

Finance in Transition: Principles for a Positive Finance Future

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Foreword

How to facilitate the transition of the financial system?

Rotterdam School of Management, Erasmus University (RSM) launched a new mission statement in 2017: **RSM is a force for positive change in the world**. This [mission statement](#) is bold, and we are serious about it. We aspire to be a force for positive change in the world through our ground-breaking research, our education of new generations of change agents, and our engagement with industry and society. We use the UN Sustainable Development Goals (SDGs) as a reference framework.

Our [RSM Series on Positive Change](#) publications aim to inform business professionals and business students about trends that are critical for a sustainable future, and about opportunities for business to contribute to positive change. We present new frameworks that can be used to challenge corporates' current way of thinking and re-calibrate their strategies.

This issue, *Finance in Transition*, is written by [Dirk Schoenmaker](#), Professor of Banking and Finance at RSM, [Derk Loorbach](#), Professor of Socio-economic Transitions at Erasmus School of Social and Behavioural Sciences, and [Willem Schramade](#), Sustainable Finance consultant & researcher. It discusses the following, highly topical, questions: what are the desirable finance futures that work positively for planet and people? Are we already seeing such positive finance futures emerging? How can we work together to achieve positive finance futures? And how can we both anticipate destabilisation of current structures and mobilise for a managed transition towards positive finance?

The introduction to this RSM Series on Positive Change is [Business & the SDGs: A Framework for Effective Corporate Involvement](#). In it, [Rob van Tulder](#), Professor of International Business at RSM, conducts a critical assessment of the SDGs. He argues that collaboration is essential to effectively address these grand societal challenges, and presents a framework for designing broader, pro-active, purpose-driven business models, as well as for identifying the 'tipping points' at which business begins to create positive inclusive externalities.

This is followed by [4 Returns, 3 Zones, 20 Years: A Holistic Framework for Ecological Restoration by People and Business for Next Generations](#), written by RSM Executive Fellow [Willem Ferwerda](#). This publication stresses the critical importance of healthy ecosystems and highlights the opportunities for business to restore degraded landscapes in partnerships, while taking into account four returns: of financial capital, social capital, natural capital, and return of inspiration.

In [From Risk to Opportunity - A Framework for Sustainable Finance](#), author [Dirk Schoenmaker](#) explains how finance is a powerful force that can help to bring about positive change. He highlights a number of critical developments, insights and opportunities, and presents useful guidelines that will help to govern sustainable finance.

We hope that reading *Finance in Transition* will have you reflect on the role of finance in creating a prosperous future for all.

Enjoy the read – and please do share your thoughts, feedback and ideas with us via positivechange@rsm.nl.

Ansgar Richter

Dean Rotterdam School of Management, Erasmus University



Executive Summary

The scientific evidence of the negative impact of our current economic system on climate and biodiversity is overwhelming. Over the past decade these scientific concerns have become broadly shared societal and economic concerns. Biodiversity loss, climate change and resource depletion affect communities and economies. This has taken environmental concerns to the boardroom and governmental offices; and has driven millions of citizens to take to the streets to ask for more transformative change in the economic system. At the same time, resistance to transformative change is growing, supporting populist, nationalist or conservative agendas.

Unsustainable development linked to the global financial system

There are increasingly louder calls to achieve 'sustainable development', a concept introduced in the late 1980s (Brundtland Report, 1987) through the United Nations (UN). It posits that we need to find a form of economic development that does not harm others. Thirty years on, all efforts to move in such a direction have failed to reorient economic development and bend the curves downwards in relation to emissions and biodiversity loss (Masson-Delmotte et al., 2018; UNEP, 2019). This pattern of persistent *unsustainable* development is linked to the global financial system: a complex regime of institutions, organisations, regulations, practices and cultures that has become focused on transforming ecological and human capital into financial capital as efficiently as possible. It produces economic benefits and financial growth for relatively small groups of people and institutions, while externalising significant costs and risks that are borne by society and nature.

Mounting system risks

This book starts from the premise that this pattern of unsustainable development creates risks at the level of the economic and financial system (system risks). The financial system cannot continue to develop along these lines indefinitely. As long as this model persists, negative impacts on the environment and socio-economic conditions will worsen and lead to all kinds of disruptions. Meanwhile, tensions and pressures to transform will mount, also within the dominant institutions, organisations and economic sectors.

