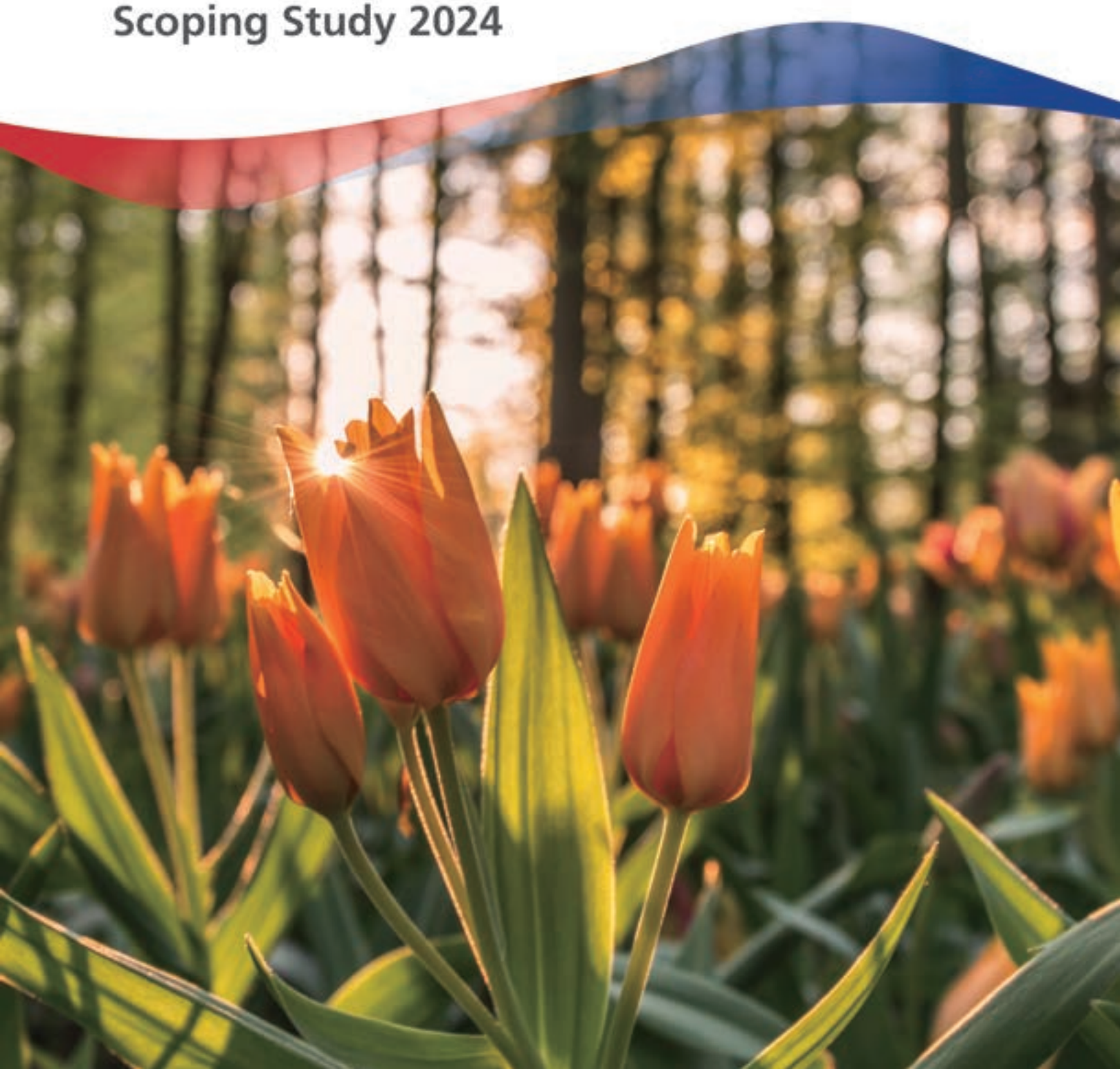
China Council for International Cooperation on Environment and Development

Moving Beyond GDP in China

——The Case for Comprehensive Wealth Measures

Scoping Study 2024



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Executive Summary

The world is facing unprecedented challenges that call for fundamental change in the way the progress of nations is defined and measured. For the last 75 years, both in China and around the world, progress has been equated with growth in the output of the market economy as measured by GDP. In spite of its successes in meeting people's material needs and wants, many find the dominant development paradigm focused on economic growth unfit for purpose in the Anthropocene. Climate change, especially, is seen as a reason to rethink how we measure development. The United Nations Secretary-General says that global decision making ignores the long-term consequences of decisions and that we need to assess progress based on today's realities rather than outdated ideas. He is calling for new metrics that value life and well-being over short-term profit.

