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Nearly one hundred years ago, John M. Keynes envisioned a future where material concerns would fade, allowing individuals to focus on leisure and well-being. Similar expectations were common in Keynes' days, when industrial progress promised to yield productivity gains, which would increase wages and lift workers out of poverty. Freed from material constraints, individuals would devote more attention to personal interests, relationships, and quality of life. One hundred years later, history proved that Keynes was right about economic growth, but individuals remain focused on material concerns at the expense of quality of life and of the environment. Why did economic activity deliver affluent, but socially and environmentally unsustainable societies? What possibilities are there for our future, the one of our grandchildren? In this article, we first review the evidence on the unsustainability of the current economic model. We discuss the role of economic growth for well-being, providing new evidence on defensive consumption, and illustrating a new explanation of unsustainability. We then discuss Neo-humanism, an evidence-based narrative to promote sustainable quality of life, ensures thriving lives in socially and environmentally sustainable societies. A shift towards sustainable quality of life is possible thanks to the insights from decades of research in this field.

Keywords: neo-humanism, subjective well-being, post-growth, sustainability, social capital, quality of life, defensive growth, beyond GDP

JEL: I31, I10, P00, O10, Q50

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1. Introduction

Compounding economic, social, political, and environmental crises — what philosopher Edgar Morin and others have termed the *polycrisis* (Morin and Kern, 1999) — define the current global landscape and challenge human well-being and sustainability.

In *Economic Possibilities for Our Grandchildren*, John Maynard Keynes addressed similar concerns in response to what he described as an "attack of economic pessimism". Keynes grounded his projections in key stylized facts — the pace of technological innovation and the observed returns on capital, which he estimated at approximately 2% annually — and made several predictions about the economic future of coming generations. Among his most cited claims was that increasing productivity would drastically reduce the need for human labour, allowing people to work as little as 15 hours per week (Keynes, 1978).

Since his writing, Keynes' economic predictions were largely met, with global GDP expanding at an average rate of 3% since 1950, but his vision of a leisure society did not come true. In no industrial economy paid work hours fell as dramatically as Keynes predicted (Hirata, 2019). Although working hours have declined in some countries, this trend stalled in the 1970s (Alesina et al. 2006; Schor, 1992; Aguiar and Hurst, 2007), and work hours have increased in US (Rogerson, 2008; Stiglitz, 2008; Jacobs and Gerson, 2021), and in China (Liu and Cheng, 2023).

More than just a forecast of reduced working hours, Keynes envisioned a transformation in social values. He argued that "*the love of money as a possession…will be recognized for what it is, a somewhat disgusting morbidity*," and characterized the pursuit of wealth as a "*semi-criminal, semi-pathological*" impulse. Keynes believed that, once the "*economic problem*" had been solved, humanity would redirect its energy toward non-economic purposes—what he described as the *art of living wisely, agreeably, and well*. He anticipated much of what contemporary well-being and happiness research now investigates.

Many of Keynes' contemporaries similarly believed that rising productivity would liberate individuals from material concerns: as technological innovation increased wages and reduced poverty, people would naturally exchange work for leisure. However, these projections failed to anticipate the persistence of mechanisms that reinforce consumption, status competition, and participation in increasingly demanding labour markets.

This paper returns to the issue addressed by Keynes and reframes it in the 21st century's context: what are the economic possibilities for our grandchildren, in the present context of planetary boundaries, social fragmentation, and ecological decline? We argue that sustainability and thriving lives are two compatible goals requiring institutions and policies that empower people to protect and preserve the natural and social environments upon which human well-being depends. To articulate this alternative, we refer to neo-humanism, a narrative to promote socially and environmentally sustainable societies in which people can lead satisfactory lives.

In this paper, we describe the implication of economic growth for sustainability, and the evidence that environmental pollution is strongly tied to economic growth. We introduce the concept of defensive growth, and provide the first quantitative estimates of defensive consumption. We expand our contribution by providing a first test of the effects of defensive consumption on well-being, working hours, and of their consequences on social capital, health, and income inequality. Defensive consumption suggests that unsustainability is the result of individuals' attempts to defend against social and environmental negative externalities, rather than of individuals' greed. Lastly, we illustrate neo-humanism, its evidence and the possibility of a cultural shift to support it; and we conclude with the implications for quality of life research.

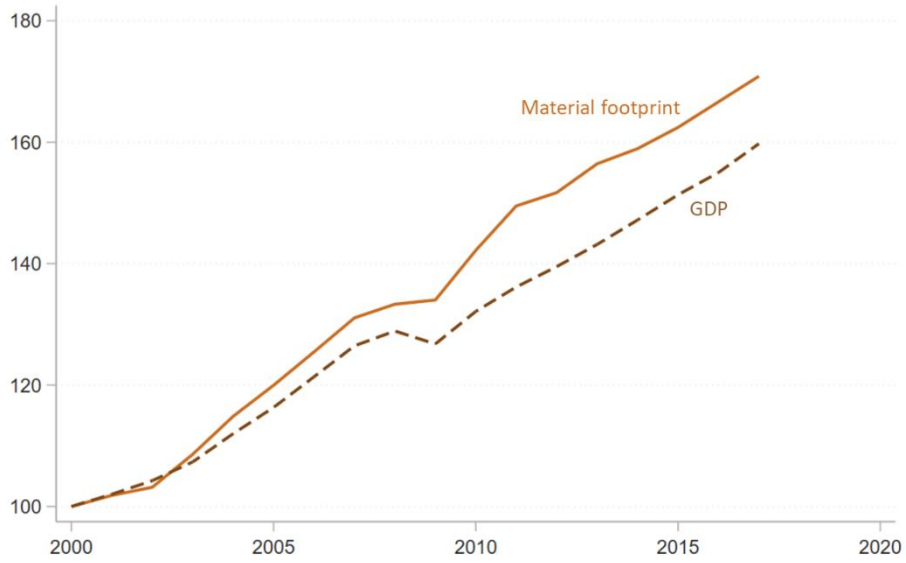
2. Growth and Sustainability

In Keynes' view, economic growth would eventually satisfy all population's material needs, allowing individuals to devote themselves to higher pursuits. He wrote: *"A point may soon be reached—much sooner, perhaps, than we are all aware—when these needs are satisfied, in the sense that we prefer to devote our further energies to non-economic purposes*." (Keynes, 1978, p. 326). Indeed, production capacities have expanded dramatically since his time, but economic concerns remain much higher than anticipated. The fact that modern societies allocate productivity gains to expanding production and consumption rather than to increasing leisure has serious consequences for sustainability.