Discontent with the status quo, people will develop superior alternatives to current technologies, business models, lifestyles, and institutions. Inevitably the combination of external pressures, internal crises and emerging competition will lead to market transitions that are shock-driven and uncertain, and come with conflict, tensions and disruption.

Taking a transition perspective, we explore what this system risk could mean for the financial system. Our starting point is that transformative dynamics increase and become visible to actors within the system. Those actors increasingly recognise the system risks for economic sectors, investments, financial models and 'business as usual'. The following questions arise: what are the desirable finance futures that work positively for planet and people? Are we already seeing such positive finance futures emerging? How can we work together to achieve positive finance futures? And how can we both anticipate destabilisation of current structures and mobilise for a managed transition towards positive finance?

Development of the current regime

To explore these questions, we start in Chapter 2 by looking back: how did the current regime in the financial system develop? We define a regime as the dominant cultures, structures and practices in a societal system. Regimes are our shared 'comfort zone' that develop historically and give structure, stability and continuity to how we organise societal functions like energy, mobility, health care, or finance. In the 1970s, the Bretton Woods system collapsed and the power of financial deregulation was unleashed. This kick-started a transition towards a financial system aimed at producing more money and financial value, often in extractive ways. A new 'financial regime' developed, which normalised, institutionalised and mainstreamed new financial cultures, organisations, instruments, education, regulation and networks. These are all geared towards maximising financial value and effectively creating 'finance for finance'. In this historical transition, GDP growth and financial wealth production exploded, while real economies (i.e. all economic activity outside the financial sector) and people earning lower and medium incomes barely profited.

Artificial value creation

This financial system is based on extreme quantification and specialisation: processes and tasks previously done by one person in one company are now split across many specialists working in various companies in the investment chain – and working with little discretion to deviate from what the numbers tell them. This has created a separation between finance and ethics and a general lack of responsibility. It has become a system that functions in a largely virtual way, and independently from the real economy. Less than half of total assets of the large global banks are devoted to lending to the real economy. Chapter 2 shows that the regime's practices are often value extracting instead of value creating (Mazzucato, 2018): they create artificial value by maximising private financial gains while externalising ecological and social cost. Table 1 highlights the cultures, structures and practices of the current regime. This dominant finance regime is very persistent as it has accumulated a lot of power, and is institutionalised beyond government control.

Destabilisation

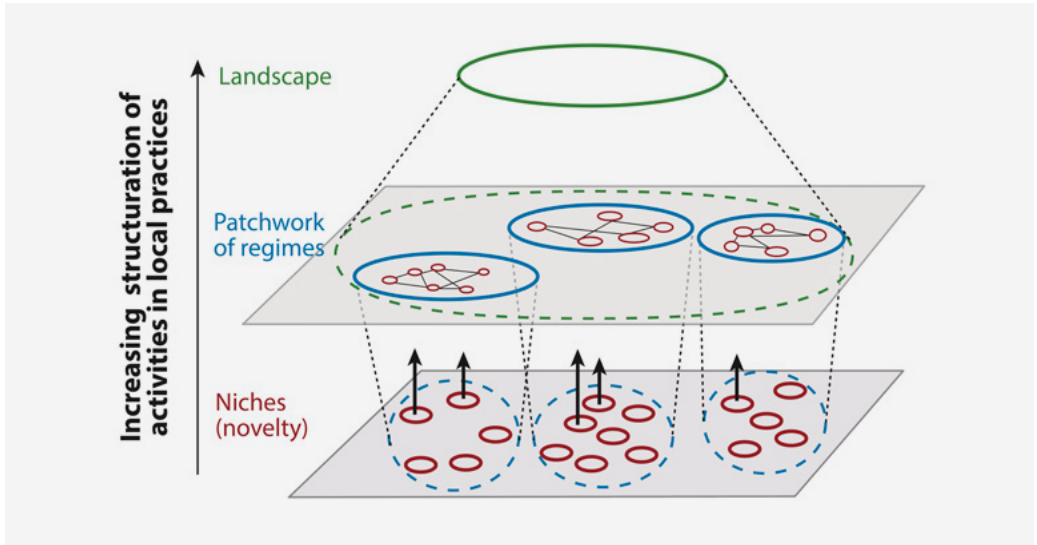
Although this regime is persistent, there are also signs that it is destabilising. Chapter 3 explores how long this financial system could continue to operate like this. To answer this question, we build upon the multi-level transition research framework. Dominant societal regimes, like the finance regime, need to be viewed in their societal context and from a longer time perspective. Historical studies, as well as theories on dynamics of complex societal systems, show that path-dependency (business as usual) is always problematic when confronted with growing external pressures and emerging competition. Figure 1 shows how external pressures from the top and emerging niches from the bottom affect the patchwork of existing societal systems (regimes) in the middle. No societal regime can subsist indefinitely along the same development pathway. At some point external disruptions or internal tensions will lead to crises and trigger periods of disruptive fundamental changes.

