WELL-BEING IN A SUSTAINABLE ECONOMY REVISITED

Can growth be sustainable for the environment, social capital and well-being?

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Abbreviations and Acronyms

Abbreviation	Fully written
EU-SILC	European Union Statistics on Income and Living Conditions
GDP	Gross Domestic Product
IEA	International Energy Agency
OECD	Organisation for Economic Co-operation and Development
PM	Particulate Matter
SDR	Survey Data Recycling

Statement of originality

This report contains original unpublished work except were indicated otherwise. The work of others and published material has been indicated through citation, quotation or both.

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Executive Summary

This paper examines empirical evidence and explanations of the relationship between economic growth, well-being, and social and environmental sustainability over nearly the past 50 years. While economic growth has increased the availability of private goods, it has led to the deterioration of common goods such as the environment and social relations. This has contributed to declining levels of well-being in many countries. Drawing on the literature on subjective well-being, this paper contains two main messages. The first is that economic growth can increase well-being if its potential to erode commons is contained, regulated and controlled, which has not been the case over the past half century. Shifting the policy priority from economic growth to well-being can enable sustainable growth. The second message is that there are effective ways to increase well-being other than economic growth. We focus on social capital as a prominent example of a non-income driver of well-being that can be fostered through low-cost policies. Expanding well-being without growth is important because, given the available technologies, the lesser the economic activity, the smaller its environmental impact. The possibility to increase well-being without increasing the economic activity suggests a new narrative of progress outside the economic growth paradigm, which is regarded as the primary way to achieve better lives. By deflating the conflict between well-being and the environment, this new narrative could promote an upgrade of the environmental priority by the public.

The evidence we review indicates two paradoxes for conventional economic wisdom. The disappointing impact of growth on well-being makes it problematic to explain consumerism in high-income countries for mainstream economics, which assumes that the behaviour of economic systems reflects the preferences of individuals. So, if people work and consume a lot it must be because free time has little importance compared to goods in their preferences. But if this were the explanation we should observe a strong impact of income on people's well-being, which is counterfactual. This is the paradox of unhappy consumerism. Another evidence that is difficult to explain is the long-term coexistence of high growth and decline of social capital. In fact, economic studies on social capital indicate a positive impact of social capital on growth. This is the paradox of anti-social growth. We find that the only theory that can explain both paradoxes is defensive growth. Defensive growth theory emphasizes the role of growth-related negative externalities in depressing well-being and promoting consumption and working hours in affluent economies. The negative externalities of growth entail increasing defensive expenditures that result in persistently high work effort, stimulating appetite for money even in affluent societies. Hence, defensive

growth is a self-feeding, vicious cycle in which economic expansion is the cause and consequence of its harmful effects on the environment, social capital and, ultimately, well-being. Such growth results from a self-feeding loop; by stimulating defensive spending, negative externalities generate growth and growth generates negative externalities. In this way, defensive growth explains the long-term coexistence of consumerism and economic growth with declining social capital and well-being. Through policies that protect social capital and the environment, it is possible to transform the vicious circle of defensive growth into a virtuous circle in which the increase in well-being and environmental sustainability reinforce each other. This conclusion is reinforced by the evidence that increasing well-being raises labour productivity. We provide optimistic conclusions on the feasibility of a sustainable society. Through policies for common goods, it is possible to pursue a win-win-win strategy that leads to a progressive increase in well-being, sociability, environmental quality, leisure and productivity.

1 Introduction

The stability of poor living conditions have been dominating human history for millennia. Malthusian constraints turned any output increase – however rare and slow - into population growth and not into higher per-capita income. Approximately two centuries ago, the Industrial Revolution triggered the onset of economic growth and heralded the advent of a new era, replete with promises of improvements in the human condition. The progressive liberation from poverty offered unprecedented opportunities for progress: greater well-being and free time for all.

However, data from the last decades - referred in this paper - cast doubts on whether the equation between growth and progress is still holding true. Over nearly the past half century, economic growth has not been accompanied either by substantially greater well-being or leisure in developed countries. Moreover, growth harmed key aspects of quality of life, such as the natural environment and sociability.

The disappointing effect of growth on well-being is not surprising in the light of the subjective well-being studies reviewed in this paper. This literature highlights the importance for subjective well-being of sociability and the environment, two aspects of the shared dimension of life. What happened over the last half century appears to be the consequence of economic and social reforms based on the neo-liberal idea that only the private dimension of life counts, an idea famously synthetized by Margaret Thatcher: “there is no such thing as society; there are only individuals”. Neglecting the importance of shared life may have undermined environmental and social resources and inhibited the potential of growth to increase well-being. What is more, economic growth failed to be inclusive. Income inequality surged all over the industrial world since the 1980s, reversing the trend that had characterized the 20th century until then. At the same time, also differences in subjective well-being between income groups surged, widening since the 1980s.

In this paper, we draw on well-being research to inform our answer to the following questions: can growth become sustainable? How should a sustainable society look like? Are there policies to promote socially and environmentally sustainable societies in which people can lead satisfactory lives? How to build an inclusive economy?

2 The Sustainable Society

We start by illustrating our conclusions on how a sustainable society should look like. The rest of the paper will provide support for these conclusions.

A high well-being society, characterized by social and environmental sustainability, prioritizes leisure and common goods, such as sociability and the environment, over

economic growth. A major contributor to well-being is sociability and various policies are possible to improve it. The well-being society prioritizes persons over markets by adopting policies to promote well-being directly, rather than pursuing economic growth in the hope that its effects trickle down to people's well-being. The well-being society goes "beyond GDP", by redefining progress as the expansion of the well-being of its members, and not the growth of its economy.

Giving priority to leisure implies allocating productivity increases to expand free time or to finance policies for well-being, while maintaining economic output unchanged or slowly growing. This is a very different path from the one taken by industrial economies in the last half century, during which productivity gains were overwhelmingly allocated to expand production rather than leisure. In this way, slowing down growth would benefit both the environment and well-being.

Moreover, greater well-being would provide an additional source of increased productivity, in addition to the traditional ones, i.e. technological progress and the accumulation of physical and human capital. Workers experiencing greater well-being are in fact more productive.

Importantly, societies with abundant common goods exhibit smaller well-being differences among individuals than others. Therefore the sustainable society we are describing would revert the trend to increasing well-being inequality exhibited by industrial societies over the past decades.

Our conclusions on the on the feasibility of a sustainable society are optimistic. Through policies that promote the shared quality of life, it is possible to pursue a win-win-win strategy that leads to a progressive increase in well-being, sociability, environmental sustainability, inclusiveness, free time and productivity.

We use the term sustainable society and not sustainable economy because sustainability entails changes that go beyond the purely economic sphere. Furthermore, these changes go beyond technological innovation. This is relevant because the dominant view frames the ecological transition mainly as a technological transition to greener technologies. Such technological transition contribute to sustainability, but it is not a sufficient condition. Let's see the supporting evidence for our view.

3 Evidence on the Sustainability and Inclusiveness of Growth

Economic growth is usually described as an expanding pie from which everyone can get larger slices and satisfy growing needs. However, evidence from nearly the past

half a century suggests that many of the cherries on the pie were toxic. The negative externalities of growth damaged the environment, hindered sociability and ultimately undermined well-being.

In economics, negative externalities describe the unintended negative impact of economic activity on non-market goods, such as environmental and social resources. Sociability, sometimes also referred to as social capital, entails social relationships, shared norms of reciprocity and trust within a community, as well as the emotional, material and behavioural support made available to individuals by their relationships (Putnam 2000). A similar concept is relational goods, (Gui and Sugden, 2005) - a term that we will use interchangeably with sociability and social capital.

3.1 Is Green Growth Already Here?

Similarly to former concepts, such as sustainable development or environmental Kuznets curve, green growth indicates technological changes that promise to deliver continued economic expansion compatible with planetary boundaries. Green technologies would reduce GDP's rate of emissions and resource use intensity more than GDP's growth rate. Some authors claim that green growth has already began (Lamb et al. 2022, Le Quéré et al. 2019), as some countries exhibit decreasing CO2 emissions and growing GDP.

However, this evidence largely concerns the CO2 that these countries produce but not the one they consume. Industrial imports from developing countries by developed countries make their domestic consumption of CO2 substantially higher than their production (Hubacek et al. 2021). Emissions are embodied in trade and the decoupling observed in the North is largely a consequence of shifting the industrial production to developing countries.

The material footprint of industrial countries exhibit a similar pattern. While most industrial countries have reduced the input of domestic material consumption per unit of GDP (relative decoupling), on a global scale the material footprint has been rising at a rate equal to or greater than GDP, suggesting no decoupling at all (Wiedmann et al. 2015). Here again, the reason lies in industrial imports by developed nations. International trade makes the total footprints of high-income countries consistently larger than domestic ones (Hickel and Kallis 2020).

Even leaving aside international trade and considering only the developed countries that recently succeeded in reducing carbon emissions, their decoupling rates are inadequate for meeting the climate and equity commitments of the Paris Agreement. It would on average take more than 220 years to reduce their emissions by 95%, emitting 27 times their remaining 1.5°C fair-shares in the process. To meet their 1.5°C fair-shares alongside continued economic growth, decoupling rates should increase

on average by a factor of ten by 2025 (Vogel and Hickel 2023). Green growth requires a much more rapid acceleration of the reductions of emissions and resource consumption per unit of GDP, compared to the current rate.

