A Policy of No Interest? The Permanent Zero Interest Rate, and the Evils of Capitalism

1. Introduction

In 1937, the philosophically-minded economist Joan Robinson proposed that "when capitalism is rightly understood, the rate of interest will be set at zero and the major evils of capitalism will disappear" (Robinson, 1937: 255). This is close to a statement made a year earlier by John Maynard Keynes, that "to make capital-goods so abundant that the marginal efficiency of capital is zero [...] may be the most sensible way of gradually getting rid of many of the objectionable features of capitalism" (Keynes, 1960: 221). This policy recommendation has received far less attention than others proposed by Keynes, and no uptake in practice as far as I know. It has been a policy of no interest in more than one sense. This is somewhat surprising considering the great benefits Keynes promises from it. Robinson, for her part, brings it up in response to a Marxist, suggesting that it might be a reform of capitalism that "leads to even better results than the revolutionist theory" (Robinson, 1937: 255). Her implication is that it is a non-revolutionary way to remove the evils of capitalism that trouble Marxists, which is the claim I would like to examine here.

Although Marxists ascribe many evils to capitalism, I will focus here on the (putative) evil that, under capitalism, holders of wealth are typically rewarded for the mere holding of wealth. If the interest rate is 5% per year, for instance, and I own assets worth $1,000,000, I can earn from these a guaranteed income of $50,000 per year, for doing nothing at all besides placing this wealth in standard savings instruments. My

wealth only generates a return if it is wisely invested, but, as both Robinson and Marx point out (Marx, 1967: ch.7, §2; Robinson, 2014: 188), no great wisdom is involved in the decision to put my wealth into bank accounts, hand it over to fund managers, and/or sink it into Treasury bonds. Nor does the return, as some have suggested, directly reward my *patience* in holding my wealth rather than consuming it, since a straightforward economic analysis reveals that a higher rate of return corresponds to a *lower* degree of patience—a lower rate of saving and higher rate of consumption—on the part of holders of wealth. I will return to this below.

For some, this is an evil in itself (Schweickart, 2011: ch.2). It is unfair, they hold, for people to be paid for doing nothing at all besides holding wealth. Others find the evil to lie in the implanting within capitalism of a tendency towards increasing inequality. With an interest rate of 5%, people with spare savings get 5% richer each year, proportionate to their starting wealth. If the economy as a whole grows at a rate below the interest rate on average, then those who begin with more wealth claim an ever-increasing portion of society's income—a dynamic famously studied by Thomas Piketty (Piketty, 2017). If the interest rate were set permanently at zero, mere possession of wealth would no longer be a source of income.[1] Others again point out that higher interest rates raise the cost of transitioning to a greener economy and thus make the transition less likely to occur (Ferguson and Storm, 2023; Schmidt et al., 2019).

[1] By "the interest rate" is meant the base, risk-free rate of interest on savings. One can always earn interest at any rate if one can find a borrower willing to borrow at that rate and one is willing to take the risk of default. *The* interest rate stands for the amount that a saver can expect to earn on savings without taking any significant risk—equal to the yield on government bonds or, in an abstract economic model, to the average risk-weighted return on capital assuming competitive markets for capital goods.

Could the interest rate be set permanently at zero? This is a question for an economist, and the combined authority of Keynes and Robinson must count for something. The philosophical question is: assuming that it could, *should* it be done? If it were impossible to earn passive interest income, our entire system of investment and production would have to be different. Would capitalism in this amended form be more justifiable than the current version? Here I make one move towards a positive answer by challenging what seems to be the best available philosophical justification for maintaining a system that pays a return on wealth. This does not settle the question of whether, all things considered, there are more reasons to preserve the status quo than to reform our institutions so that the rate of interest can be zero permanently, although in the final section of this paper I address some immediate objections that come to mind. My main purpose here is only to clear away one initial justification for the status quo.

