

# **Risky Problems: Discounting Future Lives**

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## **I. Introduction**

Frank Ramsey's "A Mathematical Theory of Saving" has no doubt been influential both in the fields of philosophy and economics. Other than being brilliant in the math utilized to solve an economic issue, the paper also makes strong normative claims. For Ramsey to set up his model of saving, he makes several assumptions. Some assumptions were made for the sake of simplicity. These include but aren't limited to, assuming that the growth rate of human population eventually slows down such that human population levels out, assuming that human enjoyment and sacrifice at any given time can be calculated, assuming that there will be no new inventions that boost productivity of which can't be attributed only to the accumulation of wealth, and assuming that there will be no natural disasters that greatly decrease the size of the human population. Other assumptions were made not only for simplicity's sake but also for normative reasons. One such assumption is to not discount the enjoyment<sup>1</sup> of future lives. Ramsey writes, "it is assumed that we do not discount later enjoyments in comparison with earlier ones, a practice which is ethically indefensible and arises merely from the weakness of imagination" (Ramsey 543). Ramsey doesn't tell us how discounting the enjoyment of future lives is ethically indefensible. Discounting is, however, very prevalent in the common economist's work. Thus, Ramsey's claim might be surprising. In this paper, then, I do two things. Firstly, I explain why not discounting the enjoyment of future lives is a much-needed premise for Ramsey's theory of saving to have normative weight and practical import. Secondly, I argue that accepting the premise of not discounting the enjoyment of future lives leads us to have decision paralysis in certain situations. This

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<sup>1</sup> I use "enjoyment" instead of "utility" in this paper because "enjoyment" was the original term used by Ramsey in "A Mathematical Theory of Saving"

shows us, at the very least, that discounting can aid us in making the correct choice and thus not “ethically indefensible.”

## II. Ramsey’s Model

Let’s first start with a simple fact: Ramsey had intended his work to have normative weight and practical import. That’s to say he believed his theory of saving *ought* to be used when policymakers make decisions and it was made for it to be used— of course, all contingent on taking into consideration the limitations he sets out at the beginning of the paper. As such, we can consider Ramsey’s model of saving to be a *prescription* of action when confronted with a policy decision regarding how much we ought to save and consume. To show that a prescription of action has normative weight is to show why the action ought to be taken. At first glance, however, it’s hard to see why, for Ramsey to achieve his goal of his model having both normative weight and practical import, needs us to not discount the enjoyment of future lives.

Let us examine the details of Ramsey’s argument to see why this is so. For simplicity’s sake, let’s introduce a short abbreviation:

(ND) Not discounting the enjoyment of future lives

Then, recall that Ramsey introduces the term “Bliss” at the beginning of his paper. We reach Bliss at time  $t$  just in case we have achieved the maximum obtainable amount of human enjoyment via wealth accumulation at time  $t$ . I think, then, the best way for Ramsey’s argument to have normative weight is to formulate the argument as follows:

- (1) We ought to minimize the amount we fall short of Bliss in an infinite amount of time.
- (2) There are things we can do to minimize the amount we fall short of Bliss in an infinite amount of time.
- (3) We ought to do the things that minimize the amount we fall short of Bliss in an infinite amount of time.

(4) Saving the optimal amount is one of the things we can do that minimize the amount we fall short of Bliss in an infinite amount of time.

∴ (5) We ought to save optimally

It seems like there is no reference to ND. However, in a hidden manner, ND is packed into the concept of Bliss, so the argument does, in fact, rely on ND. Ramsey initially introduced Bliss as a concept so there could be a way to calculate the sum of human enjoyment over time such that the sum was finite. By having a finite sum, we can compare different ways of saving and then find the amount we ought to save in order to maximize the sum of human enjoyment. Without a conception of Bliss, the sums of human enjoyment become infinite as it will be defined by the following formula:

$$V_1 = \sum_{t=0}^{\infty} U(c(t))$$

Where ‘ $V$ ’ denotes the sum of human enjoyment, ‘ $U(x)$ ’ denotes human enjoyment derived from  $x$  amounts of consumption, and ‘ $c(t)$ ’ denotes the amount we ought to consume at time  $t$  (Ramsey 544). When we introduce the concept of Bliss, we can have an upper bound to the above formula so that the sum of the infinite series converges. If we let Bliss be denoted by ‘ $B$ ’, we get the following formula:

$$V_2 = \sum_{t=0}^{\infty} B - U(c(t))$$

After obtaining this formula, we can then look for the optimal amount of saving by seeing under which amount of consumption would allow us to minimize  $V_2$ — the amount we fall short of Bliss in an infinite amount of time. Now that we have defined  $V_2$  as the amount we fall short of Bliss in an infinite amount of time, Ramsey’s argument for normative weight can be simplified as follows:

(1’) We ought to minimize  $V_2$ .

