Chapter 1
Redefining Societal Progress:
Beyond GDP Towards Well-Being

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ABSTRACT

The world is grappling with a range of socio-economic challenges and risks, including widening inequalities, global conflicts, and the escalating impacts of climate change, which demand fresh perspectives on societal progress and well-being. In this chapter we will provide for the backdrop context for the well-being paradigm, understanding the main appointed criticism to GDP in order to bridge the discussions on the need to move beyond GDP. Parallel discussions in terms of context are also necessary to mention alternative macroeconomic narratives to support the change. We additionally discuss the different layers well-being entails discovering which are the most statistically influent variables in terms of societal well-being, which can potentially aid Government's budgetary, public and social policy prioritization. We end the chapter discussing the potential AI and machine learning can bring in terms of the development of new well-being predictive models.

1. INTRODUCTION

The world is at a crossroads, grappling with an array of socio-economic challenges which threaten societal cohesion and planetary stability. Widening inequalities, escalating global conflicts, and the accelerating impacts of climate change underscore the inadequacies of GDP as the primary measure of progress. Calls for alternative

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development models have gained traction, emphasizing well-being and happiness as pivotal constructs to guide policy and decision-making. This chapter explores the paradigm shift from GDP-centered metrics to holistic well-being frameworks, the challenges of implementation, and the transformative potential of artificial intelligence (AI) and machine learning in enhancing these models. Furthermore, we discuss the importance of fostering well-being literacy through education, highlighting the role of Happy Schools initiatives worldwide.

This chapter is based on findings from the author's doctoral research, which is pending publication.

2. CRITICISM OF GDP: THE CALL FOR ALTERNATIVES

In this section, we examine the role of GDP as a benchmark for assessing a country's performance and how it gained global acceptance. We highlight the limitations of GDP and explore the misconceptions surrounding its ability to address evolving challenges and comprehensively represent a nation's progress.

Additionally, we analyse the interplay between economics and politics, focusing on how the capitalist model and liberal narrative have historically shaped and continue to sustain a GDP-centered framework. While alternative macroeconomic perspectives have emerged, the lack of a universally accepted normative model remains a significant obstacle to the widespread adoption of GDP alternatives.

2.1 Limitations of GDP

The concept of Gross National Product (GNP) was introduced by Simon Kuznets during the efforts to address the economic devastation caused by the 1929 Great Depression. Presented at the National Bureau of Economic Research, Kuznets's work laid the groundwork for what would eventually evolve into the modern Gross Domestic Product (GDP) (Kuznets, 1934). The first official release of GDP-related data occurred in 1934 in the United States, as part of the System of National Accounts (SNA), to provide a reliable measure of post-war economic recovery (Ivković, 2016, p. 257).

The Bretton Woods Conference of 1944 marked a pivotal moment in the institutionalization and global adoption of GDP. This conference established the International Bank for Reconstruction and Development (IBRD, later the World Bank) and the International Monetary Fund (IMF), creating an economic framework that placed GDP at the centre of international development metrics (Bretton Woods Conference & the Birth of the IMF and World Bank, n.d.; The Bretton Woods Conference, 1944, 2009). The SNA contributed significantly to this process by standardizing data col-

lection and calculation methods based on internationally agreed-upon accounting frameworks (Ivković, 2016, p. 258). Kuznets is often credited as one of the key figures behind this transformative economic tool (Rockoff, 2021).

Since its inception, GDP has undergone numerous refinements to accommodate advancements in data collection methodologies and to align with evolving global economic conditions. International organizations such as the United Nations Statistical Division (UNSD), OECD, Eurostat, and the Council of the European Union have played critical roles in ensuring the standardization and comparability of GDP data worldwide (Eurostat, 2014; OECD, 1995). These efforts have enabled GDP to become a widely accepted indicator of economic performance and progress.

In the context of the mid-20th century, GDP represented a groundbreaking innovation, aligning national progress with increased production and economic output. It quickly became synonymous with the concept of national success, providing policymakers and economists with a seemingly objective measure of progress (d'Ercole et al., 2006; Ivković, 2016).

However, Kuznets himself was cautious about the broader interpretation of GDP as a measure of societal well-being. In his seminal 1934 report, he explicitly warned against equating economic output with national welfare, stating, "the welfare of a nation can […] scarcely be inferred from a measure of national income" (Kuznets, 1934; Özgöde, 2021). This prescient critique highlighted the inherent limitations of GDP, which remain central to contemporary debates about the adequacy of GDP as a tool for measuring progress. While GDP has historically served as a robust measure of economic activity, it falls short in addressing broader aspects of societal progress.

Kuznets was and is not the only one facing criticism.

Various Nobel Prize recipients, including Sen, Stiglitz (J. E. Stiglitz, 2011), Samuelson, and Arrow (Arrow et al., 1996), have over the years pointed out the shortcomings of GDP and questioned the credibility of this metric. Bergh (van den Bergh, 2011) encapsulates these weaknesses by categorising the arguments into eight sections, which can further be grouped into three broader categories: Economic Factors, Contextual Considerations, and Well-Being.

Economic Factors:

- In contrast to regular organisational accounting, the computation of GDP takes into account both costs and benefits simultaneously. Moreover, when a comparison over time is needed, adjustments for inflation can result in inaccurate observations if the income distribution among the population is (van den Bergh, 2011, p. 3)
- The informal economy is not accounted for in GDP measurement; furthermore, GDP growth may sometimes result from informal market activities

moving to formal markets, which does not necessarily indicate real market expansion[1]. Conversely, developing and less economically advanced countries often have a larger informal economy, and relying solely on GDP may present an inaccurate picture of their economic performance (van den Bergh, 2011, p. 7);

- Activities without perceived value were highlighted by Nussbaum in 2013; for instance, GDP excludes unpaid labour like housework, which would otherwise hold (Nussbaum, 2013).
- The substitution of consumption is restricted in terms of basic human needs, as per Maslow's hierarchy; for instance, the requirement for air cannot realistically be substituted by a luxurious automobile. Although material consumption may increase as an imperfect compensation for basic needs, particularly in cities, overall welfare can remain stable or even decline (van den Bergh, 2011, p. 4).
- Combining data into aggregates can result in the loss of information (id. p.9); using singular statistical measures like the mean or mode can obscure disparities and result in the "loss of crucial parts of the data" (Marvasti, 2010; Mckee & Miljkovic, 2007; Orcutt et al., 1968).

Contextual Considerations:

- Neglecting income distribution, as GDP measures average income, conceals unequal income distribution, which results in diverse social inequalities and disparities in opportunities related to health, education, civic engagement, participation, etc. (van den Bergh, 2011, p. 6).
- A critique regarding the GDP measurement, similar to the growth narrative we will discuss later, highlights the belief that GDP growth can potentially continue indefinitely, even though natural resources are finite limited (Gaffney et al., 2022; Meadows et al., 1972; Raworth, 2017b). Furthermore, GDP does not consider the natural environment and resources because they are non-market entities, whether when goods like clean air are provided to us or when such resources are polluted or exhausted, like fish stocks or forests, and are thus treated as externalities. Ironically, actions such as cleaning polluted oceans contribute to an increase in GDP (Arrow et al., 1996).

