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# Going beyond growth to improve social-ecological well-being

The criticism of Gross Domestic Product (GDP) and economic growth is now decades old but many misconceptions remain about the alleged linkages between GDP growth, human well-being and social progress. This article starts by contrasting economic growth on the one hand and human development on the other, theoretically and empirically. It then argues that economic growth is actually not central to supporting social policy as often believed. Finally, it shows that the well-being transition beyond GDP and growth, already under way around the world, can take the form of three social-ecological policies.

*La crítica al Producto Interior Bruto (PIB) y al crecimiento económico tiene ya décadas de antigüedad, pero siguen existiendo muchas ideas erróneas sobre los supuestos vínculos entre el crecimiento del PIB, el bienestar humano y el progreso social. Este artículo comienza contrastando el crecimiento económico, por un lado, y el desarrollo humano, por otro, tanto teórica como empíricamente. A continuación, argumenta que el crecimiento económico no es en realidad un elemento central para apoyar la política social, como a menudo se cree. Por último, muestra que la transición del bienestar más allá del PIB y el crecimiento, puesta ya en marcha en todo el mundo, puede adoptar la forma de tres políticas que podrían clasificarse como socioecológicas.*

Barne Produktu Gordinaren (BPG) eta hazkunde ekonomikoaren kritikak hamarkadak ditu, baina oraindik ere ideia oker asko daude BPGren hazkundearen, giza ongizatearen eta gizarte-aurrerapenaren arteko ustezko loturei buruz. Hasteko, artikuluan, hazkunde ekonomikoa, alde batetik, eta giza garapena, bestetik, teorikoki zein enpirikoki, alderatzen dira. Jarraian, argudiatzen da hazkunde ekonomikoa ez dela, askotan uste den bezala, gizarte-politika babesteko funtsezko elementua. Azkenik, erakusten du mundu osoan dagoeneko martxan dagoen ongizatearen trantsizioak, BPGaz eta hazkundez haraindi, sozioekologiko gisa sailka daitezkeen hiru politiken forma har dezakeela.

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**1. INTRODUCTION: FROM GROWTH TO WELL-BEING, A VITAL SHIFT**

On page 18 of the Summary for Policymakers of the Working Group I contribution to the Sixth Assessment Report by the IPCC (IPCC 2021), the second column shows that all of the five main climate scenarios considered converge toward a 1.5 C degrees world at more or less rapid pace. In the same table, the third line shows that one climate scenario dubbed «SSP1-1.9» foresees a stabilization of global warming at 1.6 degrees between 2041-2060 before witnessing a decrease to 1.4 degrees at the end of the 21<sup>st</sup> century.

Riahi *et al.* (2017) have defined the SSP1 scenario in the following terms: Sustainability – Taking the Green Road (Low challenges to mitigation and adaptation). The world shifts gradually, but pervasively, toward a more sustainable path, emphasizing more inclusive development that respects perceived environmental boundaries. Management of the global commons slowly improves, educational and health investments accelerate the demographic transition, and the emphasis on economic growth shifts toward a broader emphasis on human well-being. Driven by an increasing commitment to achieving development goals, inequality is reduced both across and within countries. Consumption is oriented toward low material growth and lower resource and energy intensity.

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SSP1 thus translates into important challenges: prioritizing well-being instead of GDP growth and reducing inequality both between and within countries. By the same token, the recent joint IPCC-IPBES report (IPCC-IPBES, 2021) recommends «moving away from a conception of economic progress based solely on GDP growth» to preserve biodiversity and ecosystems.

It thus seems that going beyond GDP is becoming an element of consensus in the global environmental community, but can we really afford it? Don't we need GDP growth to sustain our purchasing power, social policy and overall prosperity, especially in Europe? Can we practically go beyond GDP? This paper essentially argues that we can.

## 2. GROWTH, INCOME AND EMPLOYMENT: THE DOUBLE DECOUPLING

A widely shared view among policymakers goes something like this: economic growth might be destabilizing for the Biosphere, but it is stabilizing for the welfare state. In fact, without growth, there would not be a welfare state.

The alleged iron relationship between GDP growth and employment comes from the work of Okun (1970), associating variations in real GDP growth with variations in the unemployment rate, which was later labelled a 'law'. While this 'law' has been empirically invalidated for at least 20 years (Lee 2000), it persists as a myth.

