

Mainstreaming wellbeing and sustainability in policymaking

Technical and governance levers out
of the institutional GDP lock-in

Imprint

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Executive summary

Europe's socio-political priorities have shifted towards an increased focus on wellbeing and sustainability. Nevertheless, the metrics used in economic policymaking remain primarily centred around macro-economic indicators, in particular GDP. Given the ambitious goals the European Union (EU) has defined in the European Green Deal, the European Pillar of Social Rights and in crises response measures such as the Recovery and Resilience Facility (RRF), policy decisions need to be informed by wellbeing and sustainability metrics to navigate the transition towards a green and socially just EU economy.

Certain metrics, like greenhouse gas (GHG) emissions, have already been successfully mainstreamed and are effectively shaping political decisions. Motivated by such examples, the present report analyses the barriers and the pathways to increase the uptake of further wellbeing and sustainability metrics in political governance and statistical frameworks in a way that extensively impacts political decision-making.

We deem six dimensions of wellbeing and sustainability pivotal for the success of a green and just transition, which are, however, currently underrepresented in policymaking:

- Wellbeing: (i) human needs and the accessibility of need satisfiers, (ii) the societal distribution of monetary resources, and (iii) time use.
- Sustainability: (i) planetary thresholds, (ii) ecosystem services, and (iii) the non-substitutability of critical natural capital.
(→ see chapter 2)

The novel contribution of this report is its focus on the dynamics that – even though often overlooked – have a critical impact on the integration of metrics into policymaking and hence political decision-making in general. These underlying dynamics give rise to what we call an institutional GDP lock-in, which effectively obstructs the political uptake of wellbeing and sustainability metrics. In essence, this institutional GDP lock-in stems from a dynamic interplay between political governance and the use of metrics therein (the governance level) and the statistical and data-related qualities of metrics (the technical level). In the case of macroeconomic indicators, this interplay takes the form of a positive feedback loop. Here, high demand in political governance causes the mobilisation of resources with the purpose of improving data quality and developing coherent accounting frameworks. This in turn facilitates the integration of macroeconomic indicators into governance mechanisms.

In contrast, wellbeing and sustainability metrics may be subjected to a negative feedback loop dynamic. Here, a limited demand for wellbeing and sustainability metrics can impede necessary improvements in data quality and the establishment of coherent methodologies, the corollary of which is a relatively limited uptake of these metrics into governance mechanisms, legislation, and policies. Actors pushing for an increased consideration of wellbeing and sustainability in policymaking are hence confronted with a “chicken-and-egg” dilemma. While technical level issues effectively hinder the integration of wellbeing and sustainability metrics into governance mechanisms, the limited demand for these metrics from governance hampers the required improvements on the technical level. (→ see chapter 4)

High political costs of transition

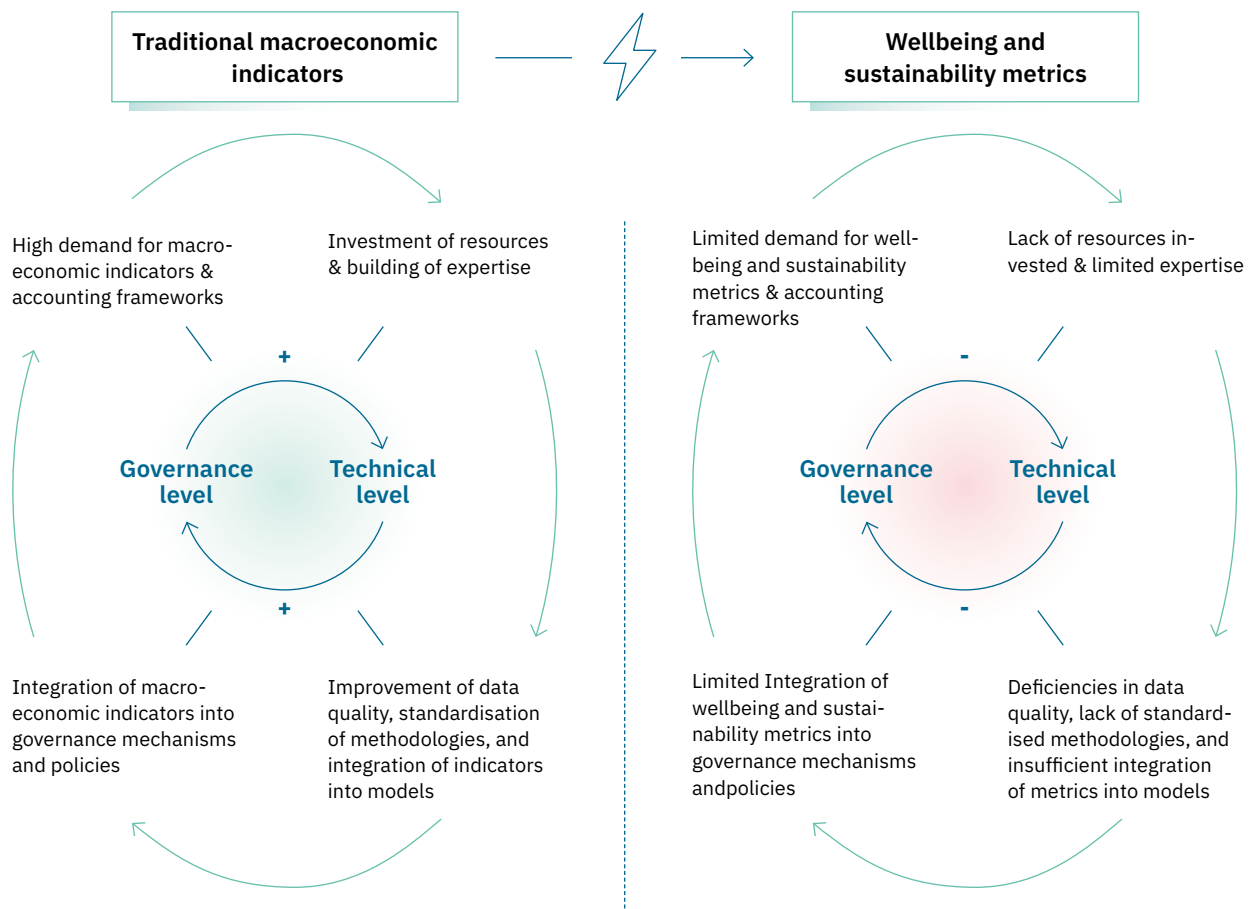


Figure: The reinforcing dynamics of the institutional GDP lock-in: the positive and the negative feedback loop

We identify nine practicable levers that decision makers can utilise to strengthen wellbeing and sustainability in policymaking through changes of the statistical foundations and the incorporation of metrics into political governance. Crucially, the implementation of changes using these levers has the potential to commence a virtuous cycle, in which technical improvements can support the uptake of wellbeing and sustainability metrics in governance mechanisms, and vice versa.

The four technical levers:

- (i) the System of National Accounts (SNA),
- (ii) Satellite accounts and the System of Environmental-Economic Accounting (SEEA),
- (iii) Beyond GDP metrics, and
- (iv) impact assessment tools.

The five governance levers:

- (i) reporting and monitoring,
- (ii) policy evaluation,
- (iii) political targets,
- (iv) budgetary allocation metrics, and
- (v) enforcement mechanisms.

Based on a careful consideration of these levers, we formulate a set of ten recommendations to increase the consideration of wellbeing and sustainability in EU policymaking.

Technical recommendations:

- Expand the production and asset boundary of the SNA to allow for an integration of wellbeing and sustainability aspects
- Establish extended accounts in the SNA and introduce a complementary GDP metric adjusted for wellbeing and sustainability aspects
- Introduce Planetary Boundary Accounts in the SEEA
- Establish a Time Use Satellite Account
- Improve the data basis of material needs satisfiers and their affordability
- Strengthen the consideration of wellbeing and sustainability aspects in impact assessment models used by the European Commission

Governance recommendations:

- Use wellbeing and sustainability metrics as issue-specific allocation metrics for funds
- Define binding targets for essential wellbeing and sustainability dimensions
- Implement effective enforcement mechanisms for wellbeing and sustainability targets
- Establish a multidisciplinary expert group to support the uptake of wellbeing and sustainability metrics in policymaking (→ see chapter 6)

1. Metrics for measuring societal progress: Times are changing

How do we measure societal progress? The answer to this question is shaped by the socio-political priorities of a given time. For decades, Gross Domestic Product (GDP) has been the dominant measure of economic performance, serving as a key indicator of socioeconomic development and as a proxy for the progress of societies. Historically, GDP has been an immensely useful metric to guide economic policymaking towards raising the general standard of living and tackling material deprivation, in particular when it comes to the post-World War II reconstruction efforts in Europe.

Today, however, socio-political priorities are shifting. The importance of wellbeing, inequality, and environmental sustainability for a strong, resilient, and productive economy has now been acknowledged across the board of economic policy institutions (OECD, 2020; United Nations, 2020; World Bank, 2021; World Economic Forum, 2022). In EU governance, this shift is manifesting in ambitious policy initiatives such as the European Green Deal and the Fit-for-55 Package, the European Pillar of Social Rights as well as the Recovery and Resilience Facility.

So far, the metrics used in contemporary economic policymaking have not kept up with this shift of socio-political priorities. Accounting frameworks and governance mechanisms remain primarily focused on economic dimensions of prosperity captured by GDP and other macroeconomic indicators. And while GDP does have many legitimate uses – for instance when it comes to informing fiscal and monetary policy decisions –, it is becoming increasingly clear that more holistic and issue-specific metrics are needed in policymaking to deliver on the social and environmental objectives the EU has set for itself. There have been multiple attempts

to diversify the monitoring of wellbeing and sustainability issues (Barth et al., 2021), the most recent being the Beyond GDP dashboard proposed by the EU's Joint Research Centre (European Commission, 2023a). Nevertheless, these efforts often fall short of attaining substantial political impact, as they often tend to remain limited to simple data collection exercises. Wellbeing and sustainability metrics are neither integrated into core statistical frameworks relevant for economic policymaking, nor incorporated into political governance mechanisms and legislation, with greenhouse gas (GHG) emissions being a notable exception to the rule.

This report scrutinises the limited political uptake of wellbeing and sustainability metrics¹ in contemporary EU policymaking. It aims to provide guidance on how to leverage the vast amount of valuable data collected by statistical institutions by learning from the success of GDP and cases such as carbon accounting. Employing an institutional-dynamic perspective on the subject matter, we show how reinforcing mechanisms between political governance decisions (governance level) and priorities in statistical measurement and accounting frameworks (technical level) give rise to what we call an institutional GDP lock-in. Crucially, this lock-in perspective helps to illuminate the reasons for the contemporary persistence of GDP as one of the most influential metrics in economic policymaking and can furthermore help to identify possible pathways to unpick the lock-in and further progress the mainstreaming of wellbeing and sustainability metrics in the EU.

This report is structured as follows. In chapter two, we outline a selected set of wellbeing and sustainability dimensions, the political uptake of which we deem crucial for holistic policymaking. Chapter three structures the discourse on mainstreaming wellbeing and sustainability by identifying four distinct levels of engagement. Subsequently, we provide an analysis of the institutional GDP lock-in in chapter four and use the insights developed to illuminate interconnected barriers at the technical and governance level that currently inhibit an extensive

¹ Throughout this report, we use the term “wellbeing and sustainability metrics” in an encompassing manner to refer to single indicators, indexes as well as dashboards that cover dimensions of wellbeing and sustainability.

uptake of wellbeing and sustainability in policymaking. Chapter five provides a comprehensive overview of levers for change at both the technical and governance level. Building on our analysis thus far, chapter six outlines ten recommendations with the potential to trigger a series of improvements on both the technical and governance level that could ultimately help to break free from the institutional GDP lock-in and facilitate the pre-eminence of wellbeing and sustainability in EU policymaking. Chapter seven provides a discussion of our analysis. Lastly, chapter eight concludes this report with a summary of the main results.

2. Selected dimensions of wellbeing and sustainability

There have been multiple attempts to conceptualise the interrelation between wellbeing and sustainability. One of the most seminal attempts can be found in the Stiglitz-Sen Fitoussi report, in which the authors distinguish between current wellbeing and sustainability, the latter referring to the preservation of current wellbeing for future generations (Stiglitz et al., 2009). In doing so, the authors link economic theory to the Brundtland report, which famously defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p. 43).

Recently, the UN has proposed a similar framework, which defines three essential outcomes of sustainable development: (i) wellbeing and agency (i.e., current wellbeing ii) respect for life and the planet (i.e., sustainability/future wellbeing and iii) reduced inequalities and greater solidarity (i.e., the distribution of wellbeing) (UN System Chief Executives Board for Coordination, 2022). Moreover, similar conceptualisations of wellbeing and sus-

tainability are employed by academics (Hoekstra, 2019; Stiglitz et al., 2010), various initiatives such as the OECD Better Life Initiative (OECD, 2020a) and the Conference of European Statisticians (UNECE et al., 2014) as well as in the revision process of the System of National Accounts (Advisory Expert Group on National Accounts, 2020).

Building on these conceptualisations, we highlight selected dimensions of wellbeing and sustainability. While non-exhaustive, the dimensions outlined here can provide a suitable foundation to identify concrete wellbeing and sustainability metrics to be mainstreamed in EU policymaking. For this report, we concentrate on the following important dimensions of wellbeing and sustainability:

- **Current Wellbeing:** human needs and the accessibility of need satisfiers, the societal distribution of monetary resources, and time use.
- **Sustainability (future wellbeing):** planetary thresholds, ecosystem services and their rates of depletion and regeneration, and the non-substitutability of critical natural capital.²

Building on these conceptualisations as well as insights from ecological economics (Costanza et al., 2017; Daly & Farley, 2011; Spash, 2012), the economy can be comprehended as being interconnected and interdependent with society and its natural environment. In essence, the economic system relies on inputs from the natural environment, yet also impacts on the biophysical integrity of the Earth system (Chandrakumar & McLaren, 2018; Ruggerio, 2021; Steffen et al., 2015; UN Environment, 2019). Moreover, the functioning and characteristics of the economy are crucial determinants of people’s wellbeing (OECD, 2019). The challenge modern economies face is thus of an interconnected nature, namely to improve societal wellbeing within the environmental limits of the planet (Barth et al., 2021; Fanning et al., 2022).

