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Abstract: Why, if at all, should we object to economic inequality? Some central arguments – the argument from decreasing marginal utility for example – invoke instrumental reasons and object to inequality because of its effects. Such instrumental arguments, however, often concern only the static effects of inequality and neglect its intertemporal consequences. In this article, we address this striking gap and investigate income inequality's intertemporal consequences, including its potential effects on humanity's (very) long-term future. Following recent arguments around future generations and so-called longtermism, those effects might arguably matter more than inequality's short-term consequences. We assess whether we have instrumental reason to reduce economic inequality based on its intertemporal effects in the short, medium and the very long term. We find a good short and medium-term instrumental case for lower economic inequality. We then argue, somewhat speculatively, that we have instrumental reasons for inequality reduction from a longtermist perspective too, because greater inequality could increase existential risk. We thus have instrumental reasons for reducing inequality, regardless of which time-horizon we take. We then argue that from most consequentialist perspectives, this *pro tanto* reason also gives us all-things-considered reason. And even across most non-consequentialist views in philosophy, this argument gives us either an all-things-considered or at least weighty *pro tanto* reason against inequality.

Key words: inequality; equality; egalitarianism; future generations; growth; intergenerational justice; utilitarianism; longtermism; existential risk

1. Introduction

After a steady decline until the 1970s, income inequality has been on the rise in nearly all wealthy countries in recent decades. What, if anything, is objectionable about such inequality? Political philosophers here supply us with a wealth of *non-instrumental* arguments, focusing on questions such as fairness, justice, equality of opportunity, and relational inequality.[1] Instead, we here focus on *instrumental* concerns, zooming in on the external benefits economic equality might produce. For example, one classic instrumental argument is utilitarian: aggregate wellbeing will be higher with less economic inequality, because of the diminishing marginal utility of income.

However, such instrumental arguments typically focus on the *static* properties of income inequality, that is, on the effects inequality would produce during a somewhat limited time-slice. Yet income (in)equality likely has *intertemporal* consequences too. And it is far from clear whether such consequences will be good or bad. For instance, Tyler Cowen has recently argued that high economic growth should take priority: with a long enough timeframe, the exponential nature of growth ensures that future benefits will outweigh all other considerations (Cowen 2018). Moreover, if equality lowers longer-term growth rates – as some have argued – the dynamic instrumental case would speak against reducing inequality. In response, one might contest that there is a growth-equality trade-off. Or one could argue that equality comes with its own long-term benefits, such as better political institutions.

Such arguments would typically focus on effects within the next hundreds to, maybe, thousands of years. But we could go further and include inequality's effects on *all* future well-being. Doing so moves us into the realm of *longtermism*, an influential idea in the Effective Altruism community. The central idea is that since the future holds the vast majority of potential value, the expected moral value of many actions is almost entirely determined by the action's effects on the long-term future. Nick Beckstead writes: 'what matters most (in expectation), is that we do what is best (in expectation) for the general trajectory along which our descendants develop over the coming millions, billions, and trillions of years.' (Beckstead 2013, 1) Suppose reducing income inequality has non-negligible expected consequences for our far-future descendants. Longtermism would then imply that whether we should reduce economic inequality or not is primarily determined by such long-term effects.

So, we can assess the instrumental character of income inequality in three different ways: we can focus on effects in the short term, the medium term (hundreds to thousands of years), or – adopting longtermism – all its future effects. It is not obvious that these three approaches converge. The lack of work on these questions constitutes a surprisingly large and important gap in the literature. This article makes a start filling this gap. To assess the instrumental benefits of equality/inequality, we use a time-discounted instrumentalist framework. We do not look for an optimal level of inequality. Instead, we consider how, at the margin, reducing or increasing economic inequality in today's richer countries (roughly, OECD countries) would impact expected aggregate human wellbeing, other things equal. We vary our discount rate to check inequality's effects along three timeframes, short, medium, and long term. We find a good short and medium-term instrumental case for lower economic inequality. We then argue – somewhat speculatively – that we have instrumental reasons for inequality reduction from a longtermist perspective too, because greater inequality could increase existential risk. We thus have instrumental reasons for reducing inequality, regardless of which time-horizon we take.

[1] We briefly come back to non-instrumental egalitarian views in section 7.

We then argue that this *pro tanto* argument has important implications for how philosophers should think about economic inequality. Performing a 'moral sensitivity analysis', we argue that for most consequentialist views, the *pro tanto* argument also provides all-things-considered reason to reduce inequality. And even across most non-consequentialist views, the argument either provides an all-things-considered or at least a weighty *pro tanto* reason to reduce inequality.

Our results matter in several ways. First, most people believe we have duties towards future generations. Accordingly, when assessing policies that affect inequality, their impact on future generations should be a relevant dimension (when assessing proposals to reduce inequality, for example (Atkinson 2015)). Second, our longtermist argument makes for a new input into philosophical debates about equality and egalitarianism. While philosophers often focus on non-instrumental reasons against inequality, they acknowledge that instrumental concerns are important too.[2] If longtermism is sound and the long-term future often decisive, our instrumental argument should thus matter greatly for debates around egalitarianism. Moreover, because our argument holds across the short, medium, and long term, it is also quite robust. Finally, in philosophy, there has been increasing interest in longtermism and existential risk but no work yet that connects this to economic inequality. Our article makes a start filling this gap.

We proceed as follows. In section 2, we describe our framework. In sections 3 and 4, we respectively analyse the short and medium-term effects of income inequality. In 5 and 6, we analyse the instrumentalist longtermist case for more equality. In 5, we first introduce longtermism and its relation to existential risk. In 6, we present arguments to the effect that higher income inequality can indirectly increase existential risk. In 7, we perform our 'moral sensitivity analysis' and conclude in section 8.

2. Framework

Do we have instrumental reason to reduce within-country economic inequality when we extend the time horizon from the short to the medium to the long-term future? Our question has three components: (i) our evaluand ('economic inequality'), (ii) normative framework ('instrumental reason') and (iii) time horizon ('extend the time horizon…'). We now specify all three, starting with (i).

First, for tractability, we focus on *domestic* inequality and largely ignore global inequality. Much policymaking happens at the state level, which offers routes for making domestic equality tractable. Moreover, as we will see, within-country inequalities matter in ways that do not apply to global inequalities. Of course, none of this implies that global inequalities are less important let alone unimportant.

Second, for tractability, we mostly focus on inequalities in rich countries, roughly, member states of the OECD.

Third, we focus on *disposable income* inequality (roughly, income after taxes and transfers). We mostly do not discuss other forms of economic inequality, such as consumption or wealth inequality, to make the article tractable and because most empirical research is about income.[3]

[2] See, for example, (O'Neill 2008; Scanlon 2018).

[3] Future research that extends our question would clearly be valuable, including work on developing countries and regional, international and global inequalities – and their relations to global public goods for example – and on other forms of economic inequality, such as wealth inequality.

Fourth, our analysis is broadly within what political philosophers call 'non-ideal theory' (Valentini 2012). We consider whether reducing inequality would be instrumentally valuable for typical OECD countries as they are and not for idealised versions of them drastically better along some other dimension.

Fifth, we enquire whether, at the margin, richer countries have instrumental reason to prefer more equal distributions, other things being equal. Accordingly, we do not discuss whether countries should be 'perfectly equal', what the optimal level of inequality would be, or whether reducing inequality is the most effective way to improve humanity's long-term wellbeing.

Finally, we do not specify *how* to reduce income inequality. This is a serious limitation, as different measures have different effects. So, our analysis is only ever the first step when discussing measures to reduce inequality.