There is abundant evidence on environmental deterioration and its association to economic growth (Dixson-Decleve et al., 2022). For instance, while most industrialised societies reduced the input of material consumption per GDP unit, on a global scale material footprint has been rising at an equal or higher rate than GDP (Wiedmann et al., 2015). The Sustainable Development Goals Report published by

the United Nations in 2024 confirms that worldwide, there has been little or no progress in the SDGs related to the environment.[1] Trends of CO_2 emissions show that there is no decoupling between emissions and GDP growth, and that worldwide emissions declined only in periods of major economic recessions, when they plummeted in correspondence with lower economic activity (Sarracino & O'Connor, 2025). Similarly, there is no evidence of decoupling between GDP and material footprint, the volume of raw materials extracted to satisfy demand (see Figure 1).

Figure 1. Material consumption and GDP worldwide.



Source: https://unstats.un.org/sdgs/report/2019/goal-12/

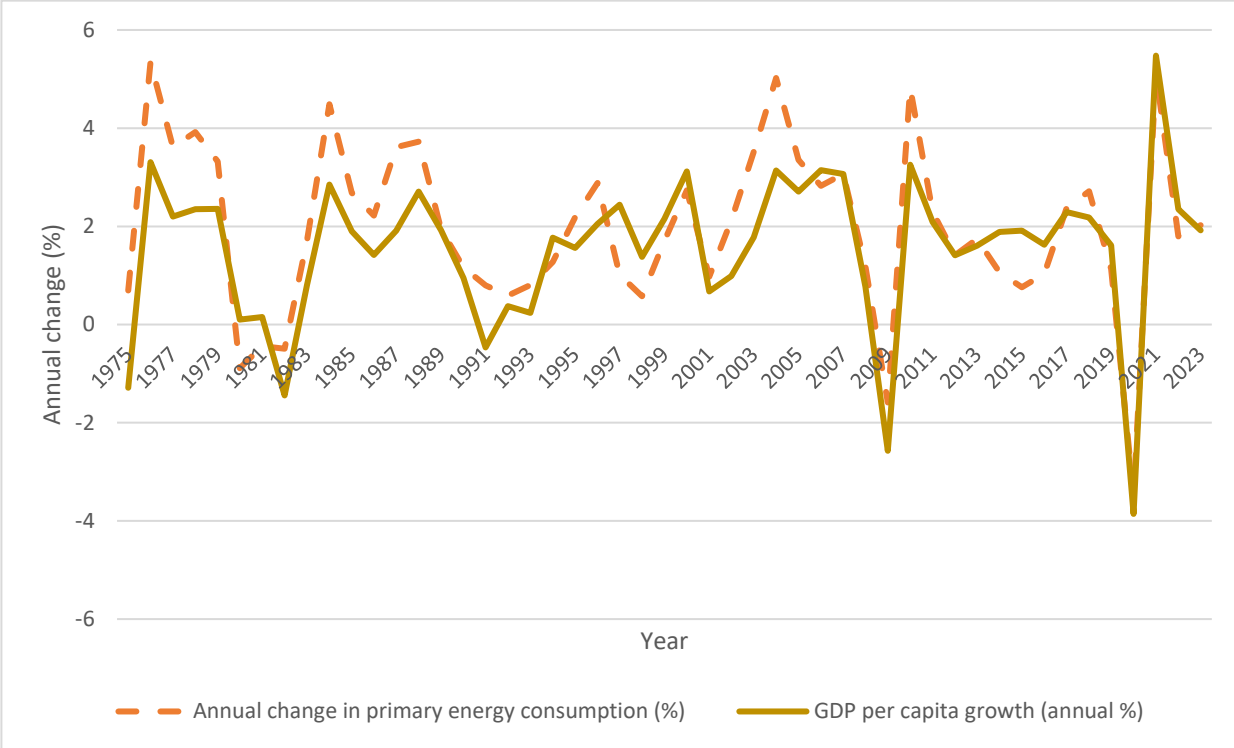
This evidence casts doubts on the feasibility of green growth, a development path proposal to maintain economic growth while ensuring environmental sustainability. Green growth relies on technological progress to decarbonize the economy (Rockstrom et al., 2017): its advocates believe it is possible to sustain growth and maintain current living standards without further exacerbating environmental degradation via electrification, efficiency gains and circular economy.

The chances of success, however, are slim: firstly, as figure 2 shows, the world's GDP growth remains tightly correlated to energy consumption. Secondly, there are significant obstacles in the transition to a decarbonized economy. Renewable sources, such as solar and wind are intermittent and require infrastructure and storage systems to ensure reliability. Hydrogen, often cited among the alternatives to

[1] https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf

fossil fuels, is inefficient as it requires a lot of energy to produce, and at present it mostly derives from non-renewable sources such as methane and nuclear power (Franco, 2025). Evidence shows that low-carbon energy sources are heavily dependent on large quantities of minerals for their manufacturing, maintenance and decommissioning (Vezzoni, 2023; Hund et al, 2020); and that extracting and processing these materials is very polluting and energy-intensive (Bolger et al., 2021). Absolute decoupling of economic activity from emissions is, at best, temporary and partial. Moreover, the emission reductions achieved to date are inadequate to meet the climate and equity commitments of the Paris Agreement (Hickel & Kallis, 2020).

Figure 2. Energy consumption and economic growth worldwide.



Source: authors' own elaboration of World Development Indicators and data from the U.S. Energy Information Administration (2023); Energy Institute - Statistical Review of World Energy (2024) with major processing by Our World in Data.

These technical issues are paired to geopolitical risks. Green technologies heavily depend on critical raw materials such as lithium, cobalt, manganese and rare earths, which are often concentrated in politically unstable areas (Al-Shwaf and Bell, 2025; Mertens et al., 2024; Rhodes, 2019). To address this resource scarcity, companies are now turning to deep-sea mining, posing risks to marine ecosystems (Miller et al.,

2018). This reveals the contradiction that lies at the core of green growth: it does not challenge the drivers of unsustainable production, but merely shifts environmental costs elsewhere. As industrial activity weigh on ecosystems, it also accelerates biodiversity loss and heightens the risk of zoonotic disease outbreaks, as exemplified by the COVID-19 pandemic (Barouki et al., 2021).

Confronted with these limitations, many scientists and activists advocate for post-growth solutions such as degrowth, a deliberate and coordinated reduction in consumption and production with the aim of respecting planetary boundaries (Kallis, 2011). Degrowth advocates call for lower energy use, limiting travel, and reducing material consumption to the benefit of the environment. However, reducing consumption for the sake of future generations may come at the expense of conveniences that our societies are used to and can be perceived as punitive. This is especially the case in growth-oriented societies, in which abundance equates to higher quality of life. The implication that current generations should endure sacrifices for the benefit of future ones introduces an intergenerational conflict, which has historically undermined sustainability-oriented policies. Indeed, policies to limit growth have had limited political influence, with scholars going as far as to state that only growth-centric approaches to tackle the ecological transition are politically feasible (Pollin, 2015). Moreover, shrinking the economy also risks reinforcing zero-sum dynamics, exacerbating inequality and social division.