Of course, employment enters into the calculation of GDP: real GDP can be broken down into labour productivity (real GDP/total hours worked), average hours worked per employed worker, employment rate (total employment/labour force), labour force participation rate (labour force/population) and total population.

From this identity, one can infer the 'employment intensity of growth' (how much employment growth results from 1 percentage point of economic growth). One of the most influential empirical studies on this topic shows that for every 1 percentage point of additional GDP growth, total employment grew between 0.3 and 0.38 percentage points between 1991 and 2003. This implies that around two-thirds of economic growth achieved during this period can be attributed to gains in productivity, while one-third resulted from increased labour supply (Kapsos 2005).

This empirical reality forms the background of an already outdated narrative for European and, more broadly, OECD countries: increasing labour productivity led to both high growth and low employment, with a decline in labour shares as a result. Two main policy solutions were offered and sometimes implemented to counter this trend: sharing income and sharing labour, while keeping the objective of growing GDP.

But the US economy shows that this story has recently become more complicated. From 1950 to 1980, median household income, GDP per capita, private employment and labour productivity were roughly aligned. From the late 1980s on, GDP

per capita and labour productivity continued to grow strongly, while private employment grew at a lesser pace, but median household income stagnated: workers continued to produce wealth, but no longer received fair benefits, while GDP per capita gave the illusion of an average rise in living standards.<sup>1</sup> From 2000 on, the story changes again, with private employment stagnating along with median income, while GDP per capita and labour productivity continue to grow until the ‘Great Recession’. Then the story changes once more over the past decade or so, with productivity stagnating, GDP per capita growing, fuelled by finance, tech and ‘cheap full employment’ with lagging wages and a drop in life expectancy. At the same time, in the EU, stagnating productivity and low employment have led to only moderate growth. Overall, the correlation between GDP growth and employment rate has amounted to a meagre 0.34 since 2012 for the 37 OECD countries.<sup>2</sup>

The case study of Germany within the OECD group leads to even more puzzling observations. Germany has been widely considered the European success story when it comes to employment and growth for at least the past thirty years. What has been described as ‘the longest and strongest employment upswing in the past 50 years’ in Germany, with employment rising ‘by 1.2% per year (compared to 0.1% between 1993 and 2005) to a record level of 85.5% of the potential labour force (2005: 76.5%)’ between 2006 and 2018, was accompanied by a decline in real GDP (Klinger and Weber 2020).

This absolute decoupling is also true for the euro area as a whole, with real GDP growing and employment declining, for instance between 2002 and 2005 or between 2010 and 2012 (Botelho and Dias da Silva 2019). It is even more pronounced for the EU28: the largest increase in employment rate of the past two decades (which occurred between 2013 and 2019, from 64 per cent to 69.3 per cent) happened while GDP growth was moderate, at around 2 per cent, and going through ups and downs<sup>3</sup>).

To summarise, while the old narrative focused on the quality of economic growth, a new narrative is needed on the necessity of economic growth. ‘Economists have yet to discover ways to manage the macro-economy in which GDP is delinked from recorded employment’ (Dasgupta 2021). This decoupling is an empirical reality.

The disconnect between GDP and household income is as strong as the disconnect between GDP and employment: the correlation between GDP and household income over the past ten years for the 37 OECD countries is 0.37.<sup>4</sup>

<sup>1</sup> Erik Brynjolfsson and Andrew McAfee, Why the Middle Class is Shrinking, *Harvard Business Review*, 5 November 2015.

<sup>2</sup> OECD (2020).

<sup>3</sup> When GDP growth was at its two-decade peak, between 2006 and 2007, the employment rate was around 65 per cent.

<sup>4</sup> Again, see OECD (2020).

There are at least two contemporary issues here: inequality that prevents national income growth from translating into household income growth; tax and social competition, which capture and divert a substantial amount of national income and prevent taxation of more mobile tax bases (such as corporate profits and high incomes), which are counted as contributing to GDP but do not in fact contribute to social policy (captive tax bases ending up financing the welfare state). There is thus a disconnect between national income and personal income, as well as between GDP and fiscal capacity.

The US economy has become the poster child for the first disconnect: US GDP multiplied by three between 1993 and 2018, but 85 per cent of gains were captured by the richest 10 per cent. European countries on average suffer less from inequality, but the disconnect between national income and personal income is still very substantial: the income shares of the top 10 per cent have increased in all European regions in the past forty years, including in the most equal region of Northern Europe, where it has increased from around 22 to around 29 per cent<sup>5</sup> (stronger than in Western Europe, where the increase was from 27 to 32 per cent).