2.1. Justifying Interest: Joseph Heath's Argument

The justification is drawn from Joseph Heath, who defends the proposition that "it's okay for people with accumulated wealth to be paid despite the fact that they haven't actively 'done' anything to earn it" (Heath, 2010: 255). Elsewhere he puts it thus: "holders of capital (i.e., savers) are entitled to the return of their investment (i.e., to 'profit' in the Marxian sense of the term)" (Heath, 2022: 56). He then acknowledges that: "This is the feature of capitalism that, historically at least, socialists have found most difficult to accept."

I focus on Heath because it is rare to find such a straightforward justification for the return on savings. Neoclassical economists sometimes use the "marginal contribution"

theory put forward by John Bates Clark to demonstrate that holders of capital are *entitled* to their return, though no less an authority than Paul Samuelson expresses astonishment at the arbitrariness of this reasoning (Sen, 1997: 101). Amartya Sen explains that it involves a profound misunderstanding of what the marginal contribution theory actually shows (Sen, 1985: 15–7).[2] Although Robinson rejected marginal contribution theory on other grounds, she also recognised, as Daniel Hausman points out, that even if it is right it "does little to justify the paying of profits or interest to capitalists" (Hausman, 1989: 826).

To justify the paying of profits or interest to capitalists, we need an argument beyond the mere statement of the marginal contribution theory, and one such is supplied by Heath. I draw his argument here from both of the sources cited above (Heath, 2010: ch.11, 2022: 51–6). First, Heath sets the scene as follows:

> In a complex economy, whenever anyone does some work, this can be thought of as contributing to an enormous pool of goods (and services, but to simplify I will say just goods), which constitutes the set of cooperatively produced goods that are available for consumption by others. This will include everything from food, clothing, and shelter to philosophy lectures, smartphones, massage therapy, livestock, and children's toys. Setting aside for the moment how one is supposed to know exactly what others need when there is such an enormous pool of cooperatively produced goods, it is instructive to consider the sorts of moral principles that individuals must respect, in order to sustain the division of labour that makes it possible to organize such a pool (Heath, 2022: 51).

The most important such rule is a principle of reciprocity: "1. One should be willing to draw from the stock of goods, to meet one's own consumption needs, an amount no greater than the value to others of what one has produced" (of course there must be

[2] Schweickart describes the marginal contribution theory as a "remarkable technical accomplishment [...] *but utterly bogus as an ethical argument*" (Schweickart, 2011: 29).

exceptions for the aged, infirm, etc.). But the rule most relevant to justifying the return on savings is:

> 7. If, in the past, one has contributed more to the pool than one has taken out, one is entitled, in the future, to draw out an amount equivalent to one's over-contribution (Heath, 2022: 55).

Heath goes on:

> Once it is recognized that over-contribution is what permits reproduction of the capital stock, it is not so far to the conclusion that when these individuals subsequently withdraw their contribution, they should be able to take, not just the amount put in, but rather the economic value of the *investment* that their over-contribution permitted (Heath, 2022: 55–6).

To have this imply, as Heath asserts it does, that "holders of capital (i.e., savers) are entitled to the return of their investment" we must calculate an appropriate rate of return.

To make the question clear, consider the very simple model that appears right at the start of John Broome's *The Microeconomics of Capitalism* (Broome, 1983: ch.2). In this model, corn is the only input and output in the economy. It can be planted as seed corn or consumed as food. $\frac{1}{4}$ ton of seed corn yields 1 ton in harvest, and labour is required for planting and harvesting. For the time being, we assume that wages are fully consumed, not saved. Supposing that *w* is the wage paid for this labour, net profit will then be:

$$1 - (\frac{1}{4} + w)$$

The rate of profit, *r*, will be net profit divided by capital invested, given by:

$$r = \frac{1 - (\frac{1}{4} + w)}{\frac{1}{4} + w}$$

r will be the natural interest rate in this simple economy—the return on savings. Nothing yet exists to determine r, although it is given for different values of w. For example, a wage rate of $w = \frac{1}{2}$ yields a profit rate of $r = \frac{1}{3}$, whereas a wage rate of $w = \frac{3}{4}$ yields a profit rate of $r = 0$.

