



Wellbeing economy: An effective paradigm to mainstream post-growth policies?

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ARTICLE INFO

Keywords:

Post-Growth
Degrowth
Wellbeing
Sustainability
SDGs

ABSTRACT

The concept of ‘wellbeing economy’ (WE), that is, an economy that pursues human and ecological wellbeing instead of material growth, is gaining support amongst policymakers, business, and civil society. Over the past couple of years, several national governments have adopted the WE as their guiding framework to design development policies and assess social and economic progress. While it shares a number of basic principles with various post-growth conceptualisations, the WE’s language and concepts tend to be more adaptable to different social and economic contexts, thus penetrating into policy processes and connecting to a variety of cultural traits, not only in advanced economies but also in less industrialised nations. In this paper, we describe the key features of the WE, including its approach to key concepts like work, productivity and technology and several examples of its policy impact. We conclude by positing that the WE framework may be one of the most effective bases to mainstream post-growth policies at the national and global level.

1. Introduction

The global COVID-19 pandemic has brought into sharp relief the crucial importance of human and ecological wellbeing, not only in and of itself, but also as a (pre)condition for any form of social and economic activity. Directly, we have seen the devastating social and economic impacts of the health-related crisis, which have far outweighed any previous financial or economic crisis. Indirectly, we have come to realise the economic consequences of environmental degradation’s impact on human health, given that more epidemics are caused by deforestation

and biodiversity loss and aggravated by pollution (IPBES, 2020).

In this post-Covid phase, the world is faced with a tremendous window of opportunity for systems change, also demanded by public opinion (Costanza et al., 2020a, 2020b; UNDP, 2021). Yet, time is not on our side. If we want to exert radical policy transformation within the next few years and, reasonably, before 2030, then we need a new paradigm that is able to warm the hearts and minds of citizens, entrepreneurs, professionals, scholars, and intellectuals and rapidly penetrate policy processes with a view to turning theory into practice, not only in the most advanced economies but also in those parts of the world

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<https://doi.org/10.1016/j.ecolecon.2021.107261>

Received 12 February 2021; Received in revised form 2 June 2021; Accepted 14 October 2021

Available online 25 October 2021

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affected by endemic poverty and underdevelopment.

On December 21st, 2020, the Finnish Ministry of Social Affairs and Health announced that Finland was joining Scotland, Wales, Iceland, and New Zealand as a new member of the network of Wellbeing Economy Governments (WEGo) (Finnish Government - Ministry of Social Affairs and Health, 2020). Since 2018, when it was officially launched, the network has gained rapid support by heads of government and public authorities across the world, indicating a growing inclination to place human and ecological wellbeing – instead of economic growth per se – at the centre of policy making (Fioramonti, 2017b; Coscieme et al., 2019; Hough-Stewart et al., 2019). It is the first time that a variety of national governments, also with the support of an intergovernmental institution like the Organisation for Economic Co-operation and Development (OECD), which is tasked with informing economic strategies in amongst advanced economies, openly unite on the basis of a post-growth agenda.

Against this backdrop, this paper argues that the notion of ‘wellbeing economy’, that is, an economy that pursues human and ecological wellbeing is well suited to travel across cultures and penetrate policy processes because it links with values and concepts that are shared by a number of societies (Atkinson et al., 2016; King et al., 2014). Moreover, the WE paradigm shifts away from material production and consumption as the main purpose of economic development to embrace a wide variety of social and environmental dynamics, which are viewed as fundamental contributors to human and ecological wellbeing. In doing so, it clearly moves ‘beyond growth’, emphasising the fact that our notion of growth must be completely reimagined not as an increment in material consumption but as an increment in multidimensional wellbeing. In this regard, unlike other critiques of the growth economy that project an image of contraction, parsimony and deprivation, the WE uses a ‘positive language’ of abundance, wellness and conviviality, with a view to building a forward-looking narrative of opportunities for human creativity, thus inspiring collective action and making governments more amenable to policy change (Costanza, 2020).

In this paper, we describe the tenets of the WE paradigm and analyse how its framework relates to both the conventional approach to economic growth as well as some post-growth conceptualisations, in particular ‘degrowth’. We conclude with a discussion of how the WE framework has thus far been effective at triggering change in institutions and in society at large, highlighting the possibility it may become an important channel to mainstream post-growth policies at the national and global level.

2. Beyond growth: the key tenets of a wellbeing economy

The defenders of economic growth argue that more material production and consumption is necessary to improve living standards. And although this is true to some extent, especially in societies characterised by massive deprivation, studies have shown that very little correlation exists between growth and wellbeing after a certain threshold of basic needs is met (Easterlin, 1995; Inglehart et al., 2008; Kahneman and Krueger, 2006; Myers, 2000). It is also argued that consumption growth is indispensable to fuel the technological advancements that will free the world of pollution and climate change (IEA, 2017; Schwab, 2018). However, a number of studies have demonstrated that it is impossible to decouple economic growth from resource use and emissions (absolute decoupling) due to the fundamental interdependences between the socio-economic system and its biophysical basis (Ward et al., 2016; Coscieme et al., 2019; Bastianoni et al., 2019; Wiedenhofer et al., 2020). Furthermore, there is growing evidence that it may be possible to ensure decent living standards to everyone within the ecological boundaries of the biosphere, provided that new approaches to production and consumption are put in place as well as a more equal distribution of income and wealth (Millward-Hopkins et al., 2020; Ward et al., 2020).

The WE is intimately linked to the academic and institutional literature on the interconnections between wellbeing and economic

development (Dasgupta, 2020 and Dasgupta, 2021; Fioramonti, 2016, Costanza et al., 2014b, Costanza et al., 2016b,c, Costanza et al., 2007). From a WE perspective, continuous material growth is not only unsustainable in so far as it takes a heavy toll on natural resources and ecosystems, but also because it has a detrimental impact on social cohesion as well as psychological and physical wellness. Indeed, over the past few years, production chains may have become marginally more sustainable, but more production has also meant more working hours and more waste. Inequalities have also grown, particularly within countries, while psychological distress has increased exponentially, especially at times of accelerated growth (World Inequality Lab, 2018; Piketty, 2014; Stiglitz, 2012; Wilkinson and Pickett, 2018). Modern societies are increasingly plagued by anxiety, depression, narcissism, reduction of empathy and other mental disorders (Costanza et al., 2016a).

Medical research has demonstrated that the quality of human relations and the living environment is a fundamental determinant of a person’s health (Bowler et al., 2010; Keniger et al., 2013; Ulrich, 1984). Social epidemiologists have shown that growing inequalities have a negative bearing on personal and collective health outcomes, while greater equality seems to improve most objective measures of wellbeing, from child development to life expectancy, from declining violence to improved social cohesion and interpersonal trust (Kasser, 2002; Wilkinson and Pickett, 2009). Sociological research has also indicated that care-based and trust-based activities, especially those of a voluntary nature (thus falling outside the market proper and not counting towards growth), have a fundamental impact on societal wellbeing (Helliwell and Putnam, 2004), while high levels of social capital are critical to counter external shocks, as demonstrated by the countries that dealt better with the COVID-19 pandemic (Coscieme et al., 2020). Additionally, ecological economists have long argued that the free services provided by ecosystems are by far the largest contributors to human wellbeing and help meet the basic needs of the poor (Costanza et al., 1997; Costanza et al., 2014a; Sandifer et al., 2015; Coscieme et al., 2014).