As for tax and social competition, it is a European problem, if not a European invention. The EU is the region of the world where it is most exacerbated (according to KPMG data, corporate taxation in the EU, at 20.79 per cent on average, is the world's lowest, below Asia at 20.96 per cent, the Americas at 27.33 per cent and Africa at 27.97 per cent). More generally, it is no longer clear that GDP growth is still a good indicator of states' fiscal capacity: the financialisation of GDP, the optimisation and tax evasion of income, however recorded as contributing to GDP, the regressivity of many European tax systems, the disconnection between GDP and household income, among other things, argue for the use of finer indicators of fiscal capacity.

The double decoupling of GDP, employment and income is thus obvious, which means in straightforward terms that increasing GDP no longer appears to be an efficient strategy to increase income and employment. In other words, even for elementary dimensions of economic well-being, such as employment and income, we should question growth as a human development strategy.

More fundamentally, it is important to understand that GDP and its growth only superficially embody the wealth of nations but are not its root cause. The central 'indicator' for Adam Smith was not GDP but labour productivity, from which economic growth partly results but whose increase draws a distinct public policy horizon. Public health and education policies appear to be priorities for increasing labour productivity, while they are marginalised in current economic systems obsessed with GDP growth based on the expansion of finance, the digital sector and fossil fuels, and which account very poorly for the quality of education and health.

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<sup>5</sup> Source: WID.

Going beyond growth is first and foremost an attempt to go beyond economic appearances and illusions.

Let us also remember that the major goal of increasing labour productivity is not enrichment but to enable people to avoid spending their lives working. It allows the volume of working hours to be reduced at a constant standard of living, which frees human life from the burden of labour. The goal of labour productivity is therefore human well-being, not growth, which appears as a by-product of human well-being.

Moreover, we should give credit to the opposite hypothesis that is usually suggested in relation to the remarkable increase in living standards in twentieth century Europe. It is the even more remarkable increase in health conditions and educational attainments that supported the increase in labour productivity and ultimately that of GDP per capita. GDP thus appears retrospectively and not only prospectively as a superficial indicator of human development with regard to these deep determinants.

Data compiled by Prados de la Escosura (2015) suggest that, for all countries of the world, human development made significant progress between 1870 and 2007, its average level rising from 0.076 to 0.460, an increase of a factor of six. But these data also show that improvements in health and education explain 85 per cent of the increase in the human development index in the past 140 years, both for OECD and European countries and for the rest of the world (Table 1).

Table 1. ANNUAL AVERAGE GROWTH RATE, 1870–2007 (%)

	Human Development Index	Contribution of life expectancy	Contribution of education	Contribution of GDP per capita
World	1.3	0.6	0.5	0.2
OECD	1.1	0.5	0.4	0.2
Non-OECD countries	1.7	0.7	0.8	0.2

Source: Prados de la Escosura (2015) and author's calculations.

### 3. DOES THE WELFARE STATE NEED ECONOMIC GROWTH?

There are two main pathways to building a welfare state beyond growth:<sup>6</sup> searching for alternative purposes or for alternative means of financing.

The second pathway is the hardest. Shouldn't GDP at least grow if we want to prevent our social model, especially in the European Union, from collapsing? A

<sup>6</sup> For a survey of trade-offs attached to post-growth welfare states, see Corlet Walker *et al.*, 2021.

number of voices are thus concerned by the social consequences of the existing exhaustion of growth, not to mention accelerating its exhaustion by design. If they agree that growth might no longer be desirable, they worry that it might still be necessary. This legitimate concern, heard in particular in trade union circles in Europe and the United States, needs to be addressed.

First, as seen in the first section, economic growth today is disconnected from employment and income, two key benefits that have been at the heart of social struggles in Europe for the past two centuries. Trickle-down economics has become rather ‘dribble down’ or even ‘fickle’-down economics.