Broome closes the model by having w determined in a competitive labour market, in which the supply of workers must match the demand and both capital and labour are fully employed at market-clearing prices. Suppose that there are 1,000,000 workers, and that the total savings available for investment is 750,000 tons. The wage rate will then be set at $w = \frac{1}{2}$, allowing 250,000 tons to be used as seed corn and the other 500,000 to be paid as wages. This will generate a total yield of 1,000,000 tons, which, minus the total cost of 250,000 for seed and wages, leaves a profit of 250,000 tons. The rate of profit is then $r = \frac{1}{3}$.

Now what do those who earn that profit—we will call them *capitalists*—do with it? Some they can consume (eat). The rest they add to the stock of capital for the next round of investment. If capitalists consume *all* their profit then they will again have 750,000 tons of savings to begin the next investment cycle, and the rate of profit will remain at $r = \frac{1}{3}$. If, however, they save half, consuming only 125,000 tons, then the next investment cycle will begin with 875,000 tons of savings. Assuming a stable workforce (neither growing nor shrinking), labour is fully utilised, so again 250,000 tons will be used as seed corn. The remaining 625,000 will be available as wages. A competitive labour market will thus drive the wage rate up to $w = \frac{5}{8}$. The yield will again be 1,000,000 tons, so profit will, in this next cycle, be 125,000 tons, a profit rate of $r = \frac{1}{8}$. Again, if capitalists consume all this profit,

the rate will stay at $\frac{1}{8}$ for the next investment cycle (and every subsequent cycle in which all profit is consumed). If they consume half again, they will drive wages up to $\frac{11}{16}$ and the rate of profit down to $\frac{1}{15}$ in the next cycle. If they continue to save half of their profits in each cycle, r will be continually driven towards 0, and w will be driven towards $\frac{3}{4}$.

When the labour force grows, the situation is somewhat different. Broome shows that if the labour force grows at g, and capitalists generally save a proportion s of their profits, then the rate of profit r will converge towards $\frac{g}{s}$ (Broome, 1983: 22). E.g. if the labour force grows at 10% each cycle and capitalists save half their profits, r will converge towards $\frac{1}{5}$ or 20%.

For now, we can draw two lessons from this simple model with relevance to Heath's argument.

First, it is incorrect to see the overall profit rate as simply reflecting the value of total investment. Rather, the profit rate is higher when capitalists, as a class, consume more out of their income. For the same reason, as Robinson and John Eatwell point out in their textbook (Robinson and Eatwell, 1973: 193), the profit rate cannot be seen as a reward for saving. When capitalists as a class save more, the rate goes down, not up. What allows for a higher rate is the abstinence of the *workers*, receiving a lower wage.

Heath seems to acknowledge this point, citing Marx:

> Karl Marx famously made fun of the idea that capitalists could be entitled to their profits by virtue of their heroic "abstinence" from consumption (if you want to see abstinence from consumption, he suggested, take a walk through a Manchester factory slum) (Heath, 2010: 256)

But he brushes it aside with the statement that those who earn a return on savings nevertheless "are in fact providing a valuable service". Profit is the reward for this service. The service is that of contributing to the capital stock. But here Heath appears to have it backwards. It is *because* they earn a return that capitalists are able to contribute to the capital stock. If the capital stock were supplied by a government department and funded by taxation, we would not say that the tax was the government's *reward* for supplying capital, although the government department would in that case occupy precisely the same position in the system as the capitalist. As Robinson and Eatwell argue, profit in a monetary economy works like a sales tax on the consumer: "The allowance for net profit which enters into gross margins over and above long-period costs is, so to say, a 'tax' which the firms levy from the public to provide for savings to finance net investment" (Robinson and Eatwell, 1973: 190). They are describing a monetary economy, but the result of the consumption tax is in effect a tax on workers' real income: they are able to purchase only a portion of the output they produce, the rest going to the capitalist as profit. In our model this appears directly as corn taken by the capitalist rather than being paid out in wages. This 'tax' *funds* rather than *rewarding* the capitalists' contribution to the capital stock. Put otherwise, justifying profit as the reward for capitalists' exceptional contribution to the capital stock is circular, since it is only because they earn profit that capitalists are uniquely able to make this contribution.