Well-Being:

- Although numerous studies indicate a notable positive correlation between GDP and social well-being (Helliwell, 2003, p. 15; Myers & Diener, 1995, pp. 12–13), there is evidence that suggests well-being does not grow at the same

rate as GDP and may reach a plateau at some point (Easterlin & O'Connor, 2020; Helliwell, 2003; Myers & Diener, 1995). This phenomenon can be explained by individuals' adaptation to their circumstances—whether it involves an increase in income or winning the lottery, or an adverse situation—after a certain period, individuals' self-reported well-being levels return to their initial state. Diener and Layard described this as hedonic adaptation or the hedonic treadmill (Diener et al., 2006; Layard, 2005), while Max-Neef proposed the threshold hypothesis (Max-Neef, 1995). Conversely, activities that enhance well-being, such as relaxation or leisure, are not included in GDP calculations and are often considered non-productive.

In 1974, Easterlin introduced what would later be termed the Easterlin Paradox, revealing that beyond a certain threshold, increases in wealth did not correlate with sustained improvements in happiness (Easterlin, 1974). This insight was further substantiated by Easterlin and O'Connor's 2020 longitudinal study, which reinforced the idea that individual happiness levels tend to stabilize over time, regardless of income changes (Easterlin & O'Connor, 2020). Layard extended this concept through the "hedonic treadmill" (Layard, 2005), describing how individuals adapt to life circumstances, causing their happiness to return to a baseline despite changes in material conditions. These findings questioned the validity of GDP as a proxy for societal well-being, challenging the long-held assumption that economic growth inherently leads to greater happiness.

In the 1980s, Sen proposed the capabilities approach, which shifted the focus from economic growth to the expansion of freedoms and opportunities people value and can achieve (Sen, 2009; Walker & Unterhalter, 2007). This approach critiqued traditional economic metrics by emphasizing human development over purely material gains. Nussbaum advanced this perspective by incorporating feminist economics, particularly highlighting the undervaluation of unpaid work, such as caregiving and domestic labour, which GDP fails to capture (Nussbaum, 2001, 2003). Her argument gained further momentum in 2013, as she underscored the inherent gender biases and broader limitations of GDP-based metrics (Nussbaum, 2013).

Addressing GDP's limitations requires identifying alternative indicators that reflect not only economic activity but also environmental sustainability, social equity, and overall well-being. Scholars and policymakers have debated such measures, with notable contributions from Durand and Smith (Durand & Smith, 2013), Easterlin (Easterlin, 1995), Radermacher (Radermacher, 2015), and Stiglitz et al. (J. E. Stiglitz et al., 2009). The 2008 global financial crisis exposed the inadequacy of GDP as a predictor of systemic instability, as critical early warning indicators were ignored or underestimated (J. E. . Stiglitz et al., 2018, Chapter 2). Stiglitz and colleagues

emphasized the dangers of overreliance on GDP, advocating for broader and more nuanced frameworks.

Despite these critiques, no universal consensus has emerged on how best to move beyond GDP. Proposals range from developing a single adjusted indicator to constructing composite or multidimensional frameworks (European Union, 2007). However, defining what should be measured remains contentious, as "changes in the economy and society affect both what we want to measure and the adequacy of our metrics" (J. E. . Stiglitz et al., 2018, p. 27). This is further complicated by technical challenges, such as data availability, metric standardization, and the dynamic nature of societal priorities (J. E. . Stiglitz et al., 2018, Chapter 1).

Costanza et al. (Costanza et al., 2009) highlight the broader systemic barriers to adopting alternative metrics, including the entrenched "growth is good" paradigm, political inertia, and vested interests that maintain the status quo (pp. 27–28). The authors also note that while proposed indicators often suffer from issues of reliability, scope, and methodological consistency, a collective agreement on "workable solutions" is essential to progress (Costanza et al., 2009, p. 30). Overcoming these institutional, social, and technical hurdles is critical to advancing toward more comprehensive measures of societal performance.

2.2 From Technical Critique to Political Dialogue

Although GDP, by definition, does not inherently represent growth, it has become erroneously synonymous with a country's economic expansion and progress (Özgöde, 2020). This conflation has fuelled the narrative that GDP must continuously increase, perpetuating the premise of unlimited growth and, implicitly, the availability of unlimited resources. Over time, this misconception has also linked GDP to improvements in population well-being, positioning it as a proxy for societal happiness and quality of life, purpose far removed from its original intent. As Brinkman and Brinkman (Brinkman & Brinkman, 2011) note, the notion of GDP as a measure of well-being became entrenched in popular discourse, despite its technical and conceptual flaws. This misinterpretation provided fertile ground for criticism, not only from economists but also from politicians who brought these concerns into the public domain.

One of the earliest and most impactful critiques of GDP was articulated by Robert F. Kennedy in 1968 during his speech at the University of Kansas. Kennedy famously stated that "[gross national product] measures everything in short except that which makes life worthwhile," highlighting the disconnect between economic output and the aspects of life that contribute to human flourishing (Kennedy, 1968). His remarks resonated widely, marking a pivotal moment in the debate over GDP's limitations.

Political figures have continued to challenge the validity of GDP as a comprehensive measure of progress. In 2009, French President Nicolas Sarkozy endorsed the establishment of the Commission on Measurement of Economic Performance and Social Progress, led by Joseph Stiglitz and Amartya Sen, prominent critics of GDP's shortcomings. This commission aimed to explore alternative indicators that better capture societal well-being and sustainability (Drèze & Sen, 2013; Jolly, 2009). Sarkozy's initiative represented a significant effort to integrate these critiques into policy discussions, elevating the conversation to an international stage (*Nicolas Sarkozy Wants "well-Being" Measure to Replace GDP*, n.d.).

Parallel to these developments, Bhutan's introduction of the Gross National Happiness (GNH) concept offered a culturally rooted alternative to GDP. First articulated by Jigme Singye Wangchuck, the 4th King of Bhutan, in 1972, GNH proposed a framework prioritizing spiritual, social, and environmental well-being over economic output (Bhutan's Gross National Happiness Index, n.d.). However, it was not until 36 years later that Bhutan conducted its first GNH survey, operationalizing the concept and embedding it within its policy framework (Ura, 2017).

These critiques and alternative frameworks underscore the growing recognition of GDP's inadequacies in capturing the complexity of societal progress. The increasing momentum to redefine progress reflects a broader shift toward holistic, multidimensional indicators that prioritize well-being, equity, and sustainability.

2.3 Beyond GDP: Alternative Measurements

To address the limitations of GDP, various proposals have been suggested to rectify the identified weaknesses of GDP or to serve as alternative measures that could potentially be adopted and generalised.

Alternative metrics to GDP currently available can be categorised into four main groups[2]: Adjustments to GDP, which include a sub-category for Green or Sustainable GDP; Genuine Savings/Investments; Composite Indices (J. van den Bergh & Antal, 2014); and Dashboards, as summarised in the table below:

Table 1. GDP alternative measurements summary table

Category	Alternative Indicator
Corrections of GDP	Measure of Economic Welfare (MEW)
	Index of Sustainable Economic Welfare (ISEW)
	Genuine Progress Indicator (GPI)

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Table 1. Continued

Category	Alternative Indicator
Green GDP	Sustainable National Income (SNI)
	Gross Ecosystem Product (GEP)
	Ecological Footprint (EF)
Genuine Savings / Investments	Genuine Savings (GS)
Composite Indexes	Human Development Index (HDI)[3]
	Human Poverty Index (HPI)
	U-Index
	Living Planet Index (LPI)
	Happy Planet Index (HPI)
	World Happiness Report Index (WHR)
	OECD Better Life Index
	Inclusive Wealth Index
	Quality of Life Index
Dashboards	Sustainable Development Goals (SDGs)
	Commission on the Measurement of Economic Performance and Social Progress (CMEPSP)
	OECD How's Life report
	Subjective Well-Being
	National Income Satellite Accounts
	Calvert-Henderson Quality of Life Indicators
	Millennium Development Goals and Indicators
	Comprehensive Wealth
	Europe 2020 (Eurostat)

Source: (Arnaut, 2025)

Among these alternative metrics, those that do not simultaneously address the three dimensions of environmental, social, and economic well-being include: the Measure of Economic Welfare (MEW), Index of Sustainable Economic Welfare (ISEW), Sustainable National Income (SNI), Gross Ecosystem Product (GEP), Ecological Footprint (EF), Genuine Savings (GS), and Living Planet Index (LPI)[4].