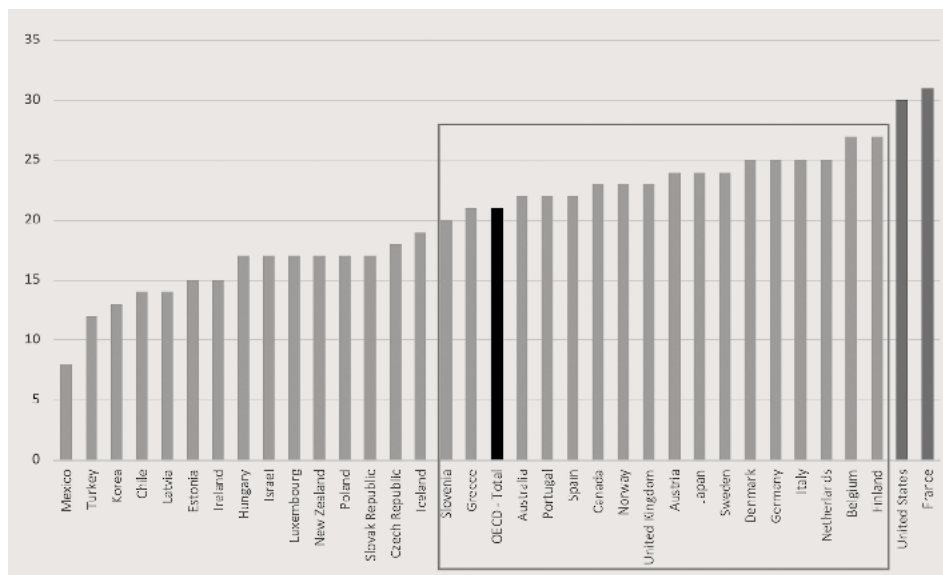
More importantly, growth in fact plays a marginal role in stabilising social policies compared with socio-demographic structural parameters. The level of social spending and the sustainability of social policy in fact depend on labour productivity, household income, sharing of added value, demography and occupational behaviour, among other things. We must therefore act directly on these parameters if we really want to stabilise social policies in the long term. The future of pension systems is of critical interest here, as they alone represented close to 13 per cent of the EU’s GDP in 2018 (almost half of total social protection expenditure in the EU).

As a recent comparative report notes (French Retirement Orientation Council-COR 2020), however: The level and evolution of the share of pension expenditure in GDP depends on demographic (in particular the age structure) and economic (labour productivity, sharing of value added and employment rate) contexts of which they are part. They also depend on the rules specific to each of the pension systems (in particular the retirement age which determines the rate of retirees among the elderly population and the rules for calculating pensions).

These parameters and rules, which correspond to principles of justice, are much more decisive than GDP growth for the future of pension systems.

Even when only the ‘economic context’ (which the COR distinguishes from ‘demographic factors’ and ‘system rules’) is being considered, the authors note that ‘The economic context which conditions the long-term sustainability of a pension system is a reflection of labour productivity, employment rates and the sharing of wealth in the different countries studied.’

More generally, the view according to which growth is ultimately what allows countries to ‘afford’ the welfare state relies on a misunderstanding: no country can escape social risks and the cost of social policy. Some countries mutualise that risk, others do not, which makes those risks much more costly, as illustrated by the US case, which is second in the OECD only to France when net social spending is measured (Figure 1).

**Figure 1. NET TOTAL SOCIAL EXPENDITURE (% OF GDP), 2017**

Reading: total net social spending takes into account public and private social expenditure and includes also the effect of direct taxes (income tax and social security contributions), indirect taxation of consumption on cash benefits, as well as tax breaks for social purposes.

Source: OECD.

The 17 OECD countries, with GDP per capita levels ranging from 34,000 to 59,900 dollars (\$) (and widely different real GDP growth performance during the past two decades) are all between 20 and 25 per cent of net social spending in relation to GDP. The two top spending countries, France and the United States, are very close to 30 per cent, but are very different in terms of GDP per capita and, even more, real growth performance. Yet, France is able to sustain a more widespread, efficient and fair social policy than in the United States with considerably less growth.

The real difference between France and the United States is the same as between the latter and the rest of the OECD: the share of private social spending, whose inefficiency largely explains why the United States has by far the highest share of national income spent on health care, at 17 per cent of GDP in 2019, or twice the OECD average, with significantly poorer health performance, for instance.

The economic efficiency at the heart of the welfare state expansion alluded to in the first section of this paper is on full display here: by correcting social inequalities, by mutualising risks, by increasing labour productivity through the development of health and education, the welfare state allows considerable savings. Of what financial order? We can precisely quantify the economic cost of the non-pooling of health spending in the United States at 8 percentage points of GDP. This is what



separates the cost of the American health system from that of other OECD countries, in other words \$1,700 billion (1.5 trillion euros).

