



Planetary Health and the Global Financial System

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Introduction to Planetary Health

Planetary health is a multi-disciplinary approach that addresses the interconnections between the processes of environmental change and their impacts on human health and well-being, at scale. The planetary health concept builds on the ecological framing of planetary boundaries and supports the UN Sustainable Development Goals and the Paris Climate Change Agreement, both of which recognize the importance of regional and global coordination to solve complex environmental and development challenges.

Links between environmental change and human health are both direct (e.g. impact of air pollution on respiratory and cardiac functioning) and indirect (e.g. extreme weather events or sea-level rise leading to permanent displacement) but there is plausible connection between the change in natural systems and human well-being. The planetary health approach requires transboundary perspectives covering issues that one country cannot address in isolation. Solutions, however, may be local, national, regional or international.

The Rockefeller Foundation Economic Council on Planetary Health, supported by its Secretariat based at the Oxford Martin School at the University of Oxford, aims to provide a policy-oriented, economic perspective to developing solutions. The central economic concept is that externalities – or costs and benefits to another party that are not priced, regulated or consented to – should better address planetary boundaries than at present. The analysis pays attention to equity and distributional issues, recognising how different people, institutions, countries and trajectories of development are affected by the impact of planetary health and the measures proposed to address it. This work seeks to target recommendations at global and national policymakers.

A series of background papers have been developed by the Secretariat. These papers aim to illustrate where solutions might be identified and applied, diagnosing planetary health issues by highlighting drivers of change, significant environmental impacts and the resulting human health impacts.

This paper explores the relationship between the global financial system and planetary health, the role that the financial system could have in shifting the global economy towards planetary health approaches, and analyses existing and emerging measures that could become part of a planetary health approach to finance. There is a need to channel capital towards planetary health, but existing methods of understanding risks cannot manage the uncertainties and time horizons related to planetary health.

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The full set of papers can be accessed at: www.planetaryhealth.ox.ac.uk/publications.

Executive Summary

Key points

- The financial system is not structurally well equipped to address long-term global public goods issues like planetary health. Relying on the financial system to solve planetary health is therefore challenging.
- Planetary health finance should shift current global investment flows towards economic activities compatible with planetary health; it is also important to cease financing those activities that create environmental and health problems.
- Public finance has a strong role to play in planetary health to support innovation and crowd-in private actors.
- The volume of available financial capital appears to be large enough to be substantially mobilised for planetary health.
- Nature conservation finance is a promising approach to target concrete impact on the ground, but it may be difficult to scale to global level.
- There is a need to channel capital towards planetary health and manage the related risks to the financial system, but the traditional mechanics of risk pricing cannot work in this case because markets cannot manage the fundamental uncertainty and long time horizons at stake.
- A precautionary approach to the financial risks associated with planetary health is needed, as is the application of a new approach to supervision and regulation of the financial system.
- Mobilizing finance for planetary health is likely to require deeper regulation of the financial system, although measures taken will strongly depend on each country's current approach to financial regulation.

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1. Introduction

A well-functioning financial system is necessary to properly address challenges associated with planetary health by directing capital to activities that have a positive impact on planetary health and away from the issues that impact it adversely. However, ten years after the last major financial crisis, and with climate change still being considered a market failure thirty years after the establishment of the Intergovernmental Panel on Climate Change (IPCC), the financial system appears inadequate to manage long-term public interest and global common goods issues such as planetary health. This paper explores what can be expected from the financial system when applying the planetary health approach, including conditions and limitations. It also proposes seven areas where there are opportunities to reshape the financial system in favour of planetary health.

2. Role of the financial system in planetary health

2.1 Economic challenge and costs

Achieving planetary health is about drastically changing economies, industries and consumption patterns globally, in order to reduce their impact on the environment and human health. This means a radical shift to healthier and more environment-friendly production processes and behaviours, and to create a full set of new technologies and infrastructure to replace existing ones that are not sustainable. Making this shift comes at a cost but should be seen as an investment for the future, both as protective and preventive action against threats to planetary health.

Although uncertain and highly variable, depending on estimates, underlying hypotheses and scenarios, the costs of investing in planetary health can be significant. For instance, the International Energy Agency (IEA) estimates a cumulative US\$68 trillion for energy sector investments in its sustainable development scenario for 2018-2040 (IEA WEO 2018). This addresses the main energy-related components of the United Nations Sustainable Development Goals (SDGs) beyond the sole issue of climate change.¹ But the IEA also highlights that this scenario requires only ~15% more investment than its baseline scenario², although leading to a marked difference in capital allocation. Attention should be paid to shifting the entirety of investment out of unsustainable patterns and reallocating all resources in line with the SDGs, rather than restricting sustainable investments to a limited niche.

The last IPCC special report on Global Warming of 1.5°C reported incremental annual energy investments needed to secure a 1.5°C pathway of 0.2-1% of annual GDP in the period 2015-

¹ The IEA sustainable development scenario specifies its SDG target as “achieving universal access to modern energy by 2030; reducing dramatically the premature deaths due to energy-related air pollution; [...] also incorporates the linkages between energy and water”.