Move on to (ii). We use a framework we call Discounted Instrumentalism. What do we mean by *instrumentalism*? Our analysis will assess inequality's effect on *subjective wellbeing*.[4] Again, we focus on wellbeing to keep things manageable. We only briefly touch upon sources of value other than wellbeing. But this does not limit the generality of our conclusions too much. Nearly all axiological theories view wellbeing as *one* of the central sources of intrinsic value. So, if wellbeing effects are large enough, our instrumental arguments should make for a strong *pro tanto* instrumental argument across most axiologies. Moreover, out of all candidates for intrinsic axiological value, wellbeing is likely the most widely accepted. But, at any rate, in section 7, we show that including goods other than wellbeing likely reinforces, rather than threatens, our argument.

What do we mean by 'wellbeing'? In the empirical literature, subjective wellbeing is understood either as life satisfaction or experience wellbeing. Measuring life satisfaction, people are asked questions like 'how satisfied are you with your life on a scale from 1-10?'. Experience wellbeing, in contrast, concerns an agent's actual, subjective and momentary well-being, such as whether they experience negative or positive emotions (Kahneman and Sugden 2005). We find experience wellbeing the more plausible account of subjective wellbeing, particularly considering it can encompass a broad and rich range of emotions and mental states (Haybron 2008; Schkade and Kahneman 1998). But we leave it open whether subjective wellbeing is life satisfaction or experience wellbeing or both, as our conclusions do not depend on it. Although these two measures can come apart, in the cases we consider they are either sufficiently correlated or differ in ways that do not threaten our conclusions.

Finally, consider (iii), our timeframe. What do we mean by *Discounted* Instrumentalism? Economists typically value goods and services less the further in the future they are consumed. Typically, a discount rate is used to measure how fast the value of consumption declines over time (a higher discount rate implies a faster decline). This devaluation is exponential in time. Sometimes, economists also discount well-being itself. We then speak of a positive *rate of pure time preference* or a positive *rate of impatience*. As Christian Gollier notes, there is no agreement among economists on a unique rate of impatience (Gollier 2012, 10–11). Most philosophers, however, argue that the rate of pure time preference should be zero.[5] For if we picked a positive rate, even a very low one, the value of wellbeing in the far future would become negligible. For example, with long enough timeframes, it becomes permissible to sacrifice millions of lives in the far future to prevent one headache today. This is not plausible. For our present purposes, however, this ramification of

[4] Many economists view individual utility as a scalar representation of an agent's preference orderings. Kahneman and Sugden call this type of utility 'decision utility' (Kahneman and Sugden 2005). This is not our notion of wellbeing/welfare/utility.
[5] See (Broome 1994; Cowen and Parfit 1992; Greaves 2017; Parfit 1984, 480–86; Tarsney 2017).

discounting is convenient, as it allows us to operationalise 'short-term', 'medium-term', and 'long-term'. To zoom in on the short-term effects of income inequality, we simply select a high rate of pure time preference. For effects on the medium-term future, we pick a small but strictly positive rate. And finally, if we want all well-being to be valued equally, regardless of when it is enjoyed, we use a zero rate of pure time preference.

We can now define Discounted Instrumentalism. Applied to a governmental level, we take DI to be:

(DI) Out of two policy options, one has strong *pro tanto* reason to choose the policy that in evidence-relative expectation brings about a higher aggregate discounted experience well-being of all agents living now and in the future.[6]

DI is about choosing a 'policy', which we understand very broadly to include pieces of institutional design, such as setting up an electoral rule, tax code, or a healthcare system. Moreover, DI is comparative rather than maximising.[7] This is convenient for our non-ideal and somewhat open-ended approach: we discuss whether, *ceteris paribus*, we should reduce inequality. We do not look for the optimal level of inequality let alone optimal policy option. Finally, implicit in DI – again assumed for tractability – is the total view of population ethics, which ranks states of the world based on the aggregate individual value, in this case wellbeing, contained therein. DI is our normative framework for the intertemporal instrumental assessment of inequality. In sections 3-6, we only let the discount rate vary. We choose this framework to 'operationalise' instrumental value in a way that is continuous with standard utilitarian approaches in intergenerational economics. But in section 7 we show that our conclusions are robust and important across a much wider range of normative views.

3. Short-term effects

We now assess the direct, static effects of income inequality on aggregate well-being. To this end, we pick, somewhat arbitrarily, a high rate of pure time preference. For now, think of an impatience rate of 5%, which maps quite nicely onto the short-term decision making common in politics. Under a discount rate of 5%, one unit of well-being enjoyed 10 years from now will count around 40% less than one unit now. Well-being 50 years from now will still be relevant but will count 12 times less than one unit now. Well-being enjoyed 100 years from now will be almost negligible.

So how do income and income inequality affect subjective well-being in the short term? Drawing on recent work in economics and psychology, we can go beyond speculation (Kahneman and Krueger 2006). Most studies here focus on life satisfaction, but we briefly come back to experience wellbeing below.

More than 40 years ago, Richard Easterlin observed a strange trend: household income accurately predicts cross-sectional differences in life satisfaction within countries, but average national life satisfaction did not seem to rise when a country grows wealthier over time (Easterlin 1974). Generating much debate, some have tried to explain the so-called Easterlin Paradox. *Relative income* and social status are a popular explanation for why cross-sectional and intertemporal relationship

[6] Although being only about *pro tanto* reason, our comparative notion resonates with scalar views of consequentialism, as characterized in section 7 (also see (Norcross 2008; 2009; Sinhababu 2018)). Instead of a scalar version, one could use a maximising version but specify the option one ought to choose relative to a given option-space. Adjusting the option-space would then allow you to adjust how 'ideal' or 'non-ideal' you would want your theory to be. See [redacted] for more.

[7] See (Bailey 1997; Goodin 1995; Halstead 2017; Hardin 1990; Pettit 2012; Viehoff 2017) [redacted] on consequentialism and instrumentalism in political philosophy.

come apart: we prefer earning more relative to others (Clark, Frijters, and Shields 2008; Ferrer-i-Carbonell 2005). An increase in status will make people happier, but only a rise in relative income will result in a rise in status. As status through relative income is a zero-sum-game, rich countries might not grow much happier on average when they grow economically.

Others have challenged Easterlin on the data and argued that there is a logarithmic and statistically significant relationship between life satisfaction and GDP over time (Stevenson and Wolfers 2008; 2013; Sacks, Stevenson, and Wolfers 2012). Easterlin et al. respond that the relationship disappears under long enough time frames: life satisfaction is only correlated with GDP's shorter-term fluctuations but not its long-term trends (Easterlin et al. 2010; Easterlin 2016).[8] Others challenge Easterlin on the reliability of life satisfaction: 'life satisfaction' might simply mean something different, when income and quality of life change. With growing income, people also adapt their expectations upwards (Cowen 2018, 19). Such language calibration effects occur in health studies. Angus Deaton, for instance, finds that, proportionally, more Kenyans are satisfied with their health than Americans, even though life expectancy is far higher in the United States (Deaton 2007). Maybe people also calibrate what they mean by 'life satisfaction' along with growing living standards.