Often regarded as identical to a vehicle's control panel, dashboards are designed to present diverse but interconnected information at a glance in a digestible format. Ideally, dashboards should be comprehensive, yet not so detailed that key information becomes difficult to perceive at once. In contrast, indexes encapsulate all information into a single numerical score, which can be integrated into a dashboard

or utilised to create rankings. Indexes are typically useful for quick comparisons with similarly assessed indexes, providing rapid and relatable insights into the subject's standing. Both the Sustainable Development Goals and the OECD's "How's Life?" are dashboard-based initiatives that have also turned to the development of indexes (Sachs, Jeffrey; Schmidt-Traub, Guido; Kroll Christian; Durand-Delacre, David; Teksoz, 2017; Sachs et al., 2016) to assist in data tracking. Specifically, the OECD index allows for the inclusion of additional information directly derived from citizens' input.

To address the recognised shortcomings of GDP, numerous alternative measures have been proposed. However, a technical consensus has yet to be achieved as no single metric completely rectifies the limitations of GDP. Furthermore, there has been no political consensus on replacing it. Despite widespread acknowledgment of the necessity to move beyond GDP, the issue has not been prioritised on the political agenda (Costanza et al., 2009). The focus remains on reinforcing and enhancing national statistics to supply additional indicators that aid in public policy decision-making.

Thus, numerous nations have taken the initiative independently, driven by a shared fundamental concern for well-being. The table below illustrates the various countries that have adopted a complementary measurement approach to well-being, customising it to fit their unique characteristics[5].

Table 2. Well-being national dashboards summary table

Country	Model: Dashboard / Index
Australia	Measure of Australia's Progress (MAP)
Austria	How's Austria
Belgium	Complementary indicators to GDP
Bhutan	Gross National Happiness (GNH)
Brazil	Portal ODM
Canada	Index of Well-Being
China	Shenzen: Gross Ecosystem Product Approach Hong Kong: Quality of Life
Denmark	Quality of Life Survey
Ecuador	Buen Vivir (INEC, Ecuador Statistics Office indicators)
Finland	2023 National Action Plan (Findicator)
France	Quality of Life Survey
Germany	Gut Leben in Deutschland
Iceland	Quality of Life Survey

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Table 2. Continued

Country	Model: Dashboard / Index
India	Gross Domestic Knowledge Product / Development Indicators
Ireland	Measuring Ireland's Progress
Israel	Well-being, Sustainability and National Resilience Indicators
Italy	Equitable and Sustainable Well-Being (Benessere Equo e Sostenibile – BES)
Japan	People's Life Indicators/ Quality of Life Survey
Korea	Quality of Life Index
Latvia	Latvia 2030
Luxembourg	Well-Being Index (LIW)
Mexico	Indicadores de bienestar (well-being indicators)
Netherlands	The Social State of the Netherlands and the SCP Life Situation Index
New Zealand	Indicators of Current Quality of Life (Aotearoa New Zealand programme)
Northern Ireland	Northern Ireland Outcomes Delivery Plan
Norway	Quality of Life in Norway Report of 2020
Poland	Responsible Development Index
Portugal	Well-Being Index
Scotland	National Performance Framework
Slovenia	Indicators of Well-Being (National Development Strategy 2030)
South Africa	South African Development Index
Spain	Quality of Life Indicators
Sweden	New Measures for Well-Being
Switzerland	Monet 2030 Indicator System
Thailand	Societal progress Indicators / Happy Societies
United Kingdom	Thriving Places Index (TPI)
United States of America	State of the USA / American Human Development Project
Wales	Well-Being of Wales

Source: (Arnaut, 2025)

3. ALTERNATIVE DEVELOPMENT NARRATIVES

3.1 Dethroning GDP: Is it possible?

In the 18th century, Adam Smith famously remarked, "It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest" (Smith, 2007, p. 16). This sentiment encapsulates

the essence of capitalism, an economic system predicated on private ownership, free markets, and the interplay of supply and demand. The principle of "laissez-faire" capitalism, with its focus on minimal state intervention and capital accumulation, dominated economies for centuries, up until the profound disruptions of the early 20th century (Jahan & Mahmud, n.d.).

The aftermath of World War I marked the beginning of significant shifts in economic models. Despite unprecedented levels of state intervention during the war, the laissez-faire capitalist system faced mounting challenges. The conflict exposed that economic priorities were inherently political in nature, and to achieve these objectives, there were no financial or budgetary limitations. This enabled both workers and advocates of reconstruction to enforce structural reforms and advocate for a Social State, where welfare considerations were prioritised (Mattei, 2022, p. 58). The effort to ensure social security for the working class, alongside initiatives to redistribute wealth within society, served as a tactic to prevent social unrest, engage society in the post-war reconstruction commitment, and maintain the stability of the capitalist model, both economically and politically (id. ibid. p.72).

Indeed, a novel form of capitalism was emerging. The examination of the system following the economic downturn of 1929-32, the necessity of adopting the Keynesian approach through state intervention to mitigate the crisis[6], and the workers' demands for increased social protection led to the emergence of what is known as neo-capitalism in capitalist nations that did not experiment with fascist or authoritarian regimes (Mandel, 1973, Chapter III). Neo-capitalism is described as the "latest stage in the development of monopoly capitalism," where elements such as "accelerated technological innovation, a permanent war economy, and an expanding colonial revolution" (Mandel, 1968, p. 5) played significant roles.

The distinction between neo-capitalism and capitalism lies in the gradual increase of state intervention in the economy, usually aimed at managing and reversing periods of capitalist crisis (Mandel, 1973, p. 45).

As World War II drew to a close, a new global economic order began to emerge with the formation of international economic accords and institutions. The Bretton Woods agreement led to the establishment of the International Monetary Fund (IMF) and what is now referred to as the World Bank. Additionally, the General Agreement on Tariffs and Trade (GATT) was introduced, alongside the implementation of the United States' Marshall Plan. Together, these initiatives provided the essential international framework for stabilisation, which allowed national economies to prosper during the post-war recovery, all while maintaining the capitalist model "in a more orderly and mutually beneficial manner" (Glyn et al., 1988, p. 28).

Between 1950 and 1973, capitalist economies experienced an unprecedented period of development, often referred to as the Golden Age of Capitalism, marked by exceptional growth rates in both productivity and capital accumulation (Glyn et al., 1988, no. III).

The decline of the Golden Age began in 1968, becoming more pronounced by 1973, and continued until its eventual dissolution in 1979. Various authors attribute the decline of the Golden Age to both internal weaknesses within the capitalist system and external influences. Significant factors included the macroeconomic framework, the production systems, and the rules governing coordination, which faced challenges such as the rise in real wages, increased competition, income support schemes, and the welfare state. Additionally, the external factor of the oil price shock caused by OPEC (Glyn et al., 1988, pp. 40–61) also contributed to the conclusion of capitalism's Golden Age.