2.1 Economic growth in practice

A major source of disagreement in debates about low- or zero-growth economies is the assumption that economic growth is necessary to lead good lives. Yet, this is not necessarily the case once we take a close look at what economic growth entails. Typically, experts consider annual GDP growth of 2–3% as a benchmark for a stable and well-functioning economy. This growth rate is seen as optimal for enabling sustained expansion without provoking inflation. Growth above this level risks overheating the economy and increasing the likelihood of speculative bubbles and subsequent downturns, while lower growth is often associated with stagnation or declining social welfare.

To understand the implications of such growth, consider the real-world effects of a 3% yearly growth rate of GDP per capita. In 2021, the world's GDP was 101 trillion US dollars. With a growth rate of 3%, world GDP in 2022 would increase by about 3 trillion dollars – nearly the equivalent of the GDP of France – bringing the world GDP to 104 trillion dollars, and in 2023, at a similar growth rate of 3%, to 107.1 trillion US dollars (an additional 3.1 trillion dollars, equivalent to the GDP of India) (see Table 1). At this rate, global GDP is projected to reach 131.7 trillion dollars by 2030. To reach this target, the world economy

has to grow each year by a little more than 3 trillion dollars. While 3% might appear modest, this growth compounds, meaning that the volume of goods and services produced each year must grow constantly.

Table 1. Economic growth in practice.

Global GDP in 2021	Yearly growth rate of 3%	Global GDP in 2022	Yearly growth rate of 3%	Global GDP in 2023	…	Yearly growth rate of 3%	Global GDP in 2030
$101 trillion	+$3 trillion (> 1.01x FR 2021 GDP)	$ 104 trillion	+$3.1 trillion (~ 1.0x IN 2021 GDP)	$ 107.1 trillion		+$3.84 trillion (~ 1.0x BR+RU+ZA 2021 GDP)	$ 131.7 trillion

Source: authors' own elaboration based on data from the Penn World Tables 10.01.

The world's population is not growing rapidly enough to justify such levels of output. The global population growth rate has been declining since its peak in the 1960s, when it exceeded 2% per year. As of 2022, this rate has fallen to 0.8% and is projected to turn negative (Vollset et al., 2020; United Nations, 2024). Hence, a 3% economic growth can only be sustained if individuals indefinitely expand their capacity to consume, as posited by neo-classical economic theory. To maintain and absorb a 3% annual GDP growth rate, people should purchase and replace items at an accelerating pace. They need to buy new cars, clothes, mobile phones, computers, home theatres, weapons and security systems at faster rates to absorb the expanding economic production. However, ever-increasing consumption is not sustainable, and, especially after basic needs have been met, consumption shows diminishing marginal returns (Layard et al., 2008). Beyond satisfying essential needs, there are limits to how many goods and services people can meaningfully use within the finite hours of a day and within their available income. This mismatch implies that sustaining constant growth depends on stimulating artificial needs, planned obsolescence, or status competition - mechanisms that are internalized in our economic systems and push people to consume more.

Economic theory offers two explanations for the relentless consumption patterns that sustain economic growth in modern economies: hedonic adaptation and social comparisons (Easterlin, 1974; Clark, 2016). Hedonic adaptation refers to the way individuals adjust to their past achievements and possessions. For instance, individuals might feel satisfied with their current consumption; however, as they grow accustomed to their regular consumption level, the pleasure with their possessions diminishes, and expectations shift to consuming something else, and more of it (Frederick and Loewenstein, 1999). Social comparisons, instead, operate via interactions with others. Easterlin argued that the satisfaction with individuals' consumption depends negatively on the consumption of others (Easterlin, 1969, 1973).

Increasing consumption benefits individuals' well-being less if everyone else is experiencing the same increase. Hence, well-being depends not only on one's possessions, but also on how one's achievements compare to that of others.

Keynes and his contemporaries dismissed these psychological factors. Keynes explicitly stated that such concerns were irrelevant. However, substantial empirical research has since confirmed that hedonic adaptation and social comparison significantly shape consumption patterns (Frank, 1989; Wu, 2020). These mechanisms reinforce each other and are compatible with a third explanation for an ever-expanding consumption: defensive growth.

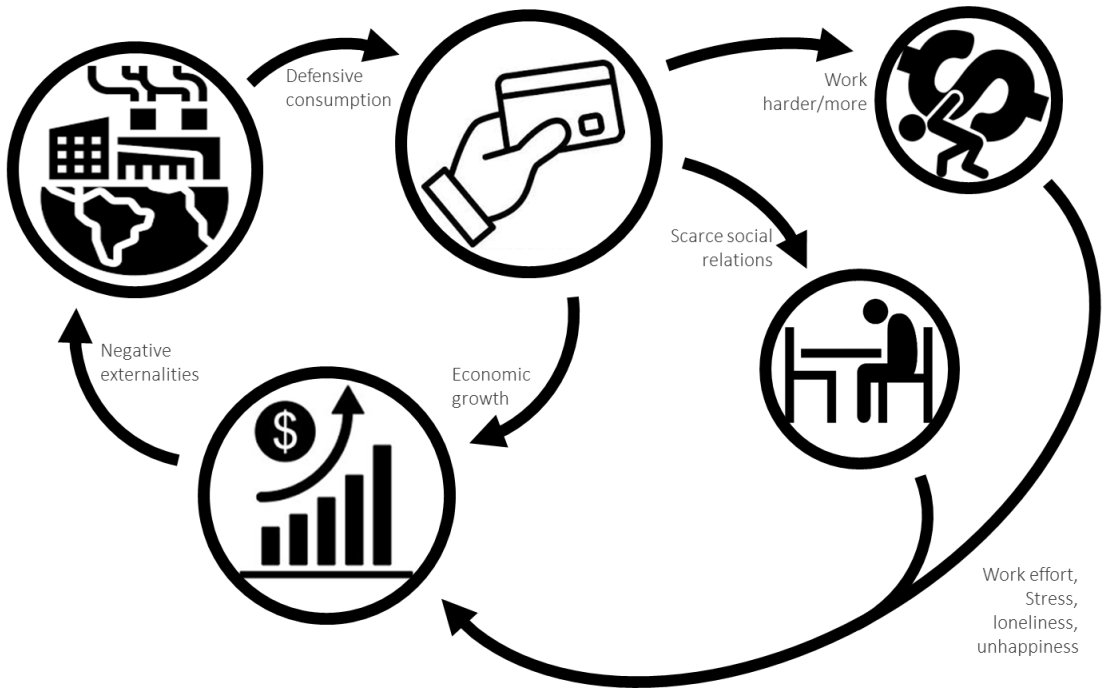
According to defensive growth, the degradation of common goods - such as pollution, crime, loneliness, inequality and environmental degradation - explains the persistence of high levels of work effort and consumption in affluent economies (Bartolini and Sarracino, 2024). The reason is that the market offers private substitutes to replace the eroded common goods: filters to protect from pollution; security systems to protect from criminality; private entertainment to cope with loneliness, etc. In sum, the erosion of common goods is hunting ground for business opportunities. Individuals' attempts to protect themselves, and their well-being, from the erosion of common goods find a private solution in the market. The process of buying goods and services to mitigate the harms caused by economic activity is called defensive expenditure (Hirsch, 1976; Antoci and Bartolini, 2004) or defensive consumption. The problem is that defensive consumption does not fix the erosion of the common good; it only addresses its symptoms. This has three consequences: first, the sum of individuals' attempts to protect against the erosion of common goods stimulates demand for more goods and services, reinforcing the cycle of production and consumption, and therefore stimulating economic growth; second, individuals need to work harder than before to finance the new layer of (defensive) expenditures; third, the new economic activity does not solve the collective problem: the expansion of economic activity, requires new material extraction, energy consumption and emissions that feed further degradation of common goods, perpetuating a self-reinforcing vicious cycle. The problem is that the sum of all the individual private consumption undermines the environment, reduces the possibility to establish meaningful social relations and does not solve the collective problem that individuals are trying to address.