There are clear signs of increasing external pressures on the dominant finance regime. Examples include political debate about tax evasion; growing pressure on investors and funds to divest from fossil industries or consider carbon emissions; and increasing demand for accountability and transparency of financial institutions. The current model of globalised

Table 1: Cultures, structures and practices of the current regime in finance

Cultures	» Shareholder value
	» Shareholder primacy
	» Profit maximisation
	» Market efficiency
	» Portfolio theory
	» Value=financial value
	» Separation of finance and ethics - markets decide what's right
	» Narrow view of fiduciary duty to maximise financial returns or achieve at least 'market rates of return'
	» Cynicism is the basic attitude of many financial analysts
Structures	» Complex trading and investment chains
	» Market indices
	» Investment mandates
	» Regulation favours 'listed' investments and has high capital charges for long-term 'illiquid' investments
	» Backward looking quant risk management models (e.g. VAR)
	» Interest rate deduction in corporate and income tax favour debt over equity
	» Business schools and universities teach orthodox finance as the true belief
	» Governance and legal regimes aimed at investor protection and financial value, not at purpose / other capitals
	» Compliance rules favour scale and make incumbents even more entrenched
Practices	» Benchmarking
	» Debt financing for efficient capital structures
	» Arbitrage trading / Repackaging and trading assets
	» Activist investors push companies to maximise their financial value
	» Investment bankers push companies to increase market power with M&A
	» Intense lobbying for favourable regulation
	» Ethical implications of products are typically not considered
	» Shift from active to 'cheap' passive investing to minimise career risk
	» Any investment or lending decision or practice needs to be justified with reference to financial metrics

Figure 1: External landscape pressures and emerging niche competition



economic growth supported by global networks of states and multilateral organisations is being fundamentally questioned. As inequality keeps growing this will lead to increasing calls for structural change. Moreover, sectors that historically generated easy profits (oil, coal, gasoline cars, extractive industries) are becoming vulnerable. This creates uncertainties and investment risks that come on top of the emerging system risks posed by climate change and ecological collapse.

Emerging innovations

At the same time, transformative innovations (alternative concepts, technologies and practices) and sustainability transitions in key markets are emerging in energy, food, mobility and resources. These are supported by new governance strategies, co-operative and civil support as well as through social entrepreneurship and new finance. Examples are mission-driven banks, impact investing strategies, digital financial technologies, alternative accounting, local economies, and so on. These emerging niches are in part interlinked with the destabilisation of economic sectors that are based on fossil fuels. This automatically hits the financial sector as well, since it is heavily invested in those sectors. Rapid and non-linear shifts are possible to economic futures that are circular, decentralised and with internalisation of externalities. These shifts thus imply completely transformed economic and financial structures.

Scenarios for the system

What would such a transformation look like? We explore three very general scenarios: hypercapitalism; complete definancialisation; and socio-economic collapse. In hypercapitalism, the current trends of market concentration and corporate capture become even more severe, resulting in further deterioration of social and environmental outcomes. In contrast, complete definancialisation has governments taking over and dismantling most

of the financial system, resulting in world trade coming to a halt and the possible failure of food production and health systems. In the scenario of socio-economic collapse, neither the financial sectors nor public authorities are able to control the development pathway and societal dynamics, resulting in civil unrest and chaos. All three scenarios result in devastating social and environmental outcomes.