Box 1. Energy Transition: Pollution, Bottlenecks, Geopolitics

The transition to low-carbon energy sources promises to decouple carbon emissions from economic growth. However, such technologies depend heavily on great quantities of minerals for their production, maintenance, and decommissioning (Vezzoni 2023, IEA 2022; Hund et al. 2020). Such technologies demand a massive increase in extraction of copper, lead, zinc, aluminum, silver, iron, palladium, cobalt, cadmium, ruthenium, lithium, and rare earths elements. This raises a number of issues:

- Bottlenecks. A huge rise in demand casts doubts that the supply of these minerals can reliably grow. In the specialized literature, it is difficult to find a positive general answer. The risk of supply bottlenecks of critical materials is concrete (IEA, 2022).

- Pollution. Both the extraction and processing of these minerals are very polluting and energy intensive (Bolger 2021). The transition to renewable energy implies to some extent substitution of fossil fuels with mineral resources that are difficult and expensive to extract and, in some cases, threaten biodiversity and the stability of ecosystems of which we know very little. This is, for instance, the case of deep sea mining. These operations take place at depths ranging from 500 to 1500 metres below sea level. They are operated by means of robots that work as big vacuum cleaners, removing up to 1 meter of seabed and pumping it to tethered ships. The consequences that these activities have on the marine ecosystems are unknown because we know little to nothing of those environments. The first exploitation rights in Europe have been granted in Norway in January 2023. It is difficult to think that easing one ecological crisis at the cost of worsening others is a solution for 'sustainability'.

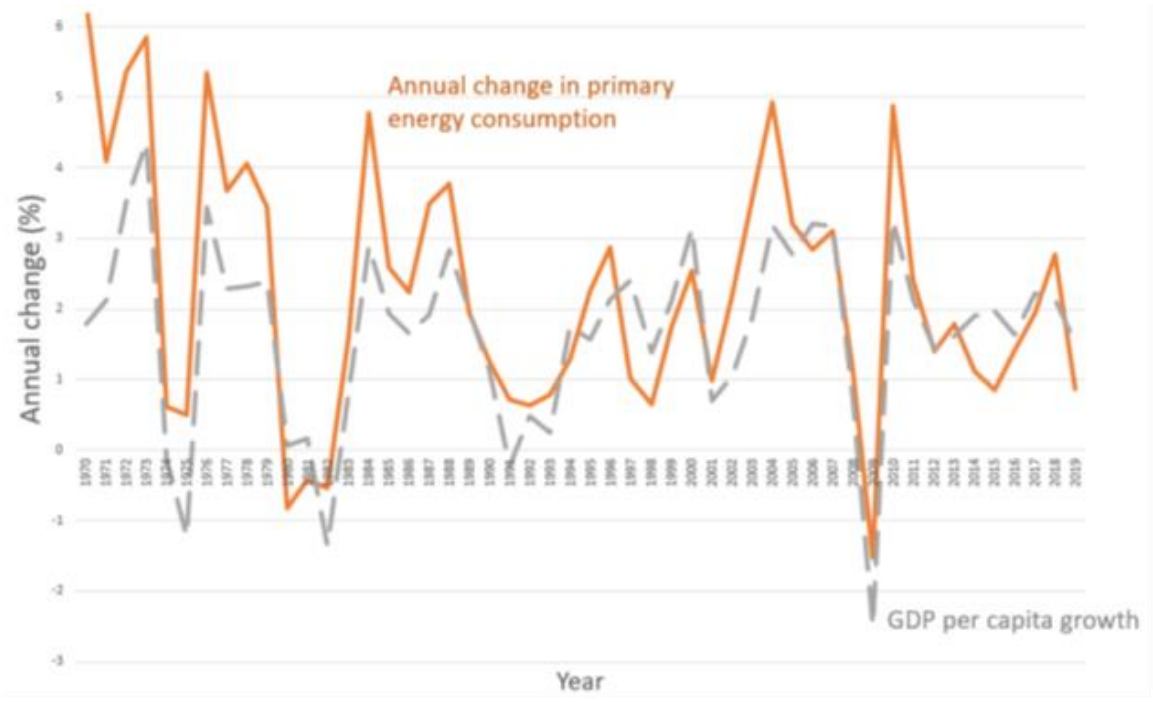
- Geopolitics. China controls 80% of the world market of rare earths. The geopolitics of the energy transition is obviously a very sensible issue (Vezzoni, 2023).

Economic growth is closely linked to the demand for energy (figure 1). So far, the rate of increase in energy demand outpaced the rate of increase in the supply of renewable energy. The issues mentioned above suggest that it will not be easy to increase such rate. Bottlenecks in minerals' supply, geopolitical issues, pollution, may slow down the energy transition, increasing the risk that renewable sources continue to add to, rather than replacing, fossil ones - as it has been so far (York and Bell 2019).

Although the replacement of the huge fossil-based infrastructure of energy-intensive economies with one based on renewable energy is a titanic effort, renewables have a great potential for mitigating climate change. However, given the pace of technological change, our capacity to meet climate goals will critically depend on the limitation of energy demand.

In essence, the gigantic scale of the energy transition makes it difficult to think that it can be effective when adopted as a single strategy. It would be much more effective when combined with energy demand reduction policies. Transition to renewables and demand reduction are therefore complementary strategies

Figure 1. World Energy Consumption and World GDP



Source: Our World in Data. Own computations.

3.2 Growth and Social Capital

Over the past 50 years, economic growth and social capital evolved in opposite directions. United States and China constitute two large-scale examples of the long-

term coexistence of declining social capital and high growth. These countries are notable not only because of their large size, but also because they are the most celebrated examples of economic growth. The US is the fastest growing big industrial country, and China is the Asian economic miracle.

The negative relationship between social capital and growth within countries goes beyond US and China. We discuss this evidence in the following box.

Box 2. The Loneliness Epidemic

Loneliness, an example of missing social relations, has reached epidemic proportions in the US. In 2004, a quarter of Americans reported to have no one they could discuss confidential matters with. This share was 2.5 times lower 30 years earlier (McPherson et al., 2006). In 1980, one out of five Americans over 44 years old reported to be lonely; in 2010 they were one out of three. Nearly half of them indicated that their loneliness had persisted for 6 years or more (Wilson and Moulton, 2010). As for other age groups, 80% of under 18 years old and 40% of over 65 report feeling lonely (Berguno et al., 2004; Pinquart and Sorensen, 2001; Weeks, 1994).

Increasing divorces, paralleled by declining marriages, interpersonal trust, strength of family and neighborhood ties, associational activity, solidarity, integrity, indicate a decay of social and affective connections among Americans (Gould and Hijzen, 2016; Putnam, 2000; Bartolini et al., 2013). China seems to exhibit similar patterns since the 1990s: loneliness and divorces increased, and interpersonal trust, associational activity, and civic behaviour declined (Bartolini and Sarracino, 2015).

O'Connor et al. (2025) provide evidence on changes of pro-social behaviors in 50, mostly rich, countries between 2005-06 and 2017-19. Pro-social behaviors include donating money, volunteering and helping unknown others. Over time, engagement in pro-social behaviour decreased in 30 out of the 50 considered countries: the average yearly change of engagement is -0.23 percentage points. Most changes are below 1 percentage point per year in absolute value. The countries where pro-social behaviour decreases at a faster rate are Switzerland, Czech Republic, Belgium and Japan. Pro-social behaviour decreases in most Western European countries, in some Latin American countries, the Philippines and South Korea as well as in North America and Australia.

The decrease is stronger in high income countries, where engagement decreases by 0.45 percentage points per year, compared to Upper Middle Income countries, where the rate of decrease is -0.14. This decrease concerns both men and women of all ages. This is the result of a generalized decrease in donations, volunteering and helping others primarily among the Upper Middle and High Income countries.

The negative relationship over time between social capital and economic growth has been observed also in other countries (Sarracino, 2012; Roth, 2009; Algan et al., 2017; Sarracino and Mikucka, 2017; Sarracino and Slater, 2024). Sarracino and Slater (2024), for instance, used country panel data from the Penn World Tables and information on people trusting others from the Survey Data Recycling (SDR) v.2.0 database, the largest source of data on trust currently available. Results indicate that over time trust decreases when the economy grows. The size of the effect is large: one percentage point increase in lagged GDP per capita is associated to a decrease of about 0.18% in the share of people who trust others. In other words, one percentage point increase in economic growth each year, for a period of ten years, would decrease trust by 1%, and a 2.5 percent increase in economic growth for the same period would reduce trust by 2%.

3.3 Growth and Well-being

Data starting from mid-1970s for the US and from the early 1990s for China indicate that average subjective well-being decreased in both countries, despite significant economic growth. Also examining large samples of countries, the GDP/well-being relationship over time is, in the most optimistic scenario, very weak. According to Easterlin and O'Connor (2022) the effect of economic growth on subjective well-being is so small that it would take 500 years for a 1 percentage point increase in GDP per capita to increase life satisfaction in the same country by 1 unit (on a scale from 0 to 10). This finding is labelled the Easterlin paradox.

Factors other than economic growth matter more for durable well-being. The literature has identified various important non-income drivers of subjective well-being. In particular, the quality and the quantity of human relationships plays a critical role for well-being (section 5). The Easterlin paradox is not surprising in light of the negative relationship between growth and social capital presented above.