Moreover, the welfare state acts to reduce the need for economic growth, which is reciprocally a substitute for social policies. The reason why the United States structurally needs much more income growth than European states is linked to the level of inequality in the country (the highest earners capturing most of the growth, so that more is needed for the others) and the weakness of social protections (the very high cost of health and education, because of their private nature, requires higher wages). There is therefore no sense in comparing growth rates (and living standards) in the United States and in the European Union without correcting these two 'growth traps', or of envying Americans' income level without comparing it with their level of spending on health and education.

The effect of the Covid-19 pandemic in the United States indeed offers a striking illustration of the difference between growth, well-being and productivity. Healthcare production in the United States today represents around \$3 trillion, more than the entire French economy, making it arguably the largest industry in the world economy. The economic inefficiency of the American health care system is obvious: it costs twice as much on average as in comparable countries, with significantly worse results (life expectancy, infant mortality, preventable deaths, etc.). It is precisely its inefficiency that explains why it is so costly (inefficiency which resulted in a decline in life expectancy between 2014 and 2017 under the effect of the opioid crisis, fuelled by the greed of pharmaceutical companies and by a loss of 1.15 years under the effects of Covid-19, wiping out ten and a half years of gains in life expectancy in 2020<sup>7</sup>). Life expectancy is higher in most OECD countries than in the United States, including in countries such as Greece, which spend less than half on health care.

As much as the American health system fuels economic growth, it also weakens Americans' health and therefore ultimately the productivity of their labour: it will therefore end up exhausting the sources of long-term economic growth, namely population and its productivity. The focus of the Biden administration on a re-foundation strategy, relying on an extensive definition of infrastructure (including, rightly, social infrastructure, such as education and health care), marks a radical departure from the trickle-down economics strategy of the Trump administration, which resulted in toxic growth fuelled by inequality and corporate profits.

The real question is therefore not whether social policy can be sustained with less or even no GDP growth, but whether growth policies themselves are sustainable and even economically rational, given that they can lead to exhaustion of the two long-term growth determinants, which are labour productivity and population.

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<sup>7</sup> Andrasfay and Goldman (2021).

In light of the Covid-19 pandemic, it is even clearer that economic growth needs the welfare state more than vice versa.

#### 4. THE PERILOUS ILLUSION OF 'GREEN GROWTH'

The question raised in the previous section regarding social policy can be extended to the ecological transition: do we not need additional national income to finance the investments necessary for the ecological transformation of productive systems throughout the world ('ecological modernisation'), starting with their urgent and vitally important decarbonisation? Do we not need 'green growth'? The short answer is 'no'.

First, given the current global energy mix (80 per cent fossil fuels, the same as 40 years ago) and existing global warming (1.2 degrees in 2020), each additional unit of GDP growth results in increasingly costly damage to the biosphere and therefore to human well-being, so that growth may simply not have time to become green: its exponential ecological cost will cancel and then reverse its expected gains before they can even materialise.

More precisely, the stronger the growth, the faster greenhouse gas emissions will need to come down, which is tantamount to complicating an already rather complicated task. Managing climate transition with GDP as a compass is like trying to grab hold of an object with your hands while continuing to push it further away with your foot.

The Kaya identity (1990) helps us to understand this reality empirically by breaking down the components of the growth rate of energy-related greenhouse gas emissions as the sum of the population growth rate and per capita GDP growth, on one hand, and de-growth of energy intensity and carbon intensity on the other; in other words, between what can be labelled 'accelerators' and 'decelerators' of climate change.

According to Peters *et al.* (2017), if the EU has managed to lower its emissions over the past 25 years, it is mostly thanks to decreased GDP growth: when GDP growth was strong between 1995 and 2005, emissions hardly budged, with GDP growth cancelling progress in energy and carbon efficiency. These two factors have remained more or less stable from 2005 onwards, but GDP growth has substantially declined, allowing for an overall decrease of emissions over the period.