Second, it shows that Heath is wrong to suggest that a positive return on savings is necessary for capital replacement. With a stable workforce the model converges towards a state in which the rate of profit is zero. But this is not a state in which there is no replacement of capital stock. The zero-profit condition in our example is one where in

each cycle 1,000,000 tons of capital are replaced—250,000 for seed and 750,000 for wages—yielding 1,000,000 tons of revenue to repeat the cycle. Capitalists continue to supply capital even when accumulation is driving r towards 0, for reasons explained well by Broome:

> There is a disjunction between the interests of the class as a whole and the interests of the individuals within it. Any individual's income depends on the size of his or her capital; whatever the rate of profit, more income means more capital. To get more income any individual capitalist has to accumulate. Indeed, given that other capitalists are accumulating, the rate of profit will be falling, and any individual will have to accumulate too even to stand a chance of keeping the *same* income. Each capitalist will have to pile up capital to try and stay afloat, yet the end result is to sink the class as a whole (Broome, 1983: 23).

Heath's mistake arises from his view that "over-contribution is what permits reproduction of the capital stock". Elsewhere he makes the error more visibly:

> If we want to maintain our standard of living, then we can't consume everything we produce. We also need investment, to replace all the factories, machinery, and computers that we use in our day-to-day economic activities. And we therefore need people to "put in," in the form of labor, somewhat more than they "take out," in the form of individual consumption (Heath, 2010: 255).[3]

To see that this is wrong, consider, first, a single self-sufficient fisherman. He needs to split his labour between replacing capital and producing new consumption goods for himself—between, let us say, building new fishing nets (to replace those worn out) and catching fish. If, after spending 10 hours building nets and 40 hours fishing, he catches

[3] Heath measures contribution here in terms of labour-time. This is controversial, but I waive the point here to avoid getting bogged down in a side-issue. Below I return to the simple "corn" model, in which there is no need to reconcile diverse commodities in terms of labour-time or any other standard of value. I believe that the forms of the arguments in question remain intact.

10 fish, then we should value each fish at 5 hours of labour, since that, all told, is what it took on average to catch each fish (building nets was part of that task). Now scale this up to a whole fishing community of 1000 members, which spends a total of 10,000 hours building nets and 40,000 hours fishing, to catch 10,000 fish. Again, each fish embodies 5 hours of labour on average. If each member works for 50 hours and receives 10 fish, everybody gets out precisely what they put it. The labour might be specialised, so that 200 members spend 50 hours each on building nets exclusively, while the other 800 focus on fishing alone for 50 hours each. This might bring efficiency gains, reducing the average number of hours to catch each fish (call this e). But so long as everyone works for h hours and gets $\frac{h}{e}$ fish, nobody puts in more than they get out. Yet, in this example, necessary capital is replaced—nets are built to replace those worn out. This simple scenario is a counterexample to Heath's claim: nobody earns interest, nobody contributes more than they take out, but capital is replaced, and the standard of living is maintained (so long as the fish stock remains plentiful).

Although Heath is mistaken about overcontribution being needed to *replace* or *reproduce* capital, it certainly is needed to *accumulate* capital. If, in our fishing community, somebody spends 10 hours producing nets that are not yet used for fishing but instead saved for the future, then the community as a whole must be putting in more labour than it takes out in consumption. What it consumes is still 10,000 fish, embodying 50,000 hours of labour, so that the 10 hours producing surplus nets is not embodied in any fish and therefore not 'taken out' as *consumption* (somebody can, of course, take the surplus nets). Perhaps, then, Heath could make a new argument, that having savers earn a return on their savings is necessary for capital *accumulation*.

It is plausible to suppose that if the population is growing then capital must accumulate at the same rate of growth (at a minimum) to maintain a given standard of living. So Heath's argument can be reconstructed to justify the return on savings as necessary for capital accumulation, itself necessary to maintain our standard of living when the population is growing. This restricts the scope of Heath's argument but preserves the form.

