UTW1001T Final Essay
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Must luck play a Part in Someone's Reward?

Imagine a "forester" from a remote Amazonian tribe today who, having never seen modern technology, invents a device to tell time using a swinging stone. To the modern eye, this is a pendulum clock, prevalent centuries ago. Would you credit him as *the* inventor of the pendulum clock – revolutionising how time was told around the world? The obvious answer here is no.

My view underpins my reward distribution model - an individual's reward should be proportional to their actual contribution to society. This essay explores how we reach this conclusion by analysing the requirements of a "good society."

What is a good society?

Since individuals' rewards consume resources that could otherwise be used for societal gains, we must first agree on a societal goal to decide what "fair" means.

John Stuart Mill (1862) argued for *rule utilitarianism* – maximising happiness by following general moral rules without calculating consequences for every individual act. Following this logic, individual sacrifices are tolerable if there is greater overall happiness. Peter Singer (1972) too, asserts that it is okay for individuals to sacrifice some things if they are of less moral importance than what they are trying to save[1].

Utilitarianism however has its flaws. How much can one be expected to sacrifice? If someone does not keep track of his sacrifices, when does he sacrifice too much? Since life is more important than our possessions, must we give up all possessions just to save lives? This justification for any means to the ends of a "good outcome" does not do people justice[2].

Thus, I draw the line at socio-economic welfare – even humans in poverty could lead a decent life, evident in societies with adequate social safety nets (Helliwell et al., 2026; Andersen et al., 2007)[3].

A good society therefore pursues maximum social good for its people, and in doing so, it is reasonable for some individuals to trade off certain individual liberties, provided their socio-economic wellbeing is upheld.

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[1] Singer presented a thought experiment: "I am walking past a shallow pond and see a child drowning in it, I ought to wade in and pull the child out. This will mean getting my clothes muddy, but this is insignificant, while the death of the child would presumably be a very bad thing."
[2] See Appendix 1.0 *Mill's view on sacrifice*
[3] See Appendix 2.0, *The Nordic Model*

Luck Egalitarianism vs Contribution Model

According to luck egalitarianism, the ultimate fair society ensures one's reward only keeps track of one's effort, which seems fair. Let us test it: Consider two researchers who independently reach the same breakthrough, but one is a little earlier. The earlier researcher gets to dominate the market share from exporting his ideas earlier and consequently gets almost all the reward. This winner-takes-it-all system feels unfair.

Making the luck factor here extreme, what if the two independent researchers were multiple decades or centuries apart? In this case, the winner-takes-it-all situation does not seem unfair. Why? The first invention would have been invented such a long time prior, that the invention would already be ubiquitous; there is no value in adding the same invention to society.

To make this experiment relevant to reality, three assumptions are made. First, inventions are independent. Today's closed-source industries reflect this; researchers rarely know the details of competitors' work. Second, individuals' socio-economic welfare must be guaranteed. Failing to do so violates our good society definition. Lastly, luck cannot stem from unethical origins like discrimination. Racism or sexism unethically disadvantages individuals, transgressing on the principle of fair competition and social welfare rights, violating the good society definition.

Evaluating luck egalitarianism against the Contribution Model, luck egalitarianism rewards every independent researcher, regardless of the invention date. This commitment to rewarding what amounts to "infinite people" in the infinite future for the same idea is morally noble, but impractical in our finite world. Rewarding repetitive ideas would eventually deplete resources needed for novel ones. Conversely, the Contribution Model rewards proportional to societal contribution, clearly awarding each novel idea only once.

In our original premise, the first researcher managed to contribute disproportionately more to society, receiving disproportionate rewards. If the second researcher was rewarded equally, resources are wasted on him as those resources could be funding other novel innovations. My approach solves the problem of infinite awards, making it practical to implement. The model is shown in **Figure 1**.