Capitalism has spread worldwide, becoming a dominant macroeconomic and ideological framework. Wallerstein explains this development and the link between capitalism and globalisation through his World Systems Theory, where the means of production, specifically labour and capital, determine the division between core and peripheral regions (Martínez-Vela, 2001; Wallertstein, 1974). Countries with economies that are capital-intensive ascend as core regions, while those relying on labour are classified as peripheral, with semi-peripheral states serving as intermediaries between the core and peripheral regions (Martínez-Vela, 2001, p. 4), where the ownership of technology plays a significant role. Wallerstein's World Systems Theory, or "world economy" as he refers to it, is heavily influenced by Dependency Theory, forming the basis for numerous modern critiques of global capitalism (ibid., p. 3).

As capitalism spread globally, it became intertwined with the forces of globalization, deepening divides between core and peripheral economies. This dynamic has perpetuated inequalities, as peripheral regions often face systemic exploitation through resource extraction and labour undervaluation (Amin, 1973, 2014).

According to Harvey, capitalism relies heavily on natural resources as a perpetual and steady source. Damaging the environment is as crucial, as per Marx's theories, as undermining other production elements such as the labour force, since both are integral to capital and wealth generation (Harvey, 2010, p. 307). Amir discusses the disparities resulting from the conflict between core and peripheral nations, focusing particularly on the development of African countries, yet applicable to the Global South[7]. The author argues that these inequalities extend from economic realms, involving income, wealth, and power distribution, to social dimensions like unemployment, as well as to political distortions largely originating from the first two, notably technological (quasi) monopolies, communication and information, and the global consumption of natural resources (Abdulyakeen, n.d.; Amin, 1973, 2014). Sennett highlights the societal facets of capitalism's inherent flaws, and their

impact on transforming societies by failing to deliver its promises, such as freedom of choice (Sennett, 2006, p. 13), the shift from individualism to apathy and lack of accountability (id. p.164), and how meritocracy, utility, and craftsmanship are undervalued by the system itself (id. ibid. pp.182-195).

The philosophical foundations that shaped capitalist and neo-capitalist systems, namely liberalism and neoliberalism, respectively, established a narrative context for the "world mental conceptions" (Harvey, 2010, pp. 110–111) to transform and progress over time, influenced by themes of individualism, personal responsibility, and freedom. The neoliberal narrative became so pervasive that it profoundly influenced thought processes and became ingrained in how people perceive and conduct their daily lives (Harvey, 2008, pp. 2–3).

The inherent weaknesses and internal conflicts within capitalism have prompted inquiries into whether a macroeconomic and philosophical framework could serve as an alternative. Fragilities, such as the overuse of environmental resources and the developmental disparities between the Global North and Global South, have encouraged various authors to propose alternative development models as potential substitutes for neo-capitalist and neo-liberalist paradigms. Furthermore, the recognition of the shortcomings of GDP as the primary measure of a country's performance has often been paralleled with and has propelled the debate on whether the macroeconomic narrative should be reassessed, largely due to data indicating environmental degradation, which poses a threat to the sustainability of critical ecosystems necessary for humanity's survival.

3.2 Degrowth and Post-Growth Economics: From Capitalism to Happytalism?

Emerging narratives such as degrowth and post-growth economics advocate for sustainable and equitable progress. These models challenge the dominant pro-growth paradigm by prioritizing ecological balance and social equity.

The limitations of GDP as a measure of national progress have long been recognized. Its inability to capture well-being, social equity, and environmental sustainability has spurred the development of alternative macroeconomic narratives. Macroeconomic narratives have been categorised into pro-growth strategies (Acemoglu, 2009), including the green growth narrative (Allen & Clouth, 2012; Newton & Catarello, 2014), no growth (Jackson, 2009), and degrowth (D'Alisa, Giacomo; Demaria, Federico; Kallis, 2015; Domazet et al., 2020; Raworth, 2017a; Guske et al., 2019; Jackson, 2009; Pissarskoi, 2017; J. C. J. M. Van Den Bergh & Kallis, 2012).

Various proposals have been presented within each macroeconomic discourse, each advocating a distinct set of values and principles to steer the growth and sustainability of the population (Kothari et al., 2019). These proposals, aiming for reform and a paradigm shift, conceptually span environmental, religious, feminist, and well-being perspectives, covering the spectrum from local to national or global application.

Among the various proposals, the most notable include the concepts of Buen Vivir (Calisto Friant & Langmore, 2015; Chuli et al., 2019; Gudynas, 2011; Morales et al., 2019), Ubuntu (Gaim & Clegg, 2021; Ontong & Le Grange, 2014; Tomaselli, 2016; University of Pretoria, 2006), Doughnut Economics (Raworth, 2017b), and Permaculture (Holmgren, 2011).

These models reflect a growing consensus that GDP is an inadequate indicator of progress. The environmental degradation and social inequalities associated with GDP-centric policies have fuelled calls for a paradigm shift. Nevertheless, there has not been a sufficient impetus to overcome the absence of agreement on the development framework that needs to be embraced. This stagnation, possibly caused by deeply rooted capitalist and liberal values that have influenced all economic participants, from governments to private enterprises, with backing from the media and the phenomenon of globalisation, encourages ongoing debate among the various perspectives.

Happytalism emerges as a bold alternative, proposing a focus on collective happiness and well-being as the primary metrics for societal success. By integrating principles from behavioural economics and positive psychology, Happytalism shifts the emphasis from economic output to emotional and social well-being (Kahneman & Krueger, 2006; Diener et al., 2010). Proponents argue that this approach could redefine governance, prioritizing policies that enhance life satisfaction and mental health.

3.3 Challenges in Implementation

Despite growing advocacy, alternative development models face significant obstacles.

3.3.1 From a Framework Perspective

As the concept of GDP gained global applicability, so too did the normative framework underpinning it, impacting not only economic interactions among various agents but also the daily lives of individuals. Numerous alternative measurements of GDP have emerged, along with different macroeconomic narratives. Nevertheless,

there remains a disconnect between the neoliberal normative framework and the various alternative GDP measurements.

The neo-capitalist perspective on the limitations of exploiting natural resources, alongside the individualistic stance promoted by neo-liberal narratives, does not provide the most suitable framework for a well-being-focused development model or any other proposed alternative model. We assert that the principles inherent in the de-growth macroeconomic narrative—such as respecting planetary boundaries, embracing circular economies, and adopting collaborative approaches spanning from communities to economic practices—form the normative foundation common to various proposals are more fitting for establishing a well-being-focused development model.

Nevertheless, and lacking a broadly accepted normative agreement, it will, however, be quite difficult to put into practice different GDP metrics and alternative public and social policies, consistent with what an alternative development model would necessitate and involve.

For a novel measurement to flourish and achieve global acceptance, it is necessary to establish a fresh normative theoretical framework, which must also be broadly agreed upon and accepted; without this, the lack of political support will persist.

3.3.2 From a Policy and Measurement Perspective

If a government subscribes to Thomas Jefferson's belief that “the care of human life and happiness, and not their destruction, is the first and only legitimate object of good government” (Jefferson, 1809), then prioritising the measurement of well-being becomes essential for policymaking. Evaluating societal well-being facilitates understanding its various sources, aids economists and policymakers in basing their decisions on data rather than conjecture, and allows for comparative analysis both within and among nations.