2.2. Amended Heath Argument

We saw that, in Broome's simple model, if the labour force grows at g, and capitalists generally save a proportion *s* of their profits, then the rate of profit will converge towards $r = \frac{g}{s}$. This seems to make a lot of the amended Heath argument for us: if g is positive (the working population is growing), then even if capitalists save all of their profits, r will need to be positive. If the rate of profit falls below $\frac{g}{s}$, then capital will accumulate more slowly than the labour supply, and the wage w will have to fall.

But to see why this does not immediately entail Heath's conclusion, we can relax the assumption that wages are fully consumed. If workers save some of their wages, then this saving can supply capital while the working population grows. Suppose, for instance, that $r = 0$, the working population grows at 10%, and $w = \frac{3}{4}$. 1,000,000 workers will then receive a wage of 750,000 tons, with 250,000 tons of seed corn. In the next year, the workers will grow to 1,100,000, so that if the wage-fund remains at 750,000 the wage-rate will fall to $\frac{15}{22}$. If, however, workers save $\frac{1}{30}$ of their wages (25,000 tons) to be used for extra seed corn, the next harvest will be 1,100,000, allowing 825,000 tons for wages and preserving the original wage rate of $\frac{3}{4}$. If workers save more than $\frac{1}{30}$ of their wages, then

they can build up the capital stock faster than their population grows and thus enjoy steadily rising wages.

Here Heath might reply that only a positive interest rate could motivate this saving by workers. But workers might be able to see the effect of saving on their future wages. Then they do not need to be enticed by the promise of interest. If enough workers save, then *all* workers enjoy an increase in wages from the building up of capital.[4] Arguably, this is more in keeping with Heath's fundamental principle of reciprocity, since the yield from the capital depends on the labour of the workers, not merely on the saving that added to the stock of capital. In this system, workers who work with capital share in the gains of accumulation. Since the savers are also wage-earners, they are not excluded from the benefit; they simply share it with others. A system of rules could regulate when workers are expected to put in savings from their wages.

This perhaps falls within the category of what Heath calls a system of "mandatory collective savings" and disparages as inferior to a system that pays interest as an incentive for individuals to save (Heath, 2010: 255). But notice, first, that from the workers' point of view saving is no more "mandatory" here than in the system in which they supply higher profit by receiving lower wages, by no choice of their own. Moreover, the cost to them is much lower. We saw that with capitalists saving half of their profits, $\frac{1}{5}$ of output, equalling

[4] This is true only in the simple model given. In reality, of course, a growing economy typically distributes rewards to an elite class of workers with growing productivity, while others are left behind. Since, intuitively, individuals are not fully responsible for their level of productivity, one could argue for a system that redistributes productivity gains more evenly across the population of workers (Phelps, 2009). But this goes beyond the scope of this paper.

$\frac{1}{4}$ of wages, must go to them, in order to maintain a growth of the capital stock by 10%. But workers need only save $\frac{1}{30}$ of their wages to achieve the same growth of capital.

Heath's explicit complaint about a system of "mandatory collective savings" is that it imposes "a uniform savings rate upon everyone despite the fact that some people might have legitimate reasons for wanting to consume their entire income at some particular period of their lives" (Heath, 2010: 255). But this seems misplaced. A system could be designed to require savings to be contributed in whichever circumstances are deemed right, just as currently happens with the tax system, superannuation, and insurance schemes. Different contribution rates could apply to old/young, employed/unemployed, high-earners/low-earners, parents/non-parents, etc., up to any level of precision. Indeed, the current system, in which capital is supplied out of profit imposes a rather indiscriminate burden, since all consumers pay the profit margins on what they purchase, equivalent to a flat consumption tax. In our simple model, all workers supply profit to the capitalists by producing output in excess of their wages—corresponding roughly to what Marx called "surplus value". There is not much distributive nuance in using profit as a source of capital accumulation.

I now summarise the conclusions so far. Heath's argument, that a positive rate of savings is necessary because capital replacement requires individuals to contribute more than they take out, is unsound. The premise is false: simple economic models supply clear counterexamples in which capital is maintained while no individuals contribute more than they take out. Moreover, it is misleading to think of the return on savings as a reward for saving, since the return in fact supplies the saving and is greater when capitalists save a *smaller* proportion of this income.