The diagram in figure 4 illustrates defensive growth and its negative consequences for common goods (negative externalities). To afford these expenses, people must either go into debt or work more, further stimulating economic growth (Bartolini and Bonatti, 2003; Bartolini and Bonatti, 2008; Antoci and

Bartolini, 2004). This creates a trade-off between leisure and work, reducing the time available for social relationships and community engagement – all common goods. Moreover, in the attempt to be more productive and earn more, people are pushed to be more competitive, and less cooperative and collaborative. In other words, defensive consumption perpetuates economic expansion and stresses other important aspects of life, such as health and social relations.

The result is increasing levels of stress, pain, loneliness, and declining well-being—issues that have become common in many modern societies (Macchia, 2022; Macchia and Oswald, 2021; Twenge et al., 2021; McPehrson et al., 2006). The tragedy is that these issues themselves constitute new business opportunities. For instance, the "loneliness industry" is a growing market for services and products designed to address social isolation. These solutions, however, apply a patch, do not fix the problem - in a way producing what we could call a band-aid economy. In essence, our economies have found ways to monetize even the social erosion caused by relentless growth.

Figure 4. The Defensive growth vicious cycle.



Source: authors' own elaboration of Bartolini & Bonatti, 2008.

Various parts of the model depicted in figure 4 have received empirical support (for a thorough review please refer to Bartolini and Sarracino, 2024). For instance, studies from social psychology show that the scarcity of relational goods increases the importance of money in people's lives (Kasser, 2003). Evidence shows that money compensates for poor social relationships, as income is a substitute for low social capital (Bartolini et al., 2023; Barcena-martin et al., 2017). Moreover, GDP growth coexists with declining social capital within and across countries (Putnam, 2000; Bartolini and Sarracino, 2015; Sarracino and Slater, 2025). Lastly, economic growth benefits subjective well-being when the quality of social relations does not decline (Mikucka et al., 2017).

Testing the link between negative externalities and the defensive consumption has never been possible due to data limitations. Recently, however, Jones and co-authors (2023) published research on how mean surface temperatures of the Earth change over time and with respect to greenhouse gas emissions. For each country-year, they estimated the contribution of an increase in emissions from anthropogenic activities to rising temperatures. Hence, rising temperatures are a direct measure of the negative consequences of economic growth for the environment. As temperatures rise, societies are forced to take defensive measures, such as installing air conditioning, and preparing for extreme weather events such as floods and wildfires. These adaptations require economic investments, reinforcing the cycle of defensive growth.

3. Estimating defensive consumption

In what follows, we merge the data by Jones and co-authors with economic data to provide a first direct estimate of defensive consumption. We estimate a fixed effects regression of per capita consumption on temperature changes from CO_2 emissions from 1980 onwards, that takes the following form:

$$\boldsymbol{Consumption_{c,t}} = \alpha + \boldsymbol{\beta_1}\left(\boldsymbol{TempChange_{c,t-1}}\right) + \boldsymbol{\lambda_t} + \boldsymbol{\mu_c} + \boldsymbol{u_{c,t}} \qquad (\mathbf{1})$$

where $TempChange_{c,t-1}$ denotes the lagged global mean surface temperature change (in °C) from anthropogenic activity derived $C0_2$ emissions[2], in country $\boldsymbol{c}$ at time $\boldsymbol{t-1}$. We include year fixed effects

[2] Temperature changes from CO2 emissions is measured as $\Delta T = k\, x \frac{1}{C} x\, E(CO2)$. Here, k is the conversion factor translating emissions into temperature, $E(CO2)$ is the cumulative emissions of CO_2 by country and year and C is a constant that converts the mass of carbon in a CO_2 molecule to the total mass of a CO_2 molecule. This measure of temperature changes only pertains anthropogenic emissions, as all the green-house gases the authors include to estimate temperature changes are derived from economic activity and exclude land use and agriculture. For more details on the measure of temperature changes, please refer to the paper by Jones and co-authors (2023).

$\boldsymbol{\lambda_t}$ and country fixed effects $\boldsymbol{\mu_c}$ to account for common global shocks and time-invariant country-specific heterogeneity, respectively. $u_{c,t}$ is the idiosyncratic error term, which we cluster by country.

An increase in temperature changes at time t-1 is associated to a statistically significant increase in consumption per capita at time t. The coefficient on temperature change in column 1 of table 2 is estimated at 117,478 US dollars per capita, significant at 5% level. This suggests that a unit increase in temperature change (in °C) is associated with a substantial increase in per capita consumption. However, the temperature changes from CO_2 do not exhibit large unit changes. Indeed, mean and standard deviation in the sample are 0.004°C and 0.016°C, respectively.

Table 2. Predicting defensive consumption and their consequences for life satisfaction, hours worked, health, social capital, and income inequality.