Box 3. The Easterlin Paradox

In a famous article published in 1974, Richard Easterlin documented for the first time that Americans' subjective well-being stagnated over time, despite substantial economic growth. Additional evidence showed that, in the long run, economic growth is not associated with increasing subjective well-being within countries (Easterlin and Angelescu, 2009). This evidence has been strongly criticized and underwent extensive scrutiny (Stevenson and Wolfers, 2008a; Sacks et al., 2010; Veenhoven and Vergunst, 2014); however, its existence has been corroborated in recent studies (Easterlin et al., 2010; Mikucka et al., 2017). Additionally, Beja (2014) concluded that, even if the trends of subjective well-being and economic growth are statistically related, the magnitude is too small for growth to have a meaningful impact on subjective well-being. Consistently, Easterlin and O'Connor (2022) estimate that, if a country's GDP were increased by one percentage point, it would take more than 500 years to raise happiness by one point.

Social capital plays a much greater role than GDP for subjective well-being over time. Time series regressions from large samples of countries document that the relationship between economic growth and subjective well-being is significant over the short term, but weakens with the length of the time span considered. The reverse holds for social capital, whose relationship with subjective well-being strengthens over time (Bartolini and Sarracino, 2014). The strong relationship between subjective well-being and social capital within countries is not surprising in the light of the many studies documenting the importance of social capital for subjective well-being across individuals, countries and regions (see Helliwell and Aknin 2018 for a review).

Besides cross-country studies exploiting repeated time-series observations, a number of scholars analyzed the relationship between growth and well-being over time in specific countries. The US and China are two striking examples of the Easterlin paradox. Despite decades of economic growth, subjective well-being declined in both countries. The reason is, at least in part, linked to declining social capital. In the US, happiness significantly declined since the 1970s (Blanchflower and Oswald, 2004; Stevenson and Wolfers, 2008; Sachs et al. 2017). Bartolini et al. (2013) show that declining social capital and strong social comparisons largely predict such decline.

In China average life satisfaction declined by about 7% between 1990 and 2007, while the economy was growing by a roaring average rate of 10% per year,. Brockmann et al. (2009), Easterlin et al. (2012), Easterlin et al. (2017) and Bartolini and Sarracino (2015) discuss potential explanations for the striking Chinese version of the Easterlin paradox. Each article agrees that social comparisons, fueled by increasing income inequality, hampered life satisfaction. Moreover, Easterlin and colleagues (2012 and 2017) emphasize the depressive role of rising unemployment, which adds to the negative effect of the associated loss in income and job-related safety nets. In addition, Bartolini and Sarracino (2015) estimate that nearly 19% of the life satisfaction loss in China is predicted by the erosion of social capital that took place during the economic take-off. Moreover, they find that changes in preferences predicted 35.3% of the well-being loss . What did change in Chinese's preferences? Both absolute and relative income became more important for life satisfaction, while social capital lost importance, reflecting the spread of materialism among Chinese people. The income coefficient in 2007 was 7 times larger than in 1990, while the importance of social comparisons doubled. Data collected after 2007 indicate a possible recovery of life satisfaction. Easterlin and colleagues (2017) and Morgan and Wang (2018) suggest that such a recovery may be driven by improvements in trust, employment, and the social safety net.

In conclusion, the relationship over time between economic growth and subjective well-being is very weak at best, and negative in relevant cases such as the US and China. Other factors matter more than income to promote well-being, and among these the quality and quantity of human relationships hold a prominent role. This is why declining social capital in growing economies contributes to explaining the Easterlin paradox.

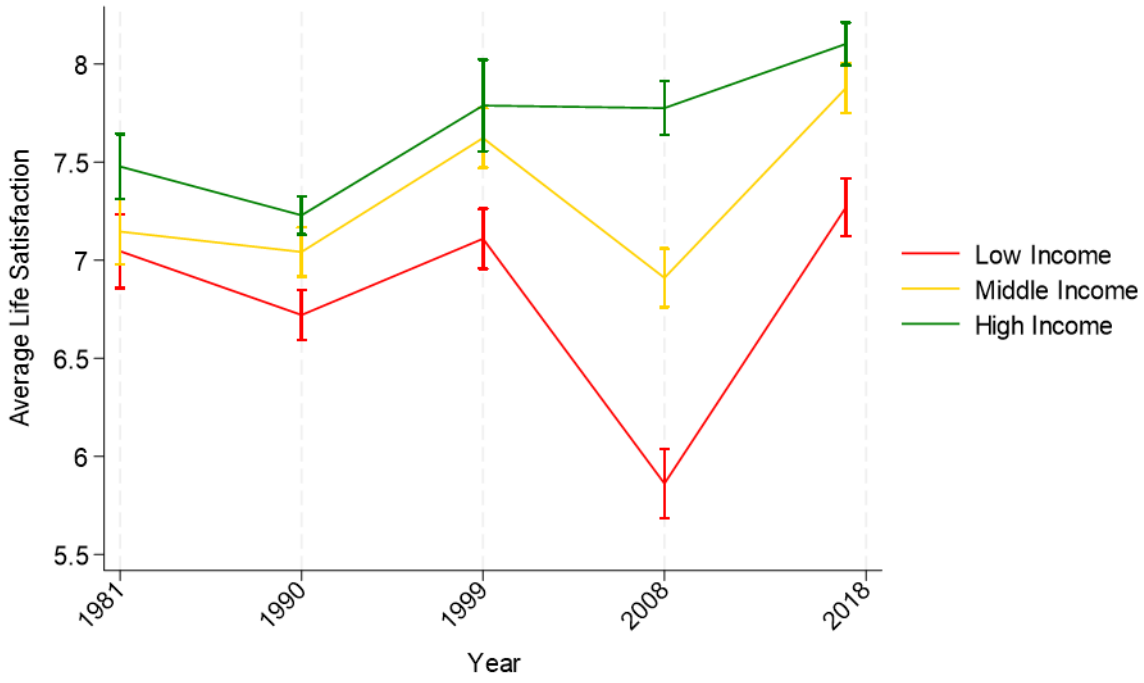
3.4 Inclusive Growth?

Economic growth of the last 50 years has not been inclusive in most of the cases. According to the World Inequality Report (2022), in Germany, the income share of the most affluent 10% of the population was 28% of GDP in 1980. In 2021 it had become 37%. The share owned by the bottom 50% went from 23% in 1980 to 19% in 2021. In Italy, since the early 1980s, the top 10% income share rose considerably, by 8-10 percentage points, while the bottom 50% share decreased from 27% to 21%. Germany and Italy are examples of the increase in income inequality that took place in most European countries since the 1980s, a trend that reversed the considerable decline in inequality that characterized the 20th century. The rise in European inequality has been significant, but far from the levels experienced in the United States, where the top 10% income share was 35% of GDP in 1980 and had become 45.5% in 2021; while the share held by the bottom 50% decreased from 19% in 1980 to 13% in 2021.

In short, those who already had the largest slices of the economic pie have been receiving increasing slices for over four decades (Piketty 2014). The adjective "exclusive" seems much more appropriate than "inclusive" to describe this growth.

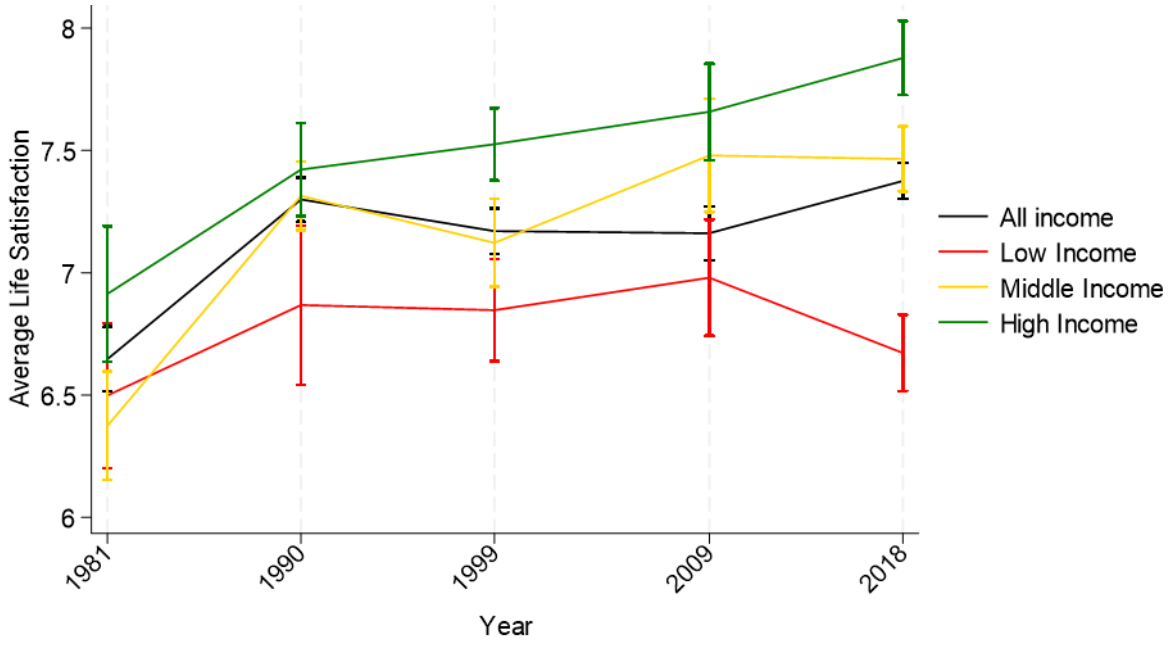
In addition to income inequality, inequality of subjective well-being across income groups has also been increasing. Figures 2 and 3 show the trends in life satisfaction by income groups for Germany and Italy from 1981 to 2018. Differences in life satisfaction between income groups widened over time. Lower income groups exhibit lower life satisfaction than others all over the period, but the difference in life satisfaction between income groups was larger in 2018 than in 1981.