An amended form of Heath's argument can be based on the true premise that capital *accumulation* requires contributions exceeding consumption. But this argument is invalid. The premise, while true, does not entail that interest on savings is necessary for capital accumulation. Capital can instead be supplied out of wages, with revenue distributed through wages in general rather than there being a special reward paid to savers. The complaint that this requires "forced savings" is ungrounded, since paying interest on savings also requires a forced deduction from wages—and a much greater one if capitalists consume a decent portion of their interest-income. There is therefore no compelling argument for preserving within capitalism what many take to be an evil or a source of evil: the payment of a return on wealth—a bonus that holders of wealth earn for the mere fact of holding wealth.

In the rest of this paper, I will address other objections to the policy of maintaining the interest rate at zero permanently. I take it as established from the foregoing that paying interest on savings, or a return on wealth, is not necessary to maintain basic norms of reciprocity within a capitalist mode of production, in which output is produced by labour combined with capital and split between consumption and the maintenance or increase of the capital supply. The objections below concern the more specific institutional arrangements that have been developed in modern capitalist systems. My purpose is not to respond to every possible objection that could be made to reforming our system to set the interest rate permanently at zero; that would require at least one book. Rather, I hope to demonstrate that the proposal is not so ludicrously impractical as to be ruled out *prima facie*.

3.1. How will people save?

The first objection is that if savings earn zero interest this makes it impossible for people to afford the deposit for their first home, their retirement, and all the other future expenses we typically meet through the accrual of returns on our savings.

The simple response here is that while on one hand savings would no longer compound in a zero-interest world, on the other hand wages would increase at something near to the exponential growth-rate of the economy. Workers would not earn interest on savings, but they would have a growing income out of which to save. Saving a fixed *proportion* of their income would thus grow their savings at an exponential rate. There is an immediate appeal in the notion that interest allows "your savings to work for you", but I have argued above that this is largely an illusion: the work that makes savings grow is performed by workers, since growth of output comes from accumulated capital produced by and combined with labour.

All the same, there might be a problem of incentives to save with a zero interest rate, whereby, as Keynes put it: a saver "would simply be in the position of Pope's father, who, when he returned from business, carried a chest of guineas with him to his villa at Twickenham and met his household expenses from it as required" (Keynes, 1960: 221). People might systematically fail to put enough into the chest for their future expenses. They might discount the future too much, underestimating the future value to them of consumption forgone today. If so, a system of paternalistic taxation would be necessary, for example taking enough out of wages to pay a state pension adequate for retirement in moderate comfort given typical savings choices. This paternalism already exists in the form of national insurance schemes, state pensions, and the like, so any requirements in

this regard do not appear to amount to any significant *further* violation of liberal principles.

3.2. WHAT BECOMES OF MONETARY POLICY?

The next objection is that the interest rate is currently used by central banks to maintain price-stability. With the interest rate fixed at zero, central banks would no longer be able to raise the rate to combat inflation. My response is that price-stability would have to be preserved by some other policy, for example the fiscal policy of "functional finance" described by Abba Lerner and developed for a modern context by economists such as Stephanie Kelton and Randall Wray (Lerner 1943; 1947; Wray 1998; Bell 2000; Wray 2012; 2018; Kelton 2020), or a system of deferred pay such as proposed by Keynes during the Second World War (Keynes, 1940). These untried policies run the risk of unintended bad consequences, of course, but on the other side there is also uncertainty over the effectiveness and unintended consequences of interest-rate adjustments in the changing world of energy transitions and computer automation. Contemporary monetary policy has also come under serious criticism from philosophers for its distributive justice implications (Dietsch et al., 2018; van 't Klooster and Fontan, 2020).

