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# Fairness Is an Emergent Self-Organized Property of the Free Market for Labor

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The excessive compensation packages of CEOs of U.S. corporations in recent years have brought to the foreground the issue of fairness in economics. The conventional wisdom is that the free market for labor, which determines the pay packages, cares only about efficiency and not fairness. We present an alternative theory that shows that an ideal free market environment also promotes fairness, as an emergent property resulting from the self-organizing market dynamics. Even though an individual employee may care only about his or her salary and no one else's, the collective actions of all the employees, combined with the profit maximizing actions of all the companies, in a free market environment under budgetary constraints, lead towards a more fair allocation of wages, guided by Adam Smith's invisible hand of selforganization. By exploring deep connections with statistical thermodynamics, we show that entropy is the appropriate measure of fairness in a free market environment which is maximized at equilibrium to yield the lognormal distribution of salaries as the fairest inequality of pay in an organization under ideal conditions.

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