Figure 2. Germany in 1981-2018. Average Life Satisfaction by Income Group with Standard Deviation



Source. European Values Study. Own computations.

Figure 3. Italy 1981-2018. Trends of Life Satisfaction by Income Groups with Standard Deviation



Source. European Values Study. Own computations.

4 Can Growth be Sustainable?

Growth is associated with some of humanity's greatest triumphs, such as the liberation of billions from poverty and ignorance. In 1820, 8 in 10 people were extremely poor, now it is 1 in 10; 9 in 10 were illiterate, now it is 1 in 10 (Susskind 2024). However, growth is also associated with most of our greatest problems. The evidence reviewed here suggests that the growing economic pie has been filled up with toxic cherries over the past decades. Ecological crises and the decline of social capital document the pervasive negative externalities produced by economic growth in the considered period.

At the same time, growth improved the quality of private life but worsened that of common life (Galbraith 1998). The deterioration of common goods, such as the environment and human relations, imposed a high toll on well-being. This contributed to the decrease of well-being in countries where sustained growth has been coexisting with the impoverishment of social capital for decades, such as the United States and China. Additionally, safety nets and public social spending are other two dimensions of collective life that have deteriorated in recent decades and further contributed to the decrease of well-being (Easterlin et al. 2012, Easterlin et al. 2017, Easterlin and O'Connor, 2022).

In sum, the bright side of growth, namely that luxury goods for one generation become standard goods for the next one and basic needs afterwards, is only a part of the story of the past half century. The other part, the dark side of growth, concerns goods that were abundant and freely available for one generation, that became scarce and costly for the next one, and luxury goods thereafter. A pristine environment, a dense network of daily face-to-face interactions, a social fabric of neighbors, safe public spaces, or simply human curiosity are examples of goods that declined across the last few generations.

The negative performance of the last decades does not rule out that growth may become sustainable. Policies can shift growth towards more sustainable and equitable paths. Some evidence shows that improvements in subjective well-being follow economic growth in countries where trust does not decline and income inequality does not increase, over long time periods (Mikucka et al. 2017). As for the ecology, green technological progress could become rapid enough to offset the negative environmental effects of the increasing scale of economic activity. After all the unprecedented quantity of public and private R&D spending being currently poured into green technologies could ultimately decouple growth from its environmental impact.

However, available data indicate that the nature of growth should change substantially to become socially and environmentally sustainable and deliver satisfactory lives. How should economic growth change? Let's start from what it should not be like: the experience of the past 50 years documents the failure of the neo-liberal idea that life can be improved by developing only private goods. This idea informed policies that promoted a type of growth that neglected the collective dimension of life - the one comprising social and environmental goods, and safety nets - ultimately harming well-being.

It is not so much growth that matters for well-being as its social quality: if the price of economic growth is the desertification of the collective dimension of life then it is not worth from the point of view of well-being. Growth should be driven towards the promotion of common goods with appropriate policies, such as those for social capital (section 9) and the protection of the environment. This implies adopting new notions and measures of progress because GDP correctly reflects only the private dimension of people's lives.

5 The High Well-being Society

These conclusions find strong support in the literature on subjective well-being. In particular, these studies confirmed the great importance of common goods for well-being. The evidence that subjective well-being provides valid and reliable

representations of how people fare with their lives (Diener at al. 2018) enabled a burgeoning interdisciplinary literature that took off in the past few decades. Findings indicate that non-income factors play a larger role for well-being than income. Sharing, rather than possessing, is fundamental to well-being. Various studies on the correlates of well-being show that the quality of natural and built environments as well as of affective and social relationships matter a lot for subjective well-being (Helliwell and Aknin 2018). “Individual differences in happiness appear to be solidly anchored in the invisible threads of connections to others” (Hawkley and Cacioppo 2008).

Studies on subjective well-being significantly contribute to an ample debate on human attitudes that developed over past 30 years. An impressive amount of research from different sciences, including neuroscience, evolutionary biology and a great quantity of experiments, contributed to the consensus on the human biological peculiarities on which humanity’s evolutionary success is based. As emphasized by the titles of a number of recent influential books, humans are the giraffes of altruism and reciprocity (Born to be Good*,* Keltner 2008; Good Natured, De Waal 1997), of ethics (The Moral Animal, Wright 1995; Origin of Virtue, Ridley 1998; The Righteous Mind, Haidt 2013), of cooperation (Why We Cooperate, Tomasello 2009; A Cooperative Species, Bowles and Gintis 2011; The Evolution of Human Cooperation, Apicella and Silk 2019). Just as giraffes got long necks to help them survive, human beings developed empathy, solidarity, generosity, social preferences, moral feelings and social intelligence.

Studies on subjective well-being contribute to these conclusions on the social attitudes of the human species, by underlining the importance of sharing for well-being. Consistently, it has been shown that the quality of the environment, a common good, has a significant impact on well-being. Air pollution is negatively associated to happiness (Levinson 2012, Yang and Zhang 2014, Luechinger 2009, Sanduijav et al. 2021). Health may partly mediate such relationship. For instance, PM2.5 can significantly hamper health and increase the probability of chronic diseases and mental depression (Liu et al. 2021, Zhang et al. 2020).

In summary, studies on subjective well-being highlight the crucial role of common goods and suggest that the decline in the shared aspects of life over the past half-century has significantly harmed well-being (Bartolini et al. 2013, Bartolini and Sarracino 2015).

The literature reviewed so far contains two main messages: the first is that economic growth can increase well-being, but it is dangerous because it can destroy common goods. If such destructive power is controlled, regulated, limited then the wellbeing-enhancing potential of growth can be unfolded. This implies prioritizing well-being in policy decisions. In other words, shifting the focus from economic growth to well-being can enable sustainable growth.

The second message is that there are significant non-income drivers of well-being. By promoting them, it is possible to decouple well-being from consumption. That is to say, there are effective ways to increase well-being other than economic growth. For instance, as policies for social capital are low-cost (section 9), economic growth is not critical to improving social capital.

The possibility to increase well-being without growth depicts a new narrative of progress outside the economic growth paradigm. So far, economic growth has been closely associated with the idea of progress, which has come to mean buying more stuff. However, the literature on well-being suggests that well-being can be increased through changes in the social and economic organization that have nothing to do with economic growth and can be promoted by policies.

Although economic growth could become sustainable, the possibility to expand well-being without growth should be welcome because, given the technologies available in an economy, the lesser the economic activity, the smaller its environmental impact. This would hold even with greener technologies than those currently available.

The high well-being society we propose contains a crucial element for a sustainable society: it goes beyond GDP, i.e. it prioritizes well-being over growth. In the next sections, we will focus on social capital as a major contributor to well-being to illustrate the features of a high well-being society.

6 A New Narrative of Progress

The narrative of progress that we propose has huge potential of success, both among the public and decision-makers. Conventional wisdom claims that the road to sustainability is paved with sacrifices. This view is common among both opponents and advocates of the ecological transition. Opponents argue that the ecological transition would come at a too high price for our standard of living. Advocates maintain that this is the price to pay for the sake of future generations. Either way, they agree that current generations should make sacrifices. In other words, the narrative behind the conventional wisdom is about an unavoidable intergenerational well-being conflict: future generations can live better only if current generations accept to live worse lives.

Such sacrifices are the main obstacle to upshifting the environmental priority, despite the fact that ecological problems represent serious concerns for a large share of the public. According to a 2020 survey spanning 50 countries and covering 56% of the world's population, at least 60% of respondents, from both rich and poor countries, elderly or young, think that climate change is a “global emergency”. [1] This figure is

[1] The Peoples' Climate Vote | UNDP

consistent with the one provided by the Edelman Trust Barometer of 2022 which revealed that 75% of respondents worry about climate change: an increase of 3 percentage points between 2021 and 2022 that rank climate change the second most pressing issue after the fear of losing one's job[2]. This majority is the result of a decades-long increase in the public awareness of global warming and other ecological crises. For instance, climate change and the environment ranked respectively second and third among the most important issues facing the European Union in 2019[3]. These concerns came right after immigration and before terrorism, the economic situation and unemployment. Documentaries and books on eco-friendly practices and lifestyles have gained popularity. Each new generation seems to give increasing priority to ecological issues.

However, the perception that sustainability comes at the cost of worsening the current standard of living prevents most people from upscaling the environmental priority. The reason is the perceived trade-off between protecting the environment and economic growth, which is regarded as the primary way to achieve better lives in modern societies. Hence, reducing economic growth for the benefit of the environment meets fierce opposition because it sentences people to leading grim, unhappy lives.

The literature on subjective well-being indicates that it is possible to decouple well-being from consumption and pollution, thus relaxing the trade-off between well-being and sustainability. For instance, we know that improving sociability provides an environmentally sustainable perspective for durable increases in well-being. This constitutes a powerful new narrative, indicating how to build socially and environmentally sustainable economies in which people can lead satisfactory lives.

This narrative undermines the idea of an inter-generational trade-off in well-being. Current generations can live better without harming the well-being of future generations. This can greatly expand the consensus on ecological transition. By suggesting that people can live better lives without increasing environmental impact, the well-being narrative can make a substantial contribution to upgrading public support for the environmental priority.