The paradox is that all these factors, which are drivers of wellbeing and without which there could be no economy at all, have been systematically excluded from any conventional notion and measurement of development and growth. As a consequence, societies have encouraged industrial activities that, by and large, are either blind or generally detrimental to the true sources of wellbeing and, therefore, the foundations of economic progress. In short, they have pursued growth within the rules and structures of an economic system that ignores (and often undermines) human and ecological wellbeing.

In going beyond material growth, the WE recognizes, protects and promotes the contributions of natural, social, and human capital to collective wellbeing. For a WE, development can no longer be measured by composite indicators like the gross domestic product (GDP), which simply add the market value of material production and consumption, but requires a multidimensional approach measuring, for instance, the state of natural ecosystems (i.e. by assessing the benefits that humans derive from the natural environment or the impacts of human activity on ecological dynamics), collective health outcomes and life expectancy, as well as public trust and the quality of social relations (Costanza et al., 2016b; Fioramonti et al., 2019).

The WE approach differentiates between what we want to grow and what we want to decrease, and how we value these effects. A production process that has a negative impact on people’s health or the environment is, therefore, considered of negative value for the economy, while any improvement in the quality of work and better work-life balance is considered a positive, in so far as it produces desirable wellbeing outcomes. In this regard, local customised production can be more efficient than economies of scale and mass production (Brunori et al., 2016; Fioramonti, 2017a, 2017b), as long as the former reduces negative social and environmental externalities (e.g., waste) while concentrating profits and employment within the local community (two important positive externalities). In terms of wellbeing, humans can indeed be productive

in many ways, not only through formal work, but also as volunteers, parents, friends, citizens, and the like. As a matter of fact, the productivity (and, therefore, the public standing and remuneration) of many conventional jobs should be reassessed to gauge the extent to which their positive contributions to the health of people and ecosystems exceed their negative impacts. A WE approach would ask: is a banker more productive in terms of wellbeing creation than a teacher or a nurse?

The essential contributions to wellbeing made by natural ecosystems, healthy social practices and better education are recognised by a multitude of scholarly research and policy reports (Dasgupta, 2020; Costanza et al., 2014b and Costanza et al., 2016b,c). Unfortunately, all these contributions are completely ignored by conventional growth notions. For instance, in GDP terms, natural ecosystems are only valuable to the economy when they are exploited and their produce is sold in formal markets (Carrero et al., 2020). The services they render in terms of climate regulation, natural fertilisation and soil regeneration (which are all essential for human activities, from food production to energy) are completely ignored (Gamfeldt et al., 2013; Chaves et al., 2020). The time we spend in our communities, helping each other, educating children, and building social cohesion is considered wasted, even if it is essential to generate wellbeing and, therefore, to support any form of economic activity (Griep et al., 2015; Thoits and Hewitt, 2001). Similarly, if a society keeps people in good health (for instance, by avoiding long working hours, allowing better work-life balance, promoting healthy food, reducing pollution, as well as addressing and reducing inequalities), these contributions to wellbeing will not count in the perspective of GDP growth, which - by contrast - will assess as positive any increase in medical spending by the population, even if it is due to poor health, stress and the spread of preventable diseases (Fioramonti, 2017b). This illustrates one of the problems with the growth paradigm: it effectively rewards failure by counting as a positive our spending to deal with avoidable damage. The term ‘failure demand’ is sometimes used to explain this in social policy terms, just as ecological economists talk of ‘defensive expenditure’ (see Trebeck and Williams, 2019).

From a growth perspective, profitability is the result of economic output exceeding the market costs of production, measured only in terms of capital invested and labor, with no regard for environmental/social costs and gains. In the WE approach the concept of profitability is completely redefined in terms of contributions to wellbeing, with a view to minimising costs for society and the environment (which ultimately are costs for the economy too) and maximising the potential to deliver higher order goals of social justice and health. For example, a better work-life balance may increase profitability insofar as it frees up time for family care and improves non-economic aspects of personal wellbeing, from social cohesion to children’s wellbeing, healthy lifestyles, and ecological regeneration (Lunau et al., 2014; Kossek et al., 2014). While GDP growth only recognizes formal market-based work and ignores the value of voluntary work and unpaid housework and family care (and welcomes any shift in social production and reproduction that replace informal care-based activities with their formal market-based alternatives: from schooling to elder care, from food preparation to volunteering), in the WE perspective work equals any formal or informal, paid or unpaid contribution to collective human and ecological wellbeing. This ‘wellbeing work’ should always be supported in economic policy, for instance by dedicated welfare programmes involving remuneration for household and community care (e.g., universal civil service).

A WE requires the adoption of multiple indicators and a system of total cost and benefit accounting. For instance, what are the negative impacts on wellbeing generated by the fossil fuel sector, the corporations of processed food, tobacco, or sugary drinks? According to the latest data, the overall cost of the negative impacts generated by industrial production on natural capital (which is only one of several drivers of wellbeing) hovers around at least US\$ 7.3 trillion of value destroyed every year, that is, over 10% of the entire global economy in terms of GDP, with fossil fuel energy and food production being the most

destructive sectors globally (Trucost, 2013). According to the Centre for Disease Control, smoking-related illness in the US costs more than \$300 billion each year, including nearly \$170 billion for direct medical care, and more than \$156 billion in lost productivity (CDC, 2020). According to a long-term study published in 2019 that considered over 100,000 men and women in the US, the quantity of sugary beverages people drink is strongly linked with greater risk of premature deaths for cardiovascular disease and cancer (Malik et al., 2019). The costs society is paying for climate change caused by extraction and burning of fossil fuels are estimated on the scale of trillions of dollars annually, only considering impacts such as hurricane damage, real estate losses, and energy and water costs. Furthermore, there is consensus amongst scientists that these costs are largely underestimated (Nuccitelli, 2019). On top of that, the fossil fuel industry is heavily subsidized (with figures above 6% of global GDP; IMF, 2019) and its level of unpreparedness when it comes to cleaning up oil spills and mitigating environmental impacts has been consistently reported by scientific studies (e.g., Woolfson and Beck, 2018; Griggs, 2011) as well as investigative reports (e.g., Maddow, 2019). The negative impacts of GDP growth are also unequally distributed, more severely affecting vulnerable people: locally, with air pollution, noise and extreme temperatures mostly impacting people with lower socio-economic status and elderly people (EEA, 2018); globally, with the consequences of climate change being more severe in poor countries, especially amongst those who have least contributed to it (Bathiany et al., 2018).

Overall, the WE approach fundamentally alters our understanding of what creates value and when, and re-focuses economies and societies on a set of key components, maintaining a multi-dimensional approach and being adaptable to diverse contexts (Table 1).