It is sometimes argued that fiscal policy does not work as a price-stability measure because of the *inflationary bias* faced by fiscal authorities, usually elected politicians. Inflationary bias has historically been explained in terms of time-inconsistency (Barro, 1986; Barro and Gordon, 1983; Kydland and Prescott, 1977). There is an alleged temptation to engage in deficit spending on popular projects and then allow growing inflation to erode the resulting debts (Carlin and Soskice, 2014: 14.5). It is believed that unelected monetary authorities can control this temptation, wielding the lever of interest-

rate-adjustments to realise a mandate to maintain price-stability. But there is no clear reason why a fiscal authority, given the same mandate and endowed with the instrument of adjustments to tax rates, could not exercise similar control. If the power of central bankers to avoid inflationary bias comes from their being unelected, thus immune to popular pressure, then tax authorities could be similarly appointed or chosen by some other non-electoral means such as sortition. Many countries already have fiscal councils of various kinds, such as the United Kingdom's Office for Budget Responsibility, Germany's Unabhängiger Beirat des Stabilitätsrats, the Congressional Budget Office of the United States of America, and so on. These could perhaps be developed and transformed into fiscal authorities for maintaining price stability.

3.3. The natural rate of profit

Others might object by appealing to the theory of a "natural" or "neutral" rate of interest, holding that this is given by a market equilibrium and need not equal zero.

It is difficult to reply to this general objection without assigning a more specific meaning to the central notion. If we define the natural rate as what Knut Wicksell called the "normal rate"—"the average rate of interest which is such that the general level of prices has no tendency to move either upwards or downwards" (Wicksell, 1936: 120)—then, so long as functional finance or some other policy is working to stabilise prices, zero can qualify as the natural rate.

Alternatively, if we define the natural rate as "the rate which would be determined by supply and demand if real capital were lent in kind without the intervention of money" (Wicksell, 1936: xxv), then this does not apply to a situation in which capital is supplied by

savings from wages and rewarded by an increase in general wages rather than payment of interest. Or we could say that the natural rate will correspond to the rate at which wages must increase in order for workers to comply with a collective savings scheme. We have seen that, once the rate of profit is zero, far less abstinence is required from workers to supply a given level of capital accumulation and a corresponding benefit in wage-growth.

Finally, if the natural rate is defined as the rate that would emerge in a general equilibrium of exchanges among rational agents with perfect foresight (Hausman 1980, ch.5) then its policy-relevance in the real world is dubious, to say the least. It seems to me unlikely (though there is no way to be sure) that any institutional arrangement could put us near that natural rate. Nor is it clear what the effects of doing so would be in a world where the assumptions of perfect rationality and foresight do not hold. Meanwhile, some have argued that, given our current institutional framework, zero qualifies as the most "natural" rate on a defensible construal of "natural" (Forstater and Mosler, 2005).

3.4. How will capital be allocated?

Another objection is that under a scheme of public savings there will be no profit-motive driving capital into the most productive uses (Mises, 1962: 202).[5] The stock of capital can be built up from wages, but which purposes will this shared capital be allocated towards? In the current system, decisions on capital-allocation are generally made by salaried staff: wealth-managers, stockbrokers, etc. These workers are motivated to direct owners'

[5] This problem is abstracted away in the single-commodity model above, where there is only one use for capital as seed-corn.

capital into profitable investments by the reward of bonuses conditional on profits. Could similar incentives work in a zero-profit system, with the capital stock drawn from wages and publicly owned?

In the current system, fund-managers have their performance assessed by boards representing the funders, mostly appraising the profit they generate. In a zero-interest world, performance could be assessed by councils of workers or citizens, and assessment could be on various measures of wage-growth, sustainability, social benefit, etc. Profit might provide a more clear-cut measure of performance than such a murky mixture of concerns (Heath, 2010: ch.8, 2014: ch.1). But the subordination of all other concerns to that of profitability is one of the most commonly criticised features of capitalism (*AOC: Capitalism is 'the absolute pursuit of profit'*, 2022). Recognition of the importance of other measures of value is reflected in the recent trend towards ESG investing (Sherwood and Pollard, 2023). And even if there turns out to be a procedural need for a single 'bottom line' to determine investment decisions, the forecast effect of each investment on wage-growth could serve this purpose.