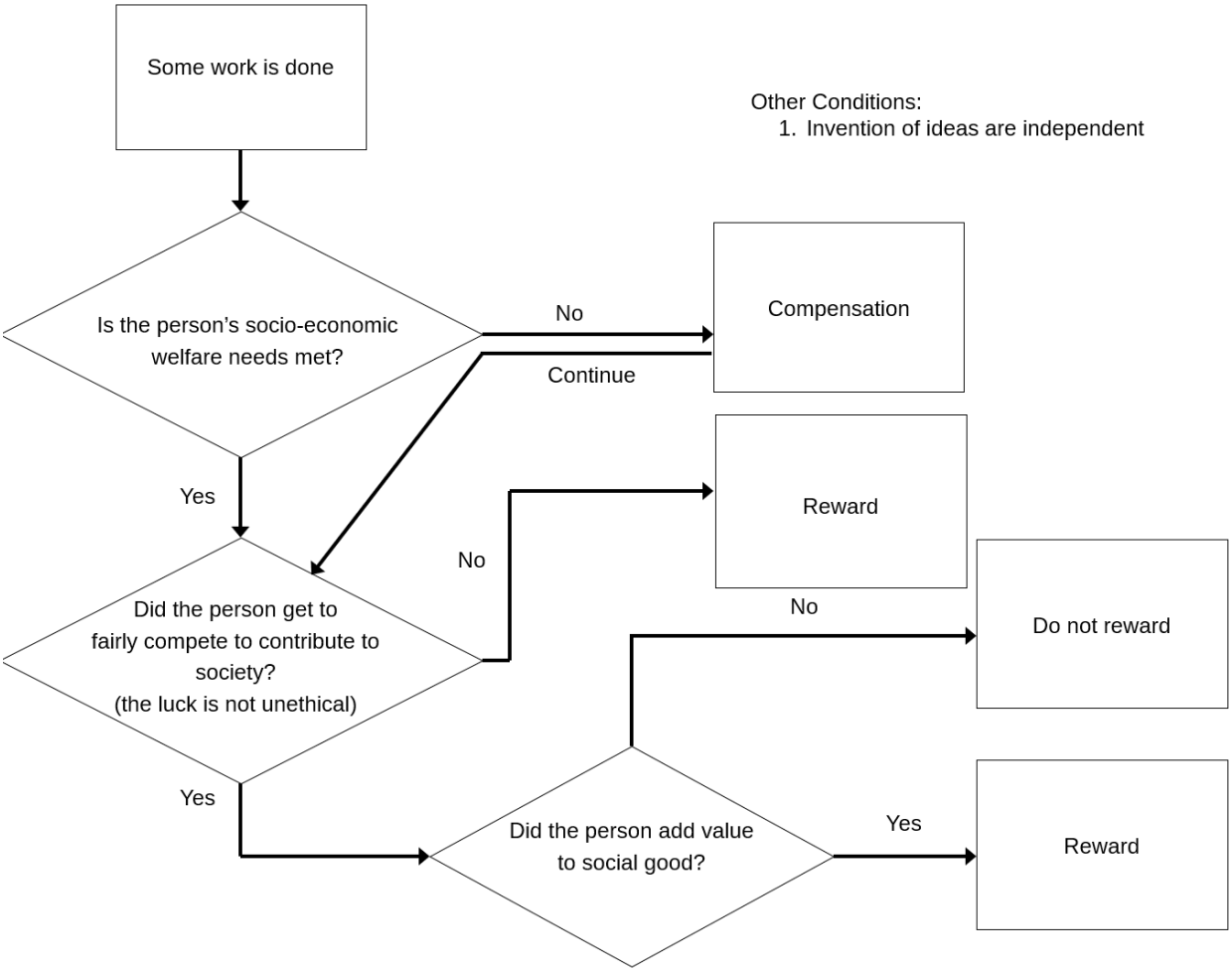

Figure 1: The Contribution Model

Recall the forester. To create the pendulum clock, he had to go through countless experiments to create a working gear mechanism, a phenomenal effort[4]. Yet, his contribution was negligible – someone who "invents" the pendulum clock today can never be given the same credit as Christiaan Huygens for revolutionising how time was told (Pikovsky et al., 2001)[5].