3. From degrowth to wellbeing: achieving policy impact

As we have seen, the WE framework shares the overall basis of many post-growth approaches, drawing inputs from ecological economics (Costanza et al., 2020a, 2020b), happiness studies (Helliwell et al., 2021), planetary boundaries and social needs (Rockström et al., 2009; Max-Neef, 2010; Raworth, 2017) and the socio-economic determinants of health (Wilkinson and Pickett, 2009). Unlike other strands of work that come with strong ideology-based ‘labels’, such as eco-socialism (Löwy, 2015) or eco-anarchism (Clark, 2020), the concept of wellbeing is generally perceived as post-ideological. Furthermore, its language reflects the intended purpose to overcome “the argument culture” we live in (Tannen, 1998), “where even the most complex problems are cast as polar opposites” (Costanza, 2020). While rejecting any attempt at making conventional economic growth more socially or environmentally acceptable (as is the case with ‘inclusive’ or ‘green’ growth), it calls for completely refocusing the debate away from growth (Van den Bergh and Kallis, 2011; Jackson, 2021; Petschow et al., 2018).

In this regard, the WE approach shares a number of similarities and differences with concepts such as degrowth. Both the WE and degrowth agree that material production and consumption cannot grow forever on a finite planet and that wellbeing can improve while reducing GDP. Yet,

Table 1
Key components of a Wellbeing Economy.

Adaptability to context	
Multi-dimensional approach	
Personal	Social
• Work-Life Balance	• Cohesion
• Psycho-Physical Health	• Equality
• Empowerment	• Community Engagement
Economic	Natural
• Customization	• Healthy Ecosystem Functions
• Localized Production	• Urban-Rural-Wild Balance
• Prosumer Approach	
• Total Cost and Benefit Accounting	

although there is a growing activist and scholarship movement behind it (Hickel, 2019a, 2019b; Parrique, 2019; Kallis, 2011), the degrowth approach has not yet had much success in influencing policy making (Buhr et al., 2018). There are probably several reasons for this lack of policy impact. Some have pointed out that the overall message of degrowth is unlikely to ‘travel’ across sectors and cultures, probably because of its implicit reference to contraction (Tomaselli et al., 2021). It is indeed hard to imagine the spread of a new generation of entrepreneurs pushing for a reduction in economic activities, let alone policy makers publicly endorsing a narrative that can be easily represented by the media as one of deprivation and restraint. Furthermore, it is difficult to see how the concept of degrowth could find public support in many poor or middle-income countries, which have hardly seen any material consumption growth over the past decades and cannot be blamed for the increasing social and ecological disasters across the planet (Chiengkul, 2018). It must be noted, of course, that many proponents of degrowth have taken great pains to clarify that “*degrowth is not about reducing GDP, but rather about reducing throughput*” (Kallis et al., 2018) and have explained that its principles cannot be universally applied: “Some people worry that proponents of degrowth want to see degrowth universally applied, in all countries. This would be problematic, because clearly many poor countries in fact need to increase resource and energy use in order to meet human needs” (Hickel, 2019a, 2019b).

Unlike degrowth, the concept of wellbeing, in its multidimensionality and simplicity, has no boundaries and requires no disclaimers: it resonates the world over, in all languages and cultures (Boyce et al., 2020). From the Latin-American *buen vivir* to the Swedish culture of *lagom*, from the East Asian values permeated by the Confucian and Buddhist beliefs to the Southern African *ubuntu*, the concept of ‘living well’ and ‘in harmony with society and nature’ is inherently global and has already been integrated into state policy and national constitutions in a number of countries, from Ecuador to Bolivia, from Costa Rica to Bhutan (Radcliffe, 2012; Williford, 2018). As observed by Donella Meadows, one of the drawbacks of alternative narratives to growth is the tendency to disregard or take for granted a shared vision and goals (Meadows, 2012). By placing an overall vision at the centre of its discourse, the WE makes room for creativity, innovation, and definition of policy options that should be malleable enough to adapt to different contexts: it is about a plurality of changes, emphasis and pathways, which are critical for adoption by policy makers and impact in society.

Both the WE approach and degrowth highlight the need to downscale economic activity that is harmful to people and ecosystems (i.e., the production of internal combustion engine vehicles, weapons, private transportation, advertising and products with planned obsolescence), while expanding socially productive sectors like healthcare, education, care and conviviality (Hickel, 2020). From a WE perspective, however, a reduction in material consumption is no automatic guarantee of expanding human and ecological wellbeing, unless our modes of production are fundamentally transformed, for instance by turning technology into an important enabler of a just transition.

For too long, the proponents of the growth economy have monopolised the language of technology, presenting growth as the necessary condition for technological advancement and considering technology a key driver of growth, including cleaner and greener growth (Bakker et al., 2017). By contrast, degrowth has generally disregarded technological innovation as a driver of change and has often seen technology as a marginal element in its transformative agenda, sometimes depicting it as a negative factor undermining human development or a threat to humanity’s deeper sense of purpose (O’Sullivan, 2019). In turn, this has socialised a new generation of innovative entrepreneurs into thinking that there can be no alternative to growth or that the growth economy is the only ideal terrain for technological progress, potentially antagonising them towards the post-growth narrative.

By contrast, new technologies are a critical opportunity to foster a wellbeing-based transition. Innovations based on peer-to-peer, open-source software and hardware, 3D printing, blockchains, decentralised

community-based renewable energy systems (microgrids) and precision agriculture have the potential to emancipate consumers from their dependency on mass production, challenging large corporations and the dominance of global markets. By localising and customising production and consumption, these innovations promote shorter value chains and local empowerment, providing economic opportunities for multiple forms of entrepreneurs while reducing overproduction and waste of resources (Fioramonti, 2016). Moreover, these innovations are redefining the very role of producers and consumers, blurring the boundaries between the two and enabling the emergence of *prosumer* models (EEA, 2019), which increase participation in the economy and contrast the passive consumption mode of contemporary consumerism, which is a significant cause of many social and psychological pathologies. These participatory models, where users play an active role in the design and manufacture of products and services, are also proving effective in helping less industrialised societies to leapfrog to a more sustainable and wellbeing-centred way to meet some basic needs, for instance in the production of renewable energy and food (WRI, 2016). While the growth approach privileges economies of scale, which tend to reward incumbents and monopolies, the WE approach rewards newcomers, disruptors, small enterprises, thus multiplying job creation and employment opportunities.

4. Mainstreaming and measuring the wellbeing economy

The most striking example of the WE’s policy impact is the establishment of the Wellbeing Economy Governments (WEGo), a G7-like forum made up of countries that have adopted the WE as their economic policy framework and that was instigated by the Wellbeing Economy Alliance (WEAll), a global network of civil society organisations (Trebeck, 2020a). The WEGo was first officially discussed at an institutional conference in Scotland in 2017 and formally launched in November 2018 at the OECD’s World Forum in Incheon, South Korea. Within two years from its launch, the network has come to include five national governments (New Zealand, Scotland, Iceland, Wales, and Finland) and it is expected to grow further afield, with a number of other governments both in the global ‘North’ and ‘South’ showing interest in being part of the group. Particularly notable is the fact that WEGo members are already implementing policies that aim to replace GDP growth as the main goal of their national economies, in favour of a more holistic approach to delivering wellbeing by taking care of the environment, people’s health (including mental health) and social relations.