² Many more aspects than could be covered in this report are relevant for wellbeing and sustainability, amongst which are dynamics of demographic change and technological advancements, elements such as human and manufactured capital and concepts like the capabilities approach (Sen, 2008).

2.1 Selected dimensions of current wellbeing

The first essential dimension of current wellbeing are human needs. These are the universal and objective preconditions for humans to thrive and flourish (Fanning et al., 2022; Fuchs et al., 2021; Gough, 2017; O'Neill et al., 2018). Due to the characteristics of human needs, they constitute a meaningful frame to scrutinise how current and future generations' wellbeing can be secured within environmental limits (Büchs & Koch, 2019; Gough, 2017).³ Human needs can be met through so-called needs satisfiers, i.e., goods and services that contribute to satisfaction of needs (Gough, 2020). For material human needs in particular, the question of affordability and accessibility to relevant needs satisfiers is of critical importance. Relevant examples of material needs satisfiers include food and water, appropriate healthcare, adequate protective housing, personal and economic security as well as basic education (Fanning et al., 2022; Gough, 2017; O'Neill et al., 2018).

The distribution of monetary resources in society and the associated inequalities also impact on people's wellbeing (OECD, 2020a; Wilkinson & Pickett, 2010). Empirical evidence suggests that more unequal societies are susceptible to several societal ills, such as physical and mental health issues, violence, drug abuse, erosion of trust, and obesity (Wilkinson & Pickett, 2010). Moreover, once basic needs are met, individuals tend to evaluate their subjective wellbeing in relation to others' standard of living, indicating that high disparities in income and wealth can negatively affect individuals' wellbeing (Cooper et al., 2013; Ding et al., 2021; Wienk et al., 2022).

Lastly, time use provides an essential perspective to comprehend individual wellbeing across time, countries and along the lines of sociodemograph-

ic characteristics (Hoekstra, 2020; Krueger, 2009; United Nations Statistics Division, 2021). Here, the time spent on varying activities such as employment, unpaid care and household work, leisure, and self-care impacts on individuals' subjective wellbeing (Krueger, 2009). In particular, we want to emphasise the role of work for wellbeing. While paid work can be a source of meaning (Cassar & Meier, 2018), it can also negatively affect individuals' wellbeing in case of over- or underemployment (Coote et al., 2010). Similarly, unpaid work is an essential determinant of wellbeing. Primarily done by women (OECD, 2020a), unpaid work not only significantly affects the wellbeing of those carrying it out but also provides crucial services for the wellbeing of all members of society, which is particularly apparent in the case of care work (Eyben & Fontana, 2011). In that regard, the distribution of paid and unpaid work between members of society – and men and women in particular – has substantial implications for wellbeing (Coote et al., 2010; Guizzo et al., 2019; OECD, 2020a).

2.2 Selected dimensions of sustainability

For the purpose of this paper, we conceptualise sustainability through the lens of the Planetary Boundary framework, which defines a safe operating space for humanity (Steffen et al., 2015). To create an economy in harmony with nature, human activity must be assessed according to its impact on the following nine critical processes: climate change, biosphere integrity, land-system change, freshwater use, biogeochemical flows, ocean acidification, atmospheric aerosol load, stratospheric ozone depletion, and the introduction of novel entities. Crucially, the transgression of every single one of these boundaries entails the substantial risk of causing

³ This is due to the theoretical characteristics that are ascribed to human needs. First, human needs are universal, i.e., human needs are the same for current and future generations alike, irrespective of place and time. Second, human needs are objective and universal, meaning that meeting basic needs contributes to a person's wellbeing independently of subjective considerations. Third, human needs are the same for current and future generations, irrespective of place and time, non-substitutable, implying that different dimensions of need satisfaction cannot be traded off against each other. Fourth, human needs are satiable, meaning that it is possible to identify certain thresholds that guarantee the avoidance of severe harm to the individual.

irreversible, large-scale changes of the Earth system associated with highly unfavourable conditions for human development (EEA & FOEN, 2020; Steffen et al., 2015). Against this background, it is crucial to acknowledge the environmental significance of each process boundary. Macroeconomic policy must thus be bound equally by all environmental and biophysical limits, not only climate change (EEA & FOEN, 2020).

Ecosystem services provide life-supporting benefits to human societies and thus constitute another crucial dimension of sustainability (Millennium Ecosystem Assessment, 2005). Ecosystem services encompass four types of services: (i) provisioning services related to the supply of natural goods such as water, food, and timber; (ii) regulating services related to, for instance, climate regulation and water purification; (iii) cultural services providing recreational and aesthetic value to humanity; and lastly, (iv) supporting services comprising processes of soil formation, the cycling of nutrients, and photosynthesis (Millennium Ecosystem Assessment, 2005). Most importantly, the sustainability of anthropogenic activities is determined by the rate of depletion of ecosystem assets, which may not exceed their rate of regeneration (Daly & Farley, 2011; Dasgupta, 2021).

A third pivotal dimension of sustainability is the proposition that critical natural capital is largely non-substitutable with human-made capital (Daly & Farley, 2011; Ekins et al., 2003; Neumayer, 2013; UNECE et al., 2008). Due to non-linear dynamics in the Earth system and the interconnectedness of environmental processes (Steffen et al., 2015), continuous environmental degradation substantially increases the risk of activating tipping points, which can result in abrupt and systemic environmental shifts (Lenton, 2013). Given their fundamentally important contribution in supporting human livelihoods, such irreversible damages to ecosystem services and planetary processes cannot be fully com-

pensated for via increases in human-made capital (Ekins et al., 2003; Neumayer, 2013). This notion of non-substitutability is thus contrary to the assumption of natural capital accounting, which stipulates that different types of capital – including critical natural capital – are substitutable (UNECE et al., 2008; World Bank, 2021).⁴

3. The four levels of advancing the mainstreaming of wellbeing and sustainability

Many actors, including government entities, research institutes, and civil society organisations, are committed to promoting wellbeing and sustainability considerations outlined in the previous chapter. However, they each pursue various strategies for achieving this goal. Based on research and ZOE's discussions with diverse stakeholders, we have identified four primary levels on which these actors typically operate.⁵

Policy level: Actors working on the policy level focus on creating political support and pressure for putting new policies on the agenda that directly address social and environmental concerns, irrespective of their impact on GDP. Creating these policy changes is the ultimate objective of many actors across all levels as favourable policy decisions come closest to achieving concrete improvements in sustainability and wellbeing. The European Green Deal can be seen as a success in this domain. The main limitation of this strategy is, however, that success is ultimately contingent on a conducive political landscape, whereas changes on the governance and technical level can lock-in sustainability and wellbeing as socio-political issues beyond one legislative term.

⁴ This not to deny that some types of natural capital may – at least to some extent – be substitutable with human-made capital.

⁵ It should be noted that the discussion of levels here is not all-encompassing. Certainly, pivotal aspects are not explicitly addressed such as structural characteristics of the economic system as well as the importance of the political economy context and the power relations in society that impact on political decision-making.

Governance level: The governance level refers to the integration of metrics into relevant pieces of legislation and increasing their significance in governance mechanisms in general. Advocates of governance changes focus on the extent to which metrics can influence concrete political processes and outcomes. Examples of the presence of GDP at the governance level include the Stability and Growth Pact (1997) and the Fiscal Compact (2012), where GDP is used as a benchmark for assessing the sustainability of Member States' public finances, and the EU's Recovery and Resilience Facility (2021), where GDP is used as an indicator to determine the allocation of EU funds to Member States. Chapter 5.2 will delve into the various options for change at the governance level, including the reporting on wellbeing and sustainability metrics, and the establishment of targets. Efforts on the governance level have led to notable successes, in particular when it comes to strengthening the role of sustainability metrics. In the case of carbon emissions, legally binding climate neutrality targets have been set for 2050 under the European Climate Law, which also includes enforcement mechanism to enhance compliance.

Technical level: At the technical level, actors focus on changing statistical frameworks, metrics and improving the availability of high-quality data. Among the most prominent statistical frameworks is the System of National Accounts (SNA), which sets the global standard for economic accounting, including the calculation of GDP (United Nations et al., 2009). Actors in the wellbeing and sustainability field engage at the technical level to identify prospects of integrating these factors into frameworks for assessing socioeconomic progress (Hoekstra, 2019; Stiglitz et al., 2009; United Nations, n.d.). This can include modifying the production boundary in the SNA, developing complementary SNA satellite accounts, improving the quality and timeliness of data as well as ensuring the frequent publication of

wellbeing and sustainability metrics (see 5.1). Furthermore, efforts at the technical level have led to increased monitoring of wellbeing and sustainability by statistical institutes, as evidenced by the inclusion of Sustainable Development Goals indicators, quality-of-life indicators, and resilience dashboards in the EU semester.⁶

Narrative level: At the narrative level, actors aim to challenge prevailing belief systems and discourses that support certain, often unconscious worldviews (Laybourn-Langton & Jacobs, 2018). For actors focused on wellbeing and sustainability, this means challenging the notion that economic growth is synonymous with economic prosperity and a panacea for societal problems. This involves debunking the use of GDP as the sole indicator of socio-economic progress (Chancel et al., 2014; Costanza et al., 2009; Stiglitz et al., 2010; van den Bergh, 2009). Some well-known examples of narrative change can be traced back to John F. Kennedy's 1968 speech critiquing the limitations of GDP or the works by the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz et al., 2009). This shift in narrative has also begun to permeate the political discourse and the work of transnational organisations (Directorate-General for Economic and Financial Affairs (European Commission) & Terzi, 2021; European Commission, 2009; OECD, 2020b; UN System Chief Executives Board for Coordination, 2022). Lastly, this narrative shift is also discernible in critical attitudes of the general public towards economic growth (Savin et al., 2021).

⁶ See Barth et al. (2021) for an overview.

Figure 1 depicts the hierarchical structure of the four levels in the form of an iceberg model, which is commonly used in systems thinking (Kim, 1999; Monat & Gannon, 2015). This iceberg model illustrates how the mainstreaming of wellbeing and sustainability would not only need to occur on the level of concrete policies but would rather have to comprise changes of underlying systemic structures that may remain hidden upon first consideration. While the governance, technical, and narrative level may

be less visible than the policy level, changes on these levels can have substantial upward impacts and are thus pivotal to increase the political consideration of wellbeing and sustainability.⁷ Building on our understanding of this field, we assert that most actors currently engage in work on the policy and narrative level. This is why, in the following, we focus our analytical attention on the more latent dynamics and interdependencies on the technical and governance level.

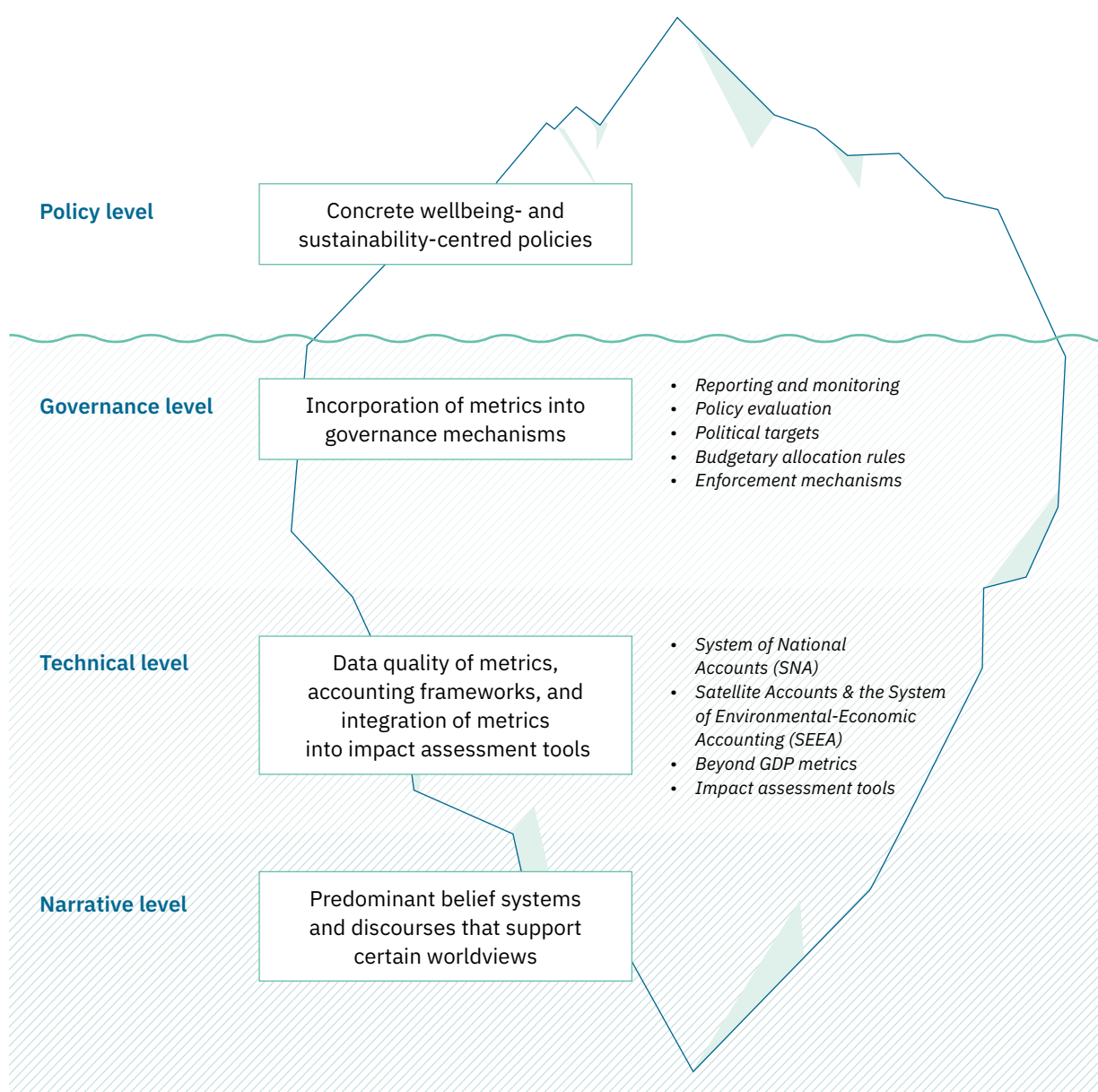


Figure 1: An iceberg model of the four levels of mainstreaming wellbeing and sustainability

⁷ The levels are of course highly interdependent. For instance, the quarterly publication of GDP figures by statistical institutes all around the globe is always widely reported on by the media, thus considerably shaping the narrative level.