Whatever the correct view on the relation between economic growth and life satisfaction, most authors seem to agree that 1) the cross-person within-country relationship between life satisfaction and income is statistically significant and logarithmic and that 2) the cross-country relationship between life satisfaction and income is statistically significant and logarithmic. As we here consider the short term only, that is enough to support the *decreasing marginal utility effect*.[9] Based on cross-sectional data, Stevenson and Wolfers find that a doubling of annual household income only leads to an increase in life satisfaction of around 0.3 points (Stevenson and Wolfers 2013, 14). But this holds for *any* doubling (up to a potential upper bound): increasing Alice's income from 10,000 to 20,000 USD is expected to deliver the same increase in life satisfaction as doubling Bob's income from 80,000 to 160,000 USD. In other words, raising Alice's income is eight times more efficient than raising Bob's income. Since the life satisfaction curve with respect to annual household income is concave, aggregate life satisfaction can typically be increased through more equal economic distributions.[10]

Recall that life satisfaction does not map perfectly onto experience utility. If we are concerned with the latter, a better measure would be *experience sampling*: asking respondents at random times how happy they feel. A study by Kahneman and Deaton approaches this ideal (Kahneman and Deaton 2010). The authors asked 1,000 participants whether they experienced positive emotions yesterday. The proportion of people that answered affirmatively again increases logarithmically with annual household income. However, it only does so up to an annual household income of about 40,000 USD. Above this threshold, the effect starts to decrease and the graph completely flatlines at 70,000 USD. So, the speed with which marginal utility diminishes is probably higher for experience utility than for life satisfaction. Stevenson and Wolfers seem to support this suspicion, as they report larger coefficients for the relation between income and life satisfaction than for the relation between income and experience wellbeing (Stevenson and Wolfers 2008). Any recommendation to

[8] Also see (Kaiser and Vendrik 2019).

[9] Although (Layard, Mayraz, and Nickell 2008) find that the marginal utility of income declines at a rate faster than a logarithmic relationship between income and well-being would indicate (technically, they find an elasticity of the marginal utility of income with respect to the level of income that is larger than 1). If true, this would reinforce the decreasing marginal utility effect.

[10] We write 'typically', because it depends on empirical conditions. For example, if people's wellbeing is already close to an upper bound, then the effect might not hold.

reduce income inequality based on decreasing marginal life satisfaction could hence be conservative.

Beyond the marginal utility effect, inequality could affect aggregate short-term well-being through other pathways, such as *perceived unfairness*. Several recent studies find that developed countries display a negative relationship between domestic income inequality and life satisfaction, after controlling for household income (Blanchflower and Oswald 2003; Ferrer-i-Carbonell and Ramos 2012; Gruen and Klasen 2013). Oishi et al. report a 'negative link between income inequality and the happiness of lower-income respondents [that] was explained not by lower household income, but by perceived unfairness and lack of trust' (Oishi, Kesebir, and Diener 2011, 1). In a later paper, Oishi and Kesebir argue that this indirect negative effect of inequality on life satisfaction can even offset positive effects of GDP growth (Oishi and Kesebir 2015, 5).[11]

We have so far looked for *direct* evidence on how static inequality affects wellbeing. Alternatively, one could assess how inequality affects other valuable outcomes. For example, research suggests more equal societies have better somatic and mental health, higher levels of trust, better educational outcomes, and less crime (Marmot 2005; Pickett and Wilkinson 2015; Wilkinson and Pickett 2010). Much has been written in social science and epidemiology debating how strong the evidence is and whether correlations might be spurious, due to a confounder or reverse causality.[12] We need not settle those disputes here. Plausibly, when we combine all this research, and aggregate our respective credences, we still have reason to believe equality furthers desirable social outcomes. And we can believe so, even if not all causal effects hold up. This has two implications. First, the case for equality's short-term instrumental value could be made using values other than wellbeing. Second, this research might also indirectly support the conclusion that, in the short term, reducing inequality increases aggregate wellbeing, as goods like health are likely conducive to wellbeing.

Overall, reducing inequality is instrumentally valuable in the short term. The rate at which marginal utility diminishes in developed countries is large. So, the positive marginal effects of reducing inequality are likely large too. Relational factors like perceived unfairness and other potential interactions, like health and social trust, further support the short-term instrumental case.

4. Medium-term effects

Let us now move on to the intertemporal effects of income inequality up to the medium-term future. In this section, we presuppose a very small but strictly positive rate of pure time preference. For now, think of an impatience rate of around 0.2%. One unit of well-being enjoyed 100 years from now would be worth around 0.82 units today. After 500 years, the value will have decreased by about 63%. Only after about 5000 years, can we ignore most effects.

Do we have instrumental reason to support economic equality in the medium term? Consider first, briefly, why we might.

First, the short-term case likely extends, in some way, to the medium term. Economic inequality likely creates some path dependence such that inequality now will entrench some inequality in the

[11] However, the relationship between inequality and life-satisfaction might not be linear. For instance, Caporale et al. find a *positive* effect of inequality on life satisfaction in lower-income, Eastern-European countries (Caporale et al. 2009, 20). Yu and Wang hypothesize two social comparison effects (Yu and Wang 2017). In richer countries, income inequality reduces aggregate wellbeing by creating a sense of unfairness and jealousy. In (some) lower-income countries, inequality might increase aggregate wellbeing, because when people around you fare better, you might get hopeful about the future. Since we focus on richer countries, however, we can safely assume that the 'social comparison effect' of inequality on aggregate well-being is overall negative.

[12] Also see (Pickett and Wilkinson 2015) for a response.

future. For example, Acemoglu and Robinson argue that economic distributions will also affect distributions of political and de facto legal power which in turn further affect future economic distributions (Acemoglu and Robinson 2008; 2013; Chong and Gradstein 2007). Moreover, high inequality likely reduces egalitarian norms and ideals and can make a society more tolerant of inequality (Birdsall 2001, 25–26). Finally, countries with high inequality typically have lower social mobility leading to an intergenerational transmission of inequality (International Panel on Social Progress 2018, 94–96). Therefore, high inequality today increases the chances of high inequality tomorrow. And, seeing that inequality lowers wellbeing statically, inequality now raises the chances of inequality lowering future wellbeing too.

A final argument is that, because inequality lowers short-term wellbeing, we only need to establish that it does not have adverse effects in the medium term. Absent any adverse effects, the short-term positive effect becomes the tiebreaker. However, there are several potential arguments why inequality reductions could yield *negative* intertemporal effects, potentially big enough to outweigh short-term gains. We now consider two candidates: inequality's effect on growth and climate change.

(i) Growth

In a recent book, Cowen argues that if we seriously value future welfare, high and sustainable economic growth rates should be our main objective (Cowen 2018). Because of the exponential nature of economic growth, small changes in yearly growth rates can cause massive changes in welfare in the long run. For example, 'had America grown one percentage point less per year between 1870 and 1990, the America of 1990 would be no richer than the Mexico of 1990' (Cowen 2004, 127–28). Economic growth increases wealth, health, life span, spare time, access to a whole range of technological resources, mobility, level of education, and more (Cowen 2018, 19–33).

As we saw above, there is still some discussion whether such benefits translate into increases in subjective well-being. For the sake of argument, assume there is a logarithmic relationship between within-country GDP growth and average life-satisfaction. Suppose for the moment that a doubling in GDP over time results in a 0.1 increase in average well-being measured on a ten-point scale and a country's growth rate is constant at 3% per year. Under such a growth rate, it takes 235 years for GDP to double ten times, resulting in an increase in average well-being of a full point. After 500 years, GDP has doubled more than 20 times, increasing average well-being by more than 2 points (we should probably abandon the ten-point utility scale by that point). If instead the growth rate were constant at 4% per year, GDP would double ten times fifty years earlier. After 500 years, the difference in average well-being under the two respective growth rates approaches one whole point.