New Zealand, for example, has launched a ‘Wellbeing Budget’, a macro-economic framework for designing and assessing policies in a variety of fields, from investment to education, from urban development to healthcare. The Wellbeing Budget stems upon the understanding that GDP growth does not guarantee improvements in living standards and does not measure the quality of economic activities or consider who benefits and who is left out or behind (New Zealand Government, 2019). New Zealand’s approach focuses on five priority areas to improve citizens’ wellbeing: mental health, child wellbeing, support of indigenous peoples aspirations, building a productive nation through innovation, social and economic opportunities, and transitioning to a sustainable and low-emissions economy.

On July 2019, the First Minister of Scotland Nicola Sturgeon gave a TED Talk titled ‘Why governments should prioritise wellbeing’, in which she argued that:

“*Growth in GDP should not be pursued at any and all cost [...]. The goal of economic policy should be collective wellbeing: how happy and healthy a population is, not just how wealthy a population is.*”

She committed to moving away from growth as the central goal and shifting away from primarily relying on GDP for assessing economic and social development. Other WEGo governments are rapidly moving in the same direction. For instance, Iceland has adopted a dashboard of 39 wellbeing indicators to guide national economic policies, which include education attainment, mental health, and the environmental costs of

economic activities (BBC, 2019). At the international level, the OECD, in its recent working paper “The Economy of Wellbeing”, reports how “wellbeing has matured as a statistical and measurement agenda, it has become increasingly relevant as a ‘compass’ for policy, with a growing number of countries using wellbeing metrics to guide decision-making and inform budgetary processes” (OECD, 2019).

Finland’s Prime Minister has been advocating for a better work-life balance (a key tenet of the WE approach), proposing the introduction of a 4-day work week, whose benefits in terms of better personal health and quality of work, as well as in terms of reducing carbon footprints are increasingly supported by evidence (The Guardian, 2019; ABC News, 2020; Knight et al., 2012). The concept of a WE is also spreading fast in academic circles, with notable economists actively participating in research and outreach activities (see for instance Stiglitz, 2019) as well as into civil society, with over 200 organisations and thousands of citizens having joined the Wellbeing Economy Alliance (www.weall.org).

The positive and forward-looking language we mentioned earlier is well exemplified by WEAll’s reference to five crucial elements of dignity, nature, connection, fairness, and participation (Sommer, 2019), which makes the WE approach more effective in aligning with like-minded efforts and initiatives for redesigning the economy away from GDP growth (NEON, WEAll, PIRC and PositiveMoney, 2020). It also provides practical tools for citizens interested in shifting their lifestyles towards improving personal health and mitigating environmental impacts, especially when it comes to modal shifts aimed at optimising wellbeing outputs with the minimum resource input (e.g. adopting plant-based diets, renewable energy self-production technologies, precision agriculture and composting, recycling and reusing, ride sharing and public transport and using software technologies to efficiently organise all these activities) (Akenji et al., 2021)

Other societies are also moving in a similar direction. In 2019, the Italian government instituted ‘Wellbeing Italy’, a coordination unit within the prime minister’s office, tasked with ensuring consistency across all governments’ policies in line with the key tenets of the WE. A number of cities and regions around the world have adopted policy monitoring tools devised to measure progress towards wellbeing objectives such as better education, health, gender equality, social equity, as well as reduction in air pollution, climate change, land conversion, and biodiversity loss.

Nowadays there are a number of wellbeing indicators that can be effectively adopted to support policy making towards realising the principles of the WE. Some of these include the Genuine Progress Indicator, the so-called ‘doughnut’, the Social Progress Index as well as various measurements of social, natural, and human capital produced by a number of international institutions. Dashboards of indicators are often inspired by notions of wellbeing (as is the case with the OECD’s Better Life Index), which reflects an increasing understanding and measuring of progress in its complexity, away from conventional approaches to economic growth. When taken together, these indicators can capture different contributions to wellbeing, including ecological, social, and economic factors (Costanza et al., 2016; Fioramonti et al., 2019). Having a variety of measurement tools is useful to ensure that wellbeing principles can be adapted to the specific needs of each and every community where they are applied. Should however policy makers prefer a certain level of standardisation, we suggest using the following approach to develop an all-encompassing tracking system for the WE, which we have called the ‘sustainable wellbeing index’ (SWI) (Costanza et al., 2016b):

$$SWI = f(E, N, S) \quad (1)$$

Where: E = Net economic contribution (adding and subtracting externalities)

N = Natural capital/Ecosystem services contribution

S = Social capital/Community contribution

In line with the complex interaction of all dimensions of wellbeing, these three elements do not add to each other in a simple linear com-

bination, given that the absence of any one of these factors would lead to zero SWI, neither do they follow a purely multiplicative dynamic. For example, it is clear that increases in material standards make a major difference to wellbeing in poorer countries where many people lack basic necessities, yet they diminish as production and consumption reach higher levels, where the impacts on natural and social capital may be a critical limiting factor. Thus, the calculation should take this principle into consideration as follows:

$$SWI = L_{max} * (E / (k_e + E)) * (N / (k_n + N)) * (S / (k_s + S)) \quad (2)$$

Where: L_{max} = the maximum achievable SWI when all factors are simultaneously at their maximum.

k_e = the “half saturation constant” of E – the value of E where the result of this term achieves ½ its maximum value.

k_n = the “half saturation constant” of N.

k_s = the “half saturation constant” of S.

In this eq. (2), each of the terms approaches 1 as the variable approaches infinity. As all the terms approach 1, SWI approaches L_{max} . The larger the half saturation constant relative to the size of the variable, the slower is the approach to 1. Any one of the variables can be the ‘limiting factor.’ For example, if E is very large its term in the equation will be close to 1. But if S is small its term will be a small fraction that will reduce and limit the SWI. This approach is based on the idea that the best system is one that achieves the overarching goal of a *simultaneously* prosperous, high quality of life that is equitably shared and sustainable. In this vein, the goal is no longer growth, but balanced sufficiency, equity, and sustainability as drivers of wellbeing.