4. An institutional lock-in perspective on the socio-political primacy of GDP

GDP is one of the most important indicators for guiding policymaking. There are, however, cases of sustainability metrics achieving almost equal significance, with the most prominent example being greenhouse gas (GHG) emissions. Today, GHG emissions are being extensively monitored and have made it to the top of the EU's agenda and legislation, reflecting the increasing importance of sustainability in policymaking. Crucially, this political prioritisation and the corollary policies enacted have resulted in substantially reduced emissions in the EU and its Member States (Directorate-General for Climate Action, 2022). On a global level, the UN's Conference of the Parties (COP) regularly discusses how to best close the sustainability action gap. On the EU level, climate law has enshrined GHG emissions into legislation with many Member States following with their own supporting legislation, such as the German Climate law. These examples highlight the tremendous political leverage metrics can develop.

The following analysis aims to learn from the history of these powerful indicators to draw conclusions on how to elevate the socio-political importance of wellbeing and sustainability metrics like inequality, life satisfaction, land-use change, or biodiversity loss. It is certainly surprising that despite the emergence of a growing consensus among policymakers, academics, and the public regarding the significance of wellbeing and sustainability considerations for societal progress, the actual uptake of such metrics in policymaking remains relatively limited to date.

A small but insightful literature concerned with barriers to the socio-political mainstreaming of alternative metrics can facilitate understanding of this conundrum (Bleys & Whitby, 2015; Chancel et al., 2014; Costanza et al., 2009; Giannetti et al., 2015; Hoekstra, 2019, 2020; Hoff et al., 2021; Whitby, 2014). Building on and complementing this literature, we seek to scrutinise how interrelated dynamics at the technical and governance level⁸ currently inhibit the mainstreaming of wellbeing and sustainability metrics in EU policymaking despite a generally favourable socio-political context.

We build on the institutional analysis undertaken by Hoff et al. (2021) and expand it by drawing on theoretical insights from the broad literature on path dependencies and lock-ins (Goldstein et al., 2023). Generally speaking, path dependence can be understood as “a pattern of causation in which events or processes at one point in time strongly constrain subsequent events or processes” (Brady & Collier, 2010, p. 343). Building on this definition, we can distinguish between three crucial ideas that jointly illuminate the nature and logic of path dependence. First, path dependencies oftentimes emerge from so-called critical junctures, i.e., decisive historical events and corollary developments that shape future institutional pathways and arrangements (Brady & Collier, 2010; Capoccia & Kelemen, 2007; Goldstein et al., 2023; Pierson, 2000). Second, the persistence of institutions subject to path dependencies is rooted in positive feedback processes and self-reinforcing mechanisms (Goldstein et al., 2023; Pierson, 2000; Schmidt, 2008). And third, these positive feedback processes and self-reinforcing mechanisms give rise to what is commonly referred to as lock-ins, characterised by institutional inertia, change-resistance, and high (political) costs of switching to alternative institutional arrangements (Goldstein et al., 2023; Pierson, 2000).

⁸ Even though we confine our analysis to the study of the governance and technical level, we of course acknowledge the pivotal role of the narrative and policy level.

4.1 The genesis of the institutional GDP lock-in: the early history of national accounting

Having laid out the theoretical foundations for our analysis, we now turn to question of what currently hinders a wider uptake of wellbeing and sustainability metrics in policymaking. A suitable starting point to scrutinise this intricate subject matter is a historical institutional analysis of the contemporary primacy of macroeconomic indicators in policymaking, and in particular GDP. Here, we analyse GDP as a political and socio-economic institution (Coyle, 2014; Fioramonti, 2013; Hoekstra, 2019; Hoff et al., 2021; Masood, 2016; Mügge, 2016; Philipsen, 2015; Pilling, 2018) subject to a lock-in dynamic. The genesis and nature of this lock-in can be illuminated through a historical account of how GDP and national accounting practices developed in the United States during the early 20th century. As Hoekstra (2019) notes, the success of GDP and the macroeconomic community surrounding it can be attributed to the joint development of macroeconomic policies, measurement frameworks and a common “language” as formalised in the System of National Accounts.

Looking back in history, two events and its corollary developments can be identified as critical junctures for the rise of GDP⁹ and national accounting practices: the Great Depression and World War II. In essence, both historical incidents resulted in heightened political demand for a data-based and systematic understanding of economic activity. Following the Great Depression, detailed macroeconomic statistics were needed to provide the necessary foundations for the implementation and evaluation of New Deal policies (Coyle, 2014; Fogel et al., 2013; Philipsen, 2015). Thus, the U.S. Senate passed a resolution requesting the Department of Commerce to estimate U.S. national income statistics for 1929-31 (Coyle, 2014; Fogel et al., 2013; Philipsen, 2015). This task was delegated to economist Simon Kuznets, who subsequently set up a working group

to compile the underlying data and undertake the necessary estimations (Kuznets, 1934). The political need for national income accounts further intensified with the onset of World War II. During that time, national income statistics were essentially used as policy tools for administering a war economy (Cobb et al., 1995), as they allowed the US government to assess its war production efforts and informed the allocation of resources (Coyle, 2014; Fogel et al., 2013; Philipsen, 2015).

The technical advancements that followed from the US government’s political prioritisation of national income statistics also provided the basis for the subsequent institutionalisation of GDP and facilitated the use of GDP in policymaking. The Bretton Woods Conference in 1944 led to the establishment of the International Bank for Reconstruction and Development (IBRD) – the predecessor of the World Bank. Using GDP as a yardstick, the purpose of the IBRD was to encourage international investments with the aim of “raising productivity, the standard of living and conditions of labour” (International Bank for Reconstruction and Development, 1944, p. 3). Following World War II, the Organization for European Economic Cooperation (OEEC) – better known today as the OECD – was founded in 1948. The primary purpose of the OEEC was to promote economic integration across Europe and organise the allocation of reconstruction assistance in accordance with the Marshall Plan. Crucially, the allocation of aid was strictly tied to the mandatory compilation of national income statistics by Member States (Philipsen, 2015; Schmelzer, 2016). These policy requirements increased the need for methodological standardisation of GDP estimates and hence comparable macroeconomic data (Schmelzer, 2016), eventually leading to the publication of the first SNA framework by the UN in 1953 (United Nations, 1953). By 1954, all non-communist countries had adopted the national accounting guidelines set out in the UN’s SNA framework (Philipsen, 2015).

⁹ Historically, the names and conceptual definitions of macroeconomic measures of national income and output have of course varied. For reasons of simplicity, we do, however, only use the term GDP here.

4.2 The institutional GDP lock-in and the interrelated barriers to mainstreaming wellbeing and sustainability

In the following, we build on our short historical account of GDP to identify the reinforcing mechanisms and the positive feedback processes that have led to and currently maintain the primacy of GDP in policymaking. The previous chapter clearly highlights how the development of GDP into one of

the main indicators of economic policymaking has been reinforced by interrelated dynamics between the governance and the technical level. As depicted in figure 2, we can transpose the observations made for macroeconomic indicators such as GDP to wellbeing and sustainability metrics to illuminate negative feedback loops that act as interrelated barriers to their uptake in policymaking. The interrelated presence of positive feedback loops in the case of GDP and negative feedback loops in the case of wellbeing and sustainability metrics give rise to what we call the institutional GDP lock-in.

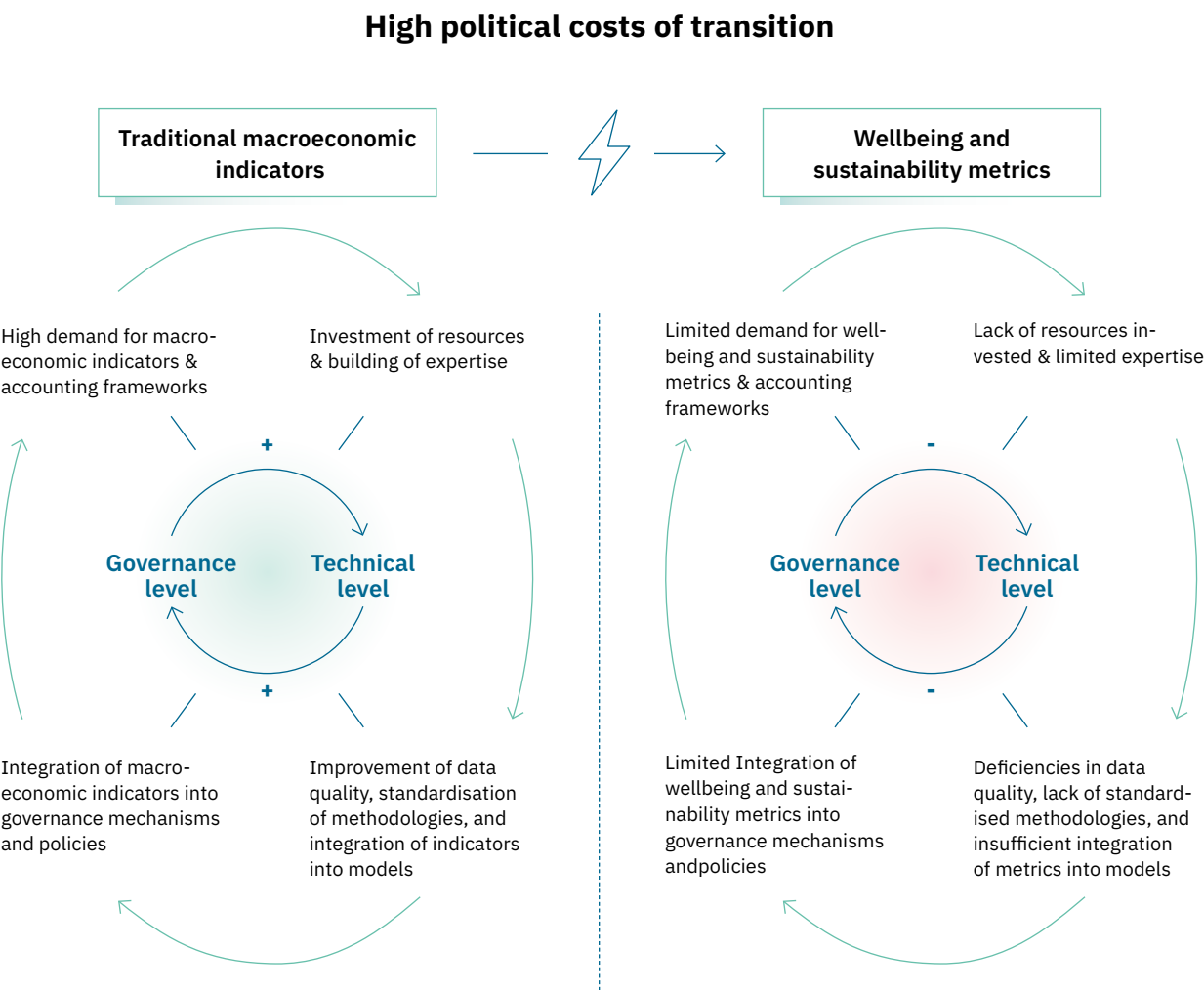


Figure 2: The reinforcing dynamics of the institutional GDP lock-in: the positive and the negative feedback loop

Let us first consider the reinforcing mechanisms and positive feedback loops that currently sustain the primacy of macroeconomic indicators – and in particular GDP – in contemporary policymaking. Considering these interrelated dynamics, it is unsurprising that GDP has evolved into a tremendously stable and change-resistant institution (Hoff et al., 2021). Looking at the left-hand side of figure 2, we can describe the reinforcing dynamics¹⁰ as follows:

1. High demand for macroeconomic indicators and accounting frameworks from policymakers and governance actors leads to the investment of resources directed towards institutional development as well as the building of the expertise required.
2. This in turn results in several technical-level improvements in terms of the quality, granularity, and timeliness of the data, the standardisation of accounting frameworks and the methodologies employed, as well as the incorporation of indicators into macroeconomic models.
3. These improvements on the technical level then facilitate the political uptake of macroeconomic indicators, leading to their integration into governance mechanisms as well as their consideration in policies and furthermore fosters their institutionalisation.
4. This integration on the governance level then again reinforces the demand for macroeconomic indicators and associated accounting frameworks, leading to additional resources being allocated, thereby starting this feedback cycle anew and hence reproducing the institutional lock-in.

Now that we have illuminated the reinforcing dynamics that give rise to and maintain the institutional lock-in of GDP, we can transpose this reasoning to arrive at a theoretical understanding of the interrelated barriers that potentially inhibit a mainstreaming of wellbeing and sustainability metrics in policymaking in the form of a negative feedback loop.¹¹ In essence, the dynamics that may constrain the broad political uptake of wellbeing and sustainability metrics can give rise to a vicious cycle, which follows the inverted logic of the feedback loop described above for the case of macroeconomic indicators:

1. Limited demand for wellbeing and sustainability metrics and holistic accounting frameworks from policymakers and governance actors leads to a lack of resources being invested and hinders the further deepening of technical expertise on wellbeing and sustainability.¹²
2. This in turn results in technical-level issues being insufficiently addressed (see Box 1), culminating in deficiencies in the quality and timeliness of data, a lack of standardised methodologies and accounting frameworks, as well as an insufficient integration of wellbeing and sustainability variables into macroeconomic models used for policy evaluation.
3. These technical challenges hinder a broader integration of wellbeing and sustainability into governance mechanisms and policymaking and limits potentials for institutionalisation.
4. Lastly, this lack of integration and institutionalisation on the governance level helps to explain the limited demand for wellbeing and sustainability metrics.