Though consensus is emerging that countries must move beyond GDP and adopt new indicators of progress, just what those indicators should be remains a matter of debate. Careful thought will be required in choosing them, as GDP remains popular with decision-makers, and resistance to change is likely. Nevertheless, as argued by the Cambridge University economist Sir Partha Dasgupta, GDP may be "indispensable in short-run macroeconomic analysis and management [but] it is *wholly unsuitable* for … identifying sustainable development"[1]. Rather, "in order to judge whether the path of economic development [nations] choose to follow is sustainable, [they] need to adopt a system of economic accounts that records a *[comprehensive] measure of their wealth"*[1] (Dasgupta, 2021, p. 5, emphasis added). A growing number of experts agree with this argument. They believe decision-makers need to focus on managing wealth to ensure the sustainability of development—though not simply on wealth as traditionally measured. Rather, they insist countries must track the evolution of their human, natural, and social capital in addition to produced and financial capital. This broad portfolio of assets is called either inclusive or comprehensive wealth to reflect the fact that it covers all possible types of assets (here, we call it "comprehensive" wealth)

To stimulate the move beyond GDP and toward comprehensive wealth, leadership will be needed. Zhu et al.[2] argue that China's dual carbon commitment is, implicitly, a decision to "accelerate its shift towards a new model of modernization" (p. 2). Assuming this is correct, China is well positioned to play a leadership role in this generational change. To help China fulfill this role, we recommend that CCICED mount a Special Policy Study beginning in 2025 to:

- Engage the NDRC and other central agencies of the Chinese government in discussions of the importance of moving beyond GDP and the value of comprehensive wealth as a tool in the context of 5-year plans and to identify opportunities for Chinese leadership to promote comprehensive wealth as a means of moving beyond GDP and engage in the ongoing development of comprehensive wealth regionally and globally.

- Prepare a conceptual framework for moving beyond GDP in China based on comprehensive wealth and consider how this framework aligns with existing efforts to measure well-being-related flows in China, including Green GDP, Gross Ecological Product, and other prominent indicators.

- Compile pilot comprehensive wealth figures for a region of China (e.g., the city of Ordos) or for a state-owned enterprise, focusing on those elements of the comprehensive wealth portfolio that can be measured using available data.

In the longer term, we believe the Chinese government should engage its decision-makers—and their counterparts in other countries—in discussions about comprehensive wealth and the role it can play in moving beyond GDP. China should also fund its national statistics office to undertake the necessary research and data development to measure the country's comprehensive wealth portfolio. Indicators of comprehensive wealth should be published alongside GDP. Advanced national statistics offices—like China's—should be able to produce useful estimates in 2 years with sufficient funding and a concerted effort. Finally, China should commit to integrating comprehensive wealth indicators into its decision-making processes. This would mean, for example, making wealth measurement and management a core part of the 5-year planning process and ensuring that incentives for officials are aligned with wealth—rather than income—maximization. Doing so would ensure that today's short-term bias is replaced with a more balanced perspective squarely focused on what matters in the long run—sustainable well-being for all citizens of the world.

1.Why Move Beyond GDP?

The world is facing unprecedented challenges. Climate change has already caused irreversible impacts on natural systems[3], and planetary warming will, according to some, surpass the Paris Agreement target of 1.5° Celsius in the 2020s without urgent avoidance action[4]. Biodiversity and the ecosystems that support it are deteriorating worldwide[5]. On top of these—and other—environmental challenges are economic and social challenges of similar scope and concern: growing global conflict[6], mounting levels of private and public debt[7], and declining trust and increasing polarization[8] to name a few.

The seriousness of the situation we face today is leading to calls for fundamental change in the way the progress of nations has been defined and measured for the last 75 years, both in China and around the world[2,9]. Through the lens of the dominant development paradigm, progress has been equated with growth in the output of the market economy as measured by GDP. A growing GDP has been the sine qua non of success. Politicians, investors, business people, and the public have come to see it as the primary touchstone for how well their countries are doing. If GDP is up, a country is said to be moving in the right direction. If growth is weak or, worse, negative, alarm bells will ring, and a change of course will be called for. It is hard to overstate the influence this one measure has had in shaping the modern world.

It has to be said that many nations—not least China—have embraced the growth paradigm with considerable success, at least if one only considers GDP growth itself as the yardstick. Global economic output as measured by GDP has increased more than 10-fold since the 1950s after accounting for inflation[10]. Population, for its part, grew (only) about three times during the same period[11], meaning that many people saw their real incomes increase significantly as a result of growth. The absolute number of people living in extreme poverty has dropped from over half of the global population in 1950 to about 10% today[12]. Since opening up in 1978, China has been among the most successful countries in this regard. The Chinese economy has grown nearly 13-fold in a bit more than 4 decades, surpassing what it took the world on average 7 decades to achieve[13]. As a result of this, the number of extremely poor fell from more than 90% of the population in 1978 to almost none today.