From a policy perspective, WE proponents have recommended focusing on a multilevel agenda of reforms, starting from rethinking macroeconomic indicators and incentives with a view to affecting the fiscal system, business practices and social behaviours (Fioramonti et al., 2019). In particular, they have proposed:

- An overhaul of the System of National Accounts (SNA), which is intimately anchored on the traditional approach of the growth economy, by developing multidimensional wellbeing indicators for economic policy planning (Fioramonti, 2017a).
- Incentivise wellbeing-driven businesses characterised by social and environmental goals (e.g., benefit corporations), requiring them to apply total cost accounting in exchange for tax rebates (Fioramonti et al., 2019).
- Redistribute wealth and incomes by shifting taxes from ‘flows’ (value-added, labour) to ‘harms’ (pollution, waste) and ‘stocks’ (wealth, land). For instance, payment for ecosystem and community services should be encouraged through direct transfers or at least through tax breaks. Societies that support small holding farmers, household-based activities, and community care, experience less crime, lower inequality levels and better public health (Wallace, 2016; Fioramonti, 2017b; Fioramonti, 2020).
- Develop a labour reform based on an all-encompassing definition of work, which includes not only formal professional activities but also a variety of wellbeing-enhancing services rendered to society, which are an implicit contribution to economic development. Some of the areas of intervention should therefore include: short working week, extended parental leave, decent pay, autonomy, home office and a better work-life balance (Fioramonti, 2017b and Fioramonti, 2020).
- Support sustainable consumption alternatives, including on nutrition, housing, and mobility, enabled by appropriate policy instruments (not limited to taxation and subsidies), and enabling non-proprietary technologies accessible to all (Wiedenhofer et al., 2018; Akenji et al., 2021; Mao et al., 2020).

5. Conclusion: the WE as a unifying post-2030 agenda

In 2015, the United Nations agreed on a new development agenda based on 17 sustainable development goals (SDGs) to be attained by

2030 (UN, 2017). Despite attempting to comprehend a large number of aspects of sustainable development (including environmental, social and economic dimensions), the SDGs have lacked coherence (Coscieme et al., 2021; Mortensen and Petersen, 2017). Notwithstanding the successful promotion campaign and the innovative communication strategy, a number of trade offs amongst the goals and their targets have emerged, limiting their efficacy and the possibility to identify clear policy tools for change (Lu et al., 2015; Le Blanc, 2015; Pham-Truffert et al., 2020; Gennari and Navarro, 2020; Moyer and Hedden, 2020). As a matter of fact, the concept of economic growth is still at the centre of the SDG agenda, which reveals the lack of a truly transformative and inspiring vision for the future, capable of concretely putting people and the planet at the centre of a new development paradigm.

As we have shown in this paper, there is some evidence that the narrative presented by the WE is well-suited to penetrate policy making and travel across countries and cultures. In this regard, ‘wellbeing’ may be a powerful concept to ensure that the post-2030 resonates with cultural and socio-economic traits of everyone around the globe while promoting radical change in a timely fashion. In this regard, the UN system is the perfect venue to support cross-cultural dialogues on the main pillars of a wellbeing-centred economic and social system, capable to take into account the diversity of needs as well as their inherent unity.

A wellbeing-based economic system would develop new tools to monitor all contributors to human and ecological wellbeing, while accounting for all costs and benefits associated with any form of human activity, not only in the market but throughout society. It would reveal the inefficiencies and losses generated by wasteful production and would show that many large corporations, which today we consider an asset to the global economy, are actually taking wealth away from society. At the same time, the wellbeing focus would highlight the contributions of forms of production that the conventional growth approach either downplays or ignores. In doing so, it would give prominence to a wide variety of actors that have been traditionally marginalised, from small business to new technology companies, from households to co-operatives, whose impact on local economic development, social connectivity, empowerment, sustainable production and consumption far exceeds what is usually considered in terms of GDP growth.

An economy designed to promote wellbeing should be adaptable, integrative, and empowering. Adaptable because it needs to operate like a network, abandoning the conventional top-down structure of the current economy, which is increasingly dominated by a concentration of wealth and power, to expand horizontally and build resilience against external shocks through a system of nodes. Integrative because it must locate systems of production and consumption within the broader biosphere, given that our wellbeing depends on a variety of factors relating to the quality of the environment and the social relations in which we live. Empowering because the passive role of consumers is one of the main drivers of dissatisfaction across societies, making all human beings (often) unaware accessories in a destructive process fuelled by manufactured wants and a rat race of competition that puts human beings against each other and the environment, stifling their creativity through alienation and isolation (Trebeck, 2020b).

Declaration of competing interest

The authors declare no conflict of interest.