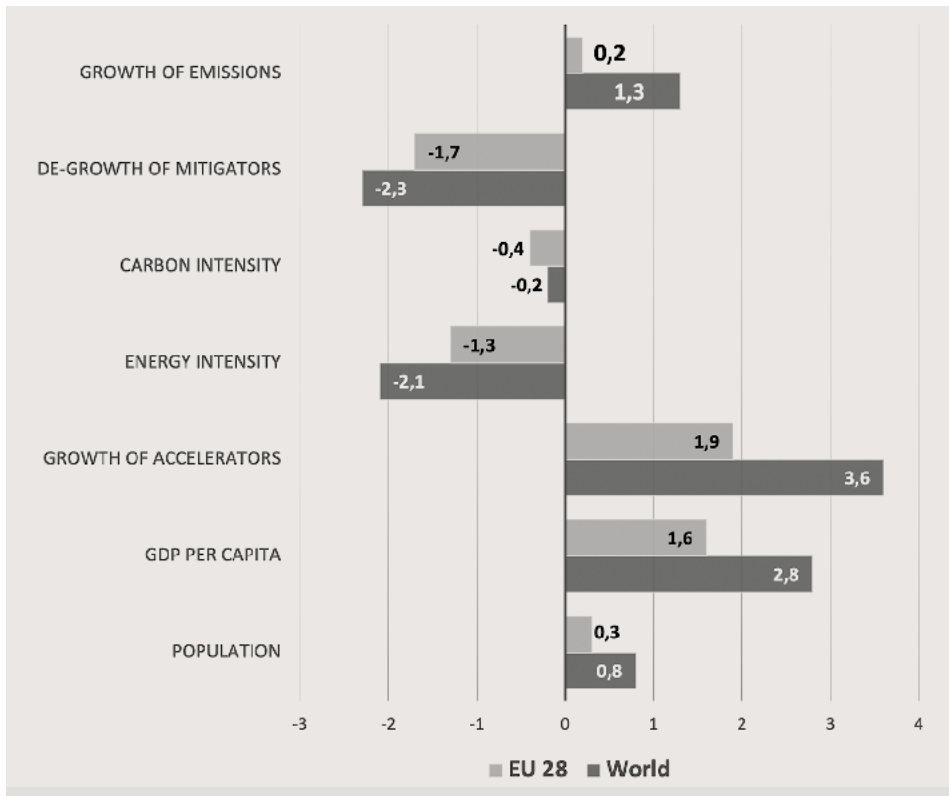
Looking forward, the effort required by the Green Deal appears considerable: between 1990 and 2008, European emissions fell by 11 per cent, then additionally by 15 per cent between 2008 and 2017, but half of this decrease was achieved between 2008 and 2009 because of the Great Recession and the resulting fall in GDP. Against this backdrop, the Green Deal aims at bringing down the annual rate of emission reduction from  $-0.7$  per cent per year over the past 25 years (outside recession peri-

ods) to approximately  $-4.3$  per cent per year from 2020 and until 2050. Any GDP growth during these decades will mean an even sharper drop in emissions.

In 2017, the US Energy Agency conducted a forecasting exercise aimed at quantifying the respective dynamics of each of the Kaya factors. For the world, it concludes that emissions are likely to continue to rise, mostly because of growth in income per capita, while climate science tells us that they should peak in 2020 and then sharply decline to reach zero emissions in 2050 in order to avoid catastrophic climate change beyond 2 degrees of warming (Figure 2).

Figure 2. **KAYA IDENTITY FACTORS, 2010–2040, WORLD AND EU**

(% PER YEAR)



Source: EIA, authors' calculations.

The EU is following a similar path: income per capita is the main accelerator of climate change. Without a substantial inflexion in growth rates, there is no chance that the Green Deal targets can be met, but more importantly, climate disaster is very much on the horizon. It does not mean that decreasing GDP is the only solution to the climate emergency, but it does imply that increasing it further rather

than decreasing the volume of natural resources consumed in the EU (including carbon) is not compatible with the EU's own goals.

This brings us to the difference between efficiency and policies of moderation. There is a world of difference between aiming at moderation in energy, carbon or more generally material consumption (decreasing the volume of natural resources consumed) and aiming at energy, carbon or material efficiency (for instance, mitigating climate change by reducing the energy intensity of growth). This is the difference that separates the absolute from the relative: while the first indicators accept biophysical realities as constraints, the second ignore them using GDP growth, which acts as a screen placed in front of the ecological challenge.