[4] He presumably does not understand modern mathematics
[5] This book has an interesting excerpt, a letter that Christiaan Huygens wrote to his father, about his experimentations with pendulums and their clocks (p.357).

Anything unequal can be a discriminatory factor

In today's economy, the Contribution Model can be brutal. A slightly better product can capture a disproportionate market share, rewarding luck more than labour. In our context, time itself becomes discriminatory; a 24-hour delay can mean the difference between a billion-dollar patent and total obscurity[6]. Thus, to some, since rewarding both in this scenario would not exhaust our finite resources, it seems fairer and even practical to offer a less disproportionate reward to both.

However, looking closer, rewarding the second-place researcher comes with practical costs too. In a world with finite resources, once a problem transitions from "unsolved" to "solved," the value of an identical solution for society drops drastically. Rewarding the now redundant idea is a reward not given to a truly novel one. Therefore, the "winner-takes-all" approach is but a rule to ensure that every societal reward is buying a new piece of progress, keeping our collective focus on innovation and solving new problems.

The Redistribution-Contribution Model

To reconcile this brutality with some humanity, I propose a fairer “Redistribution-Contribution Model”, resting on three layers (see **Figure 2**):

1. Socio-economic floor: Needs of individuals are guaranteed by providing healthcare, housing, food, water, etc. In doing so, we remove the life-or-death bankruptcy stakes from the innovation race.

2. Information transparency: To distribute credit fairly when similar breakthroughs by competitors occur in similar time periods. A 'Good Society' has media and regulators recognise independent researchers in ways that cover the lesser known, but still as good, products. This ensures consumers can make more informed decisions, choosing products more wisely. This reduces 'winner-takes-all' outcomes from mere days of headstart, allowing second-place researchers to be more recognised. Markets will be less imbalanced, less monopolistic.

3. Wealth redistribution: To address the disproportionate nature of the "win". While the first researcher deserves credit and reward for novelty, they do not deserve disproportionate wealth accumulation. At a certain point, extra dollars do not

[6] Note that this essay does not concern itself with laws and is only concerned with what a good society is. I am merely mentioning that patent law is a flaw in our economy that leads to massive unfair advantages for competitive markets.

improve standards of living, yet that same wealth could stabilise the proposed socio-economic floor.