¹⁰ Our description of these dynamics represents an analytical abstraction of what is of course an intricate real-world phenomenon.

¹¹ Crucially, the understanding we develop here should be seen as a complement to the existing literature. In particular, we try to highlight how single barriers interrelate with each other and jointly inhibit a broader uptake of wellbeing and sustainability metrics in policymaking.

¹² Even though we commence our elaboration of the reinforcing mechanism with the issue of limited demand from the governance side, this is not to imply that this limited demand represents the root cause of the whole dynamic. Rather, the root cause lies in the interrelated dynamics between the governance and technical level. In that regard, one could also take the technical-level issues as the starting point to describe the very same dynamic.

In the literature concerned with barriers to the socio-political mainstreaming of alternative metrics, technical-level issues are often put forward as significant inhibitors to the uptake of wellbeing and sustainability metrics in policymaking. Here, we can distinguish between issues related to data, methodology, and macroeconomic models used for policy evaluation:

1. Data-related issues:

- a) Insufficient quality, robustness, and quality of data (Barth et al., 2021; Bleys & Whitby, 2015; Chancel et al., 2014; Costanza et al., 2009; Giannetti et al., 2015; Whitby, 2014)
- b) Insufficient availability and timeliness of data (Bleys & Whitby, 2015; Chancel et al., 2014; Costanza et al., 2009; Giannetti et al., 2015; Whitby et al., 2014)

2. Methodological issues:

- a) Lack of methodological standardisation (Bleys & Whitby, 2015; Costanza et al., 2009; Hoekstra, 2019, 2020; Hoff et al., 2021)
- b) Valuation of non-market activities and assets (Bleys & Whitby, 2015; Hoekstra, 2020; Hoff et al., 2021; Obst et al., 2016)
- c) Choice and weighting of components in indexes (Bleys & Whitby, 2015; Giannetti et al., 2015; Strunz & Schindler, 2018; Whitby, 2014)
- d) Subjectivity and normativity present in the construction of indexes (Chancel et al., 2014; Costanza et al., 2009; Giannetti et al., 2015; Strunz & Schindler, 2018; Whitby, 2014)

3. Issues related to macroeconomic simulation models:

- a) Insufficient integration of wellbeing and sustainability variables into macroeconomic models used for the ex-ante policy evaluation (Barth et al., 2021; Bleys & Whitby, 2015; Chancel et al., 2014; Gran et al., 2019; Hoff et al., 2021; Whitby, 2014)

Box 1: Technical-level issues of wellbeing and sustainability metrics

Taking a more interconnected perspective on these reinforcing mechanisms, we assert that the political uptake of wellbeing and sustainability metrics is inhibited by the fact that their mainstreaming in policymaking would be associated with substantial (political) costs of switching for policymakers, statistical offices, academia, and transnational organisations whose work is currently centred around macroeconomic metrics. Moreover, GDP's qualitative characteristics make it high-

ly suitable for use in policymaking, in particular high degrees of accuracy, timeliness, comparability, granularity, accessibility, as well as a high frequency of publications (Heys et al., 2019). These characteristics set truly high standards which wellbeing and sustainability metrics cannot yet contend with. Both of these phenomena further solidify the institutional GDP lock-in, while inhibiting a broader uptake of wellbeing and sustainability in policymaking.

4.3 Mainstreaming wellbeing and sustainability metrics in practice: positive and negative feedback loops

Let us now examine how the interrelated dynamics on the technical and governance level can affect the mainstreaming of wellbeing and sustainability metrics in practice. While we have described the reinforcing mechanisms as the potential root cause of a vicious cycle for wellbeing and sustainability metrics, the example of GDP highlights that the inverted dynamics can also facilitate a broad uptake of metrics in policymaking. In other words, the reinforcing mechanisms described can either take the form of a negative feedback loop, which inhibits the political uptake of metrics, or a positive feedback loop, which enhances the political uptake of metrics. In the following, we thus build on our theoretical conceptualisation of the reinforcing mechanisms and apply it to three examples. As we will see, the concrete manifestation of the feedback loop varies among cases and is hence highly dependent on individual circumstances.

The System of Environmental-Economic Accounting (SEEA) can serve as a first illuminating example. Given the increasing societal significance of sustainability issues, the SEEA was introduced to establish a coherent statistical framework to compile data on the natural environment (see also 5.1.2). Despite the existence of this accounting framework, the concrete data collection and publication of SEEA accounts remains limited (United Nations Statistics Division, 2023), thus constraining the extent to which SEEA-based metrics can be used in policymaking. Building on our conceptualisation of the reinforcing mechanisms, we maintain that demand from the governance side for SEEA-based sustainability metrics could, however, lead to higher investments into the collection of comparable, high-quality data. The current legislative proposal on extending the EU's data collection efforts in the SEEA framework (European Commission, 2022b) is a case in point in that regard. These further improvements in data availability could thus facilitate the use of SEEA-based metrics in EU policymaking.

Quality of life indicators, which build on the theoretical and technical recommendations outlined Stiglitz-Sen Fitoussi report (Stiglitz et al., 2009), present another example. As part of the Commission's Beyond GDP Roadmap Plan, Eurostat was commissioned to publish data on quality of life indicators (European Commission, 2009). The relevant data is, however, published infrequently and only has a limited degree of granularity, the corollary of which is that these indicators have not been integrated into governance or legislation. In turn, data quality has not improved over time, with issues of timeliness remaining unaddressed. Hence, the quality of life indicators highlight how metrics can get stuck in a vicious cycle with limited technical improvements and non-uptake in policymaking reinforcing each other.

Conversely, the case of the Plastics Own Resource (POR) initiative highlights how changes on the governance level can contribute to improvements on the technical level. In essence, the POR stipulates that Member States have to make financial contributions to the EU budget proportional to the amount of plastic packaging waste that is not being recycled (see also 5.2.5). Crucially, the POR puts forward specific metrics to assess Member States' contributions, thus increasing the need for high quality data on plastic waste recycling. Hence, the implementation of the POR has resulted in improved focus on data quality and greater scrutiny in Eurostat towards the collection and processing of POR-related data. These advancements on the technical level may thus support the use of the relevant metrics in future policymaking.

These examples highlight that our theoretical analysis of the reinforcing mechanisms can serve as a useful framework to scrutinise the determinants of the uptake of wellbeing and sustainability metrics. Clearly, both the technical and the governance level can act as legitimate starting points to trigger positive feedback loops. In the next chapter, we will thus build on these considerations to identify levers for change on both the technical and governance level.

5. Levers for change on the technical and governance level

While our institutional lock-in analysis in the preceding chapter has highlighted the institutional resistance to change when it comes to GDP, our conclusions by no means preclude the possibility of transformative change. Quite the opposite. The study of path dependencies and lock-ins can indeed help to illuminate path-breaking opportunities as well as policy options for breaking free from institutional lock-ins (Levin et al., 2012; Martin & Sunley, 2006; Stone & Flachs, 2018; Susskind et al., 2020). In that regard, our insights regarding the reinforcing mechanisms that simultaneously stabilise the institutional GDP lock-in and inhibit the mainstreaming of wellbeing and sustainability metrics in policymaking can act as a starting point for identifying levers of change.

Building on a comprehensive literature review as well as our engagement with experts, stakeholders, and policymakers, we thus give an overview of technical and governance levers. Moreover, we critically assess the respective potentials of these levers for mainstreaming wellbeing and sustainability in policymaking. This discussion of levers then builds the basis for the formulation of recommendations in chapter 6.

5.1 Technical levers

As has been highlighted in chapter 4, the integration of metrics into policymaking and governance mechanisms (e.g., in the form of political targets or as allocation key, see chapter 5.2) depends substantially on the technical merits of that particular metric, comprising the methodological soundness of its accounting framework as well as the quality of the underlying data. Building on this insight, we differentiate between four technical levers with varying degrees of impact on the policymaking process: (i) The System of National Accounts (SNA), (ii) the System of Environmental Economic Accounting (SEEA) and other satellite accounts, (iii) Beyond GDP metrics, and (iv) impact assessment tools. Figure 3 depicts the interconnections between the four technical levers, while figure 4 depicts the respective strength of the technical levers.

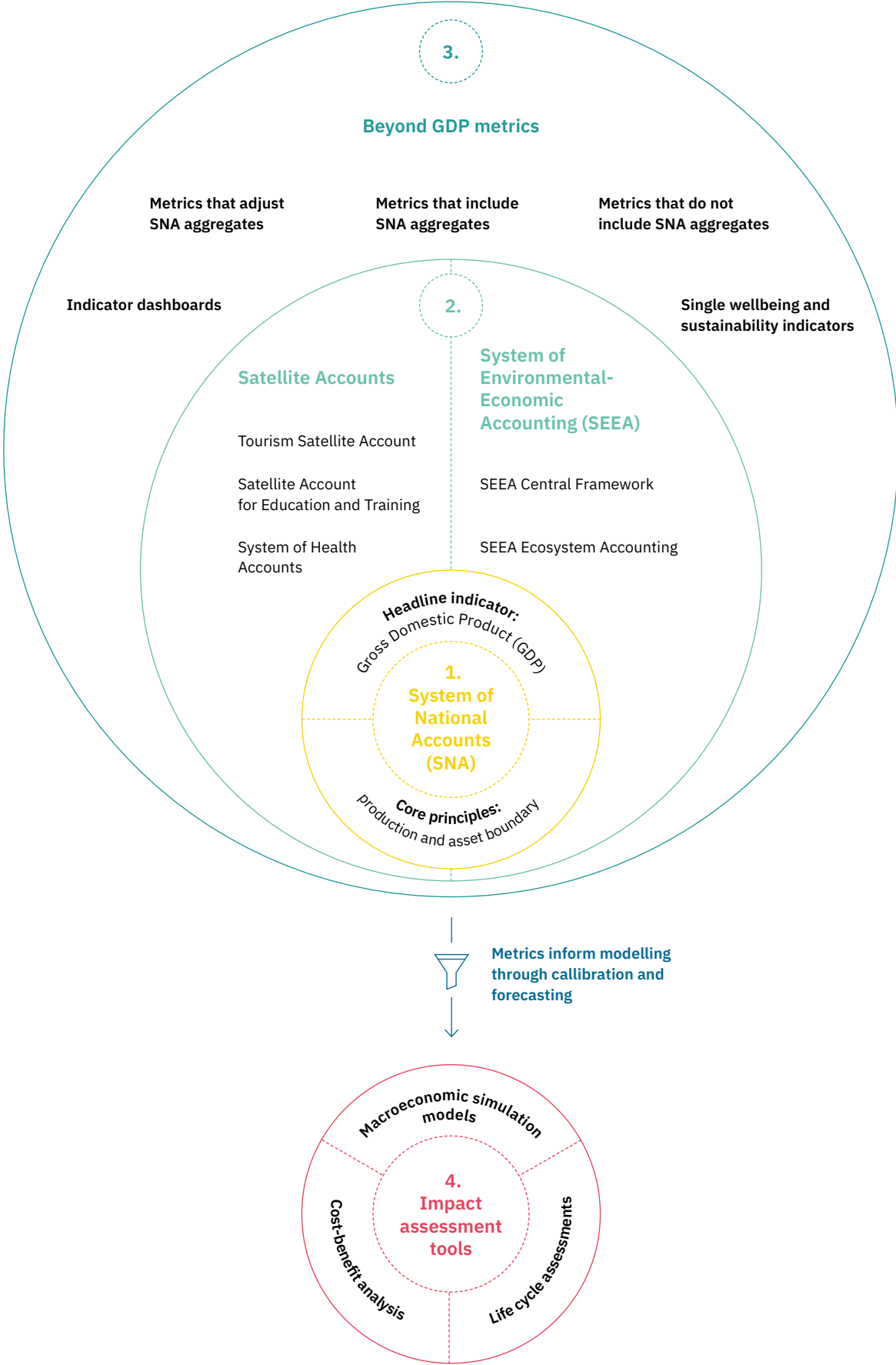


Figure 3: The four technical levers and their interconnections

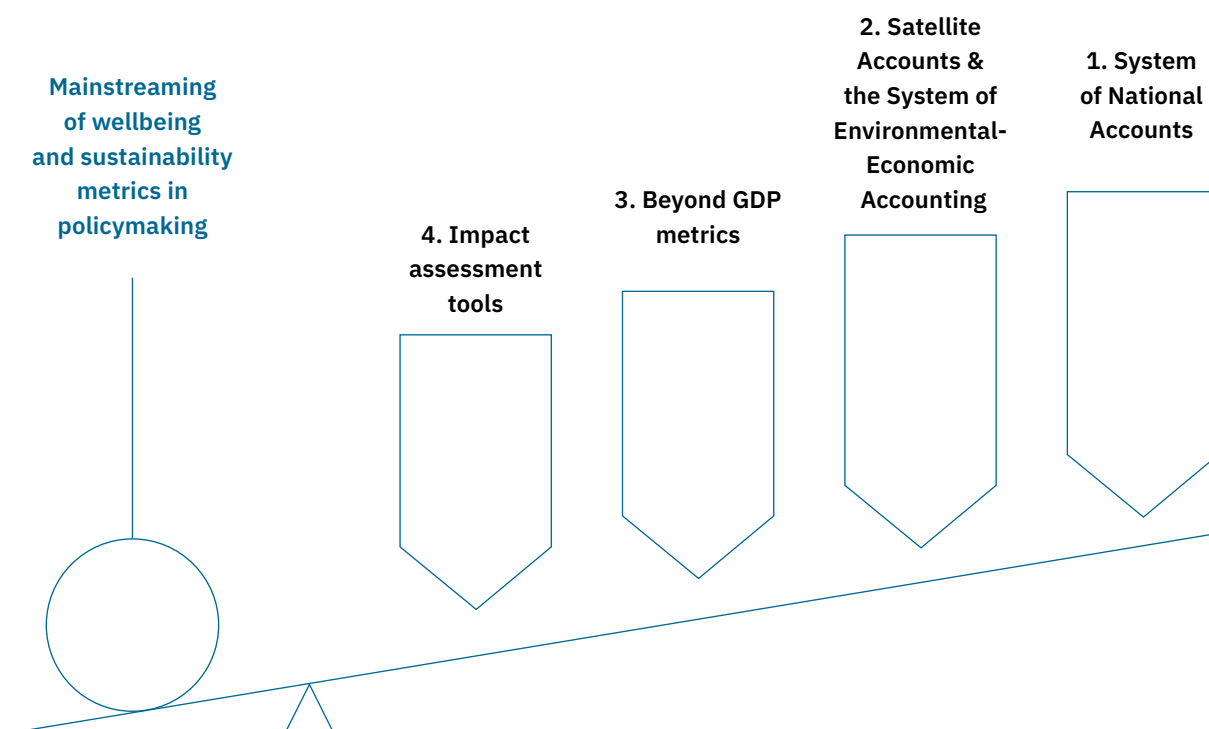


Figure 4: The four technical levers. The further to the right a lever is located, the higher its leverage on the mainstreaming of wellbeing and sustainability metrics in policymaking.