	(1)	(2)	(3)	(4)	(5)	(6)
	Defensive consumption	**Life satisfaction**	**Total hours worked**	**Subj. health**	**Social capital**	**Gini Index**
L.temperature_change_from_co2	117478.9**					
	(2.06)					
L.pred. defensive cons. (std)		-0.229**	0.135**			
		(-2.26)	(2.21)			
L.real consumption (std)		0.406**	-0.138	0.509***	0.824***	-0.148
		(2.44)	(-1.51)	(3.11)	(3.43)	(-1.32)
L.pred. hours worked (std)				-0.635***	-0.567**	0.192***
				(-5.51)	(-2.09)	(3.18)
L.Hours worked (std)				0.251	0.546*	0.326**
				(1.20)	(1.96)	(2.02)
Observations	6151	1318	2187	696	686	539
N_clust	159	112	63	58	58	52
r2_w	0.402	0.316	0.365	0.315	0.368	0.187
r2_b	0.0519	0.264	0.0940	0.0164	0.0217	0.355
r2_o	0.0884	0.249	0.117	0.131	0.0943	0.420

Note: all models include year dummies that are not shown for brevity and country fixed effects. T-statistics in parentheses. * p<0.10; ** p<0.05; *** p<0.01. All variables in models 2 to 6 are standardized for comparability of the coefficients and are per capita.
Source: author's own elaboration of panel data sourced from: PWT 10.01, World Development Indicators, and SDR2.0.

3.1 The Vicious Cycle of Defensive Growth

The model depicted in figure 4 illustrates growth as the result of a substitution process between common, free goods, and private goods that are provided by the market and, therefore, contribute to economic growth (Bartolini and Bonatti, 2008). Despite research has already provided support for some of the pathways of the model, there is no direct estimate of the full cycle of defensive growth. We provide a first estimate of the downstream effects of defensive consumption on life satisfaction and working hours. Defensive consumption should reduce life satisfaction and urge people to work more, thus increasing the number of hours worked per capita. In turn, a higher work effort affects people's health, social relations and inequality through various mechanisms, including increased stress, trade-off between working and leisure time, and competition.

To test these relations, we use the predicted values of per capita consumption from regression (1) as input in two separate regressions: one of life satisfaction and another of hours worked (per capita). In both models we include lagged consumption per capita as a control. Within countries, predicted defensive consumption negatively correlates with life satisfaction with an estimated coefficient of -0.314, statistically significant at the highest level (column 2 of table 2). At the same time, consumption not devoted to defensive needs (observed consumption per capita), increases subjective well-being over time (Headey et al., 2008; Guillen-Royo, 2008; Zimmermann, 2014; Noll and Weick, 2015). The difference in signs between defensive and non-defensive consumption reflects one of the key insights of defensive growth: when consumption is driven by the necessity to defend oneself against negative externalities, it deteriorates subjective well-being.

Predicted defensive consumption also correlates with increased working hours, as evidenced in column 3 of table 2, likely because more effort is necessary to finance higher consumption levels. Hence, defensive consumption imposes a double cost: it hampers life satisfaction, and it compels individuals to work longer hours to sustain it.

We further explore the consequences of increased labour burden. Using the predicted number of hours worked due to defensive consumption, we estimate the impact on three additional outcomes: subjective health, social capital, and income inequality, as measured by the Gini index. All these equations are estimated on standardized variables to ensure comparability of the coefficients, and include observed hours worked per capita as well as real consumption per capita as controls. Subjective health is a variable that reflects one's evaluation of her state of general health, and it is the average score by country and

year. Social capital is an index based on the first principal component obtained from a battery of questions including trust in others, in institutions (parliament, government, political parties and judicial system) and participation in groups and associations. Survey data on subjective health, life satisfaction and social capital are sourced from the SDR 2.0 dataset (Slomczynski et al., 2023).

The coefficient on predicted hours worked suggests that within country increases in work effort to sustain defensive needs hamper health, reduce social capital and increase inequality (see columns 4 to 6 of table 2). One standard deviation increase in predicted working hours to sustain defensive spending (around 60 hours per year) reduces average health by 21% (slightly more than half a standard deviation). A similar increase in predicted working hours also reduces the share of people with high social capital by about 10%. Observed working hours instead increases social capital, possibly because working longer hours fosters social relations at work, but at the cost of those outside the job, whereas they do not significantly correlate with subjective health. Lastly, increases of working time devoted to defensive needs also increases income inequality by 0.19 of a standard deviation (SD = 7 points), as does the increase in observed working hours, by 2.82 points, suggesting an additive effect of working time.

These results support the predictions of defensive growth: a collective problem (such as CO_2 emissions and the associated rising global temperatures) leads to increased consumption which lowers life satisfaction and pushes people to work longer hours. Increased work effort, in turn, hampers subjective health, social capital, and increases income inequality. This highlights the paradox at the heart of defensive growth: economic behaviour meant to protect individuals from the harms of growth may itself become a source of new harms, sustaining a cycle of increasing output and declining welfare.

4. An alternative explanation of unsustainability

Defensive growth offers an alternative explanation of unsustainability, which is seen as a by-product of a systemic failure, rather than the result of human greed. The typical explanation for unsustainability maintains that current generations do not care enough about the consequences of current economic activity for future generations' resources and common goods. However, there is little support for this view. A growing body of evidence shows that individuals care about the future and worry about the long-term consequences of environmental degradation (Bartolini & Sarracino, 2018; Krafft et al., 2023). According to defensive growth, it is rational for people to adopt unsustainable behaviours even if they care about the future of humanity and of the planet. This paradoxical result is possible when cooperation

is impossible. In fact, when the possibilities for cooperation diminish, individuals turn to private solutions to shield themselves and their dear ones against common decay and the uncertainty of the future, essentially making private consumption a defensive mechanism of insurance and protection.

When trust is scarce, people are less willing or able to rely on collective action to address common threats (Ostrom, 2009) and they rather invest in private solutions to protect themselves and their dear ones. Hence, sustainability becomes collateral damage of individual survival strategies because people disinvest in collective goals in favour of private consumption. This is a fundamentally different explanation of unsustainability from the traditional narrative, which attributes it to personal greed. Instead, unsustainability emerges from a deeper structural issue: people are forced into defensive consumption because they lack the social and institutional support to solve collective problems. Unsustainability is then the product of people caring about the future, but not being able to cooperate to protect it due to the decline in social capital (Bartolini and Sarracino, 2024).

4.1 Awareness of environmental decay

In sum, unsustainability can result from the behaviours of individuals who care about the future, are aware of environmental decay, but cannot count on others to adopt collective solutions. Surveys conducted across diverse regions of the world show high levels of concern for the planet's well-being and humanity's future. For instance, a 2021 global study by the United Nations Development Programme found that more than 60% of respondents worldwide believe the world is facing a climate emergency[3]. Similarly, the Edelman Trust Barometer (2022) reported that 75% of respondents ranked climate change among their top concerns, second only to job security[4]. In European Union, climate change and environmental issues rank among the top concerns for citizens, according to the Eurobarometer (2019). Moreover, research shows that the majority of people would prefer to be living in an equitable and sustainable scenario in which societies are more harmonious and cooperative, rather than a fast-paced, competitive scenario that puts emphasis on the individuals and wealth (Krafft et al., 2023).