If egalitarian policies lower growth, as Cowen argues, there could hence be a strong medium-term instrumental reason against reducing inequality (Cowen 2018). However, it is unclear whether inequality-reduction does in fact reduce growth. Indeed, some mechanisms seem to *reduce* growth, while others seem to *increase* it. Consider, briefly, the main mechanisms suggested in the literature.[13]

More inequality may *decrease* economic growth: first, stark inequality might reduce institutional quality, for example, by reducing social capital, trust, and investment in public goods and by facilitating elite capture of public institutions (Alesina and Perotti 1996; Alesina and La Ferrara 2002; Bavel 2016; Birdsall 2001; Chong and Gradstein 2007; Glaeser, Scheinkman, and Shleifer 2003; Keefer and Knack 2002). Second, inequality might lead to underinvestment in human capital, especially among poor citizens (Birdsall 2001; Ghatak and Nien-Huei Jiang 2002). Finally, inequality

[13] We here draw heavily on two recent reports on inequality (International Panel on Social Progress 2018; OECD 2015).

might reduce the size of the middle class, which could lead to insufficient domestic demand (Foellmi and Zweimüller 2006; Galor and Moav 2004; Murphy, Shleifer, and Vishny 1989; Zweimüller 2000).

Conversely, some hypothesise that more inequality may *increase* economic growth by incentivising citizens to work hard, take risks and invest in their future (Li and Zou 1998; Kornai 1992) and by leading to less income being spent on consumption, thereby increasing aggregate savings and investment (Kaldor 1955).

How should we assess those suggested effects? One option would be to probe them all in detail. However, given space constraints, we instead survey attempts to determine their aggregate effect directly. Frederico Cingano provides an extensive literature review (Cingano 2014). Unfortunately, Cingano finds no consensus. Between 1994 and 2014, studies that find positive relationships between growth and inequality are about as prevalent as studies that find negative relationships. To make things more complicated, the Deininger and Squire dataset most often used in this period may be unreliable and inconsistent, and inequality data from different countries is often incomparable (Atkinson and Brandolini 2001). Several studies might also suffer from endogeneity problems. Statistical methods usually cannot fully account for the potential of reverse causality and omitted variables.

Perhaps the most promising study to date has been conducted on behalf of the OECD by Cingano (Cingano 2014). It only includes OECD countries, which is fitting for our current purposes. Cingano also uses particularly good and comparable panel data. The OECD dataset further enables the use of multiple different inequality indicators, whereas other studies must rely on a single indicator. Cingano finds that income inequality has a sizeable *negative* effect on economic growth in OECD countries. A 1-point reduction in Gini coefficient is associated with an increase in yearly GDP growth of around 0.15%. This effect seems to be linear. As Cingano writes: 'in practice, no […] non-linearity was found – the effect on growth of an increase in inequality from 20 to 21 Gini points was found to be the same as the effect of increasing the Gini from 40 to 41' (Cingano 2014, 19). The data also suggest that the gap between low-income households and the rest of the population is of key importance. Strikingly, low-income households are defined here as those in the bottom 40% of the income distribution. Inequality caused by the very rich getting even richer is not found to hamper growth. These results suggest that solely focusing on alleviating poverty or lowering the incomes of the very rich is suboptimal. Instead, growth can be increased by addressing low incomes more broadly. Given the existence of contradicting studies, we should take Cingano's conclusions with a grain of salt (see (International Panel on Social Progress 2018, 98)). Yet we conclude that it is rational to assign a higher credence to believing income inequality reduces growth in developed countries than that it boosts it.

(ii) Climate change

The critical reader might point out that Cowen's argument in favour of growth is based on *sustainable growth*. If combating inequality leads to higher growth rates, and if growth increases greenhouse gas (GHG) emissions, more equality might increase GHG emissions and thereby decrease future wellbeing. After all, ramifications of current climate change are already expected to seriously harm aggregate well-being.

Many studies indeed find a positive relationship between GDP and carbon emissions, although the estimated effect sizes tend to be bigger for developing countries than for rich nations (Acaravci and Ozturk 2010; Holtz-Eakin and Selden 1992; Ramanathan 2006). Unfortunately, these studies

do not control for inequality. Furthermore, since aims to reduce emissions have been widely embraced by developed nations, we cannot simply extrapolate previous findings. It is hence difficult to draw immediate conclusions from the apparent link between GDP and a country's carbon footprint. We can, however, investigate the direct relationship between domestic income inequality and a country's carbon emissions after controlling for GDP. A few early studies have found a negative relationship between income inequality and national carbon emissions (Heerink, Mulatu, and Bulte 2001; Ravallion, Heil, and Jalan 2000). Later research showed a nonsignificant relationship instead (Gassebner, Lamla, and Sturm 2011). Recently, larger datasets have become available and an early consensus has emerged. In the last decades, the association between income inequality and carbon emissions in high-income countries has shifted from negative to positive, suggesting that in recent years, more income inequality increases carbon emissions. In lower-income nations, however, the relationship has stayed negative (Grunewald et al. 2012; Jorgenson et al. 2015; 2016).

Grunewald et al. provide an explanation of the negative effect found in low-income countries (Grunewald et al. 2012). In low-income countries, many poor citizens effectively live outside the carbon economy. If inequality in such countries decreases, previously poor citizens become richer and start to emit carbon (for instance, they might buy their first car). In rich countries, most citizens are part of the carbon economy already. So, this negative contribution is not observed. Conversely, multiple pathways could explain the *positive* effect recently found in wealthy nations. First, high inequality may encourage conspicuous consumption as the fight for material status increases. Moreover, average working hours tend to increase as inequality rises (Bowles and Park 2005). In addition, longer working hours might be associated with a larger carbon footprint (Fitzgerald, Jorgenson, and Clark 2015; Knight, Rosa, and Schor 2013). Second, income inequality may also increase a nation's carbon emissions by eroding social trust. In unequal countries, citizens might be less tempted to start pro-environmental social movements or promote socially responsible behaviour (Cushing et al. 2015). Third, concentration of economic power and, with it, political power can prevent pro-environmental action and regulation (Knight, Schor, and Jorgenson 2017). Which pathway is most influential, and which one holds up empirically, does not matter much here. For empirical data and theory seem to point in the same direction: improving conditions for the bottom 40% of households might boost growth more sustainably than relying on other pro-growth mechanisms. So, if anything, a concern around climate change also supports economic equality.

Overall, we likely have medium-term instrumental reason to reduce inequality in developed countries. Inequality today is likely to cause inequalities in the future, which in turn lowers expected future wellbeing. Moreover, inequality likely increases GHG emissions and is somewhat likely to lower medium-term growth rates.

5. Longtermism and existential risk

We now move on to assess the effects income inequality might have on aggregate well-being in the very long term. To do so, we presuppose a zero discount rate: we assign equal value to all well-being regardless of when it is experienced. However, before we do the analysis, a short philosophical intermezzo is in order.

First, as mentioned above, longtermism has recently emerged as a research programme on future generations (Beckstead 2013; Bostrom 2003; Greaves and MacAskill 2019; Greaves, Mogensen, and MacAskill 2019; Ord 2020). The first longtermist claim is that, in expectation, most ethical value lies in the long-term future, where this encompasses the entire future of human-originating

civilisation, including millions or even billions of years from now. Across the entire future of humanity, future people could outnumber today's people by many orders of magnitude. The second claim is that some of our actions affect the expected value of the long-term future. Accordingly, the ethical value of those actions will then primarily be determined by their expected long-term future effects. In our case, longtermism would imply that if we find that equality has such long-term effects in expectation, those could trump the short-term considerations that are more commonly the subject of discussions around inequality.