References

- ABC News, 2020. Aussie firm’s ‘no-work Wednesday’ concept goes global. Ziffer D. 7 Jan 2020.
- Akenji, Lewis, Bengtsson, Magnus, Toivio, Viivi, Lettenmeier, Michael, Fawcett, Tina, Parag, Yael, Saheb, Yamina, Coote, Anna, Spangenberg, Joachim H., Capstick, Stuart, Gore, Tim, Coscieme, Luca, Wackernagel, Mathis, Kenner, Dario, 2021. 1.5-Degree Lifestyles: Towards a Fair Consumption Space for All. Hot or Cool Institute, Berlin, Germany.
- Atkinson, S., Fuller, S., Painter, J., 2016. Wellbeing and Place. Routledge, London/New-York.
- Bakker, G., Crafts, N., Woltjer, P., 2017. *The Sources of Growth in a Technologically Progressive Economy: the United States, 1899-1941*. Economic History Working Papers, No: 269/2017. The London School of Economics and Political Science.
- Bastianoni, S., Coscieme, L., Caro, D., Marchettini, N., Pulselli, F.M., 2019. The needs of sustainability: the overarching contribution of systems approach. *Ecol. Indic.* 100, 69–73.
- Bathiany, V., Dakos, V., Scheffer, M., Lenton, T.M., 2018. Climate models predict increasing temperature variability in poor countries. *Sci. Adv.* 4 (5) eaar5809.
- BBC, 2019 Dec 3. Iceland puts well-being ahead of GDP in budget. Available from. <https://www.bbc.com/>.
- Bowler, D.E., Buyung-Ali, L.M., Knight, T.M., Pullin, A.S., 2010. A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health* 10, 456–466.
- Boyce, C., Coscieme, L., Sommer, C., Wallace, J., 28 July 2020. *Understanding Wellbeing*. WEAll Briefing Papers: Little Summaries of Big Issues. Available from. wellbeingconomy.org.
- Brunori, G., Galli, F., Barjolle, D., van Broekhuizen, R., Colombo, L., Giampietro, M., Kirwan, J., Lang, T., Mathijs, E., Maye, D., de Roest, K., Rougoor, C., Schwarz, J., Schmitt, E., Smith, J., Stojanovic, Z., Tisenkopfs, T., Touzard, J.-M., 2016. Are local food chains more sustainable than global food chains? Considerations for assessment. *Sustainability* 8, 449.
- Buhr, K., Isaksson, K., Hagbert, P., 2018. Local interpretations of degrowth – actors, arenas and attempts to influence policy. *Sustainability* 10, 1899.
- Carrero, G.C., Fearnside, P.M., Ddo Valle, D.R., de Souza Alves, C., 2020. Deforestation trajectories on a development frontier in the Brazilian Amazon: 35 years of settlement colonization, policy and economic shifts, and land accumulation. *Environ. Manag.* 66 (6), 966–984.
- CDC – Centers for Disease Control and Prevention, 2020. *Economics Trends in Tobacco*. Available from. <https://www.cdc.gov/> (last updated: December 22, 2020).
- Chaves, L.S.M., Fry, J., Malik, A., Geschke, A., Sallum, M.A.M., Lenzen, M., 2020. Global consumption and international trade in deforestation-associated commodities could influence malaria risk. *Nat. Commun.* 11 (1), 1258.
- Chiengkul, P., 2018. The degrowth movement: alternative economic practices and relevance to developing countries. *Alternat. Glob. Local Polit.* 43 (2), 8–95.
- Clark, J., 2020. What is eco-anarchism? *The Ecol. Citizen* 3, 9–14.
- Coscieme, L., Pulselli, F.M., Marchettini, N., Sutton, P.C., Anderson, S., Sweeney, S., 2014. Emery and ecosystem services: a national biogeographical approach. *Ecosys. Serv.* 7, 152–159.
- Coscieme, L., Sutton, P., Mortensen, L.F., Kubiszewski, I., Costanza, R., Trebeck, K., Pulselli, F.M., Giannetti, B.F., Fioramonti, L., 2019. Overcoming the myths of mainstream economics to enable a new wellbeing economy. *Sustainability* 11, 4374.
- Coscieme, L., Mortensen, L.F., Anderson, S., Ward, J., Donohue, I., Sutton, P.C., 2020. Going beyond gross domestic product as an indicator to bring coherence to the sustainable development goals. *J. Clean. Prod.* 248, 119232.
- Coscieme, L., Mortensen, L.F., Donohue, I., 2021. Enhance environmental policy coherence to meet the Sustainable Development Goals. *J. Clean. Prod.* 296, 126502.
- Costanza, R., 2020. Ecological economics in 2049: getting beyond the argument culture to the new world we want. *Ecol. Econ.* 16, 106484.
- Costanza, R., d’Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O’Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P., van den Belt, M., 1997. The value of the world’s ecosystem services and natural capital. *Nature* 387, 253–260.
- Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., Danigelis, N.L., Dickinson, J., Elliott, C., Farley, J., Gayer, D.E., MacDonald Glenn, L., Hudspeth, T., Mahoney, D., McCahill, L., McIntosh, B., Reed, B., Rizvi, S.A.T., Rizzo, D.M., Simpatico, T., Snapp, R., 2007. Quality of life: an approach integrating opportunities, human needs, and subjective Well-being. *Ecol. Econ.* 61, 267–276.
- Costanza, R., de Groot, R., Sutton, P., van der Ploeg, S., Anderson, S.J., Kubiszewski, I., Farber, S., Turner, R.K., 2014a. Changes in the global value of ecosystem services. *Glob. Environ. Chang.* 26, 152–158.
- Costanza, R., Kubiszewski, I., Giovannini, E., Lovins, H., McGlade, J., Pickett, K., Ragnarsdóttir, V.K., Roberts, D., De Vogli, R., Wilkinson, R., 2014b. Time to leave GDP behind. *Nature* 505, 283–285.
- Costanza, R., Atkins, P.W.B., Bolton, M., Cork, S., Grigg, N.J., Kasser, T., Kubiszewski, I., 2016a. Overcoming societal addictions: what can we learn from individual therapies? *Ecol. Econ.* 131, 543–550.
- Costanza, R., Daly, L., Fioramonti, L., Giovannini, E., Kubiszewski, I., Mortensen, L.F., Pickett, K.E., Ragnarsdóttir, K.V., De Vogli, R., Wilkinson, R., 2016b. Modelling and measuring sustainable wellbeing in connection with the UN sustainable Development goals. *Ecol. Econ.* 130, 350–355.
- Costanza, R., Fioramonti, L., Kubiszewski, I., 2016c. The UN sustainable Development goals and the dynamics of well-being. *Front. Ecol. Environ.* 14 (2), 59.
- Costanza, R., Erickson, J.D., Farley, J., Kubiszewski, I. (Eds.), 2020a. *Sustainable Wellbeing Futures: A Research and Action Agenda for Ecological Economics*. Edward Elgar Publishing Inc.
- Costanza, R., Fioramonti, L., Giovannini, E., Kubiszewski, I., Lovins, H., McGlade, J., Mortensen, L.F., Pickett, K., Ragnarsdóttir, K.V., Roberts, D., Trebeck, K., de Vogli, R., Wallis, S., Wilkinson, R., 2020b. After the crisis: two possible futures. *Solutions* 11 (3), 112–117.
- Dasgupta, P., 2020. *The Dasgupta Review. Independent Review on the Economics of Biodiversity*. UK Treasury Interim Report. Available from: <https://assets.publishing.service.gov.uk/>.
- Dasgupta, P., 2021. *The Economics of Biodiversity: The Dasgupta Review*. HM Treasury, London.
- Easterlin, R.A., 1995. Will raising the incomes of all increase the happiness of all? *J. Econ. Behav. Organ.* 27 (1), 35–47.