5.1.1 The System of National Accounts (SNA)

The first technical lever is the **System of National Accounts (SNA)**, “the internationally agreed standard set of recommendations on how to compile measures of economic activity per strict accounting conventions based on economic principles” (United Nations et al., 2009, p. 1). Hence, the SNA represents a highly standardised and consistent accounting framework for the compilation of economic data.

The **SNA framework provides the basis for measuring various macroeconomic indicators, the most important one being Gross Domestic Product (GDP), the SNA’s headline indicator.** GDP is a monetary measure of the final goods and services produced and purchased in a country during a certain time period. Besides GDP, the SNA serves as the basis for calculating several other macroeconomic metrics such as final consumption,

gross fixed capital formation, social contributions, and disposable income.

In the core of the SNA, four fundamental principles form the basis for consistent accounting. Here, the production and asset boundary – in conjunction with the other two principles – determine what is deemed productive and is hence measured as economic activity (Eigenraam & Obst, 2018; United Nations et al., 2009):

- 1. SNA economic units:** The SNA is built on recording information about individual clearly observable as well as distinguishable units in the economy. From an institutional perspective, economic units are classified into one of the primary institutional sectors: i) non-financial corporations, ii) financial corporations, iii) general government, iv) households, and v) non-profit institutions. Economic units are further grouped by industry type.

2. **SNA production boundary:** The SNA defines production as a process carried out by an economic unit, in which capital and labour are combined with intermediate inputs to produce goods and services to be sold on the market. Crucially, production is not only defined in terms of outputs of production processes but explicitly considers the economic unit carrying out the production. For instance, the preparation of a meal is considered production when carried out by a restaurant but not when done at home, that is within the household. Given the nature of the production boundary, ecosystem services that occur without human intervention are by design excluded from the SNA.
3. **SNA transactions:** Transactions are defined as exchanges between two economic units expressed in monetary terms, that is goods and services are exchanged for monetary compensation. Hence, numerous household services that are performed without monetary payment are not recorded in the SNA. There are, however, non-monetary cases of SNA transactions – such as services of owner-occupied dwellings or production in subsistence agriculture –, where a monetary value is imputed. Moreover, it should be noted that the SNA typically records transactions using actual data from when the transactions occur – what is called recording on an accrual basis –, rather than using nowcasting or forecasting techniques.
4. **SNA asset boundary:** The SNA defines an asset as something that has economic value and can be bought and sold in the market, with the potential to provide value in the future. Currently, the asset boundary is restricted to assets on which economic units have legal ownership rights (Wolf & Femia, 2022). For example, a forest left to its own would not be considered an asset. However, if it were to be utilised by an economic unit for the sale of lumber, then it would cross the asset boundary drawn by the SNA.

Given the technical merits of the SNA, metrics embedded in this accounting framework are perceived as suitable candidates for an integration into policymaking. Building on our exchanges with members of the European Commission, we assert that the SNA almost serves as a certification scheme, since it is associated with high quality data, a high frequency of publications, and harmonised methodology for computing indicators. Hence, the integration of wellbeing and sustainability metrics into the SNA bears great potential to strengthen the role of wellbeing and sustainability in policymaking. Possible pathways to do so are explored in the recommendations in chapter 6.

5.1.2 Satellite accounts and the System of Environmental-Economic Accounting (SEEA)

The second technical lever for change comprises the SNA's satellite accounts, and in particular the System of Environmental-Economic Accounting (SEEA). Satellite accounts are linked to the SNA but may expand its accounting scope because they are not bound to employ the same core principles (e.g., the production boundary, see chapter 5.1.1) and do not need to restrict themselves to data expressed in monetary terms (United Nations et al., 2009). Existing satellite accounts include a Tourism Satellite Account (TSA) (United Nations, 2010), the Satellite Account for Education and Training (UNECE, 2020), and the System of Health Accounts (SHA) (OECD et al., 2017). Moreover, satellite accounts may cover household services and unpaid work (Advisory Expert Group on National Accounts, n.d.-b; ONS, 2018; United Nations et al., 2009).

A particularly successful and well-developed satellite account is the SEEA, which consists of the Central Framework (CF) (United Nations et al., 2014) and the framework for Ecosystem Accounting (EA) (United Nations et al., 2021). The SEEA CF collects physical and monetary data on environmental flows, stocks of environmental assets, and economic activity related to the environment (e.g., spending on environmental protection) (United Nations et al., 2014).

The SEEA EA employs a spatial accounting approach to compile information on the extent and condition of ecosystem services.¹³ Furthermore, the SEEA EA not only includes accounts recording the flow of ecosystem services in physical and monetary terms as well as their use by economic units but also measures the degradation and enhancement of ecosystem assets (United Nations et al., 2021). Crucially, both frameworks build on the accounting concepts of the SNA but expand its core principles (see chapter 5.1.1) to better account for the environment and its value (United Nations et al., 2014, 2021).

The strength of satellite accounts – such as the SEEA – is that they provide a coherent accounting framework for compiling issue-specific data. Wellbeing and sustainability metrics derived from satellite accounts thus have technical merits stemming from their embeddedness into sound statistical frameworks. Metrics based on the SEEA, for instance, exhibit a high degree of comparability, consistency, and robustness, which is a considerable asset when it comes to the use of these metrics in political decision-making (United Nations et al., 2014, 2021). The primary issue of the SEEA and SEEA-based metrics is hence not one of methodological rigor but rather a lack of implementation resulting in availability issues of high-quality data. In 2022, 66 countries were regularly compiling and disseminating at least some of the accounts of the SEEA CF, while 44 countries were implementing parts of the SEEA EA (United Nations Statistics Division, 2023).¹⁴ Even the EU has not yet implemented all accounting modules of the SEEA. To increase coverage in the EU, a legislative proposal is therefore underway, which would extend the current environmental-economic

accounting by three modules (European Commission, 2022b).¹⁵ An important step towards increasing the political uptake of wellbeing and sustainability metrics is thus the extensive implementation and regular publication of satellite accounts, such as the SEEA.¹⁶

5.1.3 Beyond GDP metrics

Beyond GDP metrics constitute the third technical lever. In response to the fact that GDP does not account for issues like wellbeing, sustainability and inequality (Costanza et al., 2009; Fioramonti, 2013; Hoekstra, 2019; Stiglitz et al., 2009; van den Bergh, 2009), Beyond GDP metrics seek to provide more holistic measures of societal progress and welfare. Building on Costanza et al. (2009), we identify five categories of Beyond GDP metrics.¹⁷

The first category encompasses metrics that complement SNA aggregates with social and environmental variables. Notable examples are the Index of Sustainable Economic Welfare (ISEW) (Daly & Cobb, 1994) and its more recent variant, the Genuine Progress Indicator (GPI) (Kubiszewski et al., 2013). The GPI starts at personal consumption expenditures, which are then adjusted by accounting for welfare-enhancing activities – such as the value provided through household work – as well as welfare-diminishing elements – such as income inequality and environmental degradation (Kubiszewski et al., 2013; Neumayer, 2000; Talberth et al., 2006). Conversely, metrics based on the “capital approach” seek to measure the extent and change of economic, social, natural, and human capital (Hoekstra, 2020; Pearce & Atkinson, 1993). This capital approach is

¹³ This spatial accounting approach recognises that the services that ecosystems provide to society are contingent upon the location of those assets in relation to the location of the beneficiaries.

¹⁴ Conversely, all countries are using the SNA framework to compile their national accounts, with almost two thirds of countries having employed the latest standard, i.e. 2008 SNA, by 2020 (Silungwe et al., 2022).

¹⁵ These three modules cover (i) forest accounts, (ii) environmental subsidies and similar transfers accounts, and (iii) ecosystem accounts.

¹⁶ It should be noted that the Beyond GDP metrics discussed in chapter 5.1.3 can – at least to some extent – be based on SEEA data.

¹⁷ There are, of course, other ways of categorising Beyond GDP metrics (Bleys, 2012; Giannetti et al., 2015). A particular relevant alternative is the categorisation of Beyond GDP metrics along the lines of the definition of sustainable development laid out in the Brundtland report (World Commission on Environment and Development, 1987). In that regard, Beyond GDP metrics can also be distinguished along the lines of the domains they cover, that is wellbeing, inclusion, and sustainability (Hoekstra, 2022).

also taken by the World Bank (World Bank, 2021) and the United Nations (UNEP, 2018) in their measurements of wealth. A closely connected strand of metrics seeks to adjust GDP for processes of environmental depletion and can thus be referred to as Green Net National Product (Dasgupta & Mäler, 2000; Hoff et al., 2021). Lastly, it should be emphasised that Beyond GDP metrics in this category imply a substitutability of different forms of capital (Neumayer, 1999; Pearce & Atkinson, 1993), an assumption that was problematised in chapter 2.2.

The second category comprise indexes that include SNA aggregates. A well-known example is the Human Development Index (HDI), which accounts for per capita GDP, health, and education (Anand & Sen, 1994). A notable further development of the HDI is the Sustainable Development Index (SDI), which puts a sufficiency threshold on per capita income, accounts for wealth distribution, and integrates CO₂ emissions and material footprint per capita in its calculation (Hickel, 2020).¹⁸

The third category of metrics focuses on measuring wellbeing and sustainability, rather than economic activities and hence does not include SNA aggregates. These metrics are constructed independently of SNA aggregates, rather than adjusting or complementing them (Giannetti et al., 2015). A well-known instance is the Happy Planet Index (HPI), which is computed as a function of life satisfaction, life expectancy, and ecological footprint (Abdallah et al., 2009). Another example is Gross Ecosystem Product (GEP) (Ouyang et al., 2020), which measures the contributions of ecosystems in monetary terms by building on the SEEA EA (United Nations et al., 2021).

In contrast to these single number metrics, the fourth category use multidimensional sets of indicators. These so-called dashboards respond to the notion that a single number may be insufficient to capture a society's wellbeing and sustainability (Chancel et al., 2014; Costanza et al., 2009; Hoekstra, 2019). Here, the United Nations' Sustainable

Development Goals (SDGs) constitute one of the most prominent dashboards. The SDGs represent a globally agreed set of 17 goals and 169 indicators, thus covering a comprehensive array of aspects relevant to wellbeing and sustainability. Another instance of a dashboard is ZOE's Compass towards 2030, which puts forward a coherent set of environmental, social, and economic indicators to monitor societal progress (Barth et al., 2021). Furthermore, the Better Life Index, established by the OECD, measures self-reported wellbeing along multiple dimensions (OECD, 2020).

Lastly, single wellbeing and sustainability indicators represent the fifth category. While wellbeing and sustainability indicators are building blocks of all Beyond GDP metrics mentioned above, they also constitute a distinct category, since they too can be employed as metrics for policymaking. Some indicators may be derived from statistical frameworks. For instance, a myriad of environmental indicators is available from the SEEA, such as net domestic energy use, CO₂-intensity of economic activities, or land-use change (United Nations, 2022; United Nations et al., 2017). In addition to this, indicators can also be compiled independently of accounting frameworks. For instance, Eurostat compiles data on a multitude of indicators, such as quality of life indicators, which cover economic, social, and environmental elements (European Union, 2017; Eurostat, 2023).

The technical soundness of Beyond GDP metrics varies tremendously (see also Box 1 in 4.2). The main weakness of Beyond GDP indexes and dashboards is that their underlying data is often obtained from different sources and may hence differ substantially in terms of quality, robustness, and publication frequency.¹⁹ In other words, the lack of coherent accounting frameworks for Beyond GDP metrics and their underlying indicators substantially reduces their suitability for uptake in policymaking (Hoekstra, 2019, 2020). Moreover, methodologies for Beyond GDP metrics often vary significantly across different studies, as in the case of ISEW/GPI (Bagstad et

¹⁸ A multitude of indexes can be found in the JRC's "Composite Indicators & Scoreboards Explorer" (Joint Research Center, n.d.).

¹⁹ Gross Ecosystem Product (GEP) is an exception in that regard.

al., 2014; Talberth & Weisdorf, 2017; Van der Slyken & Bleys, 2021a, 2021b). These issues contribute to the perception of Beyond GDP metrics not being technically reliable enough for use in governance, e.g., for the formulation of political targets (see 5.2.3) or the use as allocation keys (see 5.2.4).

5.1.4 Impact assessment tools

The fourth lever to increase the relevance of sustainability and wellbeing metrics are impact assessment tools. In essence, impact assessments tools are employed to analyse policy problems and evaluate alternative policy options in terms of their economic, social, and environmental impacts. The European Commission's Better Regulation toolbox outlines a multitude of different methodologies that can be used for the purpose of impact assessments, such as cost-benefit analysis and life cycle assessments (European Commission, 2021a). Here, however, we will focus on a particular impact assessment tool, namely macroeconomic simulation models.²⁰ This focus is substantiated by the fact that these models are not only of particular significance for the governance level (see 5.2) but also represent significant bottlenecks for enhancing the uptake of wellbeing and sustainability considerations in policymaking (see 4.2).