² Comparison is made with the “new policies scenario” (NPS), representing current policy ambition, which requires about US\$60 trillion 2018-40 cumulative investments.

2035³ (Masson-Delmotte *et al.*, 2018, Ch.4 p.87). Such investments can also have further economic benefits. The New Climate Economy 2018 report (Mountford *et al.*, 2018), estimates that transitioning to a low-carbon and sustainable economic pathway could deliver a direct economic gain of US\$26 trillion through 2030, compared to a business-as-usual scenario.

Key message 1

Mobilising the financial system for planetary health has two related objectives: to shift current global investment flows towards economic activities compatible with planetary health, and at the same time to stop financing those activities that create environmental and health problems, which could lead to potential system collapse.

2.2 Public vs private resources

Public resources are central when it comes to investment in social welfare, provision of common goods and building long-term infrastructure. But as governments have limited public spending capacity, due to competing priorities for resources and a growing reluctance to increase budgetary deficit and public debt (e.g. the European Stability and Growth Pact), the recent trend has been to seek private funding, including for infrastructure (Gatti, 2014).

Public finance institutions have historically done much to stimulate investment in R&D and innovation in long-term priority sectors such as IT, biotech and nanotech (Mazzucato, 2015). Today, almost half of global renewable investments are being financed by public agencies and state-controlled enterprises. International public finance, led by development banks (multilateral, regional and national)⁴, actually played a crucial role at the onset of “climate finance”, which was initially financed with 100% public funding. It served to channel North-South investment flows, focusing on energy and infrastructure projects. Currently, because of the huge amounts under consideration, it has become clear that private finance has to take on the bulk of the financing. The role of public finance continues to be important when it comes to initiating, de-risking and leveraging those investments, so that private financiers and institutional investors can come in quickly. For infrastructure funding, this is illustrated by the current calls for blended finance, where public and philanthropic investors are expected to mitigate certain investor risks in order to attract private finance (The Economist, 2016; The Blended Finance Taskforce, 2018).

Often associated with public health, development issues and nature conservation, areas sparsely covered by mainstream financial markets, philanthropic funding (e.g. Bill & Melinda Gates Foundation and the Children’s Investment Fund Foundation) can be useful to compensate for weak

³ While comprehensive study or estimate of such investments including transportation and other infrastructure are available for a 2°C limit, they are not available for a 1.5°C limit (Masson-Delmotte *et al.*, 2018).

⁴ Such as the World Bank, Asian Development Bank, African Development Bank, Inter-American Development Bank, European Investment Bank, Asian Infrastructure Investment Bank, China Development Bank, French Development Agency, German Development Bank (KfW/DEG), Japan International Cooperation Agency/Japan Bank for International Cooperation.

governmental action in both poor and rich countries. However, philanthropic resources are limited both in their size and scope, and as a result do not cover some key funding targets, nor can provide the whole volume of investments needed.

Key message 2

Public finance has a strong role to play in planetary health. The role of public money is indeed to show the way and innovate where private capital does not “naturally” flow, either because it is too risky, disruptive or long term.

Beyond pure philanthropy, some innovative financing schemes involving philanthropic funding coupled with impact investing⁵ have recently emerged, notably on nature conservation. Such approaches rely on structuring investments that provide a positive outcome on nature as well as a financial return, direct or indirect (e.g. EIB, 2019). For instance, nature conservation investing organisation NatureVest operates different investment programs such as “*loans to fund conservation programs, equity to acquire tradeable natural assets or equity stakes in new operating or development ventures that provide conservation benefits*”:⁶ Despite being a growing field that is starting to attract investors’ interest,⁷ nature conservation investing suffers from its own inherent virtue: being deeply rooted in local natural issues, the ideal level for programs to operate is the individual project, which makes it intrinsically difficult to scale them for global impact. Moreover, opening the field of nature to investors can exacerbate conflicts among stakeholders, communities and society, and thus financialization of nature may not be desirable at large scale (Ouma *et al.*, 2018;).

Key message 3

Nature conservation finance is a promising approach to target concrete impact on the ground but suffers from scaling issues. Attracting mainstream investors with such approaches indicates a systematic monetisation of nature, an approach that is not universally accepted.

2.3 Capital markets

The good news is that the level of investment required is not unattainable, especially as financial institutions handle a massive pool of capital. The last IPCC special report assessed climate compatible investment needs for the energy sector (Masson-Delmotte *et al.*, 2018): “*The amount of private resources needed to enable an energy sector transition is between 3.3% and 5.3% of annual capital income and between 5.6% and 8.3% of these revenues for all infrastructure to meet the 2°C target and the SDGs*”.

⁵ Impact investing refers to investment practices looking at specific measurable outcomes beyond financial returns, targeting either social or environmental (or combined) impacts.