The 2018 data from the Global Carbon Project show that while annual CO<sub>2</sub> emissions have doubled in volume, pushed by global GDP growth, since 1970, the carbon intensity of GDP has been halved, from 650 grammes of CO<sub>2</sub> per dollar in 1970 to just over 300 in 2018: the illusion of carbon efficiency is perfect. It is also, ultimately, deadly: human health will not withstand climate disaster. Likewise, there has in fact been no decoupling of GDP and material footprint since 1970, globally or at the European level (Laurent, 2021c).

Hence there is a paradox regarding the concept of decoupling: the actual decoupling of growth from employment and household income remains unacknowledged, while the illusory decoupling of growth from environmental damage is affirmed, contrary to all evidence.

Rather than aiming for 'zero net emissions' (a concept that relies heavily on virtual technological breakthroughs), the EU, like other major carbon emitters, could more realistically aim for 'zero net growth', compensating the phasing out of high-emissions sectors by developing moderation in carbon consumption. In fact, energy transition models based on moderation demonstrate that one can completely disregard GDP in assessing significant job creation or the considerable gains in human well-being (especially health) associated with total decarbonisation of the French or the world economy.<sup>8</sup>

Economic growth appears destabilising rather than stabilising for the welfare state, undermining its financial stability through the progressively unbearable cost of ecosystem collapse to human health. But there are robust alternative policy paths to sustaining the welfare state.

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<sup>8</sup> See the Negawatt scenarios for France and studies published by Mark Jacobson at Stanford University for the United States and the world.

## 5. A SOCIAL-ECOLOGICAL TRANSITION BEYOND GROWTH: THREE STRATEGIES

Could we imagine a social-ecological transition free from growth? The short answer is: certainly. A preliminary question might be the following: do we need to end/abolish/destroy/exit capitalism first before any post-growth prospect becomes realistic?

First, ending capitalism is not just hard to realise but also to theorise: there is not a single capitalism, rather a variety of capitalisms co-exist in time and space. On the other hand, economic growth is measured the same way everywhere and going beyond growth has a clear meaning, implying practical institutional steps: erasing GDP from the definition of public policies (and hopefully imaginaries) and replacing it with well-being metrics.

This is all the more necessary as the destruction of the biosphere corresponds to the advent of GDP and growth as collective horizons, not to the advent of capitalism. This is contrary to the 'Capitalocene' hypothesis. The Great Acceleration body of empirical work locates the fundamental biospheric disruption post-1945, after GDP became the common currency of development at Bretton Woods in 1944. The Anthropocene is actually the 'Growthocene'. In 1944, global GDP was 8 trillion dollars. It reached 30 trillion in 1975, rising to 60 trillion at the end of the 1990s and exceeding 100 trillion in the mid-2000s. At each threshold crossed, the ecological damage exploded: destruction of biodiversity, degradation of ecosystems, overconsumption of natural resources and of course climate change. On this front, although the damage to the biosphere before 1944 was not negligible, it was insignificant compared with what has occurred since: cumulative CO<sub>2</sub> emissions amounted to 200 billion tonnes before 1944 and 1,300 billion today (15 per cent as against 85 per cent of the total).

Finally, post-growth and post-capitalism appear to be two different horizons (in other words, the alleged consubstantial nature of capitalism and growth deserves a closer look). Some countries are 'growthist' but not capitalist, such as China (the most unsustainable country in economic history), while others, while remaining capitalist, have seen growth almost disappear, such as Japan. Finally, a number of capitalist countries increasingly govern themselves on the basis of well-being indicators (such as New Zealand and Finland). A reconciliation of post-growth and post-capitalism horizons through a welfare state perspective might not be impossible, however: going beyond growth means going beyond the most ecologically destructive form of capitalism in its history.

The key question of this paper remains: how to sustain the social-ecological transition beyond growth without growth? At least three strategies can be implemented to achieve this goal.

In the short term, a first strategy consists of mobilising the reservoir of economic inequalities to foster transition by introducing, at constant GDP, socially compensated progressive ecological taxes based on two tax bases: wealth and CO<sub>2</sub> consumption.

By taxing wealth, past unequal growth would be taxed without the need for additional growth. Likewise, the considerable savings accumulated in the EU by the richest earners during the Covid-19 crisis can be directed towards social-ecological policies or public investments in moderation of energy consumption without the need to increase national income to finance these public investments.