- EEA – European Environment Agency, 2018. Unequal exposure and unequal impacts: social vulnerability to air pollution, noise and extreme temperatures in Europe. In: EEA Report, No. 22/2018.
- EEA – European Environment Agency, 2019. Textiles and the environment in a circular economy. Report of the European Environment Agency – European Topic Centre on Waste and Materials in a Green Economy. Manshoven S, Christis M, Vercauteren A, Arnold A, Nicolau M, Lafond E, Mortensen LF, Coscieme L. ETC/WMGE 2019/6.
- Finnish Government, 2020. Twitter account @FinGovernment, 1:24 PM; Jan 7.
- Fioramonti, L., Nov 22, 2016. Well-being Economy: A Scenario for a Post-growth Horizontal Governance System. Gross National Happiness USA (GNHUSA). Available from: gnhusa.org.
- Fioramonti, L., 2017a. The World after GDP: Economics, Politics and International Relations in the Post-Growth Era. Polity Press, Cambridge.
- Fioramonti, L., 2017b. Wellbeing Economy: Success in a World without Growth. Pan Macmillan SA.
- Fioramonti, L., 2020. *Un' economia per stare bene: Dalla pandemia del Coronavirus alla salute delle persone e dell'ambiente* (Italian Edition). Chiarelettere.
- Fioramonti, L., Coscieme, L., Mortensen, L.F., 2019. From gross domestic product to wellbeing: how alternative indicators can help connect the new economy with the sustainable Development goals. *The Anthr. Rev.* 6 (3), 207–222.
- Gamfeldt, L., Snäll, T., Bagchi, R., Jonsson, M., Gustafsson, L., Kjellander, P., Ruiz-Jaen, M.C., Fröberg, M., Stendahl, J., Philipson, C.D., Mikusiński, G., Andersson, E., Westerlund, H., Andrén, H., Moberg, F., Moen, J., Bengtsson, J., 2013. Higher levels of multiple ecosystem services are found in forests with more tree species. *Nat. Commun.* 4, 1340.
- Gennari, P., Navarro, D.K., 2020 Jan 14. Achieving the SDGs? A Statistician's Perspective. IISD SDG Knowledge Hub - International Institute for Sustainable Development. Available from: <https://sdg.iisd.org/>.
- Griep, Y., Hyde, M., Vantilborgh, T., Bidee, J., De Witte, H., Papermans, R., 2015. Voluntary work and the relationship with unemployment, health, and well-being: a two-year follow-up study contrasting a materialistic and psychosocial pathway perspective. *J. Occup. Health Psychol.* 20 (2), 190–204.
- Griggs, J.W., 2011. BP Gulf of Mexico oil spill. *Ener. Law J.* 32 (1), 57–79.
- Helliwell, J.F., Putnam, R.D., 2004. The social context of well-being. *Philos. Trans. R. Soc. Lond. Ser. B Biol. Sci.* 359 (1449), 1435–1446.
- Helliwell, J.F., Layard, R., Sachs, J., De Neve, J.-E. (Eds.), 2021. World Happiness Report 2021. Sustainable Development Solutions Network, New York.
- Hickel, J., 2019a. The contradiction of the sustainable development goals: Growth versus ecology on a finite planet. *Sustain. Dev.* 27(6). <https://doi.org/10.1002/sd.1947>.
- Hickel, J., 2019b. Is it possible to achieve a good life for all within planetary boundaries? *Third World Q.* 40 (1), 18–35.
- Hickel, J., 2020. What does degrowth mean? A few points of clarification. *Globalizations* 1–7.
- Hough-Stewart, L., Trebeck, K., Sommer, C., Wallis, S., 2019 Dec 3. What is a wellbeing economy? In: WEAL Ideas: Brief Summaries of Big Issues Available from: <https://wellbeingeconomy.org/>.
- IEA, 2017. In: International Energy Agency (Ed.), *Energy Technology Perspectives 2017*. OECD/IEA.
- IMF – International Monetary Fund, 2019. In: Coady, D., Parry, I., Nghia-Piotr, L., Shang, B. (Eds.), *Global fossil fuel subsidies remain large: an update based on country-level estimates*.
- Inglehart, R., Foa, R., Peterson, C., Welzel, C., 2008. Development, freedom, and rising happiness: a global perspective (1981–2007). *Perspect. Psychol. Sci.* 3 (4), 264–285.
- IPBES, 2020. Workshop report on biodiversity and pandemics of the intergovernmental platform on biodiversity and ecosystem services. In: Daszak, P., Amuasi, J., das Neves, C.G., Hayman, D., Kuiken, T., Roche, B., Zambrana-Torrel, C., Buss, P., Dunderova, H., Feferholtz, Y., Földvári, G., Iginosa, E., Junglen, S., Liu, Q., Suzan, G., Uhart, M., Wannous, C., Woolaston, K., Mosig Reidl, P., O'Brien, K., Pascual, U., Stoett, P., Li, H., Ngo, H.T. (Eds.), IPBES secretariat, Bonn, Germany. <https://doi.org/10.5281/zenodo.4147317>.
- Jackson, T., 2021. *Post Growth: Life after Capitalism*. Wiley.
- Kahneman, D., Krueger, A.B., 2006. Developments in the measurement of subjective wellbeing. *J. Econ. Perspect.* 20, 3–24.
- Kallis, G., 2011. In defence of degrowth. *Ecol. Econ.* 70, 873–880.
- Kallis, G., et al., 2018. Research on degrowth. *Annu. Rev. Environ. Resour.* 43, 291–316.
- Kasser, T., 2002. *The High Price of Materialism*. MIT press.
- Keniger, L.E., Gaston, K.J., Irvine, K.N., Fuller, R.A., 2013. What are the benefits of interacting with nature? *Int. J. Environ. Res. Public Health* 10 (3), 913–935.
- King, M.F., Renó, V.F., Novo, E.M., 2014. The concept, dimensions and methods of assessment of human well-being within a socioecological context: a literature review. *Soc. Indic. Res.* 116 (3), 681–698.
- Knight, K., Rosa, E.A., Schor, J.B., 2012. *Reducing Growth to Achieve Environmental Sustainability: The Role of Work Hours*. Working Paper Series, November 2012, Number 304. Political Economy Research Institute (PERI). University of Massachusetts, Amherst.
- Kossek, E.E., Valcour, M., Lirio, P., 11 February 2014. *The Sustainable Workforce*. In: *Organizational Strategies for Promoting Work-Life Balance and Wellbeing*. Volume 3. Work and Wellbeing. Part 5. Organizational Strategies to Promote Wellbeing. <https://doi.org/10.1002/9781118539415.wbwell030>.
- Le Blanc, D., 2015. Towards integration at last? The sustainable development goals as a network of targets. In: DESA Working Paper. Department of Economic and Social Affairs, New York.
- Löwy, M., 2015. *Ecosocialism: A Radical Alternative to Capitalist Catastrophe*. Haymarket Brooks.
- Lu, Y., Nakicenovic, N., Visbeck, M., Stevance, A.-S., 2015. Five priorities for the UN sustainable Development goals. *Nature* 520, 432–433.
- Lunau, T., Bambra, C., Eikemo, T.A., van der Wel, K.A., Dragano, N., 2014. A balancing act? Work-life balance, health and well-being in European welfare states. *Eur. J. Pub. Health* 24 (3), 422–427.
- Maddow, R., 2019 Oct 1. *Blowout: Corrupted Democracy, Rogue State Russia, and the Richest, Most Destructive Industry on Earth*, First edition. Crown (Publisher).
- Malik, V., Li, Y., Pan, A., De Koning, L., Schernhammer, E., Willett, W., Hu, F., 2019 Mar 18. Long-term consumption of sugar-sweetened and artificially sweetened beverages and risk of mortality in US adults. *Circulation* 139, 2113–2125.
- Mao, C., Koide, R., Brem, A., Akenji, L., 2020. Technology foresight for social good: social implications of technological innovation by 2050 from a global expert survey. *Technol. Forecast. Soc. Chang.* 153, 119914.
- Max-Neef, M., 2010. Development and human needs. In: Gasper, D., Lera Clair, A. (Eds.), *Development Ethics*. Routledge, pp. 197–214.
- Millward-Hopkins, J., Steinberger, J.K., Rao, N.D., Oswald, Y., 2020. Providing decent living with minimum energy: a global scenario. *Glob. Environ. Chang.* 65, 102168.
- Mortensen, L.F., Petersen, K.L., May 2017. Extending the boundaries of policy coherence for sustainable development: engaging business and civil society. *Solutions* 8 (3).
- Moyer, J.D., Hedden, S., 2020. Are we on the right path to achieve the sustainable development goals? *World Dev.* 127, 104749.
- Myers, D.G., 2000. The funds, friends, and faith of happy people. *Am. Psychol.* 55, 56.
- NEON, WEAL, PIRC and PositiveMoney, 2020. *A Messaging Guide for a Wellbeing Economy*. Available from: <http://www.wellbeingeconomy.org/>.
- New Zealand Government, 2019 May 30. *The Wellbeing Budget*. Available from: <https://www.treasury.govt.nz/>.
- Nuccitelli, D., 2019 Nov. New report finds costs of climate change impacts often underestimated. *Yale Climate Connect.* 18.
- OECD, 2019. Organization for Economic Co-operation and Development – Statistics and Data Directorate. *The Economy of Well-being: Creating opportunities for people's well-being and economic growth*. SDD Working Paper No. 102.
- O'Sullivan, A., 2019. How Technology Affects Economic Growth. *The Bridge*, Expert Commentary. Apr 11. Available from: mercatus.org.
- Parrique, T., 2019. The political economy of degrowth. In: *Economics and Finance*. Université Clermont Auvergne; Stockholms universitet. English. NNT. 2019CLFAD003.
- Petschow, U., Lange, S., Hofmann, D., Pissarskoi, E., Aus Dem Moore, N., Korfhage, T., Schoofs, A., 2018. Social well-being within planetary boundaries: The precautionary post-growth approach. In: Executive Summary. Interim report of the project "Approaches to Resource Conservation in the Context of Post-Growth Concepts", TEXTE 89/2018.
- Pham-Truffert, M., Metz, F., Fischer, M., Rueff, H., Messerli, P., 2020. Interactions among sustainable Development goals: knowledge for identifying multipliers and virtuous cycles. *Sustain. Dev.* 28, 1236–1250.
- Piketty, T., 2014. *Capital in the Twenty-First Century*. The Belknap Press of Harvard University Press, London, UK; Cambridge, MA, USA.
- Radcliffe, S.A., 2012. Development for a postneoliberal era? *Sumak kawsay, living well and the limits to decolonisation in Ecuador*. *Geoforum* 43 (2), 240–249.
- Raworth, K., 2017. *Doughnut Economics: Seven Ways to Think like a 21st Century Economist*. Chelsea Green Publishing.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F.S., Lambin, E.F., et al., 2009. A safe operating space for humanity. *Nature* 461, 472–475.
- Sandifer, P.A., Sutton-Grier, A.E., Ward, B.P., 2015. Exploring connecting among nature, biodiversity, ecosystem services, and human health and well-being: opportunities to enhance health and biodiversity conservation. *Ecosys. Serv.* 12, 1–15.
- Schwab, K., 2018. *The Global Competitiveness Report 2018*. World Economic Forum.
- Sommer, C., 2019. *What we Talk about when we Talk about a Wellbeing Economy*. Wellbeingeconomy.org.
- Stiglitz, J.E., 2012. *The Price of Inequality: How Today's Divided Society Endangers our Future*. W.W. Norton & Company, Inc., New York, NY, USA.
- Stiglitz, J.E., 2019. *Beyond GDP*. Cultureurope.eu, 7th Jan.
- Tannen, D., 1998. *The Argument Culture*. Virago Press Ltd.
- The Guardian, 4 Nov 2019. In: Paul, K. (Ed.), *Microsoft Japan tested a four-day work week and productivity jumped by 40%*.
- Thoits, P.A., Hewitt, L.N., 2001. Volunteer work and well-being. *J. Health Soc. Behav.* 42, 115–131.
- Tomaselli, Maria Fernanda, Kozak, Robert, Gifford, Robert, Sheppard, Stephen R.J., 2021. *Degrowth or Not Degrowth: The Importance of Message Frames for Characterizing the New Economy*. *Ecological Economics* 183, 106952. <https://doi.org/10.1016/j.ecolecon.2021.106952>. <https://www.sciencedirect.com/science/article/pii/S0921800921000100>, 2021. ISSN 0921–8009.
- Trebeck, K., 2020a. How a small country might just be able to lead a big change. In: Hassan, G., Barrow, S. (Eds.), *Scotland After the Virus*. Luath Press Limited, Edinburgh.
- Trebeck, K., 2020b. *Supporting but Not Synonymous: The Wellbeing Economy and a Gender-Equal Economy*. Womens Budget Group.
- Trebeck, K., Williams, J., 2019. *The Economics of Arrival: Ideas for a Grown up Economy*. Policy Press, Bristol, UK.
- Trucost, 2013. *Natural Capital at risk: The top 100 externalities of business*.
- Ulrich, R.S., 1984. View through a window may influence recovery from surgery. *Science* 224 (4647), 420–421.
- UN, 2017. United Nations - Resolution adopted by the General Assembly on 6 July 2017, *Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (A/RES/71/313 Archived 28 November 2020 at the Wayback Machine)*.
- UNDP, 2021. *The Peoples' Climate Vote*. Jan 26, 2021.
- Van den Bergh, J.C.J.M., Kallis, G., 2011. Growth, A-growth or degrowth to stay within planetary boundaries? *J. Econ. Issues* XLVI (4), 909–919.