Now, an obvious worry about longtermism is epistemic: can we ever make any meaningful predictions about effects into the very long-term future? The worry is not that we do not impact the long-term future but that we cannot rationally predict how.[14] Longtermists respond by shifting the focus towards identifying whether we can affect the probabilities of humanity changing towards a different *long-term trajectory*. Long-term trajectories are paths human civilization takes into the long-term future (Baum et al. 2019). *On status quo trajectories*, 'human civilization persists in a state broadly similar to its current state into the distant future (Baum et al. 2019, 54)'. On *catastrophe trajectories*, humanity either disappears completely or gets stuck in a civilizational state of much lower value than the status quo or alternative feasible trajectories. Finally, in *high-value trajectories* humanity achieves aggregate wellbeing far exceeding current levels. For example, humanity might benefit from technological progress or successfully expand into space and vastly increase the number of happy people. In a longtermist analysis, we thus need to see whether policies would affect the probabilities of long-term trajectory change. And it seems plausible that some actions do. Actions that increase or decrease existential risk are the most obvious example. An existential risk is a risk that threatens the premature extinction of Earth-originating intelligent life or the permanent and drastic destruction of its potential for desirable future development (Bostrom 2002; 2003). When devising a nuclear defence strategy, for example, it would be irrational to ignore its potential impact on existential risk. Baum et al. mention further candidate actions such as 'reducing the risk of major catastrophes that would lead to the permanent loss of advanced human civilization' or 'expediting space colonization and ensuring that it would improve welfare…' (Baum et al. 2019, 57).

In our analysis, we mostly focus on inequality's effect on existential risk. To some, such a focus might seem esoteric or unusually gloomy. But, from a longtermist perspective, extinction is supremely bad in expectation, as it would destroy a potentially very long and valuable future.[15] Bostrom argues that reducing existential risks has higher expected moral value than any other possible action or policy under a zero discount rate (Bostrom 2013). Moreover, while of course highly uncertain, expert analysis and informal polls among experts suggest an existential catastrophe might be higher than commonly believed, with estimates of 10-20% by the end of the century not being uncommon (Ord 2020; Sandberg and Bostrom 2008).[16] Moreover, the bulk of such percentages stem from *human-induced* existential risks such as nuclear war, malfunctioning

[14] A different worry is that all actions – even helping an old lady across the street – can affect the long-term future. Accordingly, we are always clueless about an act's actual consequences (Lenman 2000). We agree with Greaves that many such actions are not problematic, as we can be rationally indifferent about the *expected* long term value, given a natural evidential symmetry (Greaves 2016). This reply applies to our DI framework too which focuses on *expected* aggregate wellbeing.

[15] One might worry that considering all potential astronomical suffering – be it human or non-human – extinction might be on balance good in expectation. One could respond that if you are uncertain about whether existence will be good or bad, you ought to reduce existential risk to win time to reduce such uncertainty. Given space constraints, we here simply assume that an existential catastrophe would be very bad in expectation.

[16] Existential risk can be extremely important even if we are not confident in such 'high-risk' estimates. First, if overall extinction risk is low (and we assume it is somewhat constant), but we can reduce it further, we have even stronger reason to reduce it. For the expected value of the long-term future becomes higher, the longer the future is expected to go (Ord 2020, chap. Appendix E). Second, under some conditions, uncertainty about risk can even make it more important. For example, uncertainty might raise the moral stakes for tail-end risks in certain existential risks, like climate change.

nanotechnology, bio-engineered pandemics, and misaligned artificial intelligence. This being so, it seems likely we can affect these probabilities by a non-negligible amount.

So, a longtermist analysis of inequality will get off the ground, if we find considerations why inequality could affect long-term trajectory-change, particularly by affecting existential risk. Of course, such considerations will be far more speculative than is common in academic research. Methodologically, our assessment of the evidence is broadly 'Bayesian' in spirit. One way to proceed would be to include only the most rigorous studies with highly reliable results and exclude all others. However, for longtermist assessments we cannot afford this luxury. Research that empirically tests human extinction is unlikely to get ethics approval. Yet the paucity of rigorous evidence and our epistemic uncertainty does not justify *ignoring* the long-term future. Rather, we include empirical considerations even when our credence in them should be low (and maybe imprecise). However, when analysed, and when we aggregate our credences (informally), such considerations still justify updating our credence on whether less inequality is more likely to have good or bad long-term effects.

6. Long-term effects

To assess the long-term effects of domestic income inequality in developed countries, we assume a zero discount rate. Our contention is that inequality reduction is more likely to decrease rather than increase existential risk. Our somewhat preliminary conclusion is thus that longtermists should favour inequality reduction.

We discuss several reasons for why inequality might have negative effects and one reason why it might have positive effects. The negative effects we discuss are climate change, the effect of inequality on public institutions, conflict and polarisation, and differential progress. The potential positive effect we discuss is that if inequality lowers growth rates, and if growth increases existential risk, then inequality could lower existential risk.

(i) Climate change

As we learned in Section 3, inequality increases a wealthy country's carbon footprint. This is a problem.

First, climate change itself is an existential risk, particularly given uncertainty around its tail-end risks (Ord 2020, chaps. 4; 6). (Although, it is likely not the greatest existential risk (Ord 2020, chap. 5).)

Second, climate change is likely what Ord calls a 'risk factor': increasing or reducing climate change will likely affect the total existential risk, even beyond the probability that climate change itself will cause an existential catastrophe (Ord 2020, 152). For example, increasing temperatures and more extreme weather imply that the fight for scarce resources such as sweet water will increase over the next decades ("Global Peace Index 2019: Measuring Peace in a Complex World" 2019). Furthermore, deteriorating living conditions might lead to climate refugees who, in part, will flee to developed countries, which could lead to institutional destabilisation and conflict.

Finally, beyond extinction risk, climate change could put us on a suboptimal (non-extinction) trajectory: run-away climate change, for example, might put us on a path we cannot easily leave and which necessitates continuous costly adjustments, such as adapting to repeated flooding and adjusting agriculture to extreme weather irregularities. When aggregating those negative effects across time, those might add up to significant long-term costs.

(ii) Institutional quality and conflict

It is often argued that a country's long-term performance depends to a significant extent on the quality of its institutions, including its political and legal institutions (Acemoglu, Johnson, and Robinson 2005). Economic research mostly focuses on explaining long-term differences in growth rates. As seen above, some researchers argue that high inequality will reduce growth rates, among other things, because it can worsen institutional quality. However, besides facilitating economic growth, public institutions have other functions that matter from a long-term perspective. For example, disaster preparedness, education, public health, foreign policy, science policy, and many other areas could influence long-term trajectories. If such things go badly, they could increase existential risk. Conversely, good institutions will help reduce existential risk. For many existential risk reduction strategies likely require public goods and collective action, which in turn require good public institutions (among other reasons, because some such public goods are unlikely to be provided by markets). So, it seems reasonable to assume that, with most other societal goals, good institutions can help deliver existential risk reduction. Here is a cheesy analogy: targeted actions like washing your hands regularly or getting a flu shot can reduce your risk of dying from an infection. But you will also do well investing in a strong immune system, as that is an 'all-purpose goods' in lowering your risk of dying from any bacterium or virus. Investing in good institutions might similarly be an all-purpose-good: rather than tackling individual sources of existential risk directly, we improve conditions for tackling whatever existential risks may come our way.

There are at least two reasons why higher inequality could decrease institutional capacities for longtermist public goods.

