

Hacking economics for people and planet

Background

The UN Environment Foresight Briefs are published by UN Environment to highlight a hotspot of environmental change, feature an emerging science topic, or discuss a contemporary environmental issue. This provides the opportunity to find out what is happening to the changing environment and the consequences of everyday choices, and to think about future directions for policy.

Introduction

As global environmentalism and environmental policy-making has moved into the 21st century, it has not significantly addressed a critical blindspot: the fundamental human system that lies at the root of our ecological and social challenges. As our core interface with Nature, and primary social operating system, omitting to update our 'economic software' to match the changing reality of our planetary hardware is akin to deciding to refuse to update your computer or smartphone when prompted and then wondering why the whole system eventually stops running. Whether advocating environmental or social justice, there remains, as examined by Scharmer and Kauffer (2013), a propensity to perpetuate divides between how we as people perceive the function of our economic system with respect to our relationship with the planet (i.e. the ecological divide), with those around us (i.e. the social divide) and how we relate and see ourselves (i.e. the spiritual divide). Our core societal construct, the economy, does not reflect the most basic relationships that define a purpose-filled existence that would unleash human kind's full potential. In other words, we are stopping ourselves from achieving our fullest potential at emerging generative, respectful and naturally harmonious societies.



This Foresight brief will focus on that particular 'scientific' field, that is seemingly immune to the oft-spoken mantras promoting change, innovation and new critical thinking in all other fields. This is not to conclude that the economic sciences are not imbued with inspirational people, innovators and critical thinkers; they are. However, the dogma that permeates the dominant conventional discourse, and the power dynamics that prevent informed discussion, is holding the discipline back. This is also preventing national and global purpose from evolving away from a growth-first addiction towards one that actually serves all people without risking the health of our shared and finite planet.

The word 'economy' comes from the ancient Greek word 'oikos' – to manage one's home. Evidence that we have been found wanting with respect to our relationship with the Earth, our common home, is all around us. Increased inequality (e.g. 2018 World Inequality Lab), resource scarcity (e.g. Hertel and Liu, 2016; Markandya, 2015; Coulomb et al., 2015) and climate change related forced migration (e.g. Berchin et al., 2017) also makes it clear that our attempts to merely mitigate the negative impacts and imbalances of our economic activity are increasingly failing to provide people with what it takes to thrive. As first defined by economist John Ruskin (1819-1900), we are increasingly generating "illth", (from the Merriam-Webster Dictionary: the condition

of being economically unprosperous or miserable) for the masses while concentrating the 'wealth' that results from the unsustainable conversion of Nature and human endeavour to money, in the hands of a few. We are violating planetary boundaries (Folke et al., 2016) and eroding our basic social foundations (Raworth, 2017). With a twist of irony, we have become exceedingly adept at accounting for the natural (and social) costs of our unsustainable economic approach. Our inability overall to take concrete actions to reverse negative environmental trends is not due to a lack of good environmental and developmental policy-making or our knowing of better practices – if we followed through on all existing environmental and social policies, laws and regulations, we would likely be living in a garden of Eden! We have instead allowed the hubris of a few establish modern economics into a theology with The Market at its divine center and a chosen few as the unquestionable, untouchable shepherds of the faith (Cox, 2016).

Why is this important?

Humanity lives as a complex adaptive social system (e.g. Holling, 2001) which is part of Nature...itself a complex adaptive, self-regulating system (e.g. Levin, 1998). If we genuinely wish to transition to societies that see environmental health, social justice and real well-being as core pillars of success, then our efforts will need to move out of the environmental (and social) spheres and instead encourage a long ignored and critically needed update to our economic thinking and purpose. We must find the courage to enable honest and constructive conversations and actions to challenge an outdated yet entrenched belief system that prevents us from attaining true greatness.

What are key current insights?

Conventional economics has come to be defined by noticeably religious qualities that have helped keep debate and evolution at bay. Like spiritual faiths, it offers a comprehensive doctrine, a moral code and makes promises of gifts and blessings to the devout while pursuing as heretics those that dare challenge its teachings (Rapley, 2017a, 2017b). The blind faith it engenders in society's pillars of power, has seen the global community adopt without question a growth-at-all-costs crusade which is laying waste to the environment we depend on. This growth-first drive prevents sound environmental and social policies from being successful in their aims by dismissing environmental degradation and social injustice as mere 'externalities'. This relegates the voices and actions that attempt to ensure a thriving future for all to the sidelines of power, influence and effective policy-making.