One of the most relevant macroeconomic models is the QUEST model used by the Directorate-General Economic and Financial Affairs (DG ECFIN) for policy evaluation (Directorate-General for Research and Innovation (European Commission) et al., 2020). The QUEST model is a so-called Dynamic Stochastic General Equilibrium (DSGE) model based on New-Keynesian economics. As such, the microeconomic behaviour of actors in the model is determined by rational utility and profit maximisation considerations (Diefenbacher et al., 2020; Directorate-General for Research and Innovation (European Commission) et al., 2020). In principle, the QUEST model's purpose is to evaluate policy impacts on mostly socioeconomic variables such as GDP growth, price levels, government budgets, and (un)employ-

ment (Diefenbacher et al., 2020; Gran et al., 2019). The QUEST model, however, can also be extended to aspects of sustainability (Conte et al., 2010) as well as distributional impacts (Roeger et al., 2019).

Macroeconomic simulation models are dependent on high-quality data for model calibration purposes. Here, the availability of frequently published, comparable, and consistent data is of utmost importance. While macroeconomic data derived from the SNA mostly fulfil these requirements (see 5.1.1), the availability of high-quality data represents a serious bottleneck for the incorporation of wellbeing and sustainability variables into macroeconomic simulation models (Diefenbacher et al., 2020). Notwithstanding these technical issues, research clearly indicates the potential of integrating wellbeing and sustainability considerations into existing models (Diefenbacher et al., 2020) as well as the value of ecological macroeconomic modelling approaches (Hardt & O'Neill, 2017).

²⁰ An overview of models used by the European Commission can be found in the MIDAS database (Joint Research Center, 2023).

5.2 Governance levers

This chapter aims to identify governance levers for enhancing the mainstreaming of sustainability and wellbeing in policymaking. We analyse how metrics are used in governance and highlight the ways in which these metrics can shape policy processes and outcomes. As shown in chapter 4, the integration of metrics into governance mechanisms can lead to improvements on the technical level via a higher allocation of personal staff and financial resources

to improving the technical soundness of that metric. While technical-level changes are hence essential, it is ultimately the integration of wellbeing and sustainability metrics on the governance level that leads to concrete impacts on policymaking. Such an integration may be channelled through five levers with varying strength (see figure 5): (i) reporting and monitoring of metrics, (ii) ex-ante and ex-post policy evaluation, (iii) political targets, (iv) enforcement mechanisms, and (v) budgetary allocation rules.

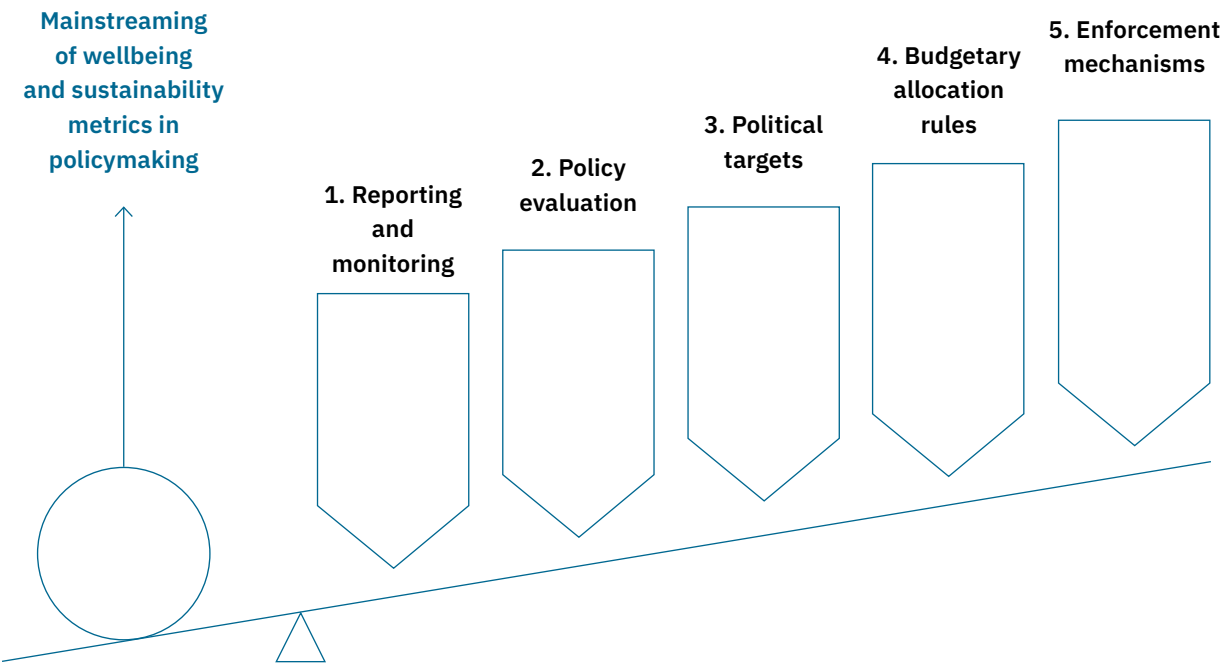


Figure 5: The five governance levers. The further to the right a lever is located, the higher its leverage on the mainstreaming of wellbeing and sustainability metrics in policymaking.

In recent years, the EU's Economic Governance has been subject to fundamental transformations. A critical moment here was the integration of the Recovery and Resilience Facility (RRF) into the well-established European Semester policy coordination mechanism (Fabbrini, 2022). Here, an important step forward for the integration of wellbeing and sustainability considerations was the conditionality added to national Recovery and Resilience Plans (NRRPs), where it is required that 37 % of funding for national investment and reform packages needs to be in line with the objectives of the European Green Deal (EGD) (Council of the European Union, 2022). Likewise, the European Pillar of Social Rights (EPSR) strengthened and structured the Semester's focus on social imbalances by requiring Member States to illustrate how they incorporate the principles of the EPSR (Vesan et al., 2021).

These developments build upon a longer-term trend, characterised by the fact that the European Semester has been continuously moving away from fiscal austerity and structural reforms towards greater focus on social issues, manifesting in more social-oriented country specific recommendations (CSRs) as well as greater social monitoring and involvement by the Commission (Eihmanis, 2023). For instance, Vesan et al. (2021) analyse all CSRs over the 2011-2019 timeframe and find a strong reduction in "social retrenchment" prescriptions from 48 to 4 % as well as a strong increase in social protection prescription, from 3% to 40%. Moreover, the green transition conditionality significantly and directly informed the NRRP targets and contents (Eihmanis, 2023), with the positive conditionality element of linking the disbursement of funds to the achievement of NRRP milestones and targets resulting in greater compliance with CSRs (Teschke, 2022) and reducing long-term socio-economic imbalances and political divides among Member States (Fabbrini, 2022; Jones, 2021).

These shifts in EU Economic Governance allowed the Commission to push transnational issues – such as the EGD and EPSR – more effectively into domestic policy agendas and debates over the long-term, thereby fundamentally transforming the nature of the European Semester economic governance and coordination mechanism (Eihmanis, 2023). This has notably moved the RRF/Semester nexus to the very heart of EU Economic Governance (Vanhercke & Verdun, 2022) until at least 2026 (Eihmanis, 2023).

These fundamental transformations in the EU's Economic Governance as well as the successful implementation of the EGD and RRF have in turn led to improvements in the data quality of the metrics used, as has been theorised in chapter 4. This is crucial as these metrics now form the technical backbone of Economic Governance. High data quality and frequent publications are hence essential to enable the Commission and Member States to effectively benchmark, track and monitor performance.

Box 2: Indications of a greater uptake of wellbeing and sustainability metrics in the EU's Economic Governance

5.2.1 Reporting and monitoring

The governance lever of reporting and monitoring refers to the institutionalised collection and preparation of data as well as their publication. Monitoring and reporting data serves crucial purposes in policymaking, as it provides the basis for (i) increasing political accountability and transparency, (ii) supporting evidence-based policymaking by creating understanding of societal issues, (iii) monitoring the compliance of the EU and its Member States with EU law and legislation, and (iv) measuring the impact of enacted policy (Anderson et al., 2019; Eurostat, 2019; Ham et al., 1995; König & Mäder, 2014; Publications Office of the European Union, 2022).

Over time, the EU has developed a large set of metrics to track societal developments and impacts of political actions. Examples include the Resilience Dashboards, the Social Scoreboard, and the UN Sustainable Development Goals (SDGs) (Joint Research Center, n.d.). The concrete utilisation of the metrics and the underlying data varies, however, depending on the concrete governance mechanism in which they are employed (see the other governance levers described in this chapter). Without any additional governance process attached, these scoreboards remain limited to being information exercises that have only little impact on political decision-making. The 7th Environmental Action Programme (EAP) is a case in point (European Commission, 2014). Despite a consensus on indicators to monitor progress and the European Environmental Agency (EEA) publishing annual reports on their development, the programme's success remained limited due to the absence of consequences in case of indicator deterioration (EEA, 2018). Consequently, the state of many indicators – in particular biodiversity-related metrics – has worsened throughout the period of the programme.

5.2.2 Policy evaluation

In contrast to mere reporting and monitoring discussed in the previous chapter (5.2.1), the governance lever of policy evaluation utilises metrics in order to assess policies. This lever assists the collection of evidence, allowing accountability of policy makers, increasing transparency, as well as policy

coherence (Smismans, 2015). Policy evaluation can be categorised as either ex-ante or ex-post. Ex-ante policy evaluation concerns the assessment of a given set of policy options in terms of their social, environmental, and economic impacts before implementation (see chapter 5.1.4). Here, the Better Regulation Toolbox provides an overview of policy evaluation tools used by the Commission (European Commission, 2021a). Conversely, ex-post policy refers to measuring and analysing the impacts of policy and political developments in hindsight.

Ex-ante policy evaluation is mostly carried out in the context of impact assessments. These are required when a policy proposal is expected to have substantial economic, social, or environmental effects (European Commission, 2021a). Crucially, ex-ante policy evaluation is primarily concerned with assessing the impacts of a predefined set of policy options. Therefore, the ability of ex-ante policy evaluation tools to substantially affect the content and rationale of the policy itself is limited. Moreover, the outcome of such ex-ante policy evaluation is highly dependent on the specifics of the tools employed. For instance, the results of macroeconomic simulation models (see 5.1.4) are contingent on the nature of the model, the metrics and dynamics analysed, as well as the theoretical assumptions that inform the modelling of actors' behaviours (Byrialsen et al., 2023; Diefenbacher et al., 2020; Döhring et al., 2023; Hardt & O'Neill, 2017).

Ex-post policy evaluation can help to reveal the impacts of past policies and political decisions and thus inform future decision-making (European Commission, 2021a). Metrics constitute an essential element of these evaluation exercises, as the choice of metrics essentially determines which political issues are assessed in the first place. While ex-post policy evaluation tools enable the identification of suboptimal developments in a given policy area, their concrete political impact can differ substantially. The European Semester is a case in point here. The country reports published in the context of the EU Semester provide – among other things – an evaluation of Member States' performance along the lines of the Sustainable Development Goals (SDGs). These assessments are, however, not taken up into

the formulation of country-specific recommendations (CSRs) (SDG Watch Europe, 2019). In that regard, the evaluation of the SDGs in the European Semester lacks an inherent mechanism that compel political actors to take action or make necessary policy adjustments to improve on the evaluated metrics.

Conversely, the integration of the Recovery and Resilience Facility (RRF) into the EU Semester highlights how ex-post policy evaluation can increase policy impact via elements of conditionality. In the RRF (see also 5.2.4), the disbursement of funds for reforms and investments²¹ is conditional on the completion of qualitative milestones and quantitative targets outlined in Member States' respective national recovery and resilience plans (NRRPs) (Bekker, 2021; Corti & Ferrer, 2021). To assess the progress of Member States towards the RRF objectives, the European Commission uses a set of common metrics compiled in the Recovery and Resilience Scoreboard (European Commission, 2023b). Thus, the explicit link of fund disbursement to a quantitative assessment of a countries' performance significantly enhances the policy impacts of metrics used in ex-post policy evaluation.

5.2.3 Political targets

Political targets are established to guide policy efforts towards a defined societal goal. While targets can substantially shape political processes and outcomes, their concrete political implications vary. Drawing on Barth et al. (2021), one can first differentiate between quantitative and qualitative targets. While both types of targets generally have the ability to guide political decisions, quantitative targets have the benefit of providing compact information in reference to a defined target metric, thus enabling an assessment whether societies are moving towards the goal at sufficient speed. In that regard, quantitative targets are crucial governance levers to help direct as well as continuously evaluate policymaking efforts. Secondly, one can distinguish between binding and non-binding targets. While binding targets do have the advantage that Member

States can be in principle held accountable when missing targets, their concrete policy impacts may nevertheless remain limited if no suitable enforcement mechanisms are in place (see chapter 5.2.5). Lastly, targets may differ in terms of the legal documents in which they are presented. In particular, political targets articulated in Communications are perceived as less important than those set out in Directives and Regulations due to the associated difference in bindingness and enforceability (Charveriat et al., 2021).

A well-known example of political targets are the debt and deficit rules of the Stability and Growth Pact (SGP), which are enshrined in the European Treaties (Hafele et al., 2021). These two rules stipulate that Member States' national public debt and annual budget deficit must not exceed 60 % and 3 % of GDP, respectively. While, historically, there have been a myriad of instances of countries not complying with said fiscal targets, the SGP has nevertheless been highly influential in shaping Member States fiscal decisions and public policies (Mileusnic, 2021). Crucially, the SGP's significant impact on policy processes in the EU stems from the binding nature of its fiscal rules, which are reinforced by enforcement mechanisms that include deterring sanctions (see chapter 5.2.5).