Additionally, concerns about the future significantly affect their well-being. An analysis of several thousands of respondents from developed and developing countries revealed that individuals who anticipate a bleak future experience lower levels of well-being than others, the effects comparable to that

[3] UNDP, The People's Climate Vote, Jan. 2021, https://www.undp.org/publications/peoples-climate-vote

[4] https://www.edelman.com/sites/g/files/aatuss191/files/2024-12/2022%20Edelman%20Trust%20Barometer_Updated.pdf

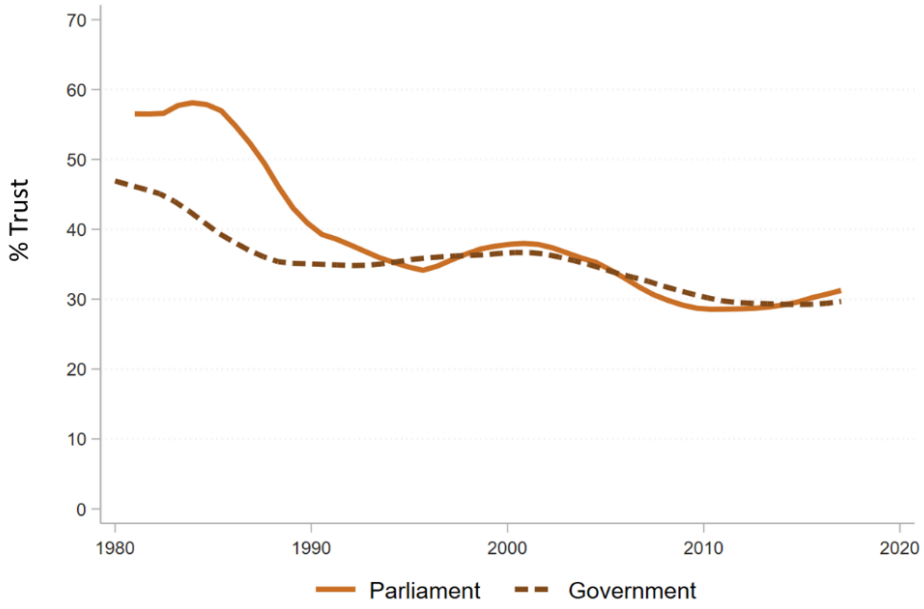
of becoming unemployed (Bartolini & Sarracino, 2018). This demonstrates that on average people care for the planet's future, and their sense of environmental and social instability significantly affects their overall quality of life.

4.2 The Role of Trust and Cooperation

While people care about the future, the ability to cooperate to protect it is eroding. In many industrialized societies, both institutional and interpersonal trust are declining, hampering effective collective action. Trust in institutions is at historically low levels globally, with only 47% of people reporting they trust their governments (Edelman Trust Barometer, 2022). In the United States, only around 30% of Americans believe that "most people can be trusted," compared to 46% in the early 1970s. Similar trends are observed across Europe and other parts of the world. Since the 1980s, public trust in national governments, parliaments (see figure 5), and European institutions such as the European Commission and the Central Bank has been falling (Boda et al., 2018). This is a global phenomenon, affecting both developed and developing countries alike (Sarracino and Mikucka, 2017). On average trust in others and in institutions, and participation in groups and association are declining in both mature economies and in developing countries (see the right panel in Figure 6). Moreover, pro-social behaviours (measured as the proportion of people in a country that volunteer, donate and help others) have been declining until 2019, especially in high-income countries (O'Connor et al., 2025).

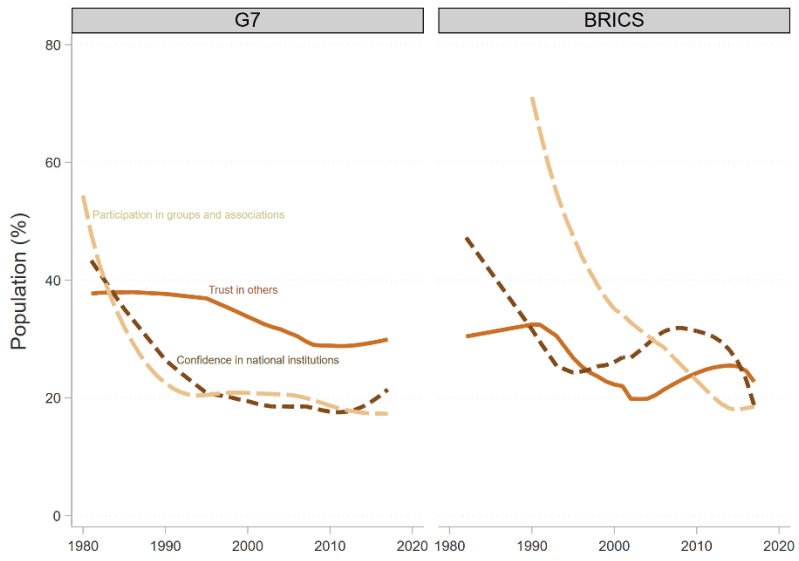
The decline in trust and social cohesion prevents collective action, including protecting the environment. When trust in others and institutions declines, people become less willing to cooperate for the common good, privileging personal or more immediate concerns. As a result, collective action—essential for addressing global challenges such as climate change—becomes increasingly difficult to mobilize. Evidence from the COVID-19 pandemic provides a good example of this mechanism: countries with higher trust introduced less stringent policies to contain the virus, they recovered faster from the peak of infection than other countries, and with overall fewer losses (Bartolini et al., 2020). In addition, compliance to public policies during the pandemic has been higher in countries with higher share of people trusting others (Sarracino et al, 2024; Bargain and Aminjonov, 2020; Chan et al., 2020). Without trust, the willingness to invest in public goods such as clean air, biodiversity, or community health weakens, further undermining sustainable practices.

Figure 5: Trust in national institutions in Europe



Source: authors' own elaboration of SDR 2.0 data.

Figure 6: Changes in trust in others, in institutions and in membership, by groups of countries: the G7 members (left) and the BRICS (right).



Source: authors' own elaboration of SDR 2.0 data.