⁶ “NatureVest: Invest In Nature - Impact The World”, https://www.nature.org/content/dam/tnc/nature/en/documents/NatureVest_Overview_Brochure_2017.pdf

⁷ <https://conservationfinancenetwork.org/2018/07/25/how-to-get-an-impact-investors-attention>

Beyond climate change and energy, an additional US\$371 billion per year is estimated for low-income and middle-income countries to reach the health-related SDG targets by 2030, or just an additional US\$58 per person (Stenberg *et al.*, 2017).⁸ This compares to the total global value of traded stocks of US\$77 trillion (World Bank, 2017).

Key message 4

The amount of available financial capital, predominantly generated through individuals' savings, appears to be large enough to be substantially mobilised for planetary health.

2.4 Financing planetary health

The financial system has two significant roles to play for planetary health. It can:

1. Channel the necessary capital in the right direction (planetary health-compatible investments)
2. Manage the potential systemic financial risk of either an abrupt planetary health transition or catastrophic impacts of deteriorating planetary health

A well-functioning financial system could be considered as a simple lubricant of the economy, and as such would not require that we pay too much attention to it. But more than 10 years after the 2007–08 financial crisis, the financial system is largely unchanged as a new financial crisis threatens and the provision of common goods is still not a priority (IMF, 2018, 2019; Lagarde, 2019; Rogoff, 2019). Therefore, the capacity of the financial system to contribute to planetary health is not guaranteed and should be seriously questioned.

Key message 5

There is a need to channel capital towards the implementation of planetary health and manage the related risks to the financial system. The extent to which the latter can achieve these objectives in its current form is largely in question.

⁸ In 2018, the IMF has estimated the additional spending that is needed in health care, education and selected areas of infrastructure for reaching the Sustainable Development Goals (SDGs): “*How much more spending in these areas is needed to put countries on track to meet the SDGs? We estimate that low-income developing countries need additional annual outlays of 14 percentage points of GDP on average. Across 49 low-income developing countries, additional spending needs amount to about US\$520 billion a year—an estimate that is in the same ballpark as that of other institutions. Clearly, significant new spending is needed.*” (Lagarde and Gaspar, 2018)

3. Weaknesses in the financial system

For most decision-makers in free-market economies, the way to approach planetary health, as any other issue, is to apply the usual recipe: the public sector and governments have to lead the way with policy and public spending, the market will then follow, taking into account the consequent policy and market signals. Markets will take care of efficiently allocating capital to the appropriate sectors, maximising return relative to risk, under the prerequisite that demand for such financing already exists (i.e. existence of active pipelines of alternative projects/companies/sectors to high carbon).⁹

This scheme can work only if two conditions are simultaneously met:

1. Signals are material (i.e. tangible) for financial institutions
2. Signals are relevant, and financial institutions are able to integrate them into their decision process

Those two conditions are certainly a serious impediment to a market-led approach to planetary health finance. First, if planetary health was thoroughly integrated by governments as an overall framework guiding long-term investment – in the same way that climate change is currently intended to be – it is not enough to guarantee that policy and market signals are tangible to financial institutions. Typically, if a policy or regulation is seen as too far into the future to be financially affecting companies in the short term, financial institutions will certainly ignore the signal, as it has no impact on current and forthcoming valuations (see Box 1). The same goes for market signals in general. As long as planetary health risks and opportunities are not reflected in prices, there will be no incentives for financial decisions to incorporate them. Therefore, the timing of planetary health signals is crucial in the face of myopic financial markets.

Knowing that tangible risk will manifest at some point is not enough to trigger a reaction from financial markets, as long as the occurrence does not coincide with their own time horizon. This is referred to as the “tragedy of the horizon” emphasised by Mark Carney, Governor of the Bank of England (Carney, 2015). For instance, if from an investor perspective it appears that investment in fossil fuels remains profitable (for some time at least), there is no clear rationale for the investor to avoid such profits (e.g. Christophers, 2019). If such investment is considered by governments to be “bad” – i.e. undesirable from a public welfare perspective – regulation is then expected to help change this signal.

Secondly, the extent to which those signals adequately represent the level of risk should not be taken for granted. Indeed, the mainstream approach to risk in finance is built on the assumption that markets are efficient, implying that “market prices reflect the ‘known information set’, which comprises all information, all knowledge, and all experience available at the time” (Slovik, 2010).

⁹ The discussion about whether the demand for financing exists and how best to drive this demand, is beyond the scope of this paper. As is the question of investment from companies via their own balance sheets.

But in the case of planetary health, such information, knowledge and experience are not easily available. Planetary health contains a certain degree of radical uncertainty and unprecedented situations that preclude the ability of market players to assess probabilities and then “do the math” and price the risk.¹⁰

Consequently, if prices are “wrong”, they do not reflect the accurate risk (that is by definition unpriceable by probabilistic approaches in the presence of radical uncertainty), and financial institutions cannot take into account a “correct” signal on which to base their investment decisions.¹¹ This constitutes a call for precautionary policy intervention, to compensate for the inability of markets to react appropriately in the face of potentially catastrophic losses related to planetary health (Bahaj and Foulis, 2016; Cullen, 2018; Ryan-Collins, 2019).