This narrative is also relevant to degrowth and post-growth approaches. These approaches claim that the only sustainable option to protect the environment is the reduction or stabilization of the level of economic activity. The conflict between ecology and well-being plays a particularly critical role in undermining consensus on these proposals. How could the quality of life progress in absence of economic growth? Post-growth and degrowth advocates have so far provided scattered answers to these question. Hence, they do not offer a comprehensive alternative to growth; they

[2] https://www.edelman.com/trust/2022-trust-barometer
[3] https://europa.eu/eurobarometer/surveys/detail/2212 , Special Eurobarometer 490.

simply propose giving up the growth project. This is where the scant consensus to post-growth and degrowth originates. Their political potential would expand if they were able to indicate how to decouple quality of life from growth, that is how to expand the former independently from the latter. Subjective well-being studies provide such an indication.

7 Two Paradoxes: Unhappy Consumerism and Socially Unsustainable Growth

A problem for mainstream economic theory is the absence of a meaningful association between economic growth and quality of life improvements, the so-called Easterlin paradox. The paradox is a problem for two reasons: it undermines the key microeconomic assumption that growing consumption leads to increasing well-being; and it challenges the economic explanation of consumerism, that is the high levels of consumption and working time which characterize developed economies. Such levels were unexpected up to the 1970s, when the prediction of future leisure affluence was very common. Consumerism in developed countries is relevant to sustainability because massive production and consumption is responsible for most ecological crises.

According to the traditional economic approach, individuals' preferences drive the behavior of economic systems: if people work and consume a lot, it is because consumption is much more important than leisure for their well-being (Solow 2008). However, if this were the case, we should observe a stronger relationship between economic growth and well-being than we actually observe. In other words, income growth buys too little happiness to explain the feverish consumerism of affluent societies. This is the paradox of unhappy consumerism.

Also the negative relationship between GDP and social capital over time is paradoxical for conventional economic wisdom. Economic studies see social capital as a catalyst of economic activity and find that its initial stock contributes positively to subsequent economic growth, thus providing no explanation for the observed negative relationship over time. Such relationship remains an open issue. This is the paradox of socially unsustainable growth.

In conclusion, the evidence reviewed here leaves two open issues. The first is the negative coevolution of GDP and social capital. The second is explaining consumerism despite the Easterlin paradox. Consumerism in developed countries is obviously a root cause of the ecological crises. If current leisure time were as abundant as Keynes expected, we would produce and consume much less, and the ecological threats would be less serious. In general, the relationship between yearly work hours and emissions

in wealthy countries is large and significant (Knight et al. 2013). Energy consumption in wealthy nations is estimated to drop by 0.4 percent for every 1 percent decrease in work hours (Fitzgerald et al., 2015). In the United States, working hours have risen substantially for the most highly educated workers (Jacobs and Gerson, 2005), who are also disproportionate carbon emitters (Schor and Jorgenson, 2019).

Box 4. The Challenges for Economic Theory

The negative relationship between GDP and social capital over time is puzzling for economic theory. By making transactions safer and cheaper, and by improving the performance of local and national governments, social capital, and in particular trust in others, fosters economic growth (Arrow, 1972). Convincing theoretical arguments and robust empirical evidence support this view (Knack and Keefer, 1997; Helliwell and Putnam, 1995; Guiso et al., 2006; Algan and Cahuc, 2013; Alesina and Giuliano, 2015). However, these studies do not consider how GDP and social capital coevolve over time. Researchers measured GDP growth subsequent to the measurement of trust and civic cooperation (e.g. Knack and Keefer, 1997) or correlated period-averages of social capital and GDP per-capita (eg. Algan and Cahuc, 2013). In both cases, changes over time of social capital are not taken into account and their negative relationship with growth remains undetected.

As for the Easterlin paradox, standard microeconomic theory provides no explanation, as it assumes that consumption positively affects individuals' well-being. The puzzle becomes more complicated if we consider the high levels of consumption and work effort of high-income economies. Why do people consume and work so much if money buys little or no happiness?

Current levels of consumption and work effort would have surprised pundits up to 50 years ago. Keynes predicted that around 2030 the average working week in industrial countries would drop to 15 hours (Keynes 1930). This type of prediction was common in his time and remained so until the 1970s, filled with debates about the problems of the impending ‘leisure society’. The notion of economic progress until then was including the liberation of substantial portions of time from the toil of work.

In fact, the exhausting work hours of the first industrialization in Europe had been dwindling up to the 1970s. Increasing leisure was a reasonable expectation. Industry was expected to create productivity gains to the benefit of wages, thus progressively freeing workers from poverty. Once released from the pressure of poverty, time would increasingly be allocated to enjoying life, cultivating personal interests and relationships, etc. After all, industrialization had proven up to 1970s that it could produce time as well as goods.

Since the 1980s trends of work hours changed. Working hours began to decrease very slowly in Europe and to increase in the United States (Rogerson 2008, Stiglitz 2008, Schor 2008). These trends have remained unchanged. The prospect of a leisure society has long since faded in developed societies, leisure has disappeared from public debate, unions' agendas and the notion of progress. Current industrial societies are much more consumerist than one would have expected until the 1970s.

Why do current economies chose a leisure/consumption mix that is much more unbalanced towards consumption than imagined for most part of industrial history? As Stiglitz (2008) suggested, consumerism requires an explanation. A possible one is that what people really crave for is money, not leisure (Solow 2008). This explanation is familiar to many economists, who are used to thinking that the behavior of the economic system reflects the preferences of individuals. But it is an unconvincing explanation. If the motivation for consumerism were non-satiety of needs, that is the unlimited human capacity to desire goods, we should observe a much stronger relationship between income and happiness, not only over time but also in micro-data.

The increase in subjective well-being associated with additional money is dwarfed by that associated to relational improvements. For instance, using British micro data Powdthavee (2008) shows that the increase in subjective well-being for individuals that move from "seeing friends or relatives less than once a month" to "seeing friends or relatives on most days" is worth an extra £85,000 a year for a representative individual earning £9,800 annually. Widowhood, is equivalent to a drop in income of around £200,000 a year. Other data sets provide similar estimates (Bartolini et al. 2013). Beyond being limited, the impact of income on individuals subjective well-being is mostly holding at low-income levels, consistently with the hypothesis of decreasing marginal utility of income (Frey and Stutzer 2010). Money should buy much more happiness than the data shows to explain rampant consumerism in affluent societies.

The upsurge in income inequality in industrial countries since the 1980s offers another possible explanation. However, real wages and salaries have increased over the past decades, despite having lost ground in the income distribution. Moreover, in the United States and other industrial countries working hours have risen substantially for high income workers (Jacobs and Gerson, 2005). Therefore, rising inequality cannot be the main explanation for persistently long work hours.

8 Theoretical Explanations

The paradoxes of unhappy consumerism and of socially unsustainable growth are left unexplained by mainstream approaches. Explanations must be sought elsewhere. We devote the next two sections to review the only two explanations we found in the literature: social comparisons and defensive growth.

8.1 Social Comparisons

According to Stiglitz (2008) the predictions of future increase in leisure failed because they did not consider social comparisons. Social comparisons refer to people's tendency to compare themselves with others – those composing the so-called reference group.

The 'race to keep up with the Joneses,' or social comparisons, drives competitive consumption, creating a strong incentive for individuals to spend and work more, even in affluent economies. In an economy where relative position matters, the well-being of individuals with constant real incomes is likely to decline if others increase their incomes, creating strong incentives for people to over-consume and over-work (Hirsh 1976, Neumark and Postlewaite 1998, Bowles and Park 2005). It is in the light of these considerations that Layard (2006) advocates for policies aimed at reducing incentives for the positional race, thereby minimizing the associated waste of effort and resources.

Since social comparisons are a source of dissatisfaction and frustration in people's lives (Clark and Senik 2010, Luttmer 2005), they contribute to explaining why economic growth does not increase well-being over time. Growth would enhance subjective well-being if income alone mattered, as is often assumed by economists. However, in an economy where well-being depends on social comparisons, economic growth becomes a statistical mirage, failing to capture the output that truly matters. Such an economy produces winners and losers; any gain in the positional race comes at someone else's expense, making it a zero-sum game.

In summary, according to the social comparisons theory predictions of future leisure abundance, which were common until the 1970s, failed because they assumed that all

that mattered was purchasing power. The possibility of income growth to improve well-being diminishes in presence of social comparisons. This explains why developed economies use increased productivity to expand output rather than leisure, and why rising output has had a limited impact on well-being.

In this way, social comparisons explain the paradox of unhappy consumerism. What is left unexplained is paradox of socially unsustainable growth.

8.2 Defensive Growth

Defensive growth theory provides a complementary explanation of unhappy consumerism. This theory focuses on the role of growth-related negative externalities to explain decreasing well-being and increasing consumption and working hours in affluent economies. Negative externalities of growth reduce well-being and induce people to purchase substitutes to compensate for the decline of free, common goods, such as environmental and social resources. The increase in the demand for substitutes, and the workload necessary to finance them, stimulate economic growth and fuel new negative externalities (Bartolini and Bonatti 2003, 2008a; Antoci and Bartolini 2004). In other words, individuals' attempts to defend themselves from negative externalities foster economic growth. Defensive growth is, therefore, a self-feeding, vicious cycle in which economic expansion is the cause and consequence of its harmful effects on common goods, such as the environment, social capital and, ultimately, well-being.

Studies in social psychology emphasize that the scarcity of social capital, and in particular of good social relations, increase the importance of money in people's lives (Kasser, 2002). Money provides ways to compensate for the emotional distress caused by dissatisfying social and intimate connections. In social psychology, materialists are individuals attaching high priority to material possessions (Kasser, 2002). Materialistic individuals prioritize two aspects of possessions: what they own and what others own. Many studies documented that materialism and good social relations are negatively related in individuals (Sheldon and Kasser, 1995; Sheldon et al., 2000; McHoskey, 1999; Duriez et al., 2007; Cohen and Cohen; Tang and Chiu, 2003).