Take for example the 2015 Paris Accord on Climate Change. By the time it was agreed, the environmental and climate models that underpinned its scenarios had already been rendered obsolete by relentless economic growth that had already further degraded the state of the global environment. At best, under such a policy-making reality, agreements like the Paris Accord can only help avoid the worst-case scenario. This is not to diminish the value of having the world come together in agreement and the diplomatic success that was the Paris Accord. It is merely a demonstration of all that effort being subverted by an out-of-touch core societal pursuit: the maximization of conventional economic growth, which happens to always win the day.

Imagine for a moment if all countries were successful at achieving Sustainable Development Goal (SDG) 8.1 defined as *"Sustained per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries"*. Considering the disconnect between growth-first/growth-always

economics (which literally defines the social condition of people and the impacts on Nature as 'externalities' (e.g. Samuelson, 1955) from people and planet, a conflicting situation arises. The pursuit of SDG 8.1 has been the driver of global policy in the post-war era and its negative consequences are what precipitated global discussions around environmental and social sustainability in the first place. It is therefore irrational to expect a different outcome if we choose to promote the same approach that has proven to be unsustainable.

Figure 1: The 'forever up' visual depicting SDG 8.



Society pursues this vague idea of growth, sold to the masses as the only solution to the world's ills. We sit listening to the nightly business report highlighting whether our nation's GDP has gone up (in which case we feel good) or down (in which case we feel bad). Yet when asked why you feel good or bad, most people can only answer with a competitive reference about 'my country is doing better (or worse) than yours'. But what has growth in and of itself, done for the individual lately? When asked what people, even decision makers, would like to see



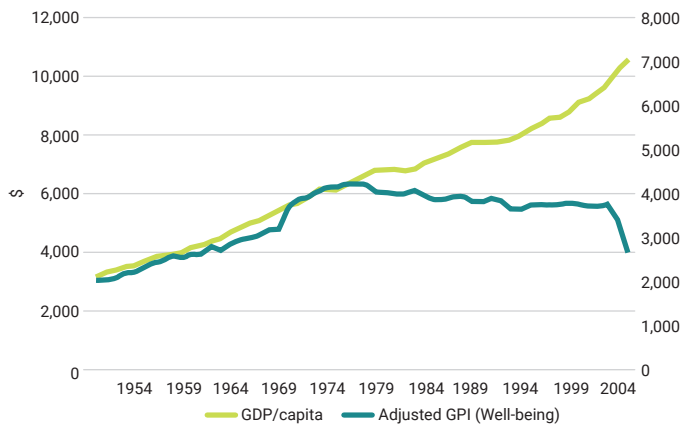
Figure 2: The Fundamental Human Needs framework according to Chilean economist Manfred Max Neef. (Graphic from sublimemagazine.com)



grow', answers commonly refer to core elements of human well-being which lie outside the market system and thus cannot be addressed by it (Max-Neef, 1991) (Figure 2).

National policy is mainly concerned with encouraging a perpetual increase in Gross Domestic Product (GDP), a metric that gained prominence as a highly useful war tool in the 1940's. It provided the US President with a tool to efficiently help convert the American economy from a competitive industrial model to a planned military one (and yes, the entire economic system of America was fundamentally and quickly transformed a number of times in the 20th Century which puts to rest the often referred to argument that the economic model can't be changed so easily).

Figure 3: The link between well-being and GDP unravels beyond a certain level of per capita GDP.



Source: Kubiszewski et al., 2013

Simon Kuznets, the inventor of the GDP metric, was very clear in expressing the limitations of his tool stating that “the welfare of a nation can scarcely be inferred from a measure of [domestic product]” (Kuznets, 1934). His warnings quickly fell on deaf ears. World leaders and their economic advisors instead became convinced of the idea that growth in GDP equates to an improvement in societal progress and our collective and individual well-being. They treated and continue to treat GDP and its underpinning growth-first model as if it were an actual Law of Nature. The rise of contemporary economic orthodoxy was complete and the need for the economic sciences to follow other disciplines in adhering to an evolution based on real-world observations, was relaxed (Rapley, 2017a, 2017b; Cox, 2016).

What is some ‘new’ thinking: economics with purpose

Alternative economic thinking is not in and of itself new. For example, the 18th and 19th centuries saw many different schools of thought, promoted by well-known individuals, emerge with respect to what approach to economics could best serve society (e.g. Adam Smith; John Stuart Mill; Karl Marx). The 20th century was marked by ideological battles between socialist

and capitalist theories also promoted by well-known economists, that ended up being co-opted by geopolitical aims and ‘cold war’ struggles (e.g. John Maynard Keynes; Milton Friedman; Friedrich Hayek, John Kenneth Galbraith). From the latter part of the 20th century and the dawn of the 21st, as we struggled to understand, acknowledge and address global environmental challenges, we can take comfort in knowing there are plenty of ‘new’ thinking, innovative tools and transformative approaches started by some pioneering economists (e.g. E. F. Schumacher, Herman Daly, Kate Raworth, Ann Pettitfor) and being pursued by many. Economic transition and transformation still requires a clear will and expressed desire to make the needed changes. And this involves a much broader exploration of how current power dynamics in our society remain the biggest obstacles to change – an exploration beyond the scope of this brief.