In spite of its successes in meeting people's material needs and wants, many find the dominant growth paradigm unfit for purpose in the Anthropocene[14-15][1].Critics of GDP growth as the central goal of government policy point to the challenges outlined above, among many others, as ample evidence of the need for change.[1] Climate change, especially, is seen as a reason to "rethink core assumptions about how we build our economies and our infrastructures, how we travel, how we plan for global pandemics, and even how we eat"[15]. China's "dual carbon" commitment—to achieve peak carbon emissions by 2030 and carbon neutrality by 2060—is seen by leading economists as "a profound shift in the old development narrative regarding both the purpose of development, and what and how to produce"[2].

World leaders, too, increasingly agree that countries need to move beyond GDP as the central measure of progress. The United Nations Secretary-General says—without equivocation—that "global decision-making is fixed on immediate gain, ignoring the long-term consequences of decisions"[16]. If the world wants to achieve sustainable development, it requires "economic analysis based on today's realities, rather than outdated ideas of economic success." This means "we must correct a major blind spot in how we measure progress and prosperity." That is why he is calling for "new metrics that value the life and wellbeing of the many over short-term profit for the few."[2] G7 leaders, for their part, also recognize that GDP alone is "insufficient for measuring success."[3] Text Box 1 outlines in greater detail the reasons why GDP fails in this regard.

The seventeen United Nations Sustainable Development Goals (SDGs) and the numerous related targets and indicators represent a widely agreed upon—if expansive[4]—effort to move beyond GDP toward an integrated development agenda. In fact, the very last target in the SDG framework—target 17.19—explicitly calls on governments to "build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product."[5] As argued above, this target must not be an afterthought on the road to 2030.

While the SDGs and their indicators have the benefit of political acceptance, they alone cannot take the world beyond GDP. One reason is simply the number of indicators. Recognizing that greater parsimony is desirable in a measurement framework, the United Nations Secretary-General argues that moving beyond GDP means finding 10–20 indicators at most. Some means of paring the SDG indicators down to a more manageable size would thus be needed, and such paring would be challenging.

A second challenge to the SDGs as a measurement framework is that the goals must be reviewed and, likely, replaced by others after 2030. Such transience is undesirable in a measurement framework. Without stability,[6] the statistical systems needed to compile the measures and the political systems needed to act upon them will not have time to evolve.

These two challenges mean that the SDGs offer an important starting point for measurement beyond GDP—with their explicit and inspiring focus on well-being, respect for human life and the planet, and reduced inequalities—but they cannot be its endpoint.

[1]It is worth noting that such calls are hardly new. As the famed Yale University Economists William Nordhaus and James Tobin[1]* wrote in a seminal work on the topic 50 years ago, growth was in the 1950s and 60s "simultaneously the hottest subject of economic theory and research, a slogan eagerly claimed by politicians of all stripes, and a serious objective of the policies of governments." They went on to note how "disillusioned critics [in the early 1970s] indict[ed] both economic science and economic policy for blind obeisance to aggregate material 'progress,' and for neglect of its costly side effects. Growth, it [was] charged, distorts national priorities, worsens the distribution of income, and irreparably damages the environment" (emphasis added). So, if we've made little progress in addressing the GDP's shortcomings in the last 50 years, we cannot claim it is because we were not aware of them.

[2][2]* United Nations. Secretary-General's Report "Our Common Agenda" [EB/OL]. [2024-09-03]. https://www.un.org/en/content/common-agenda-report/.

[3] See, for example, [3]* Global Affairs Canada. The Charlevoix G7 Summit Communique, 2018[EB/OL]. 2018-06-09-summit-communique-sommet-en.pdf (international.gc.ca).

[4] In total, there are 17 SDG targets and 248 indicators.

[5] See [4]* United Nations. Sustainable Development Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development [EB/OL]. 2015. https://sdgs.un.org/goals/goal17#targets_and_indicators.

[6] Note that stability is not stasis. Measurement frameworks can and must evolve over time. But such evolution should be slow and predictable, neither of which is assured by politically determined frameworks.