There are, nevertheless, challenges to address in measuring societal well-being. According to our conceptual model, societal well-being stems from individual well-being and, as indicated by Kubra-Krys et al., these two are interrelated, as societal well-being has an “individualism-themed” nature ” (Krys et al., 2021). Indeed, various studies have shown that the metric of life satisfaction, when considered as an average collective value to represent societal life satisfaction, is linked with national levels of individualism (ibid., p. 2197). The authors propose incorporating diverse indicators of happiness to account for cultural variations in well-being types, as even if they overlap and support one another, their qualities might vary (such as in the notions of “happiness, spirituality, meaning”) (ibid., p. 2208).

Moreover, the reliance on aggregated figures can obscure asymmetries in distribution and disparities within and between countries. Beyond disparities in income, health, or life satisfaction, there is evidence suggesting that individuals favour reduced inequality in the distribution of well-being (Helliwell, 2021). Research by Pinar on European regions from 2000 to 2014 found that even as multidimensional well-being improves and inequality diminishes at both individual and community levels, it remains constant on a national scale (Pinar, 2019). This appears to indicate that societal well-being should be assessed with a comprehensive set of indicators to reflect the complementarity or perfect substitution among well-being dimensions, as the chosen interaction levels between these dimensions hold significant implications for EU policy (id. p. 65).

Governance is an additional factor that interacts with well-being. According to Layard and De Neve, the behaviour of governments, the quality of democracy (particularly in developed nations), and the quality of legal institutions in low-income countries all show a correlation with national life satisfaction (Layard & De Neve, 2023, pp. 253–259). Supporting the findings related to democracy quality, Stutzer and Frey illustrated that greater political participation leads to higher levels of well-being for both citizens and foreigners, although foreigners report smaller increases in life satisfaction as they are excluded from "procedural utility" (Stutzer & Frey, 2006). This research, conducted across different Swiss cantons, indicates that the opportunity for political participation enhances well-being (id. p. 412).

The extent of government measured through welfare spending—expansion of the welfare state—and government expenditure on goods and services also appears to have a positive correlation with well-being[8] (Layard & De Neve, 2023, pp. 261–262). These findings remain consistent for government regimes, as "more left-leaning state governments predicted higher levels of life satisfaction" (ibid. p. 264), whereas, at an individual level, studies tend to indicate higher levels of well-being in right-wing individuals compared to left-wing ones.

The multi-faceted nature of well-being, alongside the limitations imposed by individual and societal values, cultural sensitivity, and governance, directs us towards adopting intricate frameworks encompassing numerous indicators. However, the challenge extends beyond the method of measurement to include how we assess the impact of well-being policies. As noted by Stutzer and Frey, aiming to maximise collective well-being through a "social welfare function" may be insufficient, as it is necessary to "enhance the nature of the political process." This implies that a procedural perspective is more favourable than the pursuit of a single indicator (Frey & Stutzer, 2010).

4. UNDERSTANDING WELL-BEING: A MULTIDIMENSIONAL FRAMEWORK

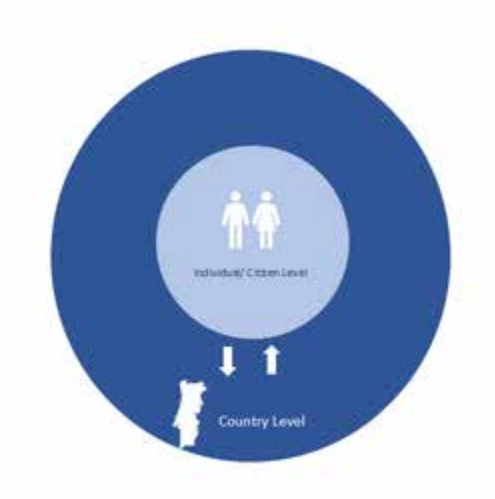
4.1 Individual, Organizational, and National Levels

Well-being is a concept explored extensively across various disciplines, yet its interpretation and measurement differ significantly depending on the context and the scale of analysis. For some fields, well-being is primarily an individual-level phenomenon, often focusing on subjective experiences such as emotional states, personal relationships, and the use of time. In contrast, others adopt a societal lens, examining aggregated indicators that reflect the overall health, happiness, and satisfaction of populations. This divergence highlights the stratified and layered nature of well-being, which necessitates a comprehensive analytical framework when evaluating its national and aggregated impacts.

Recognizing the complexities inherent in well-being research, we have proposed[9] a conceptual model that accommodates the multiple layers of analysis required to understand well-being holistically. At its core, this model acknowledges that well-being is fundamentally rooted in individual perceptions and experiences. These perceptions, when aggregated, provide a societal-level perspective on well-being.

Therefore, at least two interrelated layers of well-being must be considered: the individual and the societal.

Figure 1. Graphic representation of inter-relationship between individual well-being and aggregated well-being



Source: (Arnaut, 2025)

In addition to these layers, environmental sustainability emerges as a critical dimension of well-being. Humanity's dependence on the environment for survival and quality of life makes it an indispensable component of any comprehensive well-being analysis. Most existing well-being indexes and dashboards incorporate environmental considerations, aligning with frameworks like Raworth's Doughnut Economics (Raworth, 2017b). However, rather than adopting existing environmental indicators, our model integrates national environmental thresholds based on planetary boundaries (Steffen et al., 2015). This approach allows for an evaluation of a country's sustainability performance within the broader context of well-being.

Figure 2. Inter-relationship between individual well-being, aggregated well-being and environment

Source: (Arnaut, 2025)

Figure 2 illustrates the interrelationship between individual, societal, and environmental well-being, with the environment acting as a constraining layer, much in line with the framework proposed by Raworth (Raworth, 2017b).

While individual and societal well-being are widely acknowledged, we identified a missing dimension in existing models: organizational well-being. Given that individuals spend a significant portion of their lives engaged in work — estimated at 45% of their daily time on average, whether in paid or unpaid activities (OECD, 2024) — it is imperative to examine the interplay between workplace dynamics and overall well-being. This gains increased relevancy if one decides to include school systems within the organisational sphere and consider the student data as part of

the workforce of the schooling system. As we will see below, youngsters data can portray a very different societal well-being result, than considering only adult data[10].

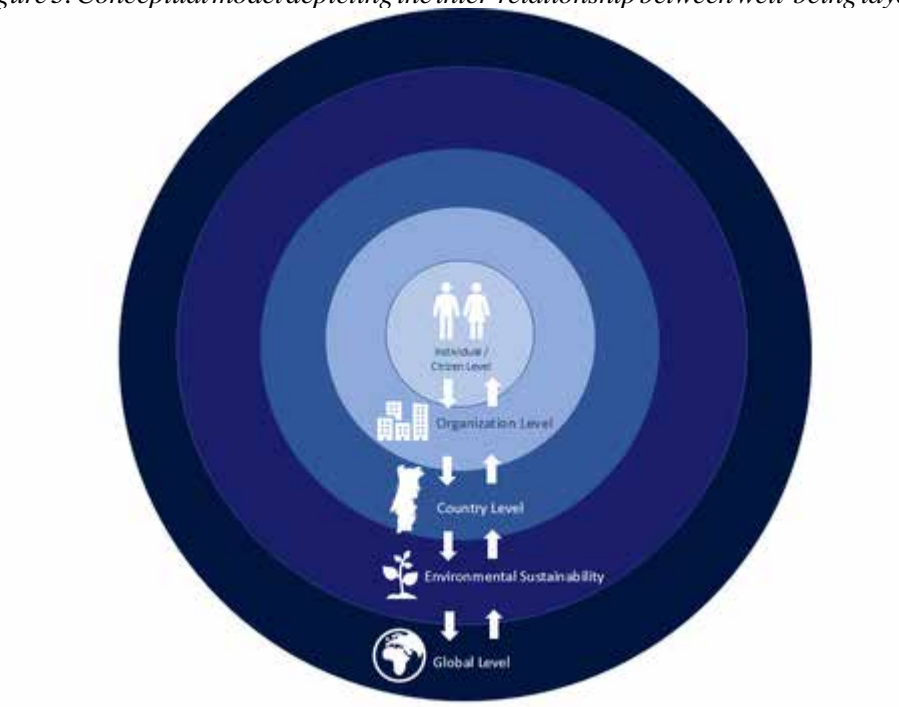
Well-being cannot be neatly divided between personal and professional spheres. Emotions and perceptions from one domain inevitably influence the other, creating an interconnected experience of well-being. Consequently, the workplace plays a pivotal role in shaping individual well-being, which in turn affects societal well-being. Our model introduces organizational well-being as a distinct layer that interacts dynamically with individual and societal dimensions.

