10*

Introduction

Efficiency is the Holy Grail of our times. It is the ultimate measure of performance, meant to reflect the highest output achieved with the least input.

In an increasingly complex world, assessing efficiency is a difficult task. The multidimensionality of society (Luhmann, 1995; Oneașcă, 2021) challenges researchers to assert its performance and seek a desired evolution of its efficiency. Monetization is ill suited to measuring most socio-human activities (see, for instance, Pareto, 1900; UNSD-AEG, 2020). At the same time, the application of the principle of minimum action (Maupertuis), as well as that of self-organization (Thelen and Smith, 2006, p 259; Mathiesen et al., 2011) or economy of effort—its adaptation to living systems—is difficult. It lacks a general metric of energy, which could cover all aspects of human and social life (Oneașcă, 2021). Therefore, a more appropriate term is employed: optimality; it expresses an ideal or desired situation. Optimality reflects a general endeavour to improve reality.

A comprehensive approach to society—according to the international standards of social sciences (Ford, in OECD, 2015), and social disciplines (ISCED-F, in UNESCO-UIS, 2014)—is preferred in this paper. Accordingly, not preference or satisfaction matters in determining the efficiency of policy measures. There are difficulties in highlighting them correctly. People themselves can be wrong when they appreciate what is good for them (Mill, 1859; G.

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Dworkin, 1971).

The objective of the article is to highlight the path to optimality, as a way to support the improvement of society's economy of effort. A pluri-methodological approach, supported by heuristics and casuistry, guides the analysis. It relies on two main pillars:

- A comprehensive framework based on the theory of social systems, which considers energy and its principles as elements of continuity, as well as the international standards of social sciences and disciplines;

- A multidimensional, polycentric approach, with an emphasis on society as a whole, centred on Pareto optimality and Markowitz's seminal work of the 1950s.

Optimality and its complementary measures Pareto - a visionary, top down approach

The Pareto-optimality concept emerged towards the end of the 19th century. Not long after, it became a standard definition of efficiency in economics: when no one can be better off without someone being worse off (Pareto, 1894; Hausman and MacPherson, 1996; Budd, 2004). Thus, social change acquires a relative measure of progress. The value of the principle rests on its social considerations. Its famous applications are confined to welfare economics (Ingham, 2022). One should mention that Pareto delivered his work at a time when the welfare state was at its beginnings and more than a half-century before the adoption of the Universal Declaration of Human Rights in 1948.

Pareto`s method has a macroeconomic perspective, with a top-down approach. Its absolute view derives from its principled nature. In society, only by comparing a change in welfare a Pareto improvement can be observed. Traditionally, efficiency implies a voluntary limitation of resources in public policies; they are thus not conceived by any free market game, even under the threat of bankruptcy, much less in a socio-political environment devoid of such threats. As a result, efficiency can only aim at maximizing certain benefits. To this extent, it seeks to satisfy a limited number of criteria. Pareto optimality is, therefore, a concept that can be used to reduce complexity.

In real world conditions, evaluation and optimality are politically arbitrated. This results from the social decision-making nature, which cumulates judgments on time horizon and funding or change opportunity, as well as resource constraints, including loans. An optimal Pareto situation cannot exist here-and-now. The idea of the optimal is judged in the context of the existence of differentiated values, with different objectives and time horizons; distributional impact and predictability are affected by the time horizon. Therefore, agreement on status changes, and timelines—operational or short-term—, is difficult to achieve and requires imposition, not consensus; accordingly, what is best or acceptable to one person or community is not necessarily similar to others. To formulate a judgment, the mechanistic aggregation brings these values to the level of a fictitious average. Such conditions go beyond the Pareto optimality.

Reality is furthermore complicated. Modern societies have several levels of government and corresponding decision-making centres; what is considered optimal on one level may be a suboptimal entry on another—higher level—or a particular case for another entity at the same level.

Kaldor-Hicks - a step closer to practicality

Pareto optimality has considerable potential, which makes it useful in any dimension of society, not just welfare (e.g., politics, justice). As society is multi-dimensional, Pareto

became the main instrument in multi-objective optimization (Rentsen and Ganlkhagva, 2022).