(2') There are things we can do to minimize  $V_2$ .

(3') We ought to do the things that minimize  $V_2$ .

(4') Saving the optimal amount is one of the things we can do to minimize  $V_2$ .

∴ (5') We ought to save optimally.

Perhaps now it is clearer why Ramsey needed ND for his normative argument to work. The formula for  $V_2$  assumes that  $B$  is a constant. For  $B$ , and thus Bliss, to be constant, the following argument needs to be sound.

(B1) We reach Bliss at time  $t$  just in case we have achieved the maximum obtainable amount of human enjoyment via wealth accumulation at time  $t$ .

(B2) *Ceteris paribus*, we ought to value the sum of future amounts of human enjoyment as much as the sum of earlier amounts of human enjoyment.

(B3) *Ceteris paribus*, we ought to value constituents of the sum of future amounts of human enjoyment as much as the constituents of the sum of earlier amounts of human enjoyment.

(B4) The maximum obtainable amount of human enjoyment via wealth accumulation is a constituent of the sum of human enjoyment both in the future and in earlier times.

(B5) From (B3) and (B4), we ought to value the maximum obtainable amount of human enjoyment via wealth accumulation in the future as much as the maximum obtainable amount of human enjoyment via wealth accumulation in earlier times.

(B6) *Ceteris paribus*, if we do not discount Bliss over time, Bliss is constant.

(B7) *Ceteris paribus*, if Bliss is constant, we value the maximum obtainable amount of human enjoyment via wealth accumulation in the future as much as the maximum obtainable amount of human enjoyment via wealth accumulation in earlier times.

(B8) We ought to do what we can to value the maximum obtainable amount of human enjoyment via wealth accumulation in the future as much as the maximum obtainable amount of human enjoyment via wealth accumulation in earlier times.

∴ (B9) From (B6) and (B7) and (B8), we ought not to discount Bliss over time.

I hope I have made clear now that the intuition behind ND is complicated but a much-needed one for Ramsey's argument to have normative weight and practical import. For ND to be true is for B to be constant. And for B to be constant is to allow for  $V_2$  to be able to be calculated. The remaining sections of this paper are, then, dedicated to showing why, contrary to Ramsey, we have good reason to discount Bliss and how it is ethically defensible.

### **III. Problems With Not Discounting**

In this section, I plan to show the troubling decision paralysis that results from accepting (1)-(5). Further, I argue that the root problem, assuming that we take utilitarian ethics to be correct, is not due to the general aspirations of (1)-(5) to maximize human enjoyment, but rather it is a fault in our conception of Bliss from (B1)-(B9).

To save optimally is to consume optimally. And to consume optimally is to make consumption choices such that we save the correct amount. A subset of these choices involves risk management and depends on our willingness to take risks. Examples of these choices may include how much we may want to invest in infrastructure that concerns safety or decisions regarding how we build our healthcare systems. When we say we want to consume the optimal amount, then, what we also imply is that we make optimal choices that contain risks that we deem acceptable. My thesis, then, is that accepting ND leads to decision paralysis with regard to consumption choices. That is to say, we would not know which consumption choice to make given we invest a set amount. As a result, Ramsey's model leads us into saying decisions with higher risks are just as good as decisions with lower risks with respect to the amount of human enjoyment even if our goal is to minimize risk. When we

project into the future, the risks that come with the initial decision are compounded over time. For example, if I build a house, the chances of it collapsing due to natural erosion increase as we project further into the future because it is subject to *more* natural erosion. The problem that arises if we take ND to be sound, is that we are incapable of accounting for this type of risk when we make decisions. This leads us to be inconclusive about which investment decision to make. Consider the following case:

Investment Case 1 (IC1) You want to minimize risk on an investment. You want to invest in either company A or company B. You opt to discount future value to help you in making your decision as to which company to invest in. Thus, you are told, from a trustworthy source, that company A should have a discount rate of 10% and company B should have a discount rate of 20%. You are given no further information. If you want to minimize risk, which company should you invest in?