Key message 6

The traditional mechanics of risk pricing cannot work for planetary health, both because time horizons are too long and radical uncertainty too salient to allow accurate probabilistic pricing. Consequently, investors will be incentivised on the basis of alternative signals, other than pure market ones. A precautionary approach to planetary health related financial risk should be applied, triggering a new approach to supervision and regulation of the financial system.

¹⁰ In finance and economics, the important distinction between risk and uncertainty has been introduced by F. Knight (1921) and further deepened by J.M. Keynes (1936). Risk (or “Knightian risk”) prevails for situations where quantification is possible, as opposed to “radical uncertainty” that describes “unknown unknowns”, i.e. unquantifiable uncertainty.

¹¹ The report published in April 2019 by BlackRock, “Getting physical – Scenario analysis for assessing climate-related risks” (Schulten *et al.*, 2019), emphasises that physical climate risks are mispriced.

Box 1. The central problem of financial market short-termism

While carbon pricing can be seen as a good “back to the future” economic tool in theory, in practice it has been hard to implement and has yet to correct the inefficiency of markets towards climate change at the required global scale. Climate-related risk disclosure, which is supposed to help markets identify and price the real risk, is a more recent approach around which there is much expectation, but which may also suffer from a fundamental problem related to price: how can financial decision-making take into account a distant signal and price it unless it is material?

As noted above, time scales involved in planetary health are multiple, and like climate change, can range from centuries and beyond. On the finance side, generalized short-termism has long been acknowledged and criticised, especially since the last crisis. Leaving aside high-frequency trading, it appears that there is also a time horizon mismatch at the practitioner level – not only for supervisors and regulators – that certainly makes climate change and planetary health difficult concepts to get on the radar of financial institutions.

Typical turnover of investment portfolios is about 1–2 years (Bernhardt *et al.*, 2017), most portfolio managers’ incentives are yearly (Thomä *et al.*, 2015), and financial analysis is limited to 3–5 years (Dupré and Chenet, 2012; Naqvi *et al.*, 2017). Even long-term investors such as pension funds have artificially shortened time horizons. While being responsible for their clients’ pensions over several decades, the funds are usually managed by external asset managers whose mandates are three to five years. Frequently, portfolio managers in those companies are benchmarked on weekly to quarterly performance (Naqvi *et al.*, 2017). In the credit space, time horizons are usually longer; most credit institutions have average loan horizons of three to five years (Thomä *et al.*, 2015; Cortina-Lorente *et al.*, 2016; Paligorova and Santos, 2017). Of course, some specific products and particularly bonds can have a long duration, up to 50 years (e.g. EIB, 2004). However, the vast majority of finance is still short term.

In these conditions, how can financial institutions take into account long-term risks and opportunities such as those relevant to ageing populations, global depletion of natural resources, demography, biodiversity loss or sea-level rise, and make decisions in the present that are good for the future?

4. Financial system governance and planetary health

It has become increasingly clear that the current financial system remains unfixed more than a decade after the global financial crisis of 2008 (Lipton, 2018), and is neither built for nor capable of solving our long-term and common goods problems (e.g. Aglietta and Rigot, 2012; Aglietta and Espagne, 2016; Alijani and Karyotis, 2016; Kay, 2017; Lagoarde-Segot and Paraque, 2017). As Nicolas Bouleau¹² puts it: “*Financial markets were not designed to manage the planet*” (Bouleau, 2018a, 2018b). But beyond planetary health and broader sustainability issues, the main problem might be that since the massive market deregulation and financialization that started in the late 1970s, the financial system appears incapable of serving the real economy and addressing social needs (Stiglitz, 2010; Stiglitz *et al.*, 2010; Keen, 2011; United Nations, 2017, 2019). Therefore, financial system structure and governance have to be deeply reconsidered, or as the UN frames it: “*a complete revamping of the international financial system is necessary*” (United Nations, 2017). Indeed, finance is still structurally short term (cf. Box 1) and driven by self-interested behaviours and tools, such as cost-benefit analysis (Kay, 2019) or discount rates (Pottier, 2016), which impede looking beyond a time horizon of a few years or using alternative indicators than purely monetary ones (e.g. Stiglitz *et al.*, 2010). For these quite simple reasons, the financial system as it operates today appears inadequate to address planetary health issues.

4.1 Applying climate finance to planetary health

The current debates on financial regulation and climate change – often framed through the “climate finance” and broader “sustainable finance” concepts – open many avenues beyond disclosure and pricing, which are worth exploring for planetary health. But addressing planetary health is not the same as addressing climate change mitigation or adaptation.¹³ Planetary health is a fairly new concept that addresses numerous global complexities – not only climate change but also biodiversity loss, water and air pollution, desertification, health and pandemics, inequality, redistribution of wealth, education, etc.

To date, there is no clear science nor specific indicators when it comes to the concept of planetary health, no specific goals to attain (e.g. equivalent to the 1.5–2°C target for climate change mitigation), no clear pathways to take in resolving problems or the potential cost of mitigating global damage.