Another instance of political targets can be found in the European Pillar of Social Rights (EPSR) Action Plan. The Action Plan comprises three headline targets to be achieved by 2030. First, at least 78 % of individuals between the age of 20 and 64 should be employed. Second, at least 60 % of the adult population should partake in some form of training every year. Third, decrease the number of individuals at risk of poverty or social exclusion by a minimum of 15 million, including 5 million children (European Commission, 2021b). In 2022, all Member States presented national targets to contribute to the three common goals (European Commission, 2022c). Building on the targets defined, the Action Plan was accompanied by several policy initiatives such as the proposal for the European Child Guar-

²¹ It should be noted that the NRRPs have to allocate a minimum of 37 and 20 % of RRF resources to green and digital transition efforts, respectively. Conversely, there is no minimum quota for RRF funding that has to be dedicated to social issues.

antee (Directorate General for Employment, Social Affairs and Inclusion, 2021) and the directive to strengthen equal pay for equal work between men and women (European Commission, 2022a). While the targets of the Action Plan may thus help to channel policymaking efforts in the right direction, their non-binding nature as well as the lack of enforcement mechanisms attached weakens the impact of the target metrics on policymaking.

5.2.4 Budgetary allocation rules

The fourth governance lever comprises budgetary allocation rules and in particular the use of metrics to distribute EU funds between Member States and regions.²² Budgetary allocation rules thus have a strong influence on policy processes, as they impact on the fiscal capacities of Member States to pursue the policy goals inscribed into the respective EU fund. On the flipside, the EU is not in complete control on how the recipients use the funding provided, meaning that funds do not necessarily correspond with realising the desired policy outcome.

To exemplify the logic of this lever, the Recovery and Resilience Facility (RRF) (European Commission, n.d.-a) acts as a prime example. The RRF seeks to provide financial support to EU countries to help alleviate the socioeconomic repercussions of the COVID-19 outbreak and further support the green and digital transitions of European economies. Crucially, the amount of financial aid Member States were entitled to was determined based on countries' performance on three indicators: (i) the share of a country's population, (ii) the inverse of GDP per capita, and (iii) the average unemployment rate between 2015 and 2019 (Council of the European Union, 2022; Tesche, 2022).

Another example of the functioning of this lever is the EU's Cohesion Fund. This fund seeks to enhance European cohesion by promoting investments in environment-related projects and transport infrastructure networks. Here, funds are allocated to

Member States, whose gross national income (GNI) per capita is below 90% of the EU-27 average.

It is apparent that, in both of these examples, the use of other allocation metrics – such as the Economic Resilience Index (ERI) for the distribution of funds in the RRF (Hafele et al., 2023) – would have led to a considerably different allocation of funds (Bertram et al., 2023). Moreover, the use of wellbeing and sustainability metrics for funds allocation would increase their political weight. The fact that primarily traditional macroeconomic metrics are used as allocation keys again highlights the lock-in state described in chapter 4.

5.2.5 Enforcement mechanisms

Enforcement mechanisms constitute the fifth and most impactful governance lever, as they can effectively improve the likelihood of political targets being realised and legislation being adhered to. This also holds true for sustainability and wellbeing targets coupled with means of enforcement. Enforcement mechanisms exert pressure on political actors to achieve the targets, particularly through the prospect of consequences for non-compliance and hence facilitates apt readjustments of policies if required. Moreover, it is through enforcement mechanisms that the metrics used for the definition of targets gain most political weight. Enforcement mechanisms can be classified as ex-ante enforcement mechanisms with no financial penalties, and ex-post enforcement mechanisms comprising financial penalties. In that regard, the actual policy impact of these mechanisms depends on the severity of the consequences of non-compliance.

The Stability and Growth Pact (SGP) (see 5.2.3) employs a combination of penalty-based and non-penalty-based enforcement mechanisms to enhance compliance with its fiscal targets.²³ The preventive arm of the SGP comprises non-penalty-based ex-ante enforcement mechanisms connected to the Medium-Term Budgetary Objective (MTO),

²² The actual composition of budgets and the relative importance of policy areas therein are the result of political deliberation and are thus not discussed as part of this governance lever.

²³ The examples of enforcement mechanisms in the SGP provided here are non-exhaustive.

which sets an objective for the government's structural budget balance²⁴. If a Member State fails to meet its MTO, the European Commission may request corrective action and a stability and convergence program aimed at bringing the Member State's fiscal policies in line with the SGP's targets (European Commission, n.d.-c). Conversely, the corrective arm of the SGP employs penalty-based and non-penalty based ex-post enforcement mechanisms related to the Excessive Deficit Procedure (EDP). The EDP can be activated when a Member State breaches or is in risk of breaching the SGP's fiscal rules. Once the EDP is activated, the Member State is required to submit a plan to correct its excessive deficit within a specified time frame. If the Member State fails to comply, fines of up to 0.5% of its GDP can be imposed by the European Commission (European Commission, n.d.-b).

Another example of an ex-post enforcement mechanism with financial penalties is the Plastics Own Resource (POR). The POR builds on the European Strategy for Plastics in a Circular Economy, which set the goal of making all plastic packaging in the EU recyclable by 2030 (European Commission, 2018). To achieve this target, the POR requires Member States to make financial contributions to the EU budget based on the extent of non-recycled plastic packaging waste. Here, Member States must pay €0.80 for every kilogram of plastic packaging waste that is not recycled.

6. Recommendations: breaking free from the institutional GDP lock-in

Informed by our analysis of the institutional GDP lock-in, this chapter outlines a set of recommendations to make use of the technical and governance levers with the aim of mainstreaming wellbeing

and sustainability issues via metrics in policymaking.²⁵ Building on insights from the literature on institutional change (Hoff et al., 2021; Mahoney & Thelen, 2010; Streeck & Thelen, 2005), our recommendations follow the idea that gradual changes to existing institutional arrangements can culminate in substantial transformations able to disrupt and eventually overcome existing lock-in states. In that regard, our recommendations should be seen as first steps towards enhancing the significance of wellbeing and sustainability considerations in political decision-making. Crucially, such first steps may trigger a virtuous cycle of improvements on both the technical and governance level. It is worth acknowledging that some recommendations may pose greater challenges in terms of implementation yet yield proportionately more significant results. Conversely, other recommendations may be more politically viable but offer lower impact outcomes. Lastly, each of the recommendations should be seen as a potential starting point for further political and technical discussions on how the wellbeing and sustainability agenda can be effectively progressed.

6.1 Technical recommendations

This chapter covers six technical recommendations informed by our analysis, making use of the technical levers identified in chapter 5.1. While some of our technical recommendations directly relate to the current revision of the 2008 SNA, others may be seen as contributions to the discussions on the future research agenda. Moreover, these technical recommendations are not simply ends in themselves but should also be understood as enablers for increasing the uptake of wellbeing and sustainability dimensions on the governance level.

²⁴ A government's structural budget balance is its nominal budget balance corrected for the business cycle position and temporary one-off measures.

²⁵ It should be noted that the ten recommendations we outline in this chapter of course constitute a non-exhaustive list of possible changes that could be derived from our analysis.

6.1.1 Expand the production and asset boundary of the SNA to allow for an integration of wellbeing and sustainability aspects

We recommend expanding the production and asset boundary of the SNA to include i) unpaid household services and ii) ecosystem services in the core accounts and thus into GDP and its net measures.²⁶ For i), we suggest expanding the production boundary to include an array of household activities²⁷ (Hirway, 2015; Office for National Statistics (ONS), 2022), as has also been investigated in the revision process of the SNA (Advisory Expert Group on National Accounts, n.d.-b). To define which household activities to include in the production boundary, the third party criterion can be applied (Reid, 1934). The third party criterion suggests that those services and activities should be considered production, which could potentially be delegated to another economic unit (Sakuma, 2013). In that regard, activities such as care work, the preparation of meals, household management, transport services would fall under the production boundary, while activities such as leisure and sleeping do not (Advisory Expert Group on National Accounts, n.d.-b). Crucially, the integration of household services into the SNA would also require an extension of the asset boundary to cover human capital as well as household durables used for the provision of household services (Moulton & Mayerhauser, 2015; Office for National Statistics (ONS), 2022).

For ii), we follow Eigenraam & Obst (2018) in recommending that ecosystems should be con-

sidered an additional economic unit that supplies ecosystem services. This would provide the basis for recording the output of ecosystem units as production in the SNA, thereby implying an extension of the production boundary. Moreover, the asset boundary is also to be expanded to allow for a complete consideration of ecosystem units and in particular the value they provide through their future flow of services.²⁸ Crucially, this expansion of the asset boundary would enable accounting for the depreciation of ecosystem assets, as the SNA's consideration of environmental depletion is currently limited to particular assets such as mineral and energy resources (Advisory Expert Group on National Accounts, n.d.-a).²⁹

6.1.2 Establish extended accounts in the SNA and introduce a complementary GDP metric adjusted for wellbeing and sustainability aspects

An alternative to the extension of the production and asset boundary is the establishment of extended accounts in the SNA, which could compile data on both household services as well as environmental variables in a way that is coherent with the core of the SNA. In the case of unpaid household service work, this could be realised by using supply and use tables in both monetary and time units (Advisory Expert Group on National Accounts, n.d.-b). The establishment of environmental accounts could build on the SEEA framework to cover natural resources, emissions, and ecosystem services (Advisory Expert Group on National Accounts, 2020). While the imple-

²⁶ We explicitly refrain here from discussing specific valuation methodologies. The interested reader may confer (van de Ven et al., 2018) as well as (UNECE, 2018) for a discussion of valuation techniques for unpaid work. An overview and discussion of environmental valuation methodologies can be found in (Costanza et al., 2017) and (Balvanera et al., 2022). At this point, it should also be mentioned that the valuation of non-market activities and assets has also attracted substantial criticism (Dowling, 2016; UNECE et al., 2014; Unmüßig, 2014; Victor, 2020).

²⁷ While the integration of household services in the core of the SNA may be technically possible, it must be noted that the high costs associated with frequently conducting the necessary time use surveys currently constitutes a substantial obstacle to this proposal. As will also be elaborated in 6.1.4, big data technologies may provide a means to enable time use data collection at lower costs going forward (Hoekstra, 2019, 2020).

²⁸ It should be noted that this implies the measurement of ecosystem services' net present values, which would indicate a substantial shift of the SNA towards forecasting, as opposed to accounting on an accrual basis.

²⁹ The issue of valuation is, of course, crucial here, as this essentially determines the extent to which SNA indicators would change. Most importantly, the valuation methodology applied should be able to account for the non-monetary positive externalities of ecosystem services and thus measure what (Dasgupta, 2021) terms accounting prices.

mentation of this recommendation would be the less impactful alternative, the consideration of wellbeing and sustainability aspects in extended accounts rather than in the core of the SNA has the advantage that the current usability of GDP and other macro-economic aggregates would remain unaffected.³⁰

These extended accounts could then be used to introduce a complementary metric in the SNA that adjusts GDP for wellbeing and sustainability aspects. This complementary metric should ideally build and improve on existing work on adjusted GDP measures (Dasgupta & Mäler, 2000; Hanley et al., 2015; van de Ven et al., 2018; Vanoli, 2017). Here, we recommend two adjustments to GDP. First, we recommend to account for the value added to the economy by the services provided through household work. Secondly, we draw on literature on environmentally adjusted GDP measures (Boyd, 2007; Bucknall et al., 2021; Heys et al., 2019; Hoff et al., 2021; La Notte & Marques, 2019; Vanoli, 2017) to propose a green net adjustment of GDP that could, for instance, account for the depletion of natural resources as well as the depreciation of ecosystem assets using monetary valuation. Here, it is, however, pivotal to note that such green net adjustments of GDP – as also discussed in the previous recommendation – imply substitutability of critical natural capital, an issue that was critically discussed in chapter 2.

6.1.3 Introduce Planetary Boundary (PB) Accounts in the SEEA

To improve the data quality and availability on planetary boundary (PB), we suggest harmonising the collection of data on PB variables within the SEEA. The SEEA represents a well-suited framework to accommodate PB Accounts, as the SEEA links environmental data to economic activities and provides means for accounting in physical units. In that regard, establishing PB Accounts in the SEEA can support the collection of high-quality and time-

ly data necessary to effectively monitor changes in PB variables and to assess the environmental consequences of countries' economic activities. In practice, the relevant PB variables could either be compiled in an additional SEEA PB framework or could be integrated into both the SEEA Central Framework (CF) and the SEEA Ecosystem Accounting (EA) framework.

The establishment of PB Accounts in the SEEA can build on existing accounting approaches in that field (Meyer & Newman, 2018, 2020). More generally, the PB Accounts could apply the Driver-Pressure-State-Impact-Response (DPSIR) framework to frequently publish data on planetary boundary control variables (Chandrakumar & McLaren, 2018; Ness et al., 2010). These variables include: i) pressure variables, such as fresh water use, nitrogen fixation, and phosphor flow; ii) state variables, comprising, for instance, atmospheric concentration of CO₂ and ozone, aerosol optical depth, ocean acidification, and percentage of land cover converted to cropland; and iii) impact variables, such as biodiversity loss. Using this DPSIR framework in conjunction with PB Accounts would further help to better understand key causal chains and could inform societal responses at appropriate spatial scales.