When considering this objection it is also important to remember that the zero-profit condition could only ever be maintained as a general tendency. As Keynes expresses it in the quotation above, the idea is "to make capital-goods so abundant that the marginal efficiency of capital is zero"—that is, to build up a stock of capital from saved wages, to be allocated at zero interest to socially-approved uses. There is still scope for abnormal profits to be made in the short-term.

For one thing, zero is only the *risk-free* return on savings. Those who invest their savings in risky ventures or take on some lending risk can still earn a risk premium additional to the base rate of zero, as Keynes explains (Keynes, 1960: 221). That is, an entrepreneur could borrow at near-zero interest out of the stock of capital (pledging her own savings as collateral), use the borrowed capital for a risky venture, and then sell the products at higher-than-cost prices. Her abnormal profits would be paid partly from the losses of others who took the same risk and failed, drawing down the savings they pledged as collateral, and partly from monopoly control over the products that others were not willing to take the risk of making.

Moreover, innovators who develop new products could temporarily enjoy monopoly profits, sometimes called "quasi-rents", again selling at higher-than-cost prices until competitors work out how to emulate them. In this way, a zero-interest system could still reward the celebrated dynamic elements of capitalism: entrepreneurship and innovation. It is the mere possession of wealth that would attract no reward.

Those concerned about inequality, however, might worry that a zero-interest system gives the wealthy an enormous advantage over the poor—a concern that Frédéric Bastiat raised against Pierre-Joseph Proudhon (Chancellor, 2022: xxiv). Without interest payments to cover potential default losses, banks will only want to lend to borrowers with significant collateral. This might exacerbate a tendency already present towards highly unequal access to credit, in which the wealthy can benefit disproportionately from all the advantages of borrowing (Herzog, 2017). Ideally, however, wealth that earns no risk-free return would gradually be dissipated among workers who earn a wage that grows in step with the economy (g>r, in Piketty's terms). Moreover, a system of grants and subsidies

could be put in place to supply public funding to cover the risk of loans to those with no collateral of their own but a publicly recognised need for credit.

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4. Conclusion

No doubt there would be other obstacles and dangers associated with such a sweeping reform to the capitalist system. Again, my purpose here has only been to discourage the *prima facie* dismissal of the reform as obviously unworkable in practice.

It might also be questioned whether a zero-interest system of the sort described would amount to a form of capitalism at all. Keynes describes his own zero-interest system as a form of "State Socialism" (Keynes, 1960: 378). The method I described above for public funding of capital investments is not entirely unlike the scheme proposed by John Roemer in a book called *A Future for Socialism* (Roemer, 1994: 76). On the other hand, the system would preserve markets as the means for distributing produced commodities. Indeed, market competition plays a crucial role in keeping the rate of interest at zero, forcing those who borrow capital from the common stock to sell their products at near-to-cost, except in cases of entrepreneurial risk or innovation such as mentioned in section 3.4. On balance, a zero-interest system would appear to fit Robinson's description as capitalism purged of some of its evils rather than a wholesale alternative to capitalism.

We can conclude, then, that there is merit in Robinson's suggestion that having the interest rate permanently at zero would remove at least one major evil from capitalism. That it is an evil is suggested by the intuitive perversity of paying people simply for their possession of wealth (out of resources produced by workers). Heath's argument

that this payment rewards a contribution exceeding consumption, necessary for maintenance of the capital stock, is based on false premises. First, interest payments do not straightforwardly reward saving. As Broome's simple model shows, a lower rate of saving by capitalists corresponds to a higher, not a lower, interest rate. Moreover, the sacrifice that finances interest payments is made by workers, in the form of lower wages than they might otherwise have had. Second, maintaining the capital stock requires no contribution in excess of consumption. *Building* the capital stock does require such an excess contribution, but this could be drawn and distributed equitably without the need for an interest rate—that is, an individual reward for savings proportionate to the individual fund.

Instead, savings could be collected into a common fund of capital, allocated through a system of public decision, with its rewards distributed generally throughout society as wages minus individual premiums paid for exceptional entrepreneurship and innovation. Would doing this lead the major evils of capitalism to disappear? Only by experiment could we know for sure. But I hope to have shown that the experiment passes a preliminary ethics assessment.

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