¹² Nicolas Bouleau is a mathematician, philosopher of science and essayist, professor at Ecole des Ponts Paris Tech. He was responsible for introducing computer simulation into the teaching of probability and was among the first to develop research in mathematical finance in France in the 1980s.

¹³ When it comes to capital markets and climate change, very little is discussed about climate change adaptation: indeed, the vast majority of the debates/initiatives/policies/etc. focuses on climate change mitigation, which offers a clearer object for financial institutions that in turn consider energy transition as a business opportunity.

Box 2. Climate change vs biodiversity loss from a finance perspective

Because greenhouse gas (GHG) emissions have a global warming effect (1 ton emitted in the UK has the same impact on climate change as 1 ton emitted in Brazil), it constitutes a manageable metric for market finance, which is able to use simple indicators at global scales in order to determine how “climate-friendly” a financial portfolio is. Moreover, decarbonisation scenarios exist at large scales, with which investors and banks can try to align. Compared to climate change mitigation, climate change adaptation is in itself a significantly more complex issue to address in terms of indicators, as adaptation measures depend on the specific impacts of climate change at a given location and the socioeconomic context.

Biodiversity loss, which often ranks second after climate change in policy-makers’ minds when it comes to major environmental challenges, is far more complex to address from a financial sector viewpoint because despite being a global problem, it is intrinsically measured by local indicators. As opposed to GHG emissions, biodiversity gains in a certain location cannot simply compensate a biodiversity loss elsewhere. Therefore, a “simple” concept such as decarbonization or “science-based targets” for companies¹⁴ does yet not exist for biodiversity, and it is difficult at the portfolio or financial institution levels to identify basic metrics to measure and actions to implement.¹⁵ Nevertheless, some research efforts try to address this. One of the most interesting attempts in this regard is the “Global Biodiversity Score” (GBS), created by CDC Biodiversité (2019). The approach relies on corporate biodiversity footprint assessment, in order to measure the impact of companies and investments on biodiversity. The main underlying concept is the Mean Species Abundance (MSA), expressed in percentage terms, characterising the intactness of ecosystems (100% represents an undisturbed pristine ecosystem, 0% a fully destroyed (dead) one). While “biodiversity footprint assessment tools” such as this, are currently being developed and can be useful in understanding the rough impact of economic and financial activities, the aggregate indicators they propose do not provide a complete measure of biodiversity, nor can they supplant local indicators to accurately represent the complexity of ecosystems.

Other SDGs related to planetary health, such as health and well-being (SDG3), clean water and sanitation (SDG6), life on land (SDG15), or life below water (SDG14), encounter the same difficulties. New economic tools and underlying indicators have been introduced to try to address issues other than climate change, especially through payments for ecosystem services and biodiversity offsetting. But these cannot be handled with the same ease and robustness as GHG emissions and related indicators for climate change,¹⁶ and above all, come with fundamental drawbacks and subjective hypotheses related to fungibility issues.

¹⁴ For more on science-based targets, visit <https://sciencebasedtargets.org/what-is-a-science-based-target>.

¹⁵ For instance, most of the approaches promoted by the Natural Capital Finance Alliance [NCFA] are focused on risk: how financial institutions are exposed to risk for natural capital. At this stage, very little is available on how financial institutions can really sustain and enhance natural capital.

¹⁶ From a pure climate science perspective, the climate forcing equivalence of a unit of CO₂ wherever it is emitted is robust; nevertheless, the social underlying condition or impact is not necessarily the same. Indeed, whether such a quantity is cut from basic food needs or from the consumption of a luxury item has the same effect on climate but does not have the same implication for the people affected.

Key message 7

Establishing planetary health finance will not be a simple extension of the current climate finance framework.

4.1 Two ways to approach finance regulation

Finance can either be seen as a tool, or as an industry. A tool can be shaped according to a certain purpose and has no inherent interest *per se*, whereas an industry can be considered as a system with a defined objective. This distinction makes a difference in terms of regulation.

The first approach is typically observed in countries that use different types of planning to manage their economy, while the second is found in countries that rely on free markets. In reality, most countries have developed their own approaches and nuances that fall between the two viewpoints.

In the case of climate change, this distinction has materialized clearly among different jurisdictions; in particular China (but also Bangladesh, India and Brazil) channelled policy change through capital markets by implementing climate policies at their central bank level, favouring climate-friendly/green assets and penalizing “brown” ones (e.g. Dikau and Ryan-Collins, 2017).

Such an idea that finance should serve society is, to a lesser extent, acceptable in continental Europe, especially for public banks (e.g. France, Germany), while more liberal markets, such as the US or the UK, typically envision risk (and opportunity) as being the only driving factor for financial decisions related to climate change; the notion of “responsibility” from the financial sector over economic objectives being less relevant.

The recent burgeoning of interest in global finance with respect to climate change effectively illustrates the two different approaches (Chenet *et al.*, 2017). China is acknowledged as an example of employing financial regulation incorporating climate change concerns, while for the same purposes, the main framework accepted by financial institutions and promoted by some governments (e.g. Japan) is the Task Force on Climate-related Financial Disclosures (TCFD)¹⁷, a purely voluntary scheme relying on risk disclosure (e.g. UNEP Inquiry, 2018 and all references therein).