Using a longitudinal sample – that is tracking the same people over time - Pieters (2013) demonstrates that materialism and loneliness are intertwined over time, with loneliness contributing more to materialism than vice versa. Experimental evidence further confirms the negative impact of materialism on social capital (Vohs, Mead, & Goode, 2006; Bauer et al., 2012).

Advertising plays a critical role in promoting consumption as a compensation for insecurity and emotional distress (Schor, 2004). Advertising offers a purchasable solution to malaise by linking positive feelings—such as love, success, or status—to

products. Relational poverty is a significant source of distress, and much of marketing's promise is relational: buying will enhance one's identity, image, or relationships.

Box 5. Defensive Growth Theory

Defensive growth is based on the idea that social capital provides priceless services and emotional support that matter for people's well-being. When social capital declines, people react to the associated loss of well-being by seeking compensation in marketable goods and services. For instance, home entertainment makes pleasant evenings at home when people are lonely or the city is too dangerous to be out at night; alarm systems, security doors and private guards protect people's possessions from crime; companies pour considerable resources into monitoring employees' work performance, or to write sophisticated contracts to prevent moral hazard when they cannot trust their employees and business partners. The absence of a trusted neighborhood and the dangers of the urban space increase the demand for care-givers to attend to the elderly when they are alone and sick, and for babysitters when children are not at school.

The same holds for environmental quality. Vacations in pristine environments provide the clean air, seas and rivers that are scarce in cities; triple glazing is a defense against noise; if water is polluted, people can install filters; expenditure for pollution abatement, treatment of illnesses caused by pollution, and emergencies/reconstruction after extreme climate events related to climate change are a direct response to environmental decay.

These examples constitute what Hirsh (1976) referred to as defensive expenditures: spending aimed at defending from negative externalities. Markets provide private alternatives or solutions to the decay of common goods, such as social or natural resources. In brief, having more can make up for sharing less.

8.2.1 Private Affluence, Common Poverty

Defensive growth entails a substitution process in which market goods and services progressively replace declining non-market sources of well-being. according to this approach, expectations of a future leisure society failed because defensive growth is a zero (if not negative) sum game for well-being: to keep up well-being against the raising negative externalities of growth, people have to engage in ever-growing consumption, thus making high work effort and importance of money a persistent feature of affluent societies. The reason is that what people can or cannot do increasingly depends on their possessions. By amplifying the need to consume, the decay of commons fuels growth and gives way to increasing negative externalities.

Such economic growth is driven by its own destructive power: negative externalities fuel growth, and growth, in turn, produces further negative externalities. In this framework, rising economic affluence is inseparable from environmental and social decay. Degradation of common goods is the other side of private prosperity, leading to the typical contrast of the "affluent society" (Galbraith, 1958).

When growth is defensive, the deteriorating quality of the natural environment, weakened social relationships, and high workloads offset the positive effects of rising income on well-being. Haste and unhappiness are two sides of the same coin: people work hard when what they privately own constitutes their defense against the decay of common goods. This decay explains why greater economic prosperity does not improve well-being: an economic pie that grows because a larger slice is allocated to cure its negative side effects does not benefit well-being. This constitutes an additional explanation of the Easterlin paradox.

Defensive growth is undesirable because it both feeds and is fed by the damage to shared resources. GDP statistics are not suitable to track such damages. They produce the illusion that the economy progresses because they do not measure the availability of what cannot be bought.

8.2.2 How to Build an Inclusive Economy

The evidence we reviewed indicates that the economic growth that characterized Western countries over nearly half a century is better described as exclusive rather than inclusive. Income inequality increased in most countries, as well as subjective well-being inequality between income groups. Importantly, the worsening of the distribution of well-being does not simply reflect the worsening of the income distribution. In this section we show that the availability of common goods affects the well-being distribution between income groups. Such a distribution is relevant because it is a measure of the extent to which money buys happiness. The more money buys happiness, the more income differences translate into well-being differences.

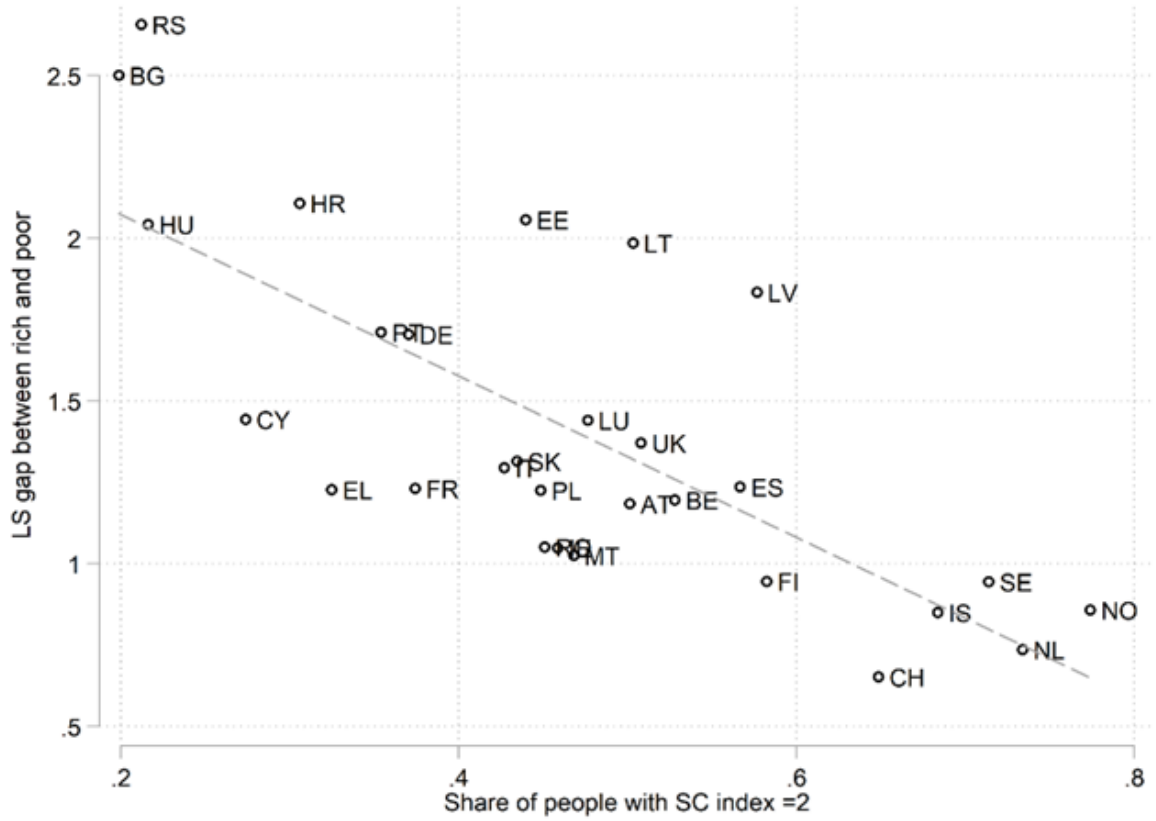
Bartolini et al. (2023) analyzed more than 500,000 individual interviews from representative samples of dozens of countries, using data from various datasets, and a variety of measures of social capital and subjective well-being. The authors used two types of income measures: the first is absolute income, which reflects individuals' purchasing power and is positively associated to subjective well-being; the second is the income of others, the Joneses, the group a person compares with. This type of income reflects social comparisons and it has the opposite effect on well-being: the better off the Joneses are, the worse off one feels.

The authors find that the positive correlation between absolute income and subjective well-being halves when individuals have rich social lives, compared to socially isolated

individuals. In other words, roughly 50% of the importance of own income for the subjective well-being of isolated individuals has a defensive nature, i.e. arises from their relational poverty. Moreover, the authors found that whether the Joneses are better or worse off has little or no importance for the happiness of people with a rich social life. On the contrary, isolated people are the most concerned about their relative position in the economic ladder (Barcena-Martin et al., 2017). Importantly, these results are unaffected by potential concerns of reverse causality.

Bartolini et al. (2023) find the same result at the aggregate level, both nationally and regionally. Figure 4 shows an example of the cross-country negative association between an index of social capital and the life satisfaction gap between rich and poor people – a measure of the distribution of subjective well-being across income groups. The life satisfaction gap between rich and poor people is lower in countries and regions where social capital is higher, compared to countries with less social capital. For instance, on the top left corner of the scatterplot of figure 4 there are countries, such as Serbia and Bulgaria, where social capital (reported on the x-axis) is low and the life satisfaction gap between rich and poor people (reported on the y-axis) is large (more than 2.5 points on a 0-10 scale). On the contrary, the life satisfaction gap is less than one in countries with high social capital, such as Switzerland, Iceland or the Netherlands, located at the bottom right corner of figure 4. This finding does not depend on a country's level of income inequality or GDP per capita. Regression results show that, holding constant the Gini index of the income distribution, and GDP per capita, the life satisfaction gap between income groups is smaller in countries and regions where social capital is high.

Figure 4. Life Satisfaction Gap Between Rich and Poor People and Social Capital in 29 European Countries. EU-SILC data 2013.



Note: Social capital is measured as the share of respondents with a social capital index = 2. The social capital index has a maximum score of 2 if a person trusts others and meets friends at least once per month. Life satisfaction ranges on a 0 to 10 scale, where largest scores stand for higher life satisfaction. Aggregated data are computed from individual data using sample weights.