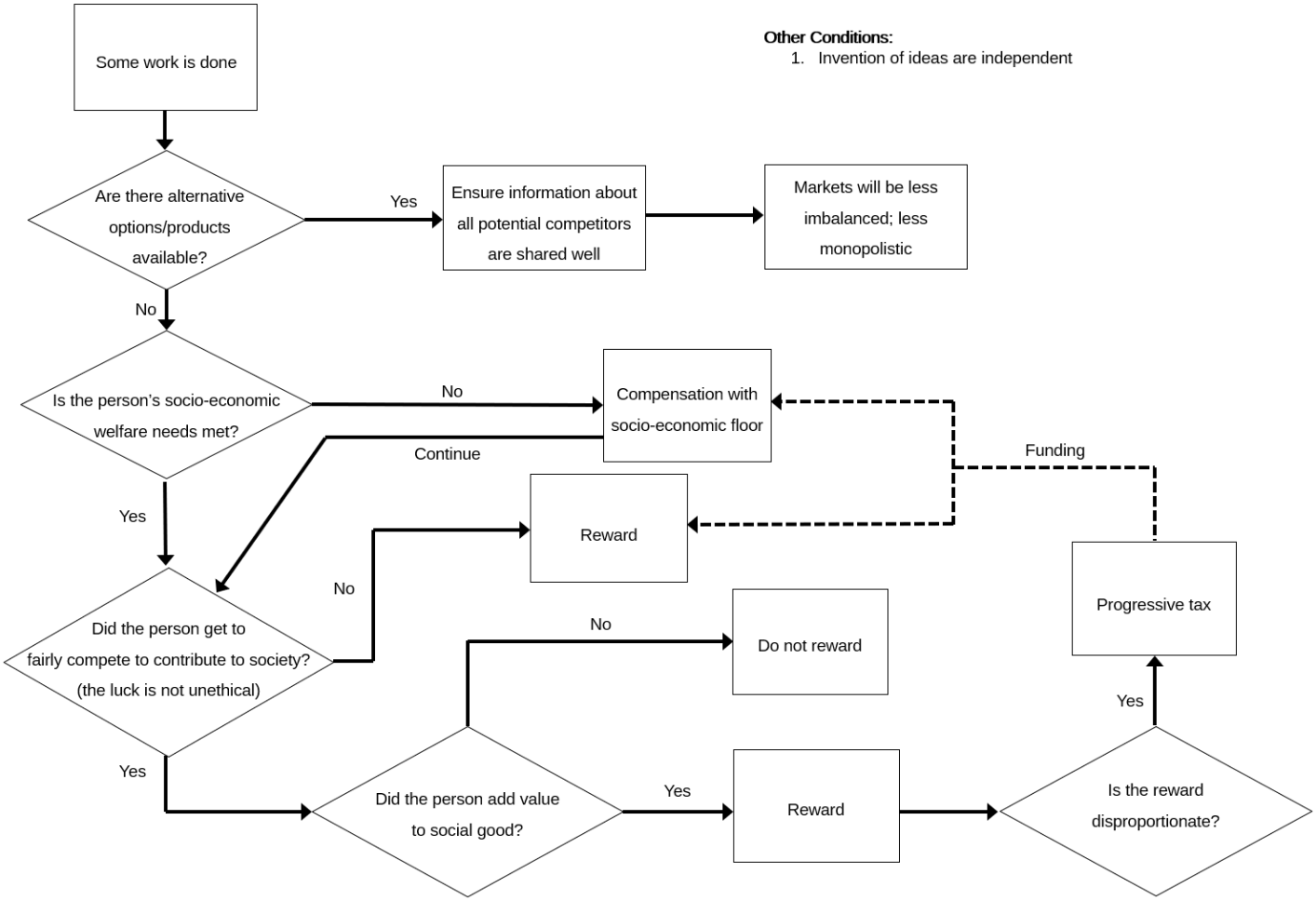

Figure 2: The Redistribution-Contribution Model

Is this a good society?

Firstly, it maximises social good: finite resources are not infinities; they are not wasted on rewarding redundant solutions. Secondly, while not completely equitable (no luck egalitarianism), this inequitability is greatly reduced by two control measures: (1) compensate the less fairly treated – redistributing "winners'" surplus, ensuring second-place researchers are not losing out in society. (2) encouragement of information transparency would allow markets to proportionally adjust, ensuring less imbalanced reward.

Some individual liberties – the right to keep earned wealth, are sacrificed. This trade-off is justified as it maintains equitability by indirectly compensating the "unlucky" researcher. Ultimately, the model supports a high-innovation society without leaving the "unlucky" behind.

It also addresses a caveat: In many scientific endeavours, leading fields require scientists to slowly build on previous scientists' works (even Christiaan Huygens was inspired by Galileo's works on the pendulum, but Galileo was never given credit for the pendulum clock). Yet, their effort was similar to all their predecessors, and their work also sat on the shoulders of their predecessors. Only the final scientist creates the breakthrough and, for example, receives the ultimate reward - the Nobel prize. Instinctively, their predecessors should also get the same proportional amount of reward.

Since it is impractical to award all predecessors with equal rewards, this proposed model balances some of the effects through wealth redistribution[7]. High progressive taxation treats the "excess" reward as a service fee paid back to society that provided the infrastructure, education, and stability necessary for that invention to succeed. It is a necessary form of gratitude.

Furthermore, this model could be scaled along societal levels. To humanity, the forester did not revolutionise telling time. Yet, to his tribe, he was a great inventor. When this model is scaled down to the tribe, they would reward him very well because he contributed greatly to them, and the "other option", Christiaan Huygens' pendulum clock, was not available to them.

[7] Note that some predecessors would have passed on. This redistribution model cannot travel back in time to compensate for the predecessor, so that is a practical limitation of trying to be as fair as possible while sticking to the core principles of innovation and compensation.