At its core, the economic transition and transformation needed to truly address environmental and social failures requires the adoption of entirely new sets of objectives to inform economic pursuit. Objectives that fundamentally recognize ecological constraints and social needs instead of relentless growth-first objectives, form the basis of what is often referred to as “post-growth” systems which can be qualified as either emphasizing “steady-state economics”, the new economics of prosperity” or “degrowth” (Kallis et al., 2012). At their core, such systems are rooted in an ecological macroeconomics model based on the integration of key relationships between society and the biosphere (e.g. Hardt and O’Neil, 2017; Jackson, 2009; Victor and Rosenbluth, 2007; Victor, 2008; Daly, 1991). Ecological macroeconomics should not be viewed merely as an attempt to address our environmental challenges but rather as a fundamental redefinition of why we have an economy in the first place – in other words, the purpose of the economy (Hardt and O’Neil, 2017). And although there are many nuances to acknowledge when discussing which post-growth system may fit a given socio-cultural context, the bottom line is that our knowledge of, and ability to implement

non-destructive economic models has advanced beyond any point where arguments to maintain the status-quo in economics can be deemed reasonable.

One country is leading the way with its approach to macroeconomic purpose and the effectiveness of its development policies at increasing overall well-being. The Kingdom of Bhutan applies a post-growth, social and ecological well-being based model that aims at increasing Gross National Happiness (GNH) instead of GDP. The GNH model consists of 4 unconventional economic pillars 1) sustainable and equitable socio-economic development, 2) environmental conservation, 3) preservation and promotion of culture, and 4) good governance. These are supported by a series of indicators as depicted in figure 4 (Ura et al., 2012). This by no means implies that the Bhutanese are necessarily the happiest people on the planet. It does however demonstrate two valuable points: 1) if societies decide that the pursuit of well-being is more valuable to them than simply growing consumption and production of goods and services, then all the technical knowledge needed to design an appropriate economic model, and then implementing and living it, is available to them; 2) just as a growth-first set of economic rules favours and delivers very particular outcomes, a well-being and progress-first set of rules would favour and eventually deliver its particular outcomes. We just need to choose which outcomes we value most.



Figure 4: Gross National Happiness: The national economic metric of Bhutan. What it measures to indicate policy performance.



What is some 'new' thinking : visualizing a sustainable society

In the environmental field, a number of different tools, indexes and metrics have emerged to help improve how we can take into account the impacts of human activities on Nature. The concept of ecological footprint, first introduced in the 1990's (Rees, 1992; Wackernagel and Rees, 1996), articulated the dependency the economy has on the capacity of Nature to support its processes.

In other words, the ecological footprint allows us to quantify how much capacity Nature should provide the resources that people require to have their needs met, and how much Nature can absorb of our impacts (e.g. waste, land transformation, air pollution, etc.). Beyond certain thresholds, Nature cannot regenerate, meaning our activities have become unsustainable. More recently,

ecological footprint analysis has inspired new ways of measuring impacts of our lifestyles at global, regional, national, local and organizational scales (see Global Footprint Network, "Ecological Footprint: Overview.").

Building from new thinking related to ecological footprint analysis, the Sustainable Development Goals framework adopted by the global community in 2015, offers an influential platform with which to advance profound change. Novel ways of presenting the SDGs are increasingly available allowing for a re-think of how countries could choose to prioritise their related efforts. By acknowledging ecological limits and planetary boundaries (Folke et al., 2016) as the singular physical constraint to human development (Figure 5) we can begin to reflect on how this could, and should, underpin a new, 21st century economic model adaptable to different country-contexts and responsive to real-world conditions. This 'revised' SDG perspective, is further complemented by innovative and practical conceptualizations that can support global to local economic planning that recognizes context-specific ecological boundaries while clearly acknowledging needs related to the building of strong, resilient and just social

Figure 5: The biosphere relevant SDGs represent a physical constraint that any other SDG must operate within in order to ensure real ecological sustainability