But governments can also choose to directly ‘tax inequality’, that is to say, design and enact progressive social-ecological taxation based on income levels and/or carbon footprints. But, as the ‘Gilets jaunes’ protests in France in 2018 show, these taxes should be designed carefully. Environmental taxation is indeed a case in point of an ecological policy that can lead to aggravating injustices by claiming to correct them. Transition must be just or it will just not be. However, designing and implementing just transition taxation policies is simple, inexpensive and independent of growth (see, for the case of France, Berry and Laurent 2019). These policies must start by drastically reducing fossil fuel subsidies to free up considerable resources without additional growth, then tax fossil fuel consumption, then redistribute revenues to compensate vulnerable households based on income and location.

From this first perspective, the political economy of the social-ecological transition is straightforward: while the cost of non-transition is mostly borne by the poorest, the cost of transition should be borne mainly by the richest.

A second strategy would be to finance the social-ecological transition through savings in social spending achieved through ambitious environmental policies aimed at improving human well-being, via health improvement.<sup>9</sup> The Covid-19 pandemic provides indeed a striking illustration of the nexus between preserving the environment, preserving health and preserving the economy that the EU should learn from.

In this regard, it is high time to shift the debate from the cost of transition to the cost of non-transition and to move from cost-benefit analysis to co-benefits analysis. Curbing air pollution, which could save 500,000 lives per year in the EU, has immediate effects on reducing social spending here and now and in the face of future ecological shocks, such as the Covid crisis.<sup>10</sup> The same applies to noise and its immediate effects on cardiovascular pathologies or food quality and its immediate ef-

<sup>9</sup> Apergis *et al.* (2020) find that a ‘1% increase in CO<sub>2</sub> emissions increased health expenditure by 2.5%’, while the WHO has shown that 12 per cent of all deaths in OECD Europe can be attributed to preventable environmental conditions.

<sup>10</sup> Air pollution resulting from the use of fossil fuels is playing a key role in the health vulnerability of Europeans facing Covid-19, and mitigating air pollution in European cities would bring a key health co-benefit, namely reducing the risk of co-morbidity in the face of multiple ecological shocks, such as respiratory diseases, but also heat waves, which are becoming more frequent and intense on the continent. Researchers have found that ‘particulate air pollution contributed to ~15 per cent of Covid-19 mortality worldwide, and 19 per cent in Europe; globally, ~50–60 per cent of the attributable, anthropogenic fraction is related to fossil fuel use, up to 70–80 percent in Europe’ (Laurent *et al.*, 2021).

fects on physiological and psychological health (obesity and diabetes also play a key role in health vulnerability in Europe). When all co-benefits are taken into account (Laurent *et al.*, 2022), the switch to renewable energies would lead to savings of around fifteen times the cost of their deployment.<sup>11</sup>

The social-ecological transition is a long-term issue but the ‘social savings’ it will trigger could be immediate and all the greater, the earlier ambitious social-ecological policy is enacted. In fact, a virtuous social-ecological loop without growth could materialise: cutting fossil fuel subsidies and implementing progressive social-ecological taxes could be used to finance de-carbonisation investments, leading to improvements in human health, savings in social spending and additional resources that could be allocated to social-ecological transition, among other things.

A third and last strategy would be to build a robust social-ecological protection initially financed by ending fossil fuels subsidies: ecological crises are a social risk threatening lives and livelihoods, especially the most vulnerable, and they call for collective protections (Laurent, 2021d).

## 6. CONCLUSION: FULL HEALTH ON A LIVING PLANET

In 1944, the second Beveridge Report defined «full employment in a free society» as the overarching goal of economic and social policies. We should now be aiming for «full health on a living planet».

“Full health» refers to the fullness of human well-being, in line with the 1946 WHO definition: «Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity». In fact, the English notion of «health» shares the same Indo-European root as the French word «holistique», which refers to the totality of a phenomenon or an issue. Full health therefore first underlines health solidarity between humans: my health cannot flourish by degrading yours (this social dimension of health is especially salient in times of epidemics and pandemics).

But the notion of «full health» goes even further to update the WHO definition in order to include the health of ecosystem that sustains our own. Full health is therefore understood as the health of a humanity fully aware of the vital importance of its social links and environmental roots. Full health thus means human health in all its dimensions and ramifications (physiological, psychological, social, ecological). It essentially means that humans decide to put the immense power of social cooperation at the service of the preservation and perpetuation of life.

<sup>11</sup> Source: IRENA.

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