Text Box 1 – GDP as a welfare measure

Despite its widespread use as a progress measure, GDP was not designed as such. To quote the international handbook for GDP compilers—the System of National Accounts (SNA)[17] (European Community et al., 2009; pp. 12-13) the system was "not designed with the measurement of welfare as a prime consideration," and it is "unrealistic to expect a system of economic accounts to necessarily and automatically yield a wholly satisfactory measure of welfare," especially since "an individual's state of well-being, or welfare, is not determined by economic factors alone." Still, the SNA acknowledges that—whether intended or not—"GDP is often taken as a measure of welfare." It lists several reasons—all well known—why using GDP as a welfare measure is inappropriate:

- Market prices do not reflect the differing value of an extra unit of consumption for different groups. [7]
- Many welfare–enhancing goods and services are produced outside of the market and, therefore, are not included in GDP. [8]
- The distortions caused by disasters and other events that have largely negative consequences for welfare may nevertheless increase GDP.
- Market prices fail to internalize the welfare–reducing impacts of environmental degradation.
- As already noted, many sources of welfare are simply not related to the production and consumption activities that fall within the measurement boundaries of GDP[17] (European Community et al., 2009, Chapter 1, Section H).

[7] An extra unit of spending on housing for an inadequately sheltered family presumably yields a greater increase in welfare than does the same unit of spending for a family living in a comfortable home.
[8] A commonly cited example of this is the unpaid services—mostly provided by women—associated with managing a household.

2.If Not GDP, Then What?

Though consensus is emerging that countries must move beyond GDP and adopt new indicators of progress, just what those indicators should be remains a matter of debate. Careful thought will be required in choosing them, as GDP remains popular with decision-makers, and resistance to change is likely. As a guide, GDP has many attractive features. It is concise, summarizing a great deal of information in a single number. It is robust, resting on decades of theoretical and practical development. And, for all its shortcomings, it is clearly relevant to the concerns of decision-makers and citizens alike. What GDP measures (income in people's pockets) matters. Moving beyond GDP should not mean its abandonment, then. Rather, what is needed are complementary indicators that provide a foundation for more sustainable policy decisions in a carbon-constrained world, but that also match GDP's conciseness, robustness, and relevance[18-19].

Some argue that GDP itself simply needs to be modified to address its shortcomings. One of the earliest such proposals was the "measure of economic welfare" of Nordhaus and Tobin[20], which built upon GDP by adjusting it to account for household non-market production, the value of leisure time, and welfare-reducing disamenities of urban life. Later efforts like the "index of sustainable economic welfare" and the "genuine progress index" built upon Nordhaus and Tobin's work[21].

While reforming GDP to make it a "better" measure of welfare may be a good idea,[9] reform is not sufficient on its own. Even if GDP were improved in various ways, it would remain inadequate as the core measure of national progress. Notably, the determinants of future well-being will always fall outside GDP's scope, no matter how it is measured. As argued by the Cambridge University economist Sir Partha Dasgupta in his landmark review of *The Economics of Biodiversity,* GDP may be "indispensable in short-run macroeconomic analysis and management [but] it is *wholly unsuitable for ... identifying sustainable development*"[1]. Rather, "in order to judge whether the path of economic development [nations] choose to follow is sustainable, [they] need to adopt a system of economic accounts that records an inclusive measure of their wealth"[1]. More recently, Dasgupta and Levin[22] have wondered "how and why GDP has assumed prominence as the measure of long-term economic performance … [when] … we should be studying *the wealth of nations, not the GDP of nations"* (emphasis added).

Dasgupta and Levin call for a "revised economic grammar"[22] in which economics is seen as primarily the study of asset management rather than income growth. Seen this way, development would be a process of managing national wealth to maximize its returns for citizens rather than a process of maximizing national income. Such a change in the grammar of economics is urgently needed, they argue, because the unprecedented improvements in living standards that have been achieved since the start of the 1950s are predicated on the accumulation of produced capital and human capital at the expense of the equally unprecedented depletion and degradation of natural capital. This fact—which may well be a matter of planetary and societal survival today—is entirely invisible when GDP is the primary basis for assessing progress.

[9] If a kind of evangelical zeal for GDP[1]* is, in fact, part of the reason for its abuse as a measure of progress, a case can be made that "tweaking" GDP rather than supplanting it simply gives the evangelists reason to deepen their faith and, therefore, is best avoided. Plus, it is fair to note, none of the GDP-based welfare measures proposed since Nordhaus and Tobin's original work has ever gained a following among decision-makers.

A growing number of other experts,[10] including at the United Nations Environment Programme and the World Bank, agree with the argument above. They argue that decision-makers need to focus on managing wealth to ensure the sustainability of development, not simply on wealth as traditionally measured. Rather, in addition to the traditional measures of produced and financial capital, they insist countries also track the evolution of their human, natural, and social capital. This broad portfolio of assets is called either inclusive or comprehensive wealth to reflect the fact that it covers all possible types of assets (here, we call it "comprehensive" wealth, though we could as easily have used "inclusive" as the descriptor).[11] The assets that make up the comprehensive wealth portfolio—such as healthy ecosystems, strong communities, educated citizens, efficient buildings, and sound financial holdings—are what countries need to generate well-being for their citizens, both today and in the future. A sound national wealth portfolio is the basis for clean air and water, social trust, a productive workforce, and a vibrant financial sector, among many other elements of well-being. Because the assets of the comprehensive wealth portfolio are long-lived, they can generate well-being far into the future if they are properly managed[19].