Existing well-being indexes and dashboards largely overlook organizational well-being, focusing instead on broader societal or economic indicators. However, we argue that organizational well-being deserves dedicated attention, as it encompasses factors such as job satisfaction, work-life balance, workplace relationships, and organizational culture. These factors not only impact individual well-being but also contribute to societal outcomes such as productivity, economic stability, and social cohesion.

Therefore, our conceptual model includes 5 interconnected layers of well-being:

1. **Individual Well-Being:** Centred on personal experiences, relationships, positive emotions, and time use.
2. **Organizational Well-Being:** Encompasses workplace-related factors and their impact on individual and societal well-being, namely how workers feel in their workplace.
3. **Societal Well-Being:** Aggregates contextual indicators to provide a macro-level view of population health, income education and others.
4. **Environmental Sustainability:** Acts as an overarching constraint, reflecting the critical role of natural systems in supporting human life and well-being.
5. **Global Level:** The level in which the country comparison within this model, considering all the inner layers, occurs, provided a standardized data collection methodologies and analysis model are applied to all the countries under analysis. It facilitates cross-country comparisons, enabling policymakers to benchmark national well-being and identify areas for improvement.

Figure 3. Conceptual model depicting the inter-relationship between well-being layers



Source: (Arnaut, 2025)

Figure 3 illustrates the complete conceptual model, depicting the interrelationships among individual, organizational, societal, and environmental dimensions. The nested structure emphasizes the interconnectedness of these layers, with the Global Level forming the outer boundary.

4.2 Challenges in Defining Well-Being Indicators

A central challenge in well-being research is determining the items that constitute each layer of the conceptual model. While individual well-being is often assessed through subjective measures, such as self-reported happiness and life satisfaction, societal well-being relies on aggregated indicators like health outcomes, education levels, and income equality. Similarly, organizational well-being requires tailored metrics that reflect workplace dynamics, such as employee engagement and work-life balance.

Compounding this challenge is the need to identify which indicators are most influential in driving overall well-being. Existing dashboards and indexes typically provide a broad set of indicators but fail to highlight the most impactful ones. This

lack of clarity hinders decision-making for policymakers, who must prioritize interventions and allocate resources effectively.

To address this issue, our approach begins with a comprehensive landscape of well-being-related indicators, encompassing a wide range of dimensions. Using statistical techniques such as Principal Component Analysis (PCA), we narrow this landscape to identify the most statistically relevant indicators for each layer of the model. This method allows us to create a streamlined framework that retains analytical rigor while improving practical applicability.

4.3 Influential Variables in Societal Well-Being

Conducting a correlation analysis allows us to identify which indicators have the most statistical impact on well-being, whether that impact is positive or negative. The results can be summarised as follows (Arnaut, 2025):

Beneficial Impact:

- Dimension Social Connections with 2 indicators - Personal Relationships and Social Support
- Dimension Knowledge and Skills with the indicator regarding Science
- Dimension Income and Wealth with the indicator regarding Vertical Inequality, and
- Dimension Environment with the indicator Blue Water

Regarding the 5 most influential indicators which have demonstrated to exert a negative effect over well-being it makes sense to underline the fact that 2 of them are inequalities and the other 2 are environment related. In detail, the indicators with negative influence over well-being are:

- Dimension Work Life Balance with the indicator Inequalities Satisfaction with Time Use for Women
- Dimension Work & Job Quality with the indicator Long-Term Unemployment Rate for Men
- Dimension Safety with the indicator Inequality Feeling Safe Night for adults except senior citizens, and the
- Dimension Environment with 2 indicators – Nitrogen and CO_2 Emissions

These findings allow us to propose a simplified dashboard to inform, support and guide the policy makers taking informed well-being public and social policy prioritization.

The suggested overview dashboard would resemble the one illustrated below, where the green indicators have a positive impact on well-being, whereas the red indicators have a negative effect on well-being:

Table 3. Well-Being Dashboard: Key Influential Indicators in Life Satisfaction(Arnaut, 2025)

	Positive Influence				Negative Influence			
Dimension	Social Connections	Knowledge and Skills	Income and Wealth	Environment	Work Life Balance	Work and Job Quality	Safety	Environment
Variables	Social Support	Knowledge and Skills - Science	Vertical inequality Income and Wealth: S80/S20 income share ratio	Blue Water	Inequalities Satisfaction with Time Use - Women	LongTerm Unemployment Rate - Men	Inequality Feeling Safe Night - Secondary	Nitrogen - Variance to Threshold
	Personal Relationships							CO_2 Emissions - Variance to Threshold

5. THE ROLE OF AI AND MACHINE LEARNING IN WELL-BEING RESEARCH

The exploration of well-being has historically been challenged by the multifaceted and subjective nature of the concept, which spans individual, societal, and environmental dimensions. Traditional methodologies, while valuable, often struggle to capture the dynamic, contextual, systemic and interconnected aspects of well-being. However, the advent of artificial intelligence (AI) and machine learning (ML) offers transformative potential for addressing these limitations, enabling researchers to derive more nuanced insights and predictive capabilities from vast and complex datasets.

Traditional well-being research has relied heavily on surveys, longitudinal studies, and aggregated statistical models, based on past data. While these approaches provide a foundational understanding, they often encounter limitations such as:

- Static Models: Conventional models are typically unable to account for the dynamic and evolving nature of well-being over time (Kahneman & Deaton, 2010).
- Simplified Aggregations: Aggregating data at the societal level can obscure individual variations and context-specific factors (Diener et al., 2010).
- Subjectivity in Measurement: Well-being is inherently subjective, and existing tools often fail to account for the complex interplay between psychological, social, and environmental factors (Oparina et al., 2022).

AI and ML can help mitigate these limitations by introducing adaptive, scalable, and granular analytical capabilities. For instance, ML algorithms can process diverse data sources — ranging from traditional surveys to real-time behavioural data — to uncover hidden patterns and relationships, thereby enriching our understanding of well-being.

One of the most promising applications of AI in well-being research lies in its ability to generate dynamic and personalized insights. These insights can provide a more accurate and contextualized understanding of well-being, addressing the static and generalized nature of traditional approaches.