- Wallace, R., 2016. Big Farms Make Big Flu: Dispatches on Influenza, Agribusiness, and the Nature of Science. Monthly Review Press.
- Ward, J.D., Sutton, P.C., Werner, A.D., Costanza, R., Mohr, S.H., Simmons, C.T., 2016. Is decoupling GDP growth from environmental impact possible? *PLoS One* 11 (10), e01664733. <https://doi.org/10.1371/journal.pone.0164733>.
- Ward, J., Mohr, S., Costanza, R., Sutton, P., Coscieme, L., 2020. Renewable energy equivalent footprint (REEF): A method for envisioning a sustainable energy future. *Energies* 13, 6160.
- Wiedenhofer, D., Smetschka, B., Akenji, L., Jalas, M., Haberl, H., 2018. Household time use, carbon footprints, and urban form: a review of the potential contributions to everyday living to the 1.5 °C climate target. *Curr. Opin. Environ. Sustain.* 30, 7–17.
- Wiedenhofer, D., Virag, D., Kalt, G., Plank, B., Streeck, J., Pichler, M., Mayer, A., Krausmann, F., Brockway, P., Schaffartzik, A., Fishman, T., Hausknost, D., Leon-Gruchalski, B., Sousa, T., Creutzig, F., Haberl, H., 2020. A systematic review of the evidence on decoupling of GDP, resource use and GHG emissions, part I: bibliometric and conceptual mapping. *Environ. Res. Lett.* 15, 063002.
- Wilkinson, R., Pickett, K., 2009. *The Spirit Level*. Penguin Books Ltd., London, UK.
- Wilkinson, R., Pickett, K., 2018. *The Inner Level*. Penguin Books Ltd., London, UK.
- Williford, B., 2018. Buen Vivir as policy: Challenging neoliberalism or consolidating state power in Ecuador. *J. World Systems Res.* 24 (1), 96–122.
- Woolfson, C., Beck, M., 2018. *Corporate social responsibility failures in the oil industry*. Routledge.
- World Inequality Lab, 2018. *World inequality report 2018*. In: Alvaredo, F., Chancel, L., Piketty, T., Saez, E., Zucman, G. (Eds.), Creative Commons: Mountain View, CA, USA.
- WRI – World Resources Institute, 2016. In: Martin, S., Jairaj, B. (Eds.), *The Rise of the Urban Energy “Prosumer”*. May 13.