Writing about the need for China to adopt a new model of development, Stern et al.[23] and Zhu et al.[2] also note the importance of measuring wealth rather than (or in addition to) GDP. According to the dominant development paradigm, production is a function only of labour and produced capital, while the environment and society are inconsequential. These authors argue that China's 21st-century development paradigm—indeed, any country's—cannot be so narrowly focused. There can be no single fixation on income growth as measured by GDP, as this fails to capture important aspects of well-being. Instead, the new development paradigm must be based on a balanced accumulation of all types of capital, recognizing that well-being is shaped by combinations of them all. Though the new paradigm must recognize the importance of all forms of capital, special attention must be paid to natural and social capital. The latter is difficult to substitute for and prone to irreversible thresholds and collapse. Given this, ensuring the quality of the environment and managing social cohesion should be core economic objectives for China and all nations.

Writing about China's need to adopt a modern development paradigm from a slightly different angle, Zhang[9] argues that the way in which consumer utility is conceived in the traditional growth paradigm must be replaced with a view reflecting the broader spectrum of assets in the comprehensive wealth portfolio. As he notes, the objective function in standard economics is the maximization of utility from the consumption of goods and services provided by the market under an assumed set of preferences. The utility gained from the consumption of any good or service produced outside of the market does not enter into this function, nor does the possibility of changing preferences. To address this serious shortcoming, which Zhang argues is partly to blame for economics' failure to address the gravity of environmental and social decline, Zhang proposes a new objective function. In this new function, utility is understood to derive from the consumption of all goods and services, whether produced within the market or through non-market (environmental or social) activities. Furthermore, consumer preferences are assumed to change with "changing income, identity, knowledge, education, culture, beliefs, institutions, policies, and so on"[9]. He introduces the variable for non-market goods and services in his utility function (see Equation 9 on p. 61) as a non-rival aggregate product, meaning that it can be consumed by all users (both businesses and individuals) simultaneously. To avoid overuse, this requires a constraint on its use, which Zhang notes could be imposed by limiting either businesses or individuals.[12]

Zhang rightly notes that maximizing wealth—even comprehensive wealth—does not necessarily translate to maximizing well-being (since well-being is a function of what a country does with its wealth, and this will vary from country to country). Thus, measuring comprehensive wealth is a necessary condition for implementing Zhang's conception of a modern development paradigm but not a sufficient condition. We take up this point further below.

[10]See, among others, Agarwala et al. [5]*;Arrow et al. [6]*;Dasgupta[7-10]*; Dasgupta and Mäler[11]*; Hamilton and Clemens[12]*; IISD[13-14]*; Kurniawan and Managi[15]*; Managi and Kumar[16]*; Polasky[17]*; SEI and CEEW[18]*; Office for National Statistics[19]*; UNU–IHDP and UNEP[20-21]*; UNEP[22]*; World Bank, 2011 and 2018[23-24]*; Zenghelis[25]*.

[11]Though both "inclusive" and "comprehensive" are in common use, there is no substantive difference between them. Both terms refer to a measure of wealth that reflects the full spectrum of assets upon which humans rely for inputs into their myriad economic and social activities. There remains some disagreement as to what this spectrum includes; for example, some experts—notably, Professor Dasgupta[26]*—argue that social capital is more of an enabler of other assets while others—notably, Professor Stern and colleagues[27]*, present it as an asset unto itself. However, these debates have nothing to do with which label—"inclusive" or "comprehensive"—is used. Similarly, there remain debates about the best methods and data to use in measuring assets, but those debates transcend the label.

[12]In regard to the latter, he notes that governments could establish "environmental accounts" with quotas for individuals that, if exceeded, could be topped up with the purchase of additional quotas from the market. Such an idea would likely be effective only in countries where citizens are accustomed to high levels of control over their personal lives, such as China.

3.From Income to Wealth[13]

As a means of moving beyond GDP, comprehensive wealth has much to offer. Like GDP, it is concise. Just a few high-level indicators suffice to measure comprehensive wealth. It is also robust, resting on theory and guidance stretching back more than a century (Text Box 2). And, as noted, it is relevant to well-being across all its dimensions—economic, social, and environmental.