First, there is some direct evidence that, whatever the causal pathway, inequality reduces institutional quality (which in turn typically leads to more inequality) (Chong and Gradstein 2007; Savoia, Easaw, and McKay 2010).

Second, high inequality can lead to *elite capture*. Empirical work on studying political and de facto legal power is difficult, yet there is a growing consensus that high levels of inequality can lead to elite capture and thereby reduce the long-term quality of legal and political institutions (Acemoglu and Robinson 2008; 2013; Bartels 2018; Bavel 2016; Chong and Gradstein 2007; Cummins and Rodriguez 2010; Savoia, Easaw, and McKay 2010). Further, if institutions are disproportionately geared towards elite interests, then they might be less likely to be geared towards positive long-term trajectories. We might see more rent-seeking and less investment in public goods. Moreover, if elite capture is strong enough, such capture, and the potential inequality that comes with it, can intensify going forward (Chong and Gradstein 2007).

Now, one might object and wonder whether *elite interests* and longtermist interests will necessarily be misaligned. Could an enlightened elite not even be more longtermist than a more democratic system? Here are two potential arguments. First, wealthy donors fund a significant part of research and direct action on existential risk and longtermism (the Open Philanthropy Project, for example). Indirectly, inequality might thus reduce existential risk through such funding. Second, rich people might have a lower rate of pure time preference than less well-off people, which would make them more naturally aligned with investing in long-term causes.

In response to the first argument, remember we here focus on income inequality reductions. Private funding only requires 'enough' wealth inequality going forward, it need not require elite capture. And reducing income inequality is unlikely to eradicate the required wealth inequality and the existence of big donors. In response to the second argument, we are somewhat sceptical that elite capture would translate a lower impatience rate into longtermist strategies in policy. A successful

transmission would require influence to be systematic and well-coordinated across time and, probably, across different elite actors. Yet lobbying and elite influence must often capitalise on shorter windows of opportunities, which makes well-coordinated intertemporal, and positive longtermist, policy capture less likely.

Of course, such considerations are speculative. But, in any case, we think that, on balance, there are stronger reasons to believe elite capture would increase – rather than decrease – existential risk. First, elite capture often comes with rent seeking, which lowers institutional quality (Chong and Gradstein 2007). Second, industries like oil, gas, weapons and others are often concentrated and well organised in exerting influence in law and legislation. Their interests and influence overall are likely to be more short-term than longtermist. Third, recent decades have seen a shift towards a stronger shareholder value orientation in corporate governance. A common criticism of this shift is that it incentivises more short-term decisions. Accordingly, corporate influence into public institutions will likely display short-termist bias too. Finally, we can of course imagine that 'pro-longtermist elite capture' could happen and gamble on that possibility. However, if strong democratic and legal oversight and the power to check elite influence is lost, we might struggle to reverse our gamble.

Second, high inequality is likely to reduce social capital and trust (Alesina and La Ferrara 2002; Knack and Keefer 1997; Rothstein and Uslaner 2005). Social capital and trust in public institutions in turn are important for effective public goods provision (Knack and Keefer 1997; Beugelsdijk, Groot, and Schaik 2004). Effective public goods provision, in turn, is important for (some) effective measures to reduce existential risk (and, more generally, to coordinate towards more valuable long-term trajectories). Therefore, high inequality could reduce societies' capacities to effectively respond to large-scale challenges like existential risk.

Finally, some limited direct evidence suggests societies with higher social capital and lower inequality exhibit better preventive and adaptive outcomes for environmental risks and can show greater resilience to external shocks (Bavel and Curtis 2019; Kahn 2005). For example, Matthew Kahn provides some evidence that more equal countries, when controlled for GDP, have significantly lower death rates in natural catastrophes (Kahn 2005). While smaller natural catastrophes are different from global catastrophic risk scenarios, resilience in such events might be somewhat indicative of societies' resilience to catastrophic risks.

So, good social and institutional conditions could help reduce existential risk. Consider next how, conversely, bad conditions might *increase* existential risk. A key driver of existential risk is *conflict*, both between and within nation-states (or what (Ord 2020, 175–79) calls a 'risk factor'). Conflicts and arms races raise human-induced existential risks such as nuclear war, the outbreak of a bio-engineered virus or the launch of misaligned artificial intelligence. Note that an existential catastrophe could be set in motion either purposefully or accidentally. Both are more likely during conflict. Nuclear warheads, cyberweapons, and bioweapons could all be used purposefully to attack enemy states, leading to potential global escalation. But as past nuclear incidents and close calls during the Cold War show, arms races also increase the probability of accidental catastrophes (Schlosser 2013).

Esteban and Schneider find that formal and empirical evidence suggests that political and social polarization increases the risk of violent conflict, both intra-nationally and internationally (Esteban and Schneider 2008). If income inequality increases polarization, inequality may indirectly drive existential risk. Indeed, recent evidence suggests that income inequality can increase the degree of polarization between groups of citizens. Bonica et al. find that the degree of polarization within the

US House of Representatives, for example, is accurately tracked by domestic income inequality, with correlation coefficients rising up to 0.95 depending on the chosen time-period (Bonica et al. 2013, 105–8). Of course, correlation does not imply causation and the correlation is likely at least partially the result of reverse causation or a confounding variable. That said, we should assign a non-negligible credence to inequality partially *causing* polarization. Moreover, inequality and polarisation might also play some role in getting polarising and populist candidates elected (Piketty 2018). In a preliminary analysis of US election data, Darvas and Efstathiou find that more unequal states were more likely to vote for Donald Trump, after controlling for variables such as income, race and education (Darvas and Efstathiou 2016). Populist politicians – like Trump, Bolsonaro and others – are likely bad news for existential risk reduction. They are less cooperative in delivering regional and global public goods and typically prefer riskier, and more conflictual and nationalistic policy styles.

(iii) Differential progress

We have surveyed some reasons why inequality might translate into worse institutional conditions for longtermism. Beyond more formal institutions and avenues for collective action, we might also consider the cultural, moral and informal social norms that could potentially impact existential risk.

The simple idea is that countries that sustain low levels of inequality will foster – and require for their support – a public moral culture that values solidarity and cooperation. More egalitarian policies might in turn move citizens and leaders towards more altruism and stronger regard to moral and social considerations in decision processes. Societies that actively work against income inequality may thereby reinforce broadly 'pro-social' social norms. Arguably, more egalitarian attitudes and norms might support public goods provision and favour expanding one's moral circle to other countries and future generations. Countries with high levels of inequality, in contrast, might reinforce norms of competition, individualism, and personal responsibility. Policies that encourage competition and smaller moral circles also seem more likely to attract leaders that value individualism and competition. Indeed, as Wilkinson and Pickett note, more equal societies give more in development aid and score better on the Global Peace Index (Wilkinson and Pickett 2010, 227). Again, we may wonder whether these relationships are not partially explained by confounding variables or reverse causality. That said, the causal link through social norms and public morality has some intuitive force. If true – and drawing on what we said above – a public commitment to equality might support a public moral culture that values solidarity and cooperation, which could help reduce existential risk.[17]

A related idea is that egalitarian societies might provide better conditions for *differential progress* (Tomasik 2015). The thought is that new technologies often pose a risk when they become available before society has developed the collective 'wisdom' to use them well. Technology should not develop too fast relative to progress in wisdom. Consider artificial intelligence for example. Bostrom argues that once artificial intelligences (AI's) outsmart humans in AI-creation, systems might iteratively improve themselves and potentially set in motion an intelligence explosion (Bostrom 2014). Quite quickly, it might become difficult to control AI and align it with our interest. Such a scenario, if it happens, is still some time away. However, if we do not develop collective wisdom first, it might be too late by the time superintelligent AI arrives on the scene. Similarly, we are probably still many scientific breakthroughs away from bio-printing engineered viruses or

[17] We here depart a little from the original question of whether, *ceteris paribus*, less inequality is better in expectation, as we here also plug in some 'empirical' conditions potentially required to sustain lower levels of inequality. Arguably, this is somewhat justified, as typical OECD countries with low inequality come with some public commitments to equality.

creating nanotechnology with catastrophic potential. Still, differential progress mandates that we set up institutions that ensure terrorists cannot bio-print the next Spanish flu before breakthroughs in genetics and engineering technically enable them to do so.