The relationship between trust and economic activity has received considerable attention in the literature. For instance, Arrow stressed that "virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence" (Arrow, 1972, p. 357). Trust in others frees resources that can be reinvested in the economy and stimulate growth. However, the relationship between trust and growth over time did not receive as much attention. However, there are reasons to believe that over time economic growth hampers trust, even though it correlates positively with GDP per capita across countries. For instance, Helliwell (1996) documented a negative relationship between trust in others and productivity growth (an engine of economic growth) from 1960 to 1992 in 17 developed countries. Roth (2024) showed that changes in trust over time correlate negatively with economic growth during the '90s. More recently, Sarracino and Slater (2025) documented the existence of what appears a trust paradox using 135 countries over 35 years. This evidence is consistent with other studies documenting the coexistence of economic growth and the erosion of various measures of social capital, besides trust (Bartolini & Sarracino, 2015; Mikucka et al., 2017).

4.3 Why is trust diminishing?

Building trust requires time, repeated interactions and social relations, all aspects that get scarcer as predicted by defensive growth. Sarracino and Slater (2025) explain that economic growth can erode trust when income inequality rises above country averages. Inequality reduces trust and polarizes societies in ways that make cooperation impossible (Fehr and Schmidt, 1999; Brandts and Riedl, 2020; Kanitsar, 2022). Moreover, as inequality rises, the opportunities for social comparisons expand, reinforcing the consumption patterns within the defensive growth model. This suggests that inequality not only erodes the social fabric that enables cooperation and collective problem-solving, but it also pressures people to consume more to keep up with others.

From the individual point of view, this effect may be negligible, but the sum of all individuals' consumption becomes an inexhaustible demand that stimulates growth and imposes ever growing tolls on social and environmental quality. The impossibility of collective action to address common issues encourages private consumption and associated environmental degradation, stimulating the economy to grow because of people's private efforts to cope with collective problems. Moreover, worry about the environment, and the future in general, further pushes people to adopt unsustainable behaviours. These are three elements

of a self-reinforcing vicious cycle that creates formidable consumers; probably all unhappy, unhealthy, overworked, lonely, stressed, and obsessed by money and consumption. This vicious cycle creates societies where money is central in people's lives, because what they can or cannot do depends increasingly on how much money they have.

The centrality of money in people's lives is not the result of innate human greed, but of a society where private solutions have replaced collective ones; in which every problem, including collective ones, becomes a business opportunity; and in which people's well-being depends on how much money they control. The result is a self-perpetuating cycle that fuels ever-expanding markets for private security, personal survival strategies, and even extreme measures such as the rising demand for bunkers and survivalist shelters. These trends are symptoms of a broader shift: a world in which individuals, left to fend for themselves, seek refuge in consumption as the only available response to uncertainty. From this point of view, economic growth is not a sign of progress.

5. Well-being and sustainability

Let's recap: despite vast gains in production capacity, modern societies continue to allocate disproportionate resources to consumption, driving environmental and social degradation. The awareness of such disruption reinforced the view that sustainable development is impossible and that new solutions are urgently needed. Green growth, for example, aims to maintain living standards by decoupling economic activity from its negative impacts through green technologies. Yet this strategy faces serious challenges: it demands massive investments, unprecedented global cooperation, and full material recycling — conditions unlikely to be met amid declining trust and institutional. Degrowth offers an alternative approach by deliberately reducing production and consumption to ease pressure on natural resources. However, calls to consume less remain politically unpopular as they are perceived as penalizing in societies in which progress equates growth. Rising inequality and eroding social trust, and in general social cohesion, further undermine the collective action needed to coordinate such reductions.

Why is consumption so persistent and difficult to give up, especially in affluent societies? Part of the explanation is that social comparison, hedonic adaptation and defensive growth reinforce each other to create formidable consumers. Our results, made possible by newly available data, show that defensive consumption undermines life satisfaction, thus offsetting the benefits of economic growth. However,

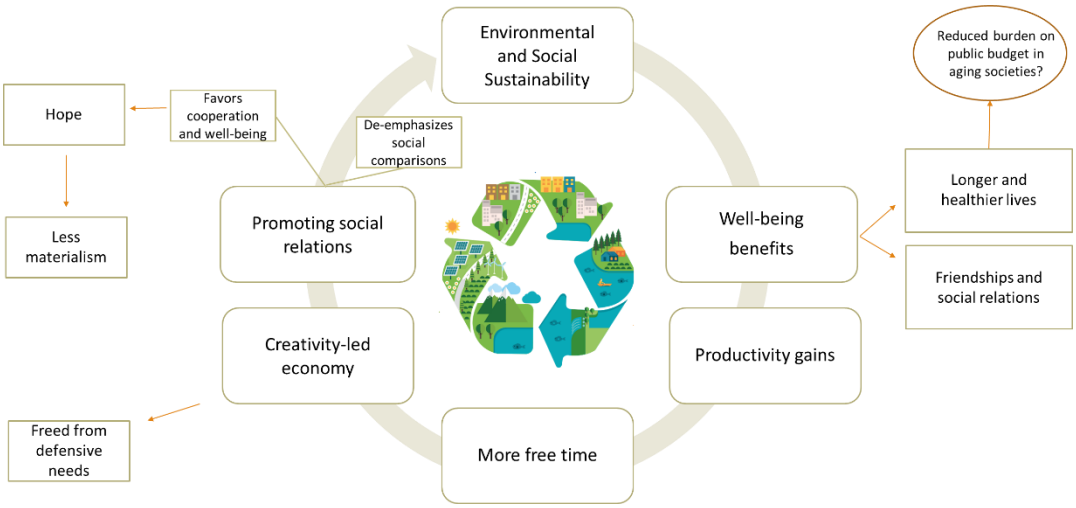
without trust and collective action, defensive consumption remains the most rational way to protect oneself against the uncertainty of the future. This locks societies into unsustainable patterns. Encouragingly, however, research on well-being suggests an alternative path: neo-humanism (Sarracino & O'Connor, 2023).

Neo-humanism offers a cohesive narrative to create socially and environmentally sustainable economies where people can lead fulfilling lives. According to neo-humanism there is no conflict between pursuing satisfactory lives and the protection of the natural and social environment. The reason is that neo-humanism advocates for public policies that target well-being directly, rather than prioritizing economic growth in the hope that its effects would eventually trickle down and benefit people (Sarracino and O'Connor, 2023). Economic growth should serve as a means to improve well-being, rather than being the end goal in itself.

The literature on quality of life provided extensive evidence on the determinants and consequences of subjective well-being. For instance, we know that social connections, health, employment, leisure time, and access to green, walkable spaces all contribute to life satisfaction and happiness. Adopting policies that invest in and promote these factors will allow to decouple well-being from consumption, making societies more sustainable. The first step to start the neo-humanist virtuous cycle is, as shown in figure 7, to promote policies that enhance well-being.