Though not everyone will be familiar with comprehensive wealth, most people can grasp its importance intuitively. People understand that their well-being is not determined in the long run by how much they earn today but by their capacity to earn tomorrow and beyond. They also understand that more than money matters to their well-being. What they "earn" more broadly through interacting with family and neighbours, enjoying the benefits of nature, and feeling safe in their communities also counts for much. Even though they might not use the term, they will grasp that it is their assets that determine their long-term earning potential, both monetary and non-monetary. These include both personal assets (a home and property; money in the bank; skills, knowledge, and experience; relations with family, friends, and society at large, etc.) as well as assets shared with other citizens, such as healthy ecosystems and efficient public infrastructure. Together, these personal and shared assets make up each person's comprehensive wealth portfolio—and determine his/her prospects for long-term well-being. People understand that their personal wealth portfolios must be maintained if their well-being is to be sustained in the future. This is the essence of "saving a penny for a rainy day."

Text Box 2 – International Guidance on Measuring Comprehensive Wealth

Standard approaches to the measurement of many assets are already laid out in international statistical guidance. Produced and financial capital stocks have always been part of the SNA and are measured by many countries today. Natural capital is also part of the SNA and/or its companion framework, the System of Environmental Economic Accounting[14] and is increasingly well measured. Human capital is not yet covered in official statistical guidance but is well established in the research literature. Social capital is furthest from being covered in international guidance, but much high-quality research has been carried out, and official guidance could be compiled relatively easily. Statistical offices have, for example, long collected data on a number of facets of social capital, including trust, volunteering, voting rates, and other aspects of civic engagement.

Both the World Bank and the United Nations Environment Programme (UNEP) have substantial experience measuring comprehensive wealth. The World Bank has released global reports on the topic under its "Wealth of Nations" series, published regularly since the early 2000s. UNEP has released three global reports since 2012. Both agencies intend to pursue this work and to integrate comprehensive wealth indicators into their country engagements.

[13]This section and the next draw heavily on the arguments raised in Smith et al.[28]*.
[14]See [29]* United Nations. System of Environmental Economic Accounting (SEEA) [EB/OL]. [2024-09-03]. https://seea.un.org/.

The same is true for countries—national wealth portfolios determine the prospects for the long-term well-being of countries and their citizens. A country's comprehensive wealth portfolio comprises the individual portfolios of its citizens and businesses plus the public assets owned collectively, such as ecosystems and natural resources, roads and other infrastructure and institutions. As with individuals, national wealth portfolios must be maintained over time for well-being to be sustained. If wealth is not maintained, a country is eroding its productive base, living off its inheritance rather than building for the future. That is the essence of unsustainability.

4.Measuring Comprehensive Wealth

An obvious question is, "What exactly must be maintained to preserve and enhance wealth?" The total number of factories, cars, educated workers, trees, lakes, mineral deposits, corporate shares, savings bonds, and engaged, trusting citizens? In some sense, yes. But this is not a very useful way to think about it. For one, it would be cumbersome to track of all these things individually. More importantly, it would be difficult to compare them against one another. How does a factory compare against a hectare of trees in terms of supporting well-being? Are citizens better or worse off if they own more corporate shares but levels of community trust fall?

The problems of measurement and comparability are greatly reduced if all assets are measured using the same yardstick. Practically speaking, this means using monetary values, as no other common yardstick exists. Ideally, the monetary values used should be based on so-called "shadow prices" of assets, though such prices are more of a theoretical than a practical reality.[15] In practice, assets are most often valued using their market price or, where markets don't exist, modelled estimates that reflect what their market price would be. Monetary valuation permits most of the comprehensive wealth portfolio to be measured using just a handful of indicators.

Of course, not all elements of the comprehensive wealth portfolio can, or should, be valued. Social capital, in particular, is likely best measured using non-monetary indicators, at least for now.[16] The same is true of elements of natural capital, such as certain ecosystem services, for which no known substitutes exist. Thus, a complete wealth measurement system would comprise monetary indicators of assets amenable to valuation (the majority) plus a limited number of non-monetary indicators related to social and natural capital. As such, it would represent a robust and concise addition to decision-makers' toolboxes. If decision-makers in China—and elsewhere—focused on this small suite of indicators in addition to GDP and a limited number of flow-based indicators of well-being (see Text Box 3), it would lead to more sustainable policy outcomes than today's approach in which achieving GDP growth counts above all else.

[15]Shadow prices (which are sometimes also called "accounting" prices) are the value of the contribution that an additional unit of an asset, other things remaining the same, would make to well-being across generations. They are not readily observed, though in some cases they can be approximated with market prices. They may also be estimated using models, though this is challenging. None of this is a reason not to compile comprehensive wealth measures, however. As Dasgupta and Levin[30]*put it, though "it would be entirely wrong to imagine that [shadow] prices can be estimated, even approximately, for all capital stocks," this does not negate the importance of "[expanded] wealth and the concept of well-being across the generations from their centrality in economic reasoning" (p. 3).
[16]It should be noted that research on the valuation of social capital is being undertaken. See, for example, Hamilton[31]*.