But what goes into the *wisdom* side of differential progress? Minimally, it requires effective institutions, values, and empirical insight and understanding. We have argued that equality might help strengthen the public institutions required for effective collective action to reduce existential risks. But society and the institutions governing it might also require public commitment to values conducive to longtermism. A commitment to equality and cooperation, and the norms required to sustain such a commitment, might help. Together then, equality could improve differential progress.[18]

(iv) Growth

As we concluded in Section 3, it seems slightly more probable that equality boosts rather than hinders economic growth in developed countries. But what if economic growth increases existential risk? Indirectly, equality would then increase existential risk too.

So, does economic growth increase or reduce existential risk? Theorists have advanced opposing views on this. On the one hand, faster economic growth *speeds up technological progress*, which gives us less time to work on their safety and can increase existential risk (Yudkowsky 2013). Moreover, spill-over growth from developed countries can increase the number of nations with access to destructive technology. For example, as developing countries grow economically, they might increasingly afford nuclear technology. On the other hand, growth could also speed up the progress required to effectively manage existential risk. For example, very poor countries are less likely to fund innovative green technology or develop a vaccine during a global pandemic. Moreover, overall existential risk might drop dramatically once humanity becomes an interplanetary species (things would have to go wrong on two or more planets almost simultaneously in such a scenario, also see (Ord 2020, 194)). Under higher growth rates, we might reach the 'safe' interplanetary state earlier, with less time overall for things to go wrong under a high-growth trajectory. And even in the here and now, as Kahn finds, richer countries are more resilient to shocks and have far fewer deaths in natural catastrophes (Kahn 2005). Finally, growth could strengthen cooperation by creating opportunities and incentives for positive-sum cooperation. Under stagnation, in contrast, self-interested behavior primarily takes the form of zero-sum competition (Tomasik 2015). Such zero-sum competition, in turn, increases the risk of conflict.[19]

What are we to make of this discussion? Overall, our impression is that most longtermists are somewhat favourable of economic growth. At the same time, it is difficult to tell which of the above arguments should receive which weight. One reason is that economic growth rates do not go hand in hand with the rates of dangerous technological growth. Imagine, for instance, a Cold

[18] Does equality also facilitate differential *intellectual* progress ('empirical insight and understanding')? Such progress would require better technical insight – for example understanding existential risks better, better forecasting, better protective technology – and better insights in the humanities and social sciences. What matters here is the speed of progress in these fields *relative* to progress in those areas of technology and natural and applied sciences that increase existential risk. One could speculate that egalitarian societies incentivise better differential intellectual progress. First, in unequal societies, technological progress might be driven more through (less regulated) market forces and commercial applications, which could provide incentives to speed up technologies that increase existential risk. Second, much of the intellectual progress – for example in the social sciences but also partly in protective technology – are public goods likely undersupplied through markets. So, countries with a stronger focus on public good provisions might be more likely to supply such research, for example through state funding. Finally, degrees and research in the humanities and social sciences often yield lower incomes than those in technical fields. Redistribution and better safety nets make it easier to enrol in lower-paying degrees. Pro-social egalitarian norms might also improve their social recognition. Because they are so speculative, we here present those considerations merely as pathways potentially meriting further consideration.

[19] Also see (Aschenbrenner 2019; Jones 2016) for further discussions.

War-like scenario between the United States and China. Such an arms race would probably slow down economic growth as both countries lose major trade partners but nevertheless speed up development of state-funded destructive technology. Economic growth is a rather coarse-grained variable. Relatedly, the relevant counterfactual for us would also be: what kind of economic growth would we have under conditions of stark inequality? There is some chance that, even if the rate would be lower, growth would have different characteristics. For example, if societies are less cooperative and emit more greenhouse gases, they might have a less desirable *type* of economic growth. Alas, these questions are beyond our current scope. Further research into economic growth and longtermism, including the more specific interactions suggested, are clearly valuable.

Let us take stock. In our long-term analysis, several mechanisms suggested equality could reduce existential risk while only one mechanism was uncertain. It hence seems rational to assign lower subjective probabilities to existential catastrophe conditional on lower levels of inequality. Thus, given our current evidence, longtermists should support inequality reduction.

7. What follows?

We have argued that, no matter the time horizon, we have instrumental reason to reduce within-country economic inequality (at current margins). What follows from this argument for what we ought to do *all things considered*?[20]

First, if you are a *utilitarian*, our argument shows that you ought to prefer more equality all things considered. Using a comparative and scalar notion, we can define utilitarianism as:

> *Discounted Utilitarianism*: Out of two policy options, one ought to choose the policy that in evidence-relative expectation brings about a higher aggregate discounted experience well-being of all agents living now and in the future.

For utilitarians, the pro-equality argument thus is not just *pro tanto* but all-things-considered and it robustly holds across a short, medium and long-term time horizon.

But what do our arguments imply for theories other than utilitarianism? We now suggest that on most theories, our *pro tanto* argument either supplies an all-things-considered argument or, at least, a weighty *pro tanto* argument. To do so, we survey the ways in which someone can diverge from utilitarianism and whether that would challenge our argument. (Given space constraints, we cannot discuss all such theories in detail.) We will show that our *pro tanto* argument has important implications for how philosophers – of all or at least most stripes – should think about economic inequality.

(i) Distributive concerns

Some reject utilitarianism, because they care not only about aggregate wellbeing but also about its distribution. For example, telic distributive egalitarianism holds that, other things equal, distributive inequality between persons is intrinsically bad (Parfit 1997; Temkin 1993).[21]

How far distributive egalitarianism affects our arguments depends on its scope. If we think only within-country inequalities are intrinsically bad, or if those are *disproportionally* bad, then distributive

[20] The 'all things considered' here refers to whether we ought to prefer less inequality considering all *moral* reasons. Of course, an *empirical ceteris paribus* clause still applies. Importantly, even if you have all-things-considered reason to prefer more equality, you must still evaluate each egalitarian policy on its own merit.

[21] Although most distributive egalitarians think distributive inequalities are bad (or unjust) only if they are attributable to luck but not free choice and many focus on a distribuendum other than wellbeing. See (Arneson 1989; Cohen 2011; Dworkin 1981) for example.

egalitarianism would *strengthen* our conclusion: we would then have instrumental *and* intrinsic reasons to reduce inequality.

However, if egalitarian theories have a global scope, such that global inequality is just as intrinsically bad as within-country inequality, then they do not so obviously support our conclusions. Reducing within-country inequality can help reduce global inequality. But there often are other ways to reduce global inequality. And some measures might reduce global inequality yet increase domestic inequality (low-skilled migration can have that effect, for example). An additional question is whether distributive egalitarianism should extend to inequalities *across generations*. Again, this would complicate the picture. So, what follows from distributive egalitarianism across space and time is far from clear.