A more recent measure of efficiency or optimality—the Kaldor-Hicks criterion—loosens the Pareto one: the net gains surpass the losses and the people made worse off can, in principle, be compensated. A theoretical application of such a principle favours the accumulation and centralization of capital, respectively wealth. Thus, the main beneficiaries in society are the entrepreneurs / social structures with a wider potential cost-benefit range. The main reason is that the criterion maximizes the net benefit, not its distribution. Those who have control over non-human/physical assets are likely to control human assets as well (Hart and More, 1990). This could explain why politics tilts heavily in favour of the better off (Elsässer et al., 2018).

Most of the time, a specific distribution strategy is at stake: this stems from the recommendations of political economy and decision-makers choices. The separation between efficiency and distribution cannot be achieved (Hicks 1939, pp. 711–712; Kaldor 1939, pp. 550). At the same time, distributions involve choices and values that are not necessarily specific to society. As a result, they reflect a particular form of efficiency, the allocative one.

The benefits of applying the Kaldor-Hicks criterion are dependent on wealth and power; those who benefit the most will be the wealthiest and most powerful. On the one hand, entrepreneurs and social structures or firms will be able to reap more benefits from policy measures, as, through the variety and diversity of their businesses, they face more opportunities to guide and maximize profits. On the other hand, the wealth of companies (derived from the size and diversity of operations, the relative size of resource flows, etc.) offers wider ranges between costs and potential benefits, favouring the achievement of greater net benefits. Through repeated iterations, the polarization of social structures would increase. Similarly, with each period passing on social inequality would increase (Hackinen, 2012). In the absence of transfers, the benefits and costs will tend to be counted as an average, distributed according to the specifics of the society's organization. Hicks's (1941) hypothesis, though not empirically supported, according to which it is very likely that in the long run everyone will become richer, seems thus contradicted. This is because rich is a relative term. The key to better lives lies in the principles of society's organization and the fair distribution of wealth. The Pareto and Kaldor-Hicks optimality are ahead of their time. Their poor utilisation is related to a conventional and limited understanding (e.g., applied welfare economics), which induced critics (Ellerman, 2014). However, the efficiency-equity analyses disregard the production of public goods and benefits other than welfare ones. Therefore, the principles stand.

Markowitz - a bottom-up approach

A pragmatic way of addressing optimality, though in microeconomics, is portfolio construction. The diverse possibilities of selecting the assets among which an investor can divide its capital define a portfolio. The assets are identifiable resources, monetary or non-monetary, with or without substance (whether physical or biological), controlled by the entity as a result of past events (such as acquisition or self-creation) and from which future benefits are expected (cash inflows or other assets). This definition capitalizes on international standards that it broadens to ensure the inclusion of non-monetized socio-human assets. [9]

[9] International Financial Reporting Standards (online at https://www.ifrs.org/issued-standards/list-of-standards), or International Accounting Standards (online at https://www.iasplus.com).

Portfolio selection is an optimization process, establishing a trade-off between high return and low risk. The first systematic treatment (Steinbach, 2001), belongs to Markowitz. Harry Markowitz received the 1990 Nobel Prize in Economics for „a rigorously formulated, operational theory for portfolio selection under uncertainty." His quantitative method dominates portfolio construction in practice (Boyd et al., 2024).

Using mathematical optimization, portfolio selection responds to the specific needs of microeconomic capital markets. As such, the procedure is mostly available to large investors, those who can afford the selection costs.

Optimality in society

A developed and predictable society, or a flourishing one in the Aristotelian understanding, is a sustainable and resilient society, based on democracy, the rule of law and human rights. Optimising its course involves a continuous dynamic initiated by at least two iterative, comprehensive processes and complemented by others, according to the dimensions of social life and existing levels of governance.

The optimisation process considers principles (e.g., economy of effort), societal dimensions and their markets (e.g., political, legal) that condition societal efficiency. In this endeavour, economics can provide the main tools. This social science addresses basic human needs. Their satisfaction with success has allowed humanity to reproduce itself for millennia. Thus, the study of the production of goods and services led to the incorporation of nature`s principles into economics.