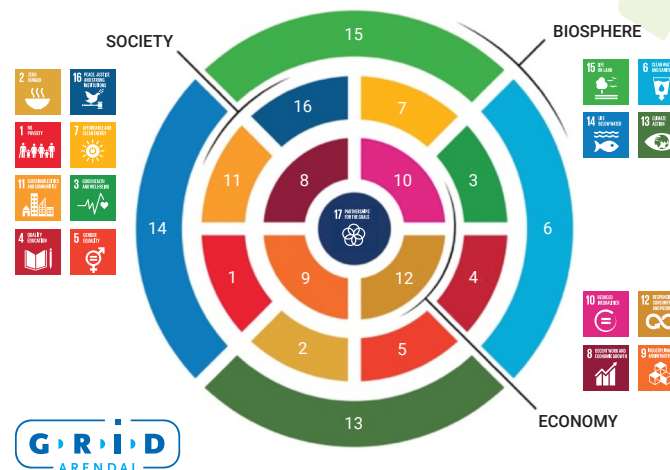
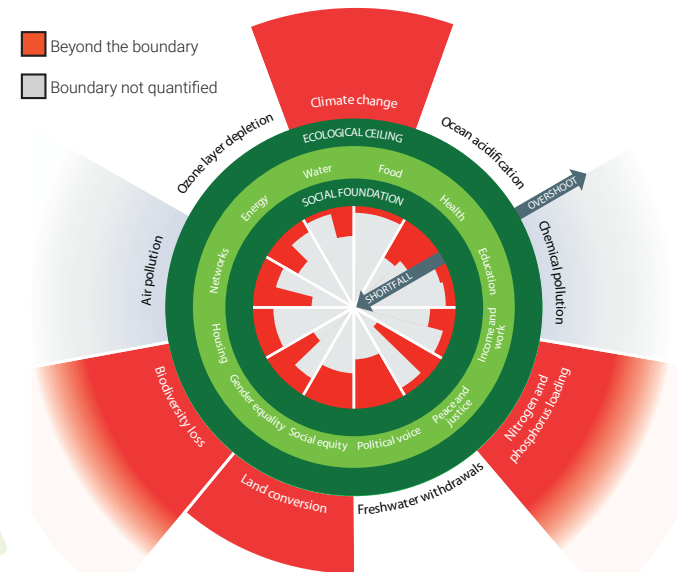


Figure 6: Merging 'doughnut economics' with planetary boundaries; can we reach the target of a "safe and just space" for humanity?



Dark green circles show the social foundation and ecological ceiling, encompassing a safe and just space for humanity. Red wedges show shortfalls in the social foundation or overshoot of the ecological ceiling.

Source: (Raworth, 2017).

foundation to underpin vibrant and thriving communities, nations and societies (e.g. Raworth, 2017) (Figure 6).

The above examples represent but a few sources of innovative thinking that aims to achieve environmental and social objectives by transforming our economic thinking and doing. Just as Albert Einstein used visual models and thought exercises to glean the inner workings of the quantum world, so we can do the same today to ensure that an appropriate economic theory is soundly anchored in reality. Seriously considering such innovation examples as above (amongst others) will unshackle us from self-imposed constraints anchored by an out-of-touch, growth-at-all-costs pursuit that no longer serves the vast majority of people and which continues to erode our indispensable Nature.

What are the implications for policy?

The implications for policy are in a way quite simple. If we are truly committed to achieving the sustainable development that provides increased well-being within Nature's limits, then demanding that our economics evolves is a prerequisite; just as we demand innovation and creativity from our technologies, our other sciences, our businesses and our governments, is a prerequisite. Global environmental policy-making alone cannot keep up with the conventional economy's ability to outpace ecological limits and conservation attempts. Environmental policy making is constrained by a hindsight approach (i.e. reactive to things that have happened) while our powerful economic policy is constantly looking to, and borrowing from, the future in order to maximize value-poor financial goals. Our growth-first approach encourages disruption of perverse efficiencies while our environmental policies try their best to find a balance and equilibrium. This duality, with the planet on the losing end, is not conducive to a goal of real sustainability. We are missing out on the real progress and creative potential that a post-growth policy shift could deliver.

We must also be vigilant about not over-relying on approaches that attempt to 'economise Nature'. Pricing nature has been a good tool to raise critical awareness and catalyze key discussions. However, terms such as "ecosystem services" and "natural capital", if not carefully contextualized as part of a transitional step, risk further strengthening the mindset that Nature is simply a cornucopia of resources that exist to be exploited by humanity. The desired policy aim is one in which the economic narrative has been naturalized. Success however, will not merely be defined in terms of



environmental and social 'sustainability'. It will be truly defined by humanity's ability to transcend trivial, short term pursuits in favour of exceptional, collective and generational brilliance.

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Upcoming Brief

Transboundary air pollution

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