In any case, all distributive egalitarians we know are also pluralists in that they hold that distributive equality is only valuable *pro tanto*. Besides equality, it also matters how much wellbeing there is. If the marginal effects on aggregate wellbeing are large enough, pluralist egalitarians typically think they should carry the day. Given the potentially big marginal effects, particularly in the long term, pluralist distributive egalitarianism is thus unlikely to challenge the all-things-considered argument in favour of equality.[22]

(ii) Non-Welfarism

Some reject utilitarianism, because they reject a purely welfarist axiology (Sumner 1996, chap. 7). Under such theories, the goodness of outcomes also depends on values other than well-being. Common candidates include health, beauty, knowledge, achievement, freedom, human excellence, autonomy, and biodiversity.[23] Given space constraints, we cannot discuss all such proposals. But the following considerations at least suggest that the most common non-welfarist proposals are unlikely to threaten our all-things-considered argument.

First, such non-welfarist goods could challenge our argument, if they correlated negatively with equality. We are not aware of any arguments or evidence to this effect. If anything, several such goods correlate positively with equality. For example, equality in OECD countries correlates with good somatic and mental health, good educational outcomes, trust, and lower greenhouse gas emissions (Wilkinson and Pickett 2010).[24]

Second, such non-welfarist goods could challenge our argument, if they pulled in a very different direction than wellbeing. While this may sometimes happen for individuals, we are not aware of population-level evidence to this effect. If anything, several such goods correlate positively with aggregate wellbeing. For example, wellbeing seems positively correlated with freedom (Bavetta et al. 2014; Inglehart et al. 2008), democracy (Orviska, Caplanova, and Hudson 2014; Owen, Videras, and Willemsen 2008), and with somatic and mental health (Deaton 2007; Kahneman and Deaton 2010).

[22] One of us elsewhere argues that distributive egalitarianism is implausible, because its extension to intergenerational distributions is necessary yet implausible [redacted]. Alternatively, one could adopt prioritarianism which assigns decreasing marginal moral value to wellbeing the more wellbeing a person already has (Parfit 1997). But, much like pluralist distributive egalitarianism, prioritarianism pays attention to the amount of wellbeing too. Given the high stakes involved, prioritarianism would also support our all-things-considered conclusion.

[23] Another restriction we make here is that we do not discuss non-human animal wellbeing. This would complicate our picture, although it is not clear how it would change our conclusions either (Budolfson and Spears 2020).

[24] One might respond with a 'Nietzschean' view, where elite cultural goods and achievements, like great operas, are far more important. But, arguably, even elite cultural goods like classical music seem, if anything, more common and better funded in egalitarian European countries (we do not claim any causality). We do not discuss this further here because of space constraints and because the elite view does not seem too auspicious to begin with.

Finally, and most importantly, our longtermist arguments were mostly that equality could help reduce *existential risk*. Even non-welfarists care about existential risk, as extinction would trivially preclude non-welfare human goods to be preserved and promoted in the future.[25]

Those reasons suggest that most non-welfarist axiologies are unlikely to challenge our all-things-considered argument.

(iii) Population ethics

Some people reject the total view in population ethics, that is, the view that we should rank outcomes based on how much aggregate personal goodness they contain. Some people could adopt views which would seem to threaten the longtermist case – average or person-affecting views, for example. Such views might then also challenge our longtermist argument for economic equality. But it is not clear how strong the challenge is (Ord 2020, 259–61).

First, even for average views, longtermist conclusions can be established (Greaves and MacAskill 2019).

Second, any rational agent who dismisses the total view should nevertheless assign a small credence to the total view being true anyway, particularly considering all other views have severe problems. On an expected moral value calculation, the vast number of potential human descendants will then render the total view overwhelmingly important, even if it receives a low probability-mass. Indeed, Greaves and Ord conclude that under moral uncertainty over the correct population axiology, the total view becomes the dominant player (Greaves and Ord 2017).

Of course, population ethics is complex, and much more could be said on this. But the point stands that, considering moral uncertainty, rational consequentialists who reject the total view should nevertheless favour inequality reduction based on longtermist considerations.

(iv) Non-consequentialism

Many reject not only utilitarianism but all forms of consequentialism: accordingly, considerations other than consequences – such as rights, motives, virtues, and duties – (also) determine whether an act is right or wrong.

To turn our *pro tanto* argument into an all-things-considered argument, we could draw on the High Stakes Argument: most non-consequentialist views typically hold that we do have a *pro tanto* moral duty to promote the good even though such a duty is also subject to constraints (rights for example). Such theories can still give you an all-things-considered duty to promote the good, either when promoting the good does not violate any constraints or when the marginal good you can do is large enough to override those constraints. Arguably, this applies to our argument, particularly to our longtermist argument: when we can impact the long-term future in expectation, the stakes are very high, given the long-term future's expected value (Greaves and MacAskill 2019).[26]

Of course, we are here more concerned with governmental policy and institutions rather than individual action. Some theorists argue that when moving from ethics towards political philosophy, consequentialism becomes more plausible or even 'inescapable' (Goodin 1995; Pettit 2012). But most political theorists probably think political institutions come with their own non-consequentialist requirements, such as legitimacy, fairness, non-domination, justice, or rights. Many of those will reinforce our pro-equality argument. Relational egalitarians, for example, argue that

[25] See (Frick 2017) for example.
[26] See (Mogensen 2019) for a reply.

stark domestic economic inequality often contributes to domination, oppression, and other inegalitarian relationships.[27] Moreover, stark domestic inequalities could undermine fairness and equality of opportunity (Rawls 1971; Roemer 2000), democratic equality (Bartels 2018; Scanlon 2018), or undermine freedom as non-domination (Pettit 2014). Many non-consequentialist views in political philosophy would thus strengthen our all-things-considered conclusion.

Other views, however, such as Nozick-style libertarianism, might challenge them.[28] (Although, even for Nozick this is unclear, because he sets aside the question of whether side constraints could be overridden to 'avoid catastrophic moral horror' (Nozick 1974, 29 footnote)). Surveying all non-consequentialist views in political philosophy unfortunately is beyond our current scope. But, again, we think it reasonable to assume that even anti-egalitarian views should hold that states and societies have a *pro tanto* duty to promote the good or at least protect humanity's long-term survival. If so, our longtermist argument for reducing economic inequality will at least provide a weighty *pro tanto* argument.

8. Conclusions

Instrumental arguments against economic inequality often neglect the intertemporal consequences of inequality. This constitutes a large and important gap in the literature, both in philosophy and economics. In this article, we have assessed the instrumental case against income inequality across three different time-horizons. The instrumental case for equality in the short term is strong. The case for inequality-reduction is epistemically slightly weaker for the medium term but nevertheless persistent. Finally, inequality reduction also seems supported from a longtermist perspective: mediated by climate change, lower institutional quality, polarization and conflict, and lower differential progress, income inequality might increase existential risk. Therefore, we conclude, somewhat tentatively, that we have instrumental reason to favour income inequality reduction, regardless of our preferred time-horizon. Moreover, our instrumental case should weigh heavily. We argued that on most normative views in philosophy – including non-consequentialist views – our instrumental case either gives us an all-things-considered or, at least, a weighty *pro tanto* reason to prefer lower inequality.

[27] See, for example, (Anderson 1999; Fourie, Schuppert, and Wallimann-Helmer 2015; Scheffler 2003; Schemmel 2011; 2012)

[28] The situation becomes more complex, as several non-consequentialist theories also comprise views about intergenerational obligations that might entail a duty to reduce existential risk (also, see (Ord 2020, chap. 2)).

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