For instance, fostering social relationships significantly increases well-being, and, as advertising experts know well, happier people tend to consume less than others (Schor, 2004). Individuals with strong social ties are less likely to engage in conspicuous consumption as a means of coping with dissatisfaction or isolation (Wu and Sarracino, forthcoming). Additionally, people with higher social capital and stronger social ties attach less importance to social comparisons (Bartolini et al., 2023), a key driver of conspicuous consumption. Hence strengthening social relationships reduces one of the mechanisms of consumption and creates the conditions to build trust in others and in institutions, facilitating individuals' cooperation on shared goals, such as environmental protection.

Figure 7. The neo-humanist virtuous cycle.



Source: adapted from Sarracino & O'Connor, 2023.

Research further indicates that engaging in eco-friendly and pro-social behaviours significantly enhances subjective well-being (Zawadki et al., 2020; Helliwell et al., 2017). Greater well-being, on the other hand, yields broader societal benefits. For instance, happier people tend to live longer, healthier lives, which in turn could contribute to the sustainability of public budgets in aging societies by reducing healthcare costs and extending healthy life expectancy.

Moreover, there is widespread evidence that well-being is associated with efficiency gains, as happier people tend to be more productive (Oswald et al., 2015; Proto et al., 2012; Bellet et al., 2024; Burger et al., forthcoming); less absent from their jobs (Judge et al., 2001); more cooperative; less likely to change their job (Spector, 1997; O'Connor et al., 2025); and less likely to be unemployed (O'Connor, 2020). Each of these aspects relates to productivity and job performance. DiMaria and co-authors (2020) showed that increasing life satisfaction by one point correlated to efficiency gains equivalent to about 80 working hours. That is, an improvement by one point in life satisfaction could lead to gains that are equivalent to nearly two working weeks per year. Similar research suggests that higher well-being is associated to about 5% of gross value-added growth across industries in Europe (Peroni et al., 2022).

Promoting well-being leads to efficiency gains that can be used to reduce working time, favour work-life balance and increase time devoted to social relations, while maintaining economic output unchanged.

Hence, societies can decouple well-being from production and consumption, suggesting that subjective well-being is not necessarily tied to consumption and material wealth. Individuals could lead good lives in a socially and environmentally compatible economy, one that is not driven by defensive needs but by creativity.

5.1 Cultural change

Neo-humanism entails a cultural shift to place human well-being at the centre of decision making. While often perceived as immutable, cultural shifts, especially those related to preferences, norms and attitudes, can happen rapidly, particularly in response to crises, technological advances or generational shifts. For instance, the widespread adoption of digital technologies has changed means of communication and access to information, deeply affecting individuals' work, their interactions with each other, as well as significantly shaping the economy and society in general.

The Great-resignation, a phenomenon characterized by mass voluntary job quits that occurred after the Covid-19 pandemic, is another illustrative example of a recent cultural shift that reflects a generational re-assessment of work-life balance. In line with Inglehart's theory of value change, whereby individuals raised in conditions of relative security prioritize self-expression and quality of life, studies suggest that younger cohorts - particularly Millennials (born between 1980 and 1996) and Generation Z (born between 1997 and the early 2010s) - place a higher value on meaning, well-being, and equity than on income or status alone (Kuzior et al., 2022).

These values are reflected in workplace expectations. Good working atmosphere, opportunities for development and growth, self-realization and trust are among the strongest predictors of job engagement and retention among the Generation Z. Experimental evidence shows that half of Zoomers prefer a lower-paying but meaningful job than a dull, high paying one. A 2021 McKinsey study on Australia, Canada, Singapore, UK and US found that relational factors, such as lack of recognition and sense of belonging, were primary drivers of voluntary job quits. According to Kuzior and colleagues, the great resignation exposed a mismatch between the traditional "business school" organizational cultures and values of younger workers.

These emerging cultural orientations suggest that the foundation for neo-humanism may already be underway, but important questions remain. While evidence shows a growing preference for work-life balance and meaningful work among younger generations, more research is needed to understand

whether and how these shifting values extend to broader priorities such as environmental care and collective well-being. Future research should explore whether this cultural reorientation can translate into the adoption of a system that goes beyond consumerism and growth, and towards human and ecological well-being in which societies rediscover the importance of communal living and mutual responsibility. Clarifying these dynamics will be essential for undergoing this cultural shift and guiding societies toward sustainable prosperity.

6. Conclusion

A century after Keynes speculated that technological progress would eventually liberate future generations from the need to work longer hours, modern affluent societies remain attached to economic growth and long working hours. In this paper, we discuss why this is the case and suggest that neo-humanism can provide a solution for our grandchildren to live in a sustainable environment, one of creativity-led growth in which well-being is decoupled from consumption.

Our review shows that modern consumption patterns are driven by a defensive component, not only by materialism or an infinite appetite for consumption – as postulated in many economics textbooks. Indeed, economic activity generates negative consequences – pollution, noise, stress, fear – that undermine well-being. Private consumption offers a shelter from these consequences and fuels further economic growth thus perpetuating the cycle of environmental and social degradation. For the first time, this paper provides empirical estimates of the size of defensive consumption and tests some key relations of defensive growth theory. Our results support the theory and suggest that unsustainability results from a huge coordination failure, rather than individual greed: the impossibility to act collectively to address common problems pushes people to seek individual solutions. The sum of all the individual solutions stimulates economic growth and accelerates environmental and social degradation, in a self-reinforcing vicious cycle.

From this perspective, sustainability cannot be achieved by appealing to self-restraint or asking individuals to act against their nature. Rather, it requires institutions and policies that empower people to protect the social and ecological foundations of their well-being. Defensive consumption is a rational response to a collective failure. Therefore, the path to sustainable societies lies in empowering people to protect the environment, rather than fighting human nature.

Neo-humanism offers a viable and promising way forward. It challenges the notion that GDP is the ultimate measure of progress, and places well-being and social cohesion at the centre of decision making and development. By shifting the focus from markets to people, neo-humanism outlines a model of creativity-led economies capable of delivering thriving lives. Importantly, the cultural shift underpinning Neo-humanism might be already underway. The way forward is to institutionalize these preferences and support them with policies to rebuild trust, strengthen collective action and redefine the meaning of progress.

Quality of life research plays a central role in this transition. By deepening our understanding of the causes and consequences of well-being, evaluating the impact of policies, and developing new metrics for national progress, it can help reorient societies towards a sustainable and thriving path. If we manage to succeed in this endeavour, perhaps Keynes' vision will finally take place, not via the expansion of GDP but through the deliberate construction of societies where people can lead happy, meaningful lives within planetary limits.

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