Conclusion

Lastly, we distinguish a runner-up from a late-comer. A runner-up is an unlucky researcher whose innovation is still fresh to society. The forester is a late-comer whose effort yielded negligible societal utility. We support the forester because the "winners" fund the socio-economic floor, but we do not reward his clock – he is part of the coming infinity.

The Redistribution-Contribution Model transforms an unjust "winner-takes-all" system into a "winner-takes-some, runners-up-and-late-comers-get-compensated" system. It allows us to keep the engine of innovation running while ensuring that we all get richer together. Luck will always decide who crosses the finish line first, but in a good society, luck should never determine whether a person has the right to a decent life.

[1497 words]

The forester sits down in his hut, happy with the food he received from the humans wearing uniforms, who come from outside the forest. 'At least I need not hunt for another few sunrises,' he thinks. He looks at his clock, watching the passage of time. He thinks about his ancestors, and wonders whether they were happy. He thinks about his children, and wonders whether they will be happier than he is. He wonders whether the other peoples outside the forest are happy too.

Appendix

1.0 Mill's View on Sacrifice

In light of sacrifice for the greater good, what limits are there to this sacrifice?

Mill actually dabbled with this in his work *On Liberty* (1859). He states that individual liberties cannot be sacrificed against one's will, unless that liberty is used to cause harm.

Yet, we can see that his own school of thought contradicts his own *rule utilitarianism* that he published about in the decade after; if the rules maximize happiness, the individual ought to follow them - their liberties should not matter.

Thus, in this essay I set out to define my own limit to sacrifice, as mentioned.

2.0 The Nordic Model

World Happiness Report (Helliwell et al., 2026)

Happiness in World Happiness Report is measured by: "log GDP per capita, social support, healthy life expectancy, freedom, generosity, and corruption" (Chapter 2, p.20).

Specifically, Chapter 2 of the World Happiness Report notes that the Nordic nations possess a welfare state, and that their high socio-economic welfare is their primary driver of their consistently high happiness rankings.

Do note that "social support" in this report is found by taking average of respondents' answers to whether they had "relatives or friends" to help them when they are in need, rather than a question on state funded social safety net. While they can be related, (family will help you more if they have extra cash or bandwidth to help, and that comes when the government already helps), but the link is tenuous at best and needs backing. Hence, this was combined with another source to verify the claims, to investigate on the Nordic Model.

The Nordic Model (Andersen et al., 2007)

This report outlines a model that gives Nordic countries the more unique ability as a welfare state to spread out risks in society - “Collective risk sharing […] offer a safety net which helps workers and their families to cope with risks” (p.12), and “the Nordics [combine] economic efficiency and growth with a peaceful labour market, a fair distribution of income and social cohesion” (p.11).

Chapter 4.1 *The Welfare State as a Social Contract*, (p.64), outlines that
“It is a hallmark of the Nordic welfare model that it offers both an elaborate social safety net as well as public services such as education and care (child and old age care, health care).”

While reasoning what humans can sacrifice for “a good outcome”, this is what stuck with me. Someone who is suffering from a dose of bad brute luck would not be left behind. For example, the family that they were born into had parents who were in and out of prison, who is unable to raise them as a child adequately. Or someone who is below the poverty line. These people would still have a clear shot in life.

Moreover, humans can be truly happier if they are able to do what they want to do in life, which means being able to take certain risks without the costs being too high. Risks born from luck that could cost too much, always causes people to shy away from opportunities to make themselves happier. Hence, waiving such a risk using collective risk sharing would widen social safety nets and provide people with incentives to chase their dreams and be happier.

This report was a 2007 report. Yet, we can see that the World Happiness Report in 2026 still reports them as the happiest nations. Clearly, The Nordic Model has some plus points to it.

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AI declaration

I, Lin Jing Yang, declare that we have not used generative AI in the process of completing this assignment. If I have used generative AI in any way to complete the assignment, this use has been documented in an appendix submitted with our assignment.

AI Tool used	Prompt and output	How was the output used in the assignment?