6.1.4 Establish a Time Use Satellite Account

Following Hoekstra (2019, 2020), we recommend the establishment of a Time Use Satellite Account, which would provide a coherent statistical framework to compile comparable and consistent time use data in a way that is aligned with the SNA. Such a Time Use Satellite Account could build upon existing efforts by national statistical offices (ONS, 2018), the work of the UN Expert Group on Innovative and Effective Ways to Collect Time-Use Statistics (EG-TUS) (United Nations Statistics Division, 2022b, 2022a), as well as attempts to standardise time use survey methodologies (Statistical Office of

³⁰ The incorporation of wellbeing and sustainability aspects into GDP estimates would certainly lead to considerable quantitative changes. For instance, accounting for the value of unpaid work and household services could lead to increases of a country's GDP by 15 to 70 %, depending on the particular country as well as the valuation technique employed (van de Ven et al., 2018).

the European Union., 2020; United Nations Statistics Division, 2021). In essence, a Time Use Satellite Account would measure individuals' time spent for activities such as employment, unpaid household and care work, learning, leisure, socialising and communication, as well as self-care and maintenance. To maximise the benefits of the Time Use Satellite Account, the time use data should furthermore be linked to socio-demographic data comprising characteristics – such as gender, educational attainment, employment status, et cetera – in a consistent manner (Krueger, 2009). Given that carrying out time use surveys is quite a resource-intensive undertaking and thus infrequent, big data technology and further innovation are crucial to produce high-quality time use data at lower costs (Hoekstra, 2019, 2020).

6.1.5 Improve the data basis of material needs satisfiers and their affordability

Building on the importance of statistical data and metrics for evidence-based policymaking, we recommend improving the data basis of material needs satisfiers (see chapter 2), in particular their affordability and accessibility. Improving the data basis implies filling data gaps and at the same time advancing the harmonisation of data collection, as well as enhancing the frequency and granularity of existing data. As a first step, the Eurostat database on quality of life indicators (Eurostat, 2023) could be complemented with statistics on the access to and affordability of the aforementioned material need satisfiers. Crucially, having a well-developed data basis for material needs satisfiers is an essential prerequisite for the development and use of relevant indicators that can guide the EU's and Member States' just transition efforts (European Commission et al., 2021). Moreover, this data can serve as a starting point for processes of political deliberation on defining affordability thresholds for material basic needs – similar to the thresholds that have been defined for poverty (Ravallion, 2008) –, thus contributing to a more nuanced understanding of wellbeing, poverty, and material deprivation.

6.1.6 Strengthen the consideration of wellbeing and sustainability aspects in impact assessment models used by the European Commission

Since impact assessment tools are located at the intersection of the technical and governance level, we recommend the integration of wellbeing and sustainability metrics into impact assessment models used by the European Commission. As intimated in chapter 5.1.4 and 5.2.2, the integration of wellbeing and sustainability metrics into impact assessment tools bears great potential, as this would enable governing bodies and policymakers to better assess the interdependent dynamics between the economy, societal wellbeing, and the environment (Cingano, 2014; Döhning et al., 2023; Hardt & O'Neill, 2017). As Gran et al. (2019) illustrate, the inclusion of sustainability and wellbeing metrics depend on the specific model and their underlying assumptions. Consequently, there are two strands of work to further explore: i) adapting existing models and ii) developing new models that are better suited to measure relevant dynamics and feedback mechanisms.

For the case of adapting existing models, the elements modelled can be improved by increasing the degree of detail and extent to which wellbeing and sustainability factors are captured as well as to endogenise relevant dynamics. For instance, the QUEST model used by DG ECFIN can and has been adapted to address both wellbeing- and sustainability-related issues (Burgert et al., 2021; Diefenbacher et al., 2020; Gran et al., 2019; Roeger et al., 2019). In future, macroeconomic simulation models used for impact assessments could use high-quality and comparable data from satellite accounts such as the SEEA for model calibration purposes. Moreover, these models could integrate Beyond GDP metrics (see 5.1.3) as well as green net adjusted measures of economic output (see 6.1.2).

When it comes to the creation of new models, the European Commission could support the application of novel modelling approaches (Hardt & O'Neill, 2017) that help to overcome some of the limitations of the currently prevalent dynamic stochastic gen-

eral equilibrium (DSGE) models (Storm, 2021) e.g., by covering more heterogenous feedback mechanisms and variables. Alternative models include System Dynamics and Stock-Flow Consistent models, such as the E3ME (Dwesar et al., 2022), the MEDEAS (Capellán-Pérez et al., 2020), or the EURO-GREEN model (D'Alessandro et al., 2020). Here, a particularly promising avenue would be the integration of PB variables into macroeconomic simulation models (Sers & Victor, 2020), which might allow the integration of tipping points into modelling exercises. Lastly, it is possible to combine multiple models in a manner similar to Integrated Assessment Models.

6.2 Governance recommendations

Building on our discussion of governance levers in chapter 5.2, this chapter outlines four recommendations for the governance level. The implementation of these recommendations could not only contribute to a mainstreaming of wellbeing and sustainability in the policymaking space but could furthermore facilitate technical-level improvements.

6.2.1 Use wellbeing and sustainability metrics as issue-specific allocation metrics for funds

We recommend using issue-specific metrics for the allocation of EU funds, thereby improving the cohesion between the fund's targets and its allocation. One case for application could be the future multiannual financial framework for 2028–2034. Parts of future funds could be allocated based on the progress towards self-set goals as outlined, for instance, in the European Pillar of Social Rights and the EU's climate goals by using distance-to-target measures. Other areas of application include future revisions of funding mechanisms, like the Just Transition fund (JTF), the EU's Innovation fund or the Cohesion fund. Crucially, the choice of allocation metrics should be aligned with the particular issues the fund is trying to address. Thus, instead of using traditional cross-cutting indicators like GDP for determining the funding needs of Member States and regions, using

issue-specific metrics would allow the EU to provide funds more effectively given the goal at hand. In that respect, Barth et al. (2021) outline a multitude of wellbeing and sustainability metrics that could serve as the basis for the allocation of funds. Lastly, it should be noted that statistics relevant for budgetary processes and decisions are usually subjected to increased scrutiny and quality control, indicating that the use of wellbeing and sustainability metrics as allocation metrics can support improvements in data quality and consistency.

6.2.2 Define binding targets for essential wellbeing and sustainability dimensions

The uptake of wellbeing and sustainability issues can be expedited through future EU legislation by defining binding targets for those wellbeing or sustainability dimensions, where no targets have been established thus far. Building on previous successes such as the EU's Climate Law, the Porto Declaration, and the European Pillar of Social Rights, binding targets would underline the significance of wellbeing and sustainability within EU policymaking. Moreover, it would promote the introduction of policies aiming to achieve the targets defined and promote the publication of improved statistics covering the targets at hand. An overview of the different dimensions of wellbeing and sustainability that already have binding targets can be found in Barth et al. (2021).

At present, pertinent objectives include absolute resource use of critical natural resources, land-use change (internal and external) as well as access to mobility. Resource use targets could be discussed in future updates of the EU's Circular Economy actions and are pivotal due to the expected increase in resource use in the face of the electrification and decarbonisation of EU industry. Targets for land-use change could be addressed in upcoming revisions of the EU's biodiversity strategy, as land-use change represents a particularly significant issue in light of the energy transition, where land will be subject to competing uses (e.g., for biomass production, solar or wind energy). Lastly, access to affordable mobility is a significant issue, as evidenced by the Gilet jaunes protests in France, which highlighted the need to guarantee access to mobility during the

green transition. Due to the incorporation of mobility into the Emissions Trading System, it will be crucial to monitor the implications for the accessibility of mobility, in particular for vulnerable and low-income groups.

6.2.3 Implement effective enforcement mechanisms for wellbeing and sustainability targets

To ensure improvement on agreed wellbeing and sustainability targets in line with social thresholds and planetary limits (Barth et al., 2021), we recommend complementing these targets with effective enforcement mechanisms in the future. As elaborated in chapter 5.2.5, enforcement mechanisms allow institutions of the EU to sanction non-compliance, which can substantially increase the likelihood of targets being reached. Here, non-compliance measures may include fines when Member States do not meet their respective targets. Analogous to the Plastics Own Resource measure, Member States would have to make financial contributions to the EU budget depending on the extent to which they miss the respective wellbeing or sustainability target.

6.2.4 Establish a multidisciplinary expert group to support the uptake of wellbeing and sustainability metrics in policymaking

To ensure the EU keeps up the momentum for a sustainability-driven and socially just socio-economic transition, we suggest the establishment of a multidisciplinary expert group with around 15–20 experts from policymaking and academia. This expert group should have the mandate to:

- **Suggest a set of key sustainability and wellbeing metrics**, which already have a satisfactory data basis and are suitable to underpin the environmental and social priorities of the European Commission. This involves providing suggestions on which metrics should no longer be monitored (one-in one-out principle).

- **Discuss the future directions and research agenda of the SNA and the SEEA** with particular focus on
 1. broadening the production and asset boundary and integrating ecosystem services into the core accounts of the SNA;
 2. improving the consideration of renewable energy assets, ecosystem services and greenhouse gas emissions, and transnational perspectives on environmental issues;
 3. suggesting pathways to advance the use of additional net adjusted measures of GDP;
 4. incorporating additional accounts into the SNA and SEEA for selected wellbeing and sustainability issues and
 5. discussing future pathways to deal with the limitations of wealth accounting, in particular the issue of substitutability of different forms of capital.
- **Support the translation of the international SNA** to the European System of Accounts (ESA).
- **Propose a roadmap** to increase the uptake and mainstreaming of social and environmental metrics in political governance and legislation, including steps to improving the collection, granularity, timeliness, and frequent publication of data for prioritised wellbeing and sustainability metrics.
- **Advise DGs and European services** on available data that can be used for policy evaluation, impact assessments, monitoring, target definition and the allocation of funds.
- **Facilitate regular multi-disciplinary exchanges** between academia and policy to improve the impact assessment tools used by the Commission.
- **Serve as a knowledge hub at the interface of policymaking and research** by gathering and mainstreaming insights from relevant Horizon Europe projects across the European Commission.

7. Discussion

In this report, we have directed our analytical attention to the reinforcing mechanisms that give rise to the institutional GDP lock-in. While this approach has allowed us to develop an in-depth understanding of the interrelated barriers on the governance and technical level, we have left two relevant issues unaddressed, the careful consideration of which could provide a more comprehensive understanding of the barriers to mainstreaming of wellbeing and sustainability metrics in policymaking. First, we have – at least to some degree – abstracted from the broader socio-political context in which the institutional GDP lock-in is embedded. Therefore, we have not touched upon the distinct barriers that may arise in this space. These barriers are nevertheless highly relevant and may include a lack of political support for and leadership on the Beyond GDP agenda (Costanza et al., 2009; Whitby, 2014), insufficient democratic legitimacy of wellbeing and sustainability metrics (Giannetti et al., 2015; Whitby, 2014), explicit political opposition (Hoff et al., 2021) as well as a more general resistance to change by actors that profit from a continuation of the status quo (Costanza et al., 2009; Giannetti et al., 2015; Strunz & Schindler, 2018).

Another significant barrier that we have not addressed is the current linkage between the realisation of socioeconomic objectives and sufficiently high rates of economic growth. In particular, economic growth is perceived as a means to foster employment, maintain sustainable funding of welfare state programmes, and avoid rising inequalities (Corlet Walker et al., 2021; Hartley et al., 2020;

Petschow et al., 2018; Terzi, 2022). As long as economic growth is seen as a prerequisite for achieving these objectives, it will remain challenging to orchestrate a fundamental shift in economic policymaking from GDP to wellbeing and sustainability metrics. In that regard, the decoupling of socioeconomic objectives from economic growth constitutes an important aspect of progressing the wellbeing and sustainability agenda.

Lastly, we want to explicitly emphasise the importance of the policy level (see chapter 3) to achieve a substantive mainstreaming of wellbeing and sustainability. While the policy level has not been the focus of the present analysis, it is crucial to note that it is ultimately this level where changes are required to expedite a transformation towards sustainable and socially just economies. Even though we have highlighted how changes within statistical frameworks and the uptake of metrics in governance mechanisms can help to strengthen wellbeing and sustainability considerations in policymaking, future research is required to scrutinise the intricate interconnections between these three levels.

8. Conclusion

As the socio-political priorities of Europe shift towards wellbeing and sustainability, it is certain that more holistic measures of progress are needed to realise thriving and socially just economies able to operate within the carrying capacities of the Earth system. In that regard, an extensive integration of wellbeing and sustainability metrics into policymaking is essential to navigate the multidimensional challenges of the 21st century. And indeed, there are individual instances of successful and highly impactful integration of these measures, for instance when it comes to the prioritisation of GHG emissions in European policymaking. In general, however, the metrics used in contemporary EU policymaking have not quite kept up with the emergent focus on social and environmental issues. Building on this observation, this report set out to identify both the barriers to and levers for mainstreaming wellbeing and sustainability metrics in policymaking.

Employing a dynamic institutional perspective, we have illuminated the reinforcing mechanisms that currently maintain the what we have called the institutional GDP lock-in. We have asserted that the high demand for GDP in governance results in substantial improvements in data quality and the development of coherent accounting frameworks, which in turn facilitates the extensive integration of GDP into governance mechanisms. Conversely, a limited demand for wellbeing and sustainability metrics impedes necessary improvements in data quality and the establishment of coherent methodologies, the corollary of which is a relatively limited uptake of these metrics into governance mechanisms, legislation, and policies.

Building on our analysis of the reinforcing mechanisms that currently inhibit an extensive political uptake of wellbeing and sustainability metrics, we have identified levers for change on both the technical and governance level and assessed their respective strength. Based on a careful consideration of these levers, we formulated ten recommendations to improve the consideration of wellbeing and sustainability on both the technical and the governance level. Crucially, even the implementation of single recommendations has the potential to commence a virtuous cycle, in which technical changes – such as the incorporation of wellbeing and sustainability variables into coherent accounting frameworks or the improvement of data quality and availability – can support the use of wellbeing and sustainability metrics as political targets or in enforcement mechanisms on the governance level, and vice versa.

To capitalise on the current momentum and take the wellbeing and sustainability agenda forward, it will be crucial to institutionalise current discussions. Here, a key step will be the creation of a multidisciplinary expert group to inform and support the mainstreaming of wellbeing and sustainability in EU policymaking. Most importantly, this expert group can help to prioritise wellbeing and sustainability metrics, the technical qualities of which can then be strengthened via the levers discussed here. Moreover, the expert group can identify governance mechanisms suitable for integrating these wellbeing and sustainability metrics into policymaking, effectively prompting EU policy onto a social-ecological pathway in line with its socio-political priorities.

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