5.Practical Experience Measuring Comprehensive Wealth

Though no country currently compiles official comprehensive wealth indicators, both the World Bank and UNEP have substantial experience measuring comprehensive wealth. The World Bank has released global reports on the topic under its "Wealth of Nations" series regularly since the early 2000s.[17] UNEP, which uses the term "inclusive wealth," has released four global reports since 2012[18] plus another focused specifically on Pakistan[24]. Though there are many commonalities between the World Bank and UNEP in terms of the scope, methods, and data used to measure comprehensive wealth, differences do exist in their approaches. Chinese leadership could be beneficial in encouraging the agencies to review and align their approaches in the name of converging on a single, global approach. Ultimately, such an approach should be laid out by the United Nations Statistical Commission and adopted as a global statistical standard.

The International Institute for Sustainable Development (IISD) has played a leading role in promoting the measurement of comprehensive wealth for nearly a decade[25]. Its efforts began with two reports on comprehensive wealth for Canada[26-27]. These reports painted quite a different picture of Canada's development than that offered by GDP alone. While Canada appeared to do well with GDP as the main gauge of success, comprehensive wealth analysis showed that success was resting on a shaky foundation. According to IISD's figures,[19] human capital—Canada's greatest asset[20]—was stagnant in per capita terms from 1980 to 2015. At the same time, natural capital was declining, produced capital was overly concentrated in fossil fuel extraction and residential housing, and financial capital was too reliant on holding gains on foreign assets.

Building on what it learned from the two Canadian studies, IISD more recently tackled the challenge of measuring comprehensive wealth in countries with less advanced statistical systems. IISD worked from 2020 to 2024 with researchers and experts in Ethiopia, Indonesia, and Trinidad and Tobago to compile comprehensive wealth estimates for those countries. A primary motivation for the project was to determine if comprehensive wealth estimates could be compiled in countries with limited statistical resources using mainly nationally sourced data, following methods and time frames similar to those used in the World Bank's wealth of nations reporting.

China's comprehensive wealth has been the subject of two studies, one at the national/provincial level[28] and the other focused on cities[29]. Both studies took as their starting point the methodology developed by UNEP in its global reports. Fan et al. report an average annual increase in per capita comprehensive wealth[21] rate of 2.3% from 2000 to 2016, which is considerably lower than the growth of per capita GDP over the same period (8.9%). Gender inequality and declines in natural capital were found to hinder the growth of comprehensive wealth. Provincial results varied substantially, with the poorest province (Qinghai) having just 1/18th the comprehensive wealth of the richest (Guangdong). Inner Mongolia had the highest average GDP growth rate among the 30 provinces (15%), but its comprehensive wealth growth rate was only 1.6%.

[17]World Bank[23-24,32-34]*.
[18]UNU–IHDP and UNEP[20-21]*; Managi and Kumar[16]*; UNEP[35]*.
[19]IISD drew the figures for its analysis directly from Statistics Canada, Canada's national statistical agency, so the results are considered to be as robust as possible given current concepts, methods, and data.
[20]Human capital is not just Canada's greatest asset but the most important asset in every country.
[21]Following the practice of UNEP, Fan[36]* refer to it as "inclusive wealth."

Looking at the comprehensive wealth of Chinese cities, Cheng et al.[29] report that cities in the eastern part of China are characterized by high levels of comprehensive wealth and increasing sustainability, largely driven by the high numbers and skill levels of their human capital. In comparison, western and northern cities have large amounts of low-skilled human capital, low levels of produced capital, and declining natural capital. Demonstrating the value of comprehensive wealth accounts as modelling tools, Cheng et al. present projections of comprehensive wealth to 2030, based on which they argue northern cities must transition away from their dependence on fossil energy assets as sources of wealth.

The results of Fan et al. and Cheng et al. demonstrate just how different the portrait of the nation can be when painted with the brush of comprehensive wealth rather than GDP. The results suggest that China's current development patterns may not be sustainable, with income growing much faster than the asset base that sustains it, wide regional disparities, and declining natural capital, among other challenges. These results point to the need for comprehensive wealth estimates to be presented with the greatest granularity possible. Distributional analysis by region, by asset, by household type and by industry are all essential to fully understanding comprehensive wealth and its trends. Just as with GDP, aggregate values can mask important differences among groups, allowing instances of gross inequality to go unnoticed by decision-makers. Failure to address wealth inequalities is a growing concern in today's world, where resentment of the "haves" by the "have-nots" can breed polarization.