The first approach considers markets as (more or less) inefficient and makes more extensive financial system rules through regulation such that financial intermediation can achieve the desired goals (e.g. China’s green finance regulation). The second one relies on financial market efficiency to drive the economy on the right track, thanks to informational transparency (climate risk disclosure), which will be the main objective of the light financial regulations that have been proposed (e.g.

¹⁷ The Task force on Climate-related Financial Disclosures (TCFD) is an industry-led initiative launched by the Financial Stability Board (FSB) at the request of the G20. More at <http://fsb-tcdf.org>.

France's Article 173). This duality can also be seen as the market shaping/market fixing dichotomy, as proposed by Ryan-Collins (2019).

Key message 8

The role of finance is strongly influenced by national policy choices and context. Consequently, approaches for mobilising the financial system for planetary health will strongly depend on each country's current approach to financial regulation.

Box 3. Planetary health bonds

Green bonds are one of the best known and supported tools for climate finance, both by investors and policymakers. They are used in financing green projects or activities through traditional debt instruments, but with a dedicated green self-labelling. In the wake of green bonds, social bonds and the in-between sustainability bonds complete the panoply, largely following the same principles.

It is possible to create similar planetary health bonds, but they will need to bypass the same obstacles: rely on clear definitions of eligible projects; prove additionality and demonstrate a capacity to become the new norm. Benefitting from significant institutional enthusiasm and support is not a sufficient condition to ensure positive impact, and that is the main reservation/objection of environmental NGOs and other observers (including within the investment community), who fear that green bonds come with too much greenwashing or SDG-washing.^{18,19} Indeed, the bond market has a huge capacity to be greened, but a recognized standard²⁰ seems indispensable to transform the green and sustainable bond market from a niche to the mainstream (e.g. OECD, 2017).

5. Seven propositions to realign the financial system

In the following section, we present several proposals that could reshape the financial system for planetary health. Our recommendations do not pretend to be exhaustive but should rather be seen as an initial set of proposals that build on and extend the ongoing discussion involving financial regulators and financial institutions. In particular, we draw on the EU Action Plan on Sustainable Finance (EC, 2018) that offers an outstanding opportunity to put planetary health topics on the agenda of mainstream policy makers. While this EU framework is currently focused on climate mitigation, it could serve to open the way for addressing broader sustainability issues, including planetary health.

¹⁸ "Solving Sustainable Development Goals Rubik's Cube: An Impact-Based Toolkit for Issuers and Investors", September 2018, https://gsh.cib.natixis.com/api_website_feature/files/download/6063/Solving-Sustainable-Development-Goals-Rubik-Cube-Report-Natixis-2018.pdf.

¹⁹ "What Are Green Bonds and How 'Green' Is Green?" *Washington Post*, 29 March 2018, https://www.washingtonpost.com/business/what-are-green-bonds-and-how-green-is-green/2019/03/24/5789180e-4e10-11e9-bdb7-44f948cc0605_story.html.

²⁰ *Financial Times*, <https://www.ft.com/content/ef9a02d6-28fe-11e7-bc4b-5528796fe35c>.

1. Systemic risk and prudential regulation

The stability of the financial system can be affected by planetary health issues and consequent financial risks, and reciprocally planetary health may suffer from biases in prudential regulation, typically favouring short-term and low-risk investments where long-term and risky investments would be appropriate. Moreover, most risk indicators and risk management practices in finance are backward looking (experience-based). Therefore, prudential regulation should be enhanced following a precautionary approach to be able to cope with the forthcoming unprecedented and swingeing risks, and to help finance become a net contributor to planetary health.

Central banks and financial system regulators have started to recognise that such challenges, beginning with climate change, have to be addressed. This is the underlying idea behind the Central Banks and Supervisors Network for Greening the Financial System (NGFS). Currently, the question of how capital requirements can be re-estimated to take into account the risk from climate change and stimulate the ecological transition is being debated, especially in Europe, after being recently addressed in China.²¹ A “green supporting factor”, comprising reduced capital requirements for “green lending”, is being actively promoted by banks,²² while a reciprocal “brown penalising factor” – which could be more straightforward to limit global warming (the primary objective being to avoid burning more fossil fuels) – is supported by other stakeholders, including some central banks themselves (ACPR, 2019). Half-way between decreasing the exposure of the financial markets to “brown assets” and helping to channel more financial flows to “green assets”, the prudential toolkit is currently being challenged to assess the extent to which it can contribute to greening the financial system (D’Orazio and Popoyan, 2019).

Other prudential tools that may be employed include countercyclical and systemic risk capital buffers, lender/borrower constraints on credit allocation, or credit guidance and requirements to hold certain shares of green assets. More generally speaking, clarification of which economic activities are harmful/necessary for planetary health would allow the appropriate use of prudential tools and other regulatory measures, based on such distinctions (NGFS, 2019).