Source: Bartolini et al., 2023

This cross-country result mirrors the micro-level findings described above. As social capital reduces the extent to which money buys happiness for individuals, income disparities translate into strong subjective well-being disparities in socially poor nations. Instead, in socially-rich countries, the difference in subjective well-being between income groups is small.

In essence, in countries with more social capital well-being inequality is lower than elsewhere, holding constant the income distribution. Social capital has an equalizing effect on the distribution of well-being across income groups because the higher the social capital, the less income differences matter in determining differences in well-being.

This finding has four implications relevant to the issues addressed in this paper:

1) The extent to which income differences translate into well-being differences depends on the availability of common goods. Economists usually maintain that publicly provided common goods, such as public schooling and healthcare, have a redistributive effect. Results from Bartolini et al. (2023) suggest that this also applies to social capital. Expanding common goods has an equalizing impact because they benefit all those who access them. For this reason, the impact of income inequality on subjective well-being is influenced by the common goods that individuals share. A context in which commons are scarce makes money very important because it becomes the main source of well-being. This is why income inequalities matter more in determining well-being inequalities in countries with relatively poor social lives.

2) This evidence is consistent with the prediction of defensive growth that growing social isolation makes money more important for individuals' well-being. This holds for absolute income and to a larger extent for social comparisons. People seek in income, status and success a compensation for scarce social relationships. Loneliness is a fertile ground for envy because individuals engage in the race for position as compensation for poor relationships. In other words, in the defensive growth framework, social comparisons are the flip side of the coin of the erosion of social capital.

3) The worsening of the distribution of well-being among income groups is due both to the increase in income inequality, and to the decline of social capital and the welfare state.

4) Fostering common goods and income redistribution are two complementary solutions to reduce well-being disparities. Income redistribution through taxation has encountered increasing difficulties in recent decades, due to the mounting reluctance of high income groups to tax pressure. Such reluctance turned into political pressure for tax cuts on high income. In OECD countries, the top income tax rate fell from 66% to 42% from 1981 to 2010 (Förster et al. 2014). Over the same period, the average corporate income tax rate fell from 47% to 25% and that of dividends from 75% to 42% (Bastagli et al. 2012).

Promoting social capital cannot replace income redistribution, but it is more politically viable and can have similar benefits. Moreover, in the long run promoting social capital can reduce the reluctance of middle-high income groups to taxation. The reasons is that tax aversion is widespread in societies populated by isolated individuals, motivated by money and in competition against each other, who lost the feeling of being members of a society. In other words, the erosion of social relations undermines the foundations of the welfare state. Promoting social capital will increase well-being, reduce social comparisons and well-being inequality, and reconstitute the social fabric

that is essential for the sustainability of the welfare state. The welfare state is sustainable as long as a country is not just a collection of individuals held together by the force of interests alone.

Summarizing, policies for social capital can both reduce well-being inequality in the short and medium term, and pave the way for greater redistribution through taxation over the long-term. Investing in social capital is a promising way to transform the economy from exclusive to inclusive.

8.2.3 Explaining the Decline of Social Capital in Growing Economies

We found no explanation other than defensive growth for the long-term coexistence of declining social capital and GDP growth. Not only social comparisons theory gives no explanation for this, but we have not found any explanation in economic studies on social capital. Such studies conclude that the initial endowment of social capital positively affects subsequent economic growth and do not analyze how the evolution of social capital is related to the growth of GDP.

Defensive growth clarifies that rapid growth can be a consequence of declining social capital, and vice versa. The long-term coexistence of growth and declining social capital is consistent with the evidence that a high initial stock of social capital promotes subsequent growth – as claimed by economic literature. However, Such literature neglects that the erosion of social capital and economic growth can reinforce each other. What seems to have happened in countries like the United States is that a strong fabric of relationships, trust, and shared beliefs, that initially contributed to spark growth, has subsequently been eroded. This erosion contributes to economic growth because of defensive reasons.

9 Policies for Social Capital

Given the major impact of social capital on well-being, policies for social capital are a prominent example of policies for well-being. Evidence of successful implementation suggests that public policies for social capital are possible in at least three domains: urban planning, education, and advertising.

Urban planning plays a major role in the formation of social capital. Since their invention (about 5000 years ago), cities served as spaces of aggregation, and the role of public spaces has always been central for this purpose. In the second half of the 20th century however, cars invasion caused the collapse of the quality of streets and squares which lost their function to contribute to the social fabric. According to New Urbanism, an urban design movement, planning cities and neighborhoods with high residential density, mixed-use, walkability, pedestrian areas, parks, car restrictions, public transport can contrast the negative effect of car-oriented urban development

on social capital. Re-organizing common spaces and transport is critical to relieve the urban car-dependency and favors social capital (Montgomery 2013). Long commutes impose a high relational toll: people who commute for more than 45 minutes are less happy and they are 40% more likely to divorce (Olsson et al. 2012).

Studies comparing traditional high-density neighborhoods and conventional low-density suburbs find greater social interaction and sense of community in traditional neighborhoods (e.g. Kim & Kaplan, 2004; Lund, 2002). Other studies focus directly on the degree of walkability (Frank et al. 2010) and demonstrate that more walkable neighborhoods have enhanced social interactions and a greater sense of community (Leyden, 2003; Lund, 2003; du Toit et al., 2007; Wood et al., 2008, 2010, Rogers et al. 2010, 2013). Even dog walking works as a catalyst in strengthening a community's social fabric (Wood and Christian 2011). Gilderbloom et al. (2015) showed also that walkability favors relational goods, and predicts neighborhood real estate prices, foreclosures and even crime rates. Walkable neighborhoods translate into more "eyes on the street," which leads to less crime.

Children's education plays a significant role in developing the social skills essential for building social capital later in life. Current teaching practices contribute to making education a distressing and competitive experience for many students (OECD, 2017). These practices largely rely on vertical teaching, where teachers primarily lecture and question students, while students take notes or read textbooks. The primary relationship in the classroom is between teacher and students. Participatory teaching practices offer an effective alternative and have, for this reason, been increasingly adopted in mainstream education across northern European countries (Brulè and Veenhoven, 2014). Participatory teaching is centered around group work on shared projects in student-focused classrooms and has been shown to foster students' social capital, including cooperation with peers and teachers, involvement in associations, trust in institutions, and active participation in civil society (Algan et al., 2013). Unsurprisingly, schooling practices that emphasize cooperation help to shape more cooperative individuals.

Participatory teaching traces its roots to Montessori education – a century-old approach to schooling (Biswas-Diener, 2011). Lillard and Else-Quest (2006) found that Montessori education fosters social and academic skills more effectively than traditional methods.

Advertising negatively affects social capital and increases social comparisons, especially for children and teenagers. In the United States, total spending on advertising targeting children in the early 2000s was 150 times bigger than in 1983 (Schor, 2004). Mounting advertising is bad news because studies have documented a relationship between exposure to advertising and materialism in children since the

1970s (Schor, 2004, Goldberg and Gorn, 1978,Pollay, 1986, Buijzen and Valkenburg, 2003, Nairn et al., 2007). Similar to adults, children's materialism is bad for their social capital: it is associated with family conflict, less generosity and more anti-social behaviour (Cohen and Cohen, 1996, Kasser and Ryan, 1993, Buijzen and Valkenburg, 2003, Nairn et al., 2007, Kasser, 2005). Moreover, advertising promotes the race to keep up with the Joneses by triggering feelings of exclusion in those who do not buy the advertised products (Schor, 2004). Increasing awareness of the damage caused by soaring commercial pressure on children and teenagers has lead various Western countries to regulate advertising. Norway and Greece banned television advertisements targeting kids, while New Zealand prohibits advertising of junk food. Ads targeting kids before, during or after children's TV programs are banned in Austria and Flanders (Belgium). Authorities for the regulation of advertising are at the forefront in regulating children's media in countries such as Australia, Canada, and the UK (Lisosky, 2001,Caron and Hwang, 2014). Since advertising fosters social comparisons also among adults, its regulation would benefit adults too.

Importantly, the policies described are relatively inexpensive to implement and may ultimately improve public budgets. Indeed, lower social comparisons and greater social capital are expected to reduce morbidity, and therefore healthcare spending (Hawkley et al. 2010; Kawachi, 1997).

10 Does Leisure Harm the Environment?

Greater leisure enables individuals to enjoy more and better relationships, as it is hard to imagine people who are constantly time-squeezed being sociable. However, current patterns of leisure can be highly damaging to the environment. This might thus suggest that increasing leisure is not good for the environment. However, two factors influence current consumption patterns: the first is the combination of high income and little leisure, resulting in highly resource-intensive, leisure patterns (Linder, 1970). For those leading hectic work lives, a (energy-intensive) weekend getaway to an exotic destination or a second home offer quick relaxation and fun.

The second factor affecting the energy-intensity of leisure is the local environmental degradation and the erosion of social relations. The availability of a rich network of local relations and of pristine environment allows people to enjoy their leisure time without having to travel long distances to recover from their intense work weeks. The erosion of local common goods leads to energy-intensive leisure patterns because it requires greater mobility (second homes, travels, etc.).

The shift to an economy characterized by time affluence and good social relations would remove both the conditions that shape current leisure patterns. To what extent such a shift could reduce the energy-intensity of leisure remains an open question,

given the lack of research on the topic. However, a time affluent society may have limited energy consumption if it could rely on good quality social relations and natural environment, because they create opportunities to enjoy leisure locally. More leisure and more opportunities to enjoy it locally are a plausible way to reduce the energy demand of leisure time.