6.Recommendations

To stimulate the move beyond GDP, leadership will be needed. Zhu et al.[2] argue that China's dual carbon commitment is, implicitly, a decision to "accelerate its shift towards a new model of modernization" (p. 2). Assuming this is correct, China is well positioned to play a leadership role in this generational change. To help China fulfill this role, we recommend that CCICED mount a Special Policy Study beginning in 2025 to:

- Engage the NDRC and other central agencies of the Chinese government in discussions of the importance of moving beyond GDP and the value of comprehensive wealth as a tool in the context of 5–year plans and identify opportunities for Chinese leadership in promoting comprehensive wealth as a means of moving beyond GDP regionally and globally.
- Prepare a conceptual framework for moving beyond GDP in China based on comprehensive wealth and consider how this framework aligns with existing efforts to measure well–being–related flows in China, including Green GDP, Gross Ecological Product and other prominent indicators.
- Compile pilot comprehensive wealth figures for a region of China (e.g., the city of Ordos) or for a state–owned enterprise, focusing on those elements of the comprehensive wealth portfolio that can be measured using available data.

In the longer term, we believe the Chinese government should engage its decision-makers—and their counterparts in other countries—in discussions about comprehensive wealth and the role it can play in moving beyond GDP. Such discussions should be tailored to both national and regional circumstances. While the basic arguments in favour of using comprehensive wealth to measure progress do not vary from country to country, the context in which the arguments must be made does. Discussions should be held at high levels where policy decisions are ultimately made.

In these discussions, it should be made clear that comprehensive wealth indicators are not intended to replace GDP but to complement it. They should further highlight that measuring wealth is a necessary, but not a sufficient, condition for creating sustainable well-being[2,9]. The goal would be to enhance decision-makers' toolboxes not just with comprehensive wealth indicators but also with additional flow-based well-being indicators of the sort discussed in Text Box 3 below. Such enhanced toolboxes would ensure that decision-makers keep their eyes firmly on creating well-being not just in the short-term but in the long-term as well and that all dimensions of well-being, and not just economic factors, are kept in focus.

China should also fund the National Bureau of Statistics to undertake the necessary research and data development to measure the country's comprehensive wealth portfolio. Indicators of comprehensive wealth should be published alongside GDP. Advanced national statistics offices—like China's—should be able to produce useful estimates in 2 years with sufficient funding and a concerted effort. These estimates will reveal, among other benefits, where investments in wealth creation will most increase the sustainability of well-being. In China, this may be in better education to build human capital even further and in controlling the degradation of natural capital.

Finally, China should commit to integrating comprehensive wealth indicators into its decision-making processes. This would mean, for example, making wealth measurement and management a core part of the 5-year planning process. It would also mean ensuring that incentives for officials are aligned with wealth—rather than income—maximization. Efforts will be required all along the decision-making chain to ensure that comprehensive wealth indicators are front and centre. Policy analysts will have to craft new analytical tools incorporating wealth indicators, and senior officials will have to resist the instinct to emphasize GDP and think short-term.

The above steps could be taken quickly following the conclusion of a successful Special Policy Study (within 2 years). They would be rooted in sound theory and be well supported by international statistical guidance. Most importantly, they would ensure that today's short-term bias is replaced with a more balanced perspective squarely focused on what matters in the long run—sustainable well-being for all citizens of the world.

Text Box 3 – Measuring Comprehensive Wealth is a Necessary but not Sufficient Condition for Achieving Sustainable Well-being

Assessing progress toward sustainable well-being is not possible without measuring comprehensive wealth since the assets it comprises are the basis for long-term well-being. Thus, comprehensive wealth is a necessary part of any measurement framework beyond GDP. But it is not sufficient. It is not enough to simply know how big the comprehensive wealth portfolio is. It is essential, as well, to know how successful countries are at turning their wealth into well-being-enhancing flows today. Such flows come in the form of goods and services produced by using the assets of the comprehensive wealth portfolio in production activities within and outside the market. The benefits of the goods and services produced within the market are already captured by GDP, which is why it remains essential to measuring progress. What GDP fails to capture are the benefits of goods and services produced outside the market. These include many of the benefits of natural capital (e.g., clean air and water) but also many of the benefits of social capital (e.g., community safety and mutual trust).

A complete framework for measuring progress, then, would comprise comprehensive wealth indicators, along with GDP and a handful of other indicators focused on well-being benefits arising outside the market. The purpose here is not to articulate these other indicators (though we acknowledge that China has already carried out useful work in this direction through its efforts to measure Green GDP and Green Ecological Product) but to emphasize their necessity as part of the move beyond GDP is fully acknowledged. Like comprehensive wealth indicators, these additional indicators must also be concise, robust, and relevant if they are to be accepted by decision-makers.

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