2. Taxonomy of sustainable economic activities

The European Commission is working on a taxonomy of sustainable economic activities, which is to serve as a backbone for all financial tools and criteria that present themselves as “sustainable” (EU TEG SF, 2018). The development of such a classification system started in 2018 with climate mitigation and is to be extended to climate adaptation and broader sustainability issues, including pollution prevention and control, and protection of healthy ecosystems. This initiative strongly resonates with the planetary health approach.

²¹ “Prudential Regulation Can Help in Tackling Climate Change”, <https://www.cepweb.org/prudential-regulation-can-help-in-tackling-climate-change/>

²² “Green Supporting Factor: French and Italian banks call for an acceleration of Sustainable Finance”, press release, <http://www.fbf.fr/en/files/AX3MSA/Press-release-FBF-ABI-21032018.pdf>

An alternative approach would be to develop a negative taxonomy which would certainly be easier and more effective to implement, highlighting those activities and technologies that are not sustainable under certain conditions. Such an approach has not yet been developed at institutional level as of today but has been recently proposed by central banks and financial supervisors (NGFS, 2019). Even simpler, when an activity or technology is clearly undesirable, it is easier to directly prohibit it by law, as is usual for products that are detrimental to health, rather than indirectly incentivizing the financial system to move away from such activities. For example, would anybody support an asbestos-penalizing factor for capital requirements instead of simply banning it?²³ Similarly, favouring economic activities and technologies that are needed for planetary health should not be only seen through the lens of financial markets. There is no clear reason why such taxonomies should only be developed for/by financial sector players, rather than at industrial policy levels, which provides decision makers with a more direct signal on the potential future of a specific industry (cf. example of diesel cars forbidden by a number of jurisdictions in a not-so-distant future). Such a classification of economic activities that are either compatible or incompatible with planetary health could be created and maintained by core administrations attached to governments, potentially emerging from a UN body for the sake of worldwide harmonization and be associated with policies and regulations applied to the financial system. Beyond regulation, it would also provide financial institutions with a clear guideline on where to invest when it comes to planetary health, allowing all possible voluntary approaches.

3. Labelling, indices and funds, and fiscal policy

Identifying what is green/brown or aiding/damaging planetary health makes the investor's job easier, especially for individuals, in managing their savings. Indeed, with such a characterisation, based on a taxonomy similar to the ones discussed above and targeting companies, projects and activities that really need to attract additional financing, it becomes possible to put a planetary health label on investment products. Such labelling has the power to guide investors on impactful products, and to curtail investment flows to those that do not support planetary health priorities. It can be powerful, especially on main stock indices, as they are a core benchmark for all market participants. A complementary approach to positive labelling can rely on blacklisting (i.e. negative screening) of bad activities for planetary health, which can be more intelligible for investors as well as more impactful.

A labelling scheme, such as the one recently developed for responsible investment funds and ecological funds by the French government,²⁴ would be even more significant if awarded by a governmental body. In a similar way, based on the recommendation by the High-Level Expert Group on Sustainable Finance (HLEG, 2018), the European Commission is starting to develop an EU Ecolabel for Financial Products as part of its EU Action Plan on Sustainable Finance, based on the taxonomy mentioned above. Such a labelling scheme, if based on a robust planetary health

²³ It should be acknowledged that asbestos is not banned everywhere, notably in the US.

²⁴ The *GreenFin* label (<https://www.novethic.com/greenfin-label-green-finance.html>), formerly known as (before June 2019) the *Energy and Ecological Transition for the Climate* ('Transition énergétique et écologique pour le climat' – TEEC) label. <https://www.ecologique-solidaire.gouv.fr/sites/default/files/The%20Energy%20and%20Ecological%20Transition%20for%20the%20Climate%20Label.pdf>

classification, would also enable the anchoring of tax incentives on fund labels to help channel the massive amount of individual savings in favour of planetary health. But for such schemes to be efficient (and to avoid the creation of a financial bubble), the label has to be structured to attract capital where it is needed and shift finance from brown to green.

4. Mandatory reporting framework

Without appropriate disclosure, investors, governments and citizens cannot know what currently transpires in the financial markets, and it is impossible to monitor and assess alignment with current climate targets or upcoming planetary health objectives. In many advanced economies, the current trend is to develop voluntary reporting frameworks, such as the TCFD, or mandatory, but very flexible “comply or explain” schemes such as that required by Article 173 of France’s Energy Transition Act.²⁵

The urgency of the situation we face and the extent of the challenge leaves no space for step-by-step evolution of practices that depend on self-regulation and goodwill, and which have already proven to be too slow (Lepetit, 2018; Redon *et al.*, 2018; Christophers, 2019). Therefore, governments need to impose more disclosure throughout the financial chain with precise guidelines and standards for financial reporting, so that end users can easily identify and compare financial institutions in order to choose where to entrust their money. (e.g. Environmental Finance, 2019; Viñes Fiestas, 2019). Making such disclosures mandatory will not necessarily drive an instantaneous change within corporations, but it will give external stakeholders (incl. governments) the capacity to engage with companies and stimulate them to change. Beyond making disclosure mandatory, it is important to ensure that the information disclosed is used efficiently and the law is strictly enforced.