AI-powered sentiment analysis, for example, leverages natural language processing (NLP) to evaluate emotional states and well-being perceptions from textual or verbal data. This can be extracted from social media platforms, blogs, and online forums, which can serve as rich data sources for capturing public sentiment in real time (Thelwall, 2017).

Sentiment analysis allows researchers to monitor trends in emotional well-being across different demographics, regions, or time periods, providing valuable insights into societal shifts or the impacts of policy interventions, eliminating one of the most important criticisms regarding well-being research mostly confined to the Global North, where traditional data is most readily available and the collection methodologies are mostly standardized.

ML models can forecast future well-being outcomes by analysing patterns in historical and real-time data. Predictive analytics can:

- Identify individuals or groups at risk of declining well-being, enabling targeted interventions (Friedman et al., 2014).
- Simulate the potential impacts of targeted well-being policies, such as the introduction of mental health programs or environmental regulations, on national well-being indicators.

These tools enable policymakers and researchers to move beyond descriptive analysis, allowing for proactive measures and evidence-based decision-making.

In fact, AI and ML have already demonstrated their utility in several well-being-related domains:

- Healthcare and Mental Health: Predictive models have been used to identify early warning signs of mental health conditions, improving access to timely care (Shatte et al., 2019).
- Workplace Well-Being: Sentiment analysis tools help organizations assess employee satisfaction and identify areas for improvement, fostering healthier work environments (Chaturvedi et al., 2021).

- Environmental Well-Being: AI models integrate environmental and social data to evaluate the impacts of climate change on societal well-being, guiding sustainable development policies (Rolnick et al., 2019).

6. ADVANCING WELL-BEING LITERACY: THE ROLE OF EDUCATION

Well-Being is reflected in several Sustainable Development Goals (SDGs) – 3, 9, 16 – and relates very closely with SDG number 4 as it fosters inclusiveness and equitable education for all, relevant indicators for national well-being (*THE 17 GOALS | Sustainable Development*, n.d.). The challenges the education system has been facing in the last decades with increasing bullying incidents, student anxiety, stress and in some extreme cases suicide, due to the performance pressure students feel, are challenging experts to rethink the system. A different approach to the education system has been put forward by UNESCO, Happy Schools, resulting from a well-being approach, positive psychology and best practices from different Asia-Pacific countries (UNESCO, 2016).

6.1 Happy Schools: Global Initiatives

Considering the experiences in 5 different case studies – Bhutan, Japan, Republic of Korea, Vanuatu and Singapore - UNESCO proposes a 4 P's pillar framework of Principles, People, Process and Place, for which guiding policies have been identified not only from the best practice of these case studies but also from the results of the questionnaires in different school communities (UNESCO, 2016). The framework can be summarized in the picture below:

Figure 4. The happy schools framework criteria

Source:(Mahfooz & Norrmén-Smith, 2022, p. 16)

Opposed to an over grade focused education system and standardized testing as we have it today, the proposal of the happy schools approach is to shift away from the current model to a new one which values arts and creativity at least as much as the more traditional competences.

Stemming out of the conceptual framework and the pillar of learning - *Learning to Be*, the happy schools approach highlights the importance of creativity as one key competence for the upcoming challenges we need to prepare our young for, namely the robotization and increasing use of AI for a vast number of activities. As we can't compete with machine information processing capacity and speed, competences such as creativity and problem solving are viewed as fundamental for the future, for which they need to be taught and developed in schools. Other competences are being included in the curricula, such as the practice of mindfulness, happiness competences, dance breaks or dedicated time towards diversity, equity and inclusion.

The underlining principle in the Happy Schools programme is no different from the principles applied to organisational well-being: happier, more confident, safe, less stressed and less anxiety students learn and perform better. In order for that

to happen the whole school community needs to be included – from the principles to the teachers and the supporting staff – happier and more positive professionals promote a better environment for the students to thrive and a positive cycle through the ripple effect is established.

Several countries have already implemented the Happy Schools initiative, including Bhutan, Finland, the Netherlands, Portugal, Vietnam, Yemen, Japan, Lao People's Democratic Republic, and Thailand and others have specific programs whose principles align with the ones of the Happy Schools and are adapted to the specific context they're in such as South Africa, Kenya and Ghana. There are also examples of Happy Schools program implementation in specific settings such as Illinois in the USA and Bogotá in Colombia (Mahfooz & Norrmén-Smith, 2022). These countries applied the framework to improve teacher training, strengthen socio-emotional learning, and foster healthier school relationships. This framework has proven it positively impacts students' well-being and results and is flexible enough to adapt and be implemented in different education systems across the globe.

6.2 The Importance of Teaching Well-Being

The world's youth are facing an unprecedented rise in stress and socio-emotional challenges. Today's school students must contend with a digitally dominated landscape shaped by the pressures of social media, infollution, intense academic testing, fierce competition in the job market, polarizing identity politics, widening income disparities, and an almost relentless exposure to global crises, environmental degradation, conflicts, and human suffering through constant visual media.

We believed well-being and happiness throughout our lifespan could graphically be depicted through a U curve, meaning that we would be happiest in our younger years and late in life, suffering our lowest happiness point between 40 and 50 years of age.

However, recent data is challenging this concept.

In 2017, the World Health Organisation (WHO) alerted for one in four children in the age group of 13-15 years in India suffered from depression (WHO- Regional Office SEA, 2017). In 2019, UK was already depicting worrying numbers of unhappiness among children and in 2022 the UK's 15 year old had the lowest overall life satisfaction average when compared with the other 26 European countries (Chollet et al., 2024; *The Good Childhood Report*, 2024). Furthermore, the latest research presented on the World Happiness report 2024 shows "since 2006-10 (…) happiness among the young (aged 15-24) has fallen sharply in North America – to a point where the young are less happy than the old" and "the inequality of happiness has increased in every region except Europe" which is another red flag trend (Helliwell et al., 2024).

As these youngsters will be the adults in years to come, a lot of questions are being raised in the researcher community to how these low levels of well-being will play out throughout their lifetime – will they be able to recover at some point? And when? Is there still any validity for the well-being U curve we thought we had?

Until data can provide us with evidence for these questions, the urge to include well-being and shift the school's environment gains increasing importance as we need to support our children to cope with increasingly complex and challenging contexts on one hand, as well as prevent the socio economic fabric degradation of our societies.

Embedding well-being education in school curricula fosters resilience, emotional intelligence, and social responsibility from an early age. Students equipped with these skills are better prepared to contribute to a harmonious society.

7. DISCUSSION AND FUTURE DIRECTIONS

7.1 Overcoming Barriers

Implementing a well-being development model requires a general consensus on the approach to follow in terms of measurement – dashboard or index – and the indicators to consider. Ideally this consensus should be as wide as possible to allow for country comparisons and insights regarding the key indicators which are not sensitive to culture or geography and the ones that are. Continued efforts on data collection so more variables and data become available is paramount.

Implementing such a model has of course the pre-requirement of a theoretical framework which enables an alternative to the current pro-growth GDP based narrative. This in turn requires a considerable paradigm shift without which implementing such a model will not be successful. An alternative model with well-being at its core entails serious changes towards environmental sustainability, evolving from a competitive landscape to a more collaborative one, and a general change of mindset from the individualistic one to a more community like.

The continued exploration of alternative macroeconomic narratives, from green growth to degrowth and Happytalism, reflects humanity's search for a more equitable and sustainable future. While no consensus has emerged, the ongoing dialogue highlights the growing recognition of GDP's limitations and the need for innovative approaches to measure and achieve progress.