The answer to IC1 is clear, you should invest in company A. This is because the discount rate signifies the risk your investment *endures over time*. The lower the discount rate, the lower the risk of investment.

Now consider the following:

Investment Case 2 (IC2) You want to minimize risk on an investment. You want to invest in either company C or company D. You do not discount future value to help you in making your decision as to which company to invest in. You are given no further information. If you want to minimize risk, which company should you invest in?

The answer to IC2 is indeterminate. Without discounting the future value of the companies, the risk of each investment is also the same. Thus, your guess as to which company to invest in is just as good as letting a coin help you decide.

Now, let us consider another case that involves human lives:

Healthcare Investment Case (HIC) We want to minimize the risk of investing human enjoyment. Given that we want to invest in either healthcare system A or healthcare system B, and we have a choice of discounting future human enjoyment or not discounting at all in  $x$  amount of time projected in the future when evaluating our investment choice, ought we to discount future human enjoyment when we make our decision?

The answer to HIC should be a resounding yes. The reason for this is analogous to the answers given in IC1 and IC2. If we buy into ND, whether we should invest in healthcare system A or healthcare system B becomes indeterminate. However, if our goal, as a community, is to minimize the risk of human enjoyment being lost (e.g., the loss of happiness as a result of poor healthcare), we ought to use a discount rate to figure out which system is the best system to invest in. To accept ND is then to accept any decisions we make out of this process regardless of risk. As such, I think it becomes clear that when human communities have certain goals, specifically regarding risk management and how much risk we are willing to accept, the discounting of future enjoyment is an invaluable tool. Insofar as the achievement of human goals is a normative goal, there exist normative reasons for us to reject ND. Thus, there are times when we ought to discount the enjoyment of future lives.

#### **IV. Responding to a Potential Objection**

A potential objection might be that (3), (3'), and (B8) are unnecessarily strong for their respective arguments to work and as such I am abusing these premises to make my argument regarding decision making in risk-management situations. Ramsey need not be committed to saying we ought to do *everything* that we can to: minimize the amount we fall short of Bliss in an infinite amount of time, minimize  $V_2$ , and value the maximum obtainable amount of human enjoyment via wealth accumulation in the future as much the maximum obtainable amount of human enjoyment via wealth accumulation in earlier times, respectively. I think it would be correct in saying that Ramsey isn't *logically* committed to the truth of these premises. However, I find it hard to see how saving optimally, and not discounting Bliss over time, ought to take privilege over the other things we can do to achieve the goals mentioned in (3), (3'), and (B8) such that the premises are modified in such a manner that we say we *only* ought to save optimally and we *only* ought to not discount Bliss over time. As such, I used the broad versions of these premises.

## V. Upshots for the Ramseyian Model of Saving

I have proven (B8) is unsound via the paradigmatic case of risk management. Thus, the conclusion we get in (B9) also becomes unsound. As such, Bliss becomes a value that is not constant. However, this does not mean that the formula for  $V_2$  becomes untenable. Insofar as we do accept a utilitarian framework alongside all the other assumptions that Ramsey makes at the beginning of the paper, we can modify the formula to be as follows:

$$V_2 = \sum_{t=0}^{\infty} B(t) - U(c(t))$$

Where 'B(t)' denotes the maximum obtainable amount of human happiness at time  $t$ .

Regrettably, I do not have the mathematical prowess to evaluate how this would influence the Keynes-Ramsey rule which tells us the optimal amount to save and consume.

## VI. Conclusion

In this paper, I have shown that there are cases where we ought to discount the enjoyment of future lives to assist us in decision making. As such, I hope it is clear now that the decision to reject ND does not imply ethical indefensibility nor does it imply a weakness of imagination. Sometimes, we ought to imagine the type of situations we may very well put ourselves in and check our principles accordingly. In the face of risk, let us imagine, but also discount.

## **Bibliography**

Ramsey, F. P. "A Mathematical Theory of Saving." *The Economic Journal*, vol. 38, no. 152, Dec. 1928, pp. 543–559., <https://doi.org/10.2307/2224098>.