First, the constitution is the foundation of any society and its development engine. Therefore, the starting point in optimising the evolution of society is the amendment of:

- The culture and societal values that need to be promoted,

- Constitutional checks and balances and their progress,

- Benchmarks on the direction of progress, the level of ambition and the setting of reasonable expectations.

Improving constitutional rules with all their incentives expresses the same process coined as "the return of increasing returns" by Buchanan (Buchanan and Yoon, 1994). These multiplying returns can be seen as resulting elements of a broader fiscal policy perspective, stimulating a favourable balance between social energy spending and harvesting.

Second, the public spending is a multi-dimensional portfolio that needs optimisation on its various levels of government. Two main types of portfolios can be distinguished. They aim at the acquisition of specific assets.

i. Assets such as investments in physical (e.g., power, transport, construction), digital infrastructure, and capital markets and

ii. Social assets such as education, training, health, employment and good governance.

Markowitz optimisation intervenes in these processes to select the most profitable portfolios.

Third, Pareto optimality is required. Particular attention is needed to verify respect for the rule of law and human rights, so that selected investments do not undermine them in the pursuit of maximizing economic profit. The aggregation of results provides us with information about the average. The well-being of each individual is susceptible to unpredictable and multidimensional variations. Therefore, in real life, the measure of coverage with goods and services or personal satisfaction, combined with trends in dynamics, can provide a comparative picture of overall societal optimality or efficiency.

Conclusions

Society, as a whole, offers optimality measures a full scope. Subsidizing or increasing the costs of various doings encourages or discourages certain types of activities or behaviours. The approach has proven to be very powerful. It shapes human behaviour through informed choices: individuals are offered as much information and incentives as possible for consideration. In turn, societies can benefit from it in all their dimensions, improving the economy of effort. Unfortunately, the use of economics and its focus on efficiency are limited to the economic dimension—only part of it—and society in general is disregarded. Thus, non-monetized economic gains and losses are barely noticeable, let alone taken into account for an overall assessment of optimality. A new standard of measurement of socio-human energy and capital—such as energy currency—would allow an estimate of social wealth, well-being and suffering. All costs and benefits are thus translated from current currencies into energy harvesting and reproduction units, specific to societal needs. National statistics could thus include monetized measures of socio-human capital, unemployment, physical disability, and income, including an index of suffering in society (see the anticipation of such an index, Kahneman, 2011).

Bibliographical References

Boyd, Stephen; Johansson, Kasper; Kahn, Ronald; Schiele, Philipp; Schmelzer, Thomas. (2024), "Markowitz Portfolio Construction at Seventy," Papers 2401.05080, arXiv.org.

Buchanan, J. M., Yoon Yong J. (1994), The Return to increasing returns, University of Michigan Press, https://doi.org/10.3998/mpub.13285

Budd, J.W. (2004), Employment with a human face: Balancing efficiency, equity, and voice, Cornell University Press, Ithaca, NY.

Dworkin, Gerald. (1971), “Paternalism,” in Richard Wasserstrom (ed.), Morality and the Law. Belmont: Wadsworth, 1971, p. 107–36, online at https://wmpeople.wm.edu/asset/index/cvance/dworkin

Elsässer, Lea; Hense, Svenja; Schäfer, Armin. (2018), Government of the People, by the Elite, for the Rich: Unequal Responsiveness in an Unlikely Case, MPIfG Discussion Paper 18/5, online at https://www.econstor.eu/bitstream/10419/180215/1/1025295536.pdf

Ellerman, David. (2014), On a Fallacy in the Kaldor-Hicks Efficiency-Equity Analysis (2013). Constitutional Political Economy, Vol. 25, No. 2, June 2014, online at SSRN: https://ssrn.com/abstract=2412758

Hackinen, Brad. (2012), Does repeated application of the Kaldor-Hicks criterion generate Pareto improvements?, online at https://www.uvic.ca/socialsciences/economics/assets/docs/honours/Hackinen.pdf.