7.2 Bridging Research and Policy

Understanding well-being through a multidimensional framework has significant implications for both research and policy. By integrating individual, organizational, societal, and environmental dimensions, our model provides a holistic perspective that captures the complexity of well-being. This approach not only enhances our understanding of what constitutes well-being but also informs the design of policies and interventions that can drive meaningful improvements.

For policymakers, the model offers a tool for prioritizing budget allocations and designing programs that address well-being at multiple levels. For researchers, it highlights the importance of interdisciplinary collaboration, as well-being research spans fields such as psychology, sociology, economics, and environmental science.

Policymakers must integrate research findings into actionable strategies. AI-driven insights and well-being dashboards can serve as tools to guide social and public policies and prioritize initiatives with the greatest societal impact.

7.3 The Perils of Happytalism

Happytalism is not without risks. One significant concern is its potential to undermine individual freedom. In the pursuit of collective happiness, governments may implement policies that restrict personal choices, leading to paternalistic interventions. Condemning or penalising actions that could lead to unhappy emotions could encroach on privacy, creating a dystopian reality where individuals are judged based on their adherence to prescribed notions of well-being (Zuboff, 2019).

Another critique is the risk of promoting toxic positivity. By idealizing happiness as the ultimate goal, Happytalism may marginalize individuals who experience negative emotions or mental health challenges. This emphasis on constant positivity could stigmatize dissent and suppress critical discourse, fostering a culture of conformity and emotional repression (Ehrenreich, 2009). Furthermore, well-being and sustained well-being is not about high levels of happiness feelings, but rather a resilience to overcome bad situations with a positive and realistic outlook. Additionally, the commercialization of happiness, driven by corporate interests, risks commodifying well-being, reducing it to a marketable product rather than a holistic human experience (Cabanas & Illouz, 2019).

While Happytalism offers a compelling vision for a post-GDP world, its implementation must be approached with caution. Policymakers must ensure that measures of well-being are inclusive, culturally sensitive, and respect individual freedoms. Well-Being should be viewed as a multidimensional concept that encompasses emotional, social, and economic well-being, rather than a singular metric.

7.4 Overcoming Artificial Intelligence and Machine Learning Potential Risks

While AI and ML offer significant advantages, their application in well-being research must address privacy concerns, potential bias whilst keeping the qualitative analysis.

Zuboff warns for the use of personal data, especially from social media or wearable devices, as it raises concerns about consent and data security (Zuboff, 2019). Additionally, the collection methods of data from social media users can, in some cases, provide distorted universe samples, and consequently unreliable data.

Another risk that is frequently highlighted with the use of AI and ML is the potential application of algorithmic biases, which can perpetuate existing inequalities if training data is not representative of diverse populations (Obermeyer et al., 2019).

Finally, a narrow focus on AI-driven solutions may overlook qualitative insights and human expertise that remain critical in understanding well-being (Dignum, 2019), for which all researchers should be cautious in not becoming technology over-reliant.

8. CONCLUSION

Shifting from GDP to well-being as the primary measure of societal progress is both necessary and achievable.

Well-being is a layered and interconnected concept that demands a comprehensive analytical approach. By incorporating individual, organizational, societal, and environmental dimensions, our framework provides a foundation for understanding and enhancing well-being in a way that is both holistic and actionable.

Transitioning from our current development GDP based model to a new model, potentially considering well-being at its core, demands interdisciplinary collaboration, innovative methodologies, and widespread adoption of education initiatives like Happy Schools.

By leveraging AI and fostering a deeper understanding of well-being, societies can navigate the complexities of sustainable development, ensuring that both people and ecosystems thrive in harmony. Embracing this paradigm underscores the importance of collective responsibility and forward-thinking strategies for a more equitable and flourishing world. AI and machine learning represent powerful tools for advancing well-being research by addressing traditional limitations and providing dynamic, personalized insights. Sentiment analysis and predictive analytics, in particular, enable researchers to uncover complex relationships and anticipate future trends, enhancing both academic understanding and practical applications. However, the ethical and methodological challenges associated with these technologies must

be navigated carefully to ensure their responsible and equitable use. By integrating AI into well-being frameworks, researchers and policymakers can develop more comprehensive, actionable, and forward-looking strategies to promote well-being at individual, organizational, and national levels.

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ENDNOTES

1 The International Monetary Fund (International Monetary Fund, 2021) states that in low and middle-income nations, this figure represents 35% of the GDP, while in advanced economies, it is 15%. As reported by the World Bank, the informal sector in Europe and Central Asia accounted for 36% of the GDP from 2010 to 2018. For further insights and data, refer to Ohnsorge and Yu (Ohnsorge & Yu, 2022).

2 It is important to note that different authors may categorise these metrics differently. According to the European Commission, alternative GDP measurements fall into categories such as Enlarged GDP, Social Indicators, Environmental Indicators, and Well-Being. For more detailed information, please consult https://ec.europa.eu/environment/beyond_gdp/indicators_en.html (European Commission, n.d.). Contrarily, Constanza et al. propose that these categories are divided into Corrections to GDP and SNA accounts, Well-Being, Composite Indexes, and Indicator Suites (Costanza et al., 2009).

3 The Human Development Index (HDI) was firstly published in 1990 (United Nations Development Programme. & Haq, 1990) and was also developed from Sen's capabilities approach as the author believed measures of human development had to consider "what people can do and what they can become" (Measure of America of the Social Science Research Council, n.d.).

4 The Inclusive Wealth index has not been included here, as the United Nations Environment Programme (UNEP), the organisation responsible for releasing the indicator's annual report, regards the indicator as a means of assessing a nation's ability to produce and sustain human well-being over time The Inclusive Wealth index has not been included here, as the United Nations Environment Programme (UNEP), the organisation responsible for releasing the indicator's annual report, regards the indicator as a means of assessing a nation's ability

to produce and sustain human well-being over time (*Inclusive Wealth Report 2023: Measuring Sustainability and Equity*, 2023; United Nations Environment Programme, 2023).

[5] The United Arab Emirates has launched a National Well-being Strategy for 2031 and established a Ministry of State for Happiness, led by Ohoud Khalfan Al Roumi. The country conducted national surveys on happiness and well-being in 2016, though the findings have yet to be released. Among the various UAE initiatives aimed at enhancing well-being, a national charter, the UAE's National Charter for Happiness, has been introduced. However, since the charter exclusively targets the work environment within governmental bodies, we have not included the UAE's initiative in the table. For further information, please visit https://u.ae/en/about-the-uae/the-uae-government/government-of-future/happiness and https://www.bayut.com/mybayut/all-about-happiness-ministry-dubai/

[6] The economic cycles referenced pertain to Kondratieff's theory of long waves in economic life (Kondratieff & Stolper, 1935), where the authors examine the cyclical patterns of capitalism characterised by phases of expansion and contraction as a result of technological advancements within the world-system

[7] The term Global South broadly encompasses the areas of Latin America, Asia, Africa, and Oceania. It is part of a group of terms, like "Third World" and "Periphery," which describe regions outside Europe and North America, predominantly (though not entirely) low-income and often politically or culturally sidelined (Connell & Dados, 2012, p. 12). In this context, the term Global North pertains mostly to developed or First World countries in the northern hemisphere, such as nations in Europe and the United States.

[8] Correlation does not necessarily mean causal relationship.

[9] Author's doctoral thesis research findings pending publication (Arnaut, 2025)

[10] For different sets of reasoning, one of the most important being the lack of data, youngsters data has been up until now widely ignored.