Such an endeavour towards efficient disclosure and reporting is of course connected with the indispensable deep reform of current accounting principles, which fall short of integrating planetary health considerations or any non-purely-financial items. Accounting is indeed the primary tool that defines a company’s values, and as a consequence defines the main rules governing companies’ activities and management. Without such normative planetary health (social, environmental, etc) accounting rules, most economic decisions will never effectively address planetary health.

5. Fiduciary duty

A core concept of financial management is the notion of fiduciary duty to the client. Managing other people’s money comes with responsibilities, which could include investment managers actively financing planetary health as a target, in order to avoid long-term threats that could affect the client’s financial interest (assuming that “bad” planetary health would have severe consequence on global welfare and therefore on the economy). Similarly, it would be a breach of fiduciary duty to invest in “bad” assets (e.g. generating pollution), if the general market consensus is to start avoiding

²⁵ The Article 173 of the Energy Transition Act, passed in 2015 in France, requires among other dispositions, companies and investors to report on their climate change strategies and exposures. Visit, https://www.frenchsif.org/isr-esg/wp-content/uploads/Understanding_article173-French_SIF_Handbook.pdf.

them. Integrating planetary health in fiduciary duty (as is being currently debated for climate change and more broadly SDGs) would represent a great power of change, enabling a massive shift of money flows. This could be a part of respective regulations defining fiduciary duties in each jurisdiction. More broadly, such approaches should be extended to all bodies and rules of the financial system, aiming for enhanced accountability of financial market participants and intermediaries (stock exchanges, rating agencies, etc.).

6. Shareholder engagement

As shareholders – and potentially also as debt providers – investors have significant powers to orient companies' strategic choices and to impel them on planetary health pathways, even against the wishes of the company management. Compared to measures that tend to favour companies that are already green, shareholder engagement has the power to incentivize those that are not, and therefore constitutes a strong tool for change.

Institutional investors are not passive, and many are committed to achieving the SDGs. Hence, they can be committed to planetary health, or on behalf of their clients, and vote as active shareholders to push investee companies to shift their activities to more sustainable pathways. Such initiatives are being put forward on climate change (e.g. CA100+, 2017). To motivate clients to request such engagement, regulation can oblige investment managers (and enforce this obligation that already exists in some jurisdictions) to fully disclose their engagement principles and actions with investee companies (citing HLEG report, 2018) *“with the aim of preserving or enhancing long-term value on behalf of clients or beneficiaries. They should also avoid extracting short-term profits at the expense of long-term value creation”*.

7. Monetary policy

Central banks play a significant role in ensuring economic stability. While many central bankers argue that their role in directing money is to be “neutral”, that is not always the case. For example, the European Central Bank (ECB) tends to favour today's main industries, which are highly carbon-intensive, and falls short of directing investments in line with European climate policy goals (Inst.Veblen & Positive Money, 2019). Moreover, it is interesting to see that some countries actively use their central banks to make economic choices, e.g. China, Bangladesh, Brazil (Dikau and Ryan-Collins, 2017). After a campaign of quantitative easing (QE) following the most recent financial crisis, monetary policy and money creation are now being seen as avenues with the potential to be “greened” in aspects such as QE, and others such as collateralization. Implementing such a change would require a shift in mentality among central bankers, which the current NGFS discussions have started to promote.

6. Conclusion

The financial sector has an important role to play in planetary health, but is currently constrained by a number of obstacles, with short-termism being one of the more fundamental impediments. Furthermore, the mobilisation of finance for planetary health should not only focus on risk but should also focus on how finance can contribute to planetary health itself. Translating these objectives into targets that are meaningful for financial institutions is key. One option would be a classification of undesirable economic activities.

More broadly, financial regulation has to be shaped so that the financial system is used to further planetary health. A precautionary approach is needed to foster policy action in the financial system to compensate for market mechanisms that appear unable to prevent future catastrophes. This will require macro-prudential regulation to strengthen the financial system against the new types of environmental and health risks, and to incentivise financial institutions to shift their investments towards a planetary health pathway. There is little purpose in promoting positive planetary health finance and underlying economic activities if money continues to flow to economic activities that damage planetary health. Hence an overall alignment of financial markets with planetary health is the real goal.

The financial system is only a tool, an intermediary, and should not be a substitute for economic decision-making. Finance alone cannot address all economic challenges. Relevant policies, innovations, lifestyles and behaviours will also have to be adjusted by other means for finance to take its role. Good signals and incentives will subsequently prove efficient in guiding investors and financial decision-making.

In summary, fixing the financial system itself is indispensable for planetary health, and many of the fixes do not have to bear planetary health in mind to be efficient, if a solution to reconcile finance with social interests and long-term goals could be found. The best contribution that finance could make to planetary health is to rethink the financial system as a whole.

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