Hart, Oliver and More, John. (1990), Property rights and the nature of the firm. Journal of Political Economy 98(6):1119-1158.

Hausman, D. M. and McPherson, M. S. (1996), Economic Analysis and Moral Philosophy, Cambridge University Press, Cambridge, 1996, xii + 249 pages.

Hicks, John. (1939), The Foundations of Welfare Economics. Economic Journal 49 (1939): 696–712, online at http://www.uvm.edu/~jdericks/EE/Hicks.pdf

Hicks, J. R. (1941), The rehabilitation of consumers' surplus. The Review of Economic Studies, 8(2), 108-116, online at http://hdl.handle.net/10.2307/2967467

Kaldor, Nicholas. (1939), Welfare Propositions of Economics and Interpersonal Comparisons of Utility. Economic Journal 49 online at http://www.uvm.edu/~jdericks/EE/Hicks.pdf

Kahneman, Daniel. (2011), Thinking, fast and slow, Farrar, Straus and Giroux, New York.

Luhmann, N. (1995), Social Systems, translated by John Bednarz, Jr., with Dirk Baecker, Stanford University Press, Stanford, CA, online at http://uberty.org/wp-content/uploads/2015/08/Niklas_Luhmann_Social_Systems.pdf.

Mathiesen, J., Mitarai, N., Sneppen, K., and Trusina, A. (2011), Ecosystems with Mutually Exclusive Interactions Self-Organize to a State of High Diversity, Phys. Rev. Lett., 107/8, DOI: https://doi.org/10.1103/PhysRevLett.107.188101

Mill, J., S. (1859), On Liberty, Edition Batoche Books, Kitchener, 2001, online at http://socserv.mcmaster.ca/~econ/ugcm/3ll3/mill/liberty.pdf

Moore, T., A. (1996), "Least-Action Principle" in Macmillan Encyclopedia of Physics, John Rigden, editor, Simon & Schuster Macmillan, Volume 2, p. 840

Oneaşcă, I. (2021), Intelligence in Society: Sparks of a Systemic Approach, in Romanian Intelligence Studies Review (RSRI), No. 26/2021, online at https://animv.ro/wp-content/uploads/2021/12/RISR-26.pdf

Pareto, Vilfredo. (1894), Il massimo di utilità dato dalla libera concorrenza, Giornale Degli Economisti, 9 (Anno 5), 48–66, online at http://www.jstor.org/stable/23219149

Pareto, Vilfredo. (1900), On the Economic Phenomenon: A reply to Benedetto Croce, in Critical Assessments of Leading Economists, Volume 1, edited by John Cunningham Wood, Michael McLure, Routledge, 1999, ISBN: 0-415-18500-9, p. 251.

Rentsen, E., & Ganlkhagva, G. (2022), The Connection Between Pareto Optimality and Portfolio Growth Rate. Journal of Institute of Mathematics and Digital Technology, 4(1), 1–8. https://doi.org/10.5564/jimdt.v4i1.2655

Steinbach, Marc C. (2001), Markowitz Revisited: Mean-Variance Models in Financial Portfolio Analysis, SIAM Review, Vol. 43, Iss. 1, doi 10.1137/S0036144500376650

Thelen, E., & Smith, L. (2006), Dynamic Systems Theories, in Handbook of Child Psychology, Theoretical Models of Human Development, 6th Edition, eds. William Damon, Richard M. Lerner, (pg. 258-312).

* * * (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities, OECD, OECD Publishing, Paris, https://doi.org/10.1787/9789264239012-en.

* * * (2014), ISCED Fields of Education and Training 2013, UNESCO-UIS

* * * Maupertuis principle. V.V. Rumyantsev (originator), Encyclopaedia of Mathematics., online at http://www.encyclopediaofmath.org/index.php?title=Maupertuis_principle&oldid=17452

* * * (2020), Unpaid Household Service Work, United Nations Statistics Division, Advisory Expert Group (UNSD-AEG). SNA/M1.20/6.7, online at https://unstats.un.org/unsd/nationalaccount/aeg/2020/M14.asp