11 Greater Workers' Well-being Raises Productivity

Throughout the history of capitalism, the main ingredients of productivity growth have been investments on physical and human capital, and technological progress. Over the past few decades, well-being studies clarified that workers' well-being is another important source of productivity. These studies indicate that workers with high well-being, as measured by subjective well-being or indexes of quality of work, are more pragmatic, less absent, change jobs less often, make fewer mistakes in performing tasks, have fewer accidents, earn more money, have better relationships with colleagues and customers (see Spector (1997), Brief and Weiss (2002), and Judge and Klinger (2008) for insightful reviews of this literature). These are all aspects linked to workers' performance on their job and to workplace outcomes. Companies where workers are more satisfied report, on average, less employees turnover, and experience higher sales, turnover and profitability. In addition, more satisfied workers are more creative, leading to more organizational and technological innovation (Brulè and Munier 2021). Improving the well-being of workers would thus probably lead to greater technological dynamism.

Estimates of the effect of well-being on productivity vary depending on the specific measures and techniques used. However, studies agree that the effects are significant (see, for instance, Edmans, 2011 or Bryson et al., 2017). To begin with, Gallup estimates that nearly 8.9 US$ trillion are lost in global GDP due to low engagement on the workplace. According to the latest State of the Global Workplace (Gallup, 2024) 62 percent of employees are not engaged in their work, 15 percent are actively disengaged, and only 23 percent are engaged, that is are committed to do their job well and to contribute to the success of their employer. In this light, it is unsurprising that 52 percent of workers around the world, and 32 percent in Europe, say they are watching for or actively seeking a new job. This is consistent with the evidence that satisfied employees are 30 percentage points less likely to resign than their dissatisfied counterpart (O'Connor et al., 2024).

DiMaria and colleagues (2020) estimated that increasing life satisfaction by one unit in countries like France or Germany could result in productivity gains equivalent to

nearly 80 working hours per year. This means that people could work roughly two weeks less per year, without sacrificing the output. Importantly, the authors do not find evidence that life satisfaction is an output of the production process: while well-being contributes to productivity, the reverse does not hold true. Considering that in Europe, on average, 2% of workers declares to be dissatisfied with their job and an additional 6% reports low job satisfaction, a lot can be done to promote workers' well-being[4]. Peroni and colleagues (2022) estimated the relationship between job satisfaction and labor productivity at industry level in Europe. The authors found that one unit increase in job satisfaction is associated to 5 percent higher labor productivity, and nearly 6% increase in the growth rate of labor productivity. These findings are strikingly consistent with earlier results from Bockerman and Ilmakunnas (2012), who however use different data and techniques. Additionally, experimental and randomized control trials confirmed the sizable link between well-being and productivity, estimated at about 12% Oswald et al., 2015; Bellet et al., 2023). A meta-analysis of the literature on well-being and productivity reaches similar conclusions, and provides evidence that the effect of well-being on productivity is not temporary (Fang et al., 2024). In other words, available evidence convincingly shows that well-being should legitimately be considered one of the intangible factors in production. This is why many companies are pouring considerable resources to improve their employee's well-being, and a whole new market segment of well-being consultants has emerged: companies and organizations recognize the intrinsic and/or economic value of promoting the well-being of their employees.

The productivity gains from increased well-being could be used to shorten the workweek, enable earlier retirement, or to finance policies for well-being, such as promoting social relations, without affecting economic output.

12 Conclusion

The sustainable society we described (section 2) goes beyond GDP, and places well-being at the center of decision making. This is a key shift as we propose to move towards a human-centered paradigm in which policy-making prioritizes people's well-being directly, rather focusing on economic growth in the hope that its effects trickle down to people and improve their well-being. This shift is consistent with the neo-humanist narrative according to which societies should move from income as the preeminent measure of well-being, to promote what matters most for well-being. Neo-humanism offers a project to lead satisfactory lives that are socially and

[4] Statistics are based on job satisfaction and are the European average in 2021. Data are sourced from the European Union Labor Force Survey and are available here: https://ec.europa.eu/eurostat/databrowser/view/lfso_21jsat01$defaultview/default/table

environmentally sustainable, and challenges the notion that economic growth is always beneficial. It proposes a redefinition of performance, corresponding to societies' ability to transform resources into high quality of life. By prioritizing well-being, neo-humanism goes beyond GDP.

Evidence suggests that economic growth can be compatible with subjective well-being in countries that promote full employment and social safety nets, protect social relations, and reduce income inequalities. In such countries, the economy might grow slower than elsewhere, but slow or near-zero economic growth is not necessarily a bad sign. On the contrary, it may signal a system that is better organized to support quality of life.

By leveraging knowledge from quality-of-life studies, neo-humanism argues that it is possible to establish a virtuous cycle in which the explicit pursuit of well-being through policies, such as promoting social relations and cooperation, contributes to a socially and environmentally compatible economy. As the future is threatened, the solution to promote sustainable behaviors hinges on cooperation. The good news is that cooperation can be cultivated through social relations -- the connections that people have with others, including family, friends, and community. Social relations promote well-being, and favor sustainable behaviors. They provide a sense of belonging and community, encouraging people to engage in pro-social behaviors such as volunteering, and participating in community activities. Social relations allow also to establish trust and cooperation, which foster a sense of shared responsibility and a willingness to work together to address common problems, such as environmental degradation. People with rich social lives are more satisfied with their lives, tend to consume less, and to compare less with others. This reduces negative externalities of consumption to the benefit of the environment, and creates the conditions for cooperation and cohesiveness in happier societies. In sum, promoting social relations would favor decoupling well-being from consumption: people could lead satisfactory with less consumption, thus reducing their environmental impact.

Increased well-being, on the other hand, contributes to productivity, which is good for economic growth. Such growth, however, is driven by creativity, not defensive consumption; it may be slow, but well suited to fit people's needs. Most importantly, in such a scenario, people's ability to enjoy life is less dependent on the resources they own, and economic growth is not necessary consequence of increasing productivity. (Sarracino and O'Connor, 2022).

The overemphasis on GDP as a measure of progress has diverted attention from crucial aspects of people's lives, such as their relationships with others and the environment. It is not surprising, then, that in the most celebrated cases economic growth failed to fulfil its promise of well-being. Indeed, the evidence reviewed here

shows that economic growth does not improve people's well-being when it is socially and environmentally unsustainable, two critical collective aspects of well-being. In essence, the last 50 years show the failure of the idea that lives can be improved only by private accumulation, which is reliably reflected in GDP. Other aspects, that are central to well-being – such as common goods – are not accounted for in GDP. This is why we need to go beyond GDP to promote well-being and societal progress.

An additional reason to go beyond GDP is that it ignores another critical dimension of quality of life: leisure. For much of the history of industrialization, it was common wisdom that working hours would decrease with economic prosperity. Work hours indeed progressively decreased from the Industrial Revolution until the 1970s. However, from the 1980s onwards, working hours began to decrease negligibly in Europe and to increase in the United States. In other words, since the 1980s industrial economies have been allocating a disproportionate share of the increase in productivity due to technological progress to increased production and consumption rather than leisure.

The main messages derived from the evidence we review are two. The first is that economic growth can increase well-being and be sustainable if its potential to erode common goods is contained, regulated and controlled - which has often not been the case over the past half century. In other words, shifting the policy priority from economic growth to well-being can enable sustainable growth.

The second message is that there are effective ways to increase well-being other than economic growth. Here, we focused on social capital as a prominent example of a non-income driver of well-being that can be fostered through low-cost policies. Expanding well-being without growth is important because, given the available technologies, the lesser the economic activity, the smaller its environmental impact.

The possibility to increase well-being without increasing economic activity suggests a new narrative of progress outside the economic growth paradigm, that colonized the idea of progress so far. Growth is regarded as the primary way to achieve better lives. Thus, the widespread public perception of a conflict between the economy and the environment prevents most people from upscaling the environmental priority. However, the new well-being narrative decouples well-being from consumption, thus helping the public to upgrade the importance of the environment.

A win-win-win-win strategy

The evidence and theories we discussed provide three important indications on how to build a more environmentally sustainable, happier and inclusive society. First, defensive growth suggests that increasing well-being through increased social capital would have the effect of inducing individuals to selectively decrease consumption, in

particular defensive spending. Prioritizing well-being would create conditions that allow individuals to live satisfactory lives with less, not more, money. Eliminating defensive spending would reduce negative externalities of consumption, to the benefit of the environment.

Second, beyond raising average well-being, policies for social capital would reduce well-being inequality thanks to the equalizing effect of social capital on the well-being distribution. More social capital is key to the acceptability of redistributive policies and to a more inclusive economy.

Third, the reduction of negative externalities is the key to driving economies to allocate productivity gains to expand leisure rather than output. Indeed, shrinking negative externalities reduces the demand for defensive spending, thereby expanding leisure and reducing the environmental impact of production and consumption.

In essence, by prioritizing well-being in decision-making, through – for instance – policies for social capital, it is possible to stop the vicious cycle of defensive growth, and start a virtuous cycle in which promoting well-being facilitates environmental and social sustainability in creativity-led economies.

In conclusion, the approach we propose offers optimistic conclusions about the feasibility of a sustainable society. Through policies for common goods, it is possible to pursue a win-win-win-win strategy that leads to a progressive increase in well-being, sociability, environmental sustainability, inclusiveness, free time and productivity. It is difficult to think that a strategy that combines all these advantages could not be politically sustainable.

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