Guiding principles for a positive finance transition

While these scenarios are all undesirable, they could nevertheless happen. Human creativity and entrepreneurship will hopefully find alternative pathways, but we had better not leave that completely to chance. In Chapter 4, we explore what positive future could emerge if we develop proactive transition governance strategies. This needs to be a collective effort since no one is in charge of the financial system and its transition. Therefore, transition governance is about empowering, mobilising, connecting and guiding initiatives and actors that are already exploring a positive transition. So, what forms of agency and action are already working on transforming the financial system? And what is the emergent direction for such a transition? Many examples and initiatives point towards a financial system that creates value for nature and people. But so far, we lack an over-arching, collective strategy that mobilises enough transformative power to disrupt the dominant finance regime (as visualised in Figure 2 below). Such a collective strategy should be made explicit. We can start by formulating three guiding principles for a positive finance transition:

- 1) From financial to integrated value:** integrated returns (which combines financial, social and environmental returns), rather than purely financial returns. This is embedded in a serious statement of purpose of what the financial institution's value creation looks like and who it will benefit. Effective systems are needed for transmitting information on social and environmental capital to and from corporates, citizens and governments. It also requires new mental models and new business school programmes based on integrated value creation;
- 2) Stewardship based on a direct link between financiers and companies:** financiers and companies have a direct dialogue on targeting integrated value (aligned with the UN SDGs) without intermediary actors. For banks, this suggests a stronger role for relationship banking. For asset managers and asset owners, it will likely include more concentrated ownership stakes, deeper engagement, and shorter investment chains;
- 3) Capital allocation based on long-term societal value:** as positive and negative impacts of investments are better quantified and accounted for, they increasingly drive investment decisions. Investors increasingly take a transition perspective and actively participate in financing sustainability transitions. They will embrace the different financial logics of a circular, non-extractive economy based on service and sharing.

Transition dynamics for the financial sector

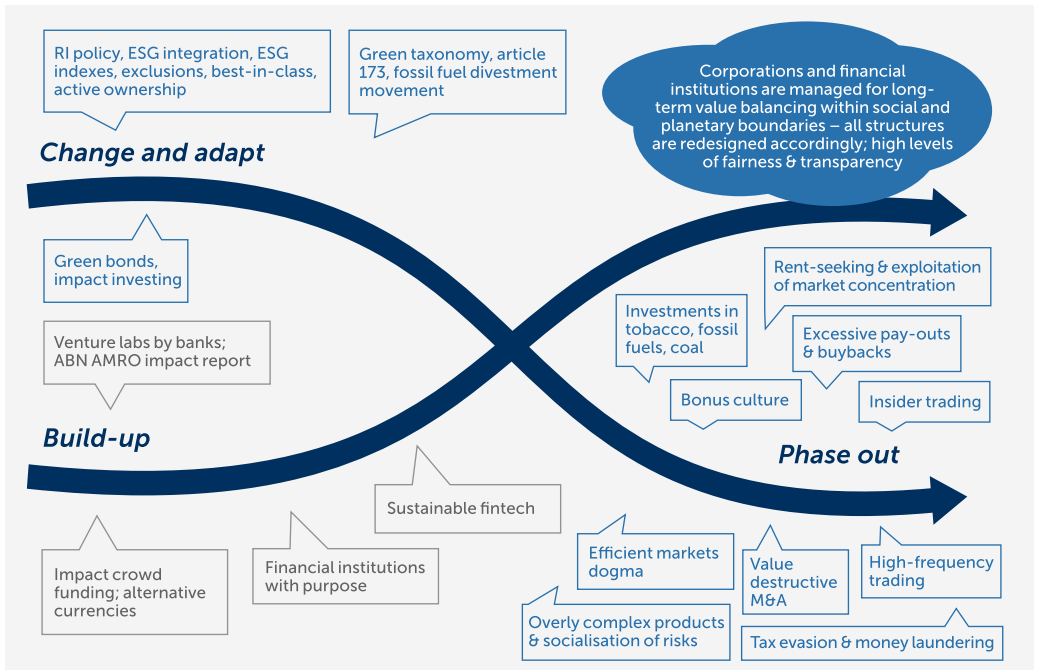
So how do we get out of merely improving the existing system and struggling to bring in sustainability, towards proactively engaging with the development of a completely new value-oriented finance system? Chapter 5 takes our vision of a desirable financial transition as a starting point and identifies the elements, building blocks and initiatives that currently exist and already contribute to transition. Figure 2 shows this process of transition dynamics by illustrating four phases:

- » **Direction and purpose:** the emerging guiding principles for a desired transition (depicted in the top right);
- » **Change and adapt:** the elements of the current regime that are starting to change and adapt (top left);
- » **Build-up:** emerging transformative innovations that can develop towards new structures and regime elements (bottom left);
- » **Phase out:** the regime elements that are being delegitimised, are moving towards end-of-lifetime or are disrupted (bottom right).

From risk to impact

A financial system based on these principles requires a transition away from its current state. This includes a cultural and behavioural transition far beyond changes in technology, models and metrics. Financial sector actors need to respond to sustainability transitions that emerge in economic sectors such as energy, food, mobility or healthcare, where we see a shift from linear, fossil and financial growth to renewables, circularity and broad welfare.

Figure 2: The x-curve of transition dynamics for the financial sector



These transitions should have fundamental implications for financial models, returns on investment and (distribution of) profits. However, the majority of the financial system, including actors such as pension funds, banks, companies and investors, considers sustainability mainly from a risk mitigation perspective (red diagonal from top left to bottom right in Figure 3). They use environmental, social and governance (ESG) ratings to minimise financial losses from sustainability trends. This is also illustrated by the column 'ESG thinking' in Table 2: this route is based on the implicit assumption of gradual change, where ESG ratings, regulation (e.g. the European green taxonomy) and technology will keep the system afloat. Financial performance remains the goal, subject to minimising (ESG) risks modelled

Figure 3: Economic and financial transition

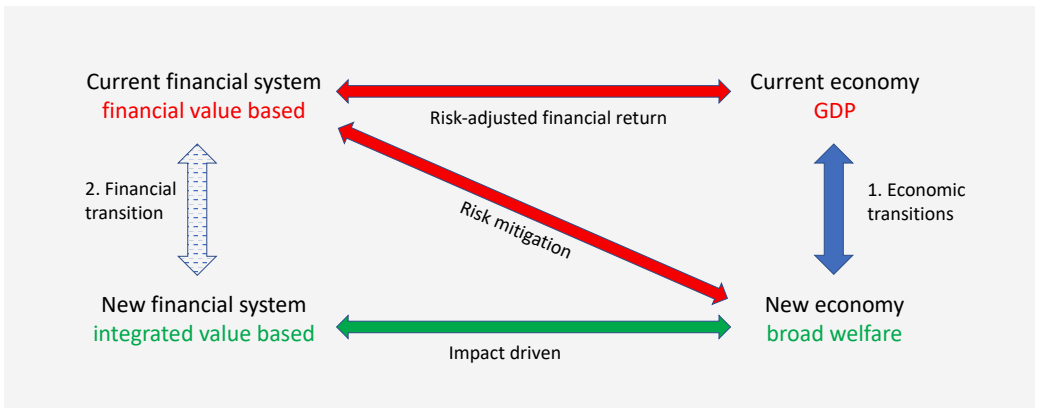


Table 2: From traditional to transition finance

	Traditional finance	ESG thinking	Transition finance
Long-term vision	Business as usual	Need to reduce emissions	Change to stay within social and planetary boundaries
Route	Business as usual	Gradual change: ratings, regulation and technology will save us	Disruptive transitions: emerging niches & phase out of unsustainable activities
Goal function	Financial value	Financial value	Integrated value
Definition of risk	Measures of historical volatility	Measures of historical volatility	Ecological risks represent system risks not captured in current models

on historical data. As Table 2 summarises, ESG thinking is actually more similar to traditional finance than to transition finance and in a way also hampers sustainability transitions. As sustainability transitions in our economy accelerate and cause phase-out-disruption and rapid technological and social change, a transition of the financial system itself is both needed and inevitable. This financial transition is illustrated in the bottom left of Figure 3, and in the 'Transition finance' column of Table 2. The goal function of the financial system becomes *integrated value*, which includes financial, social and environmental value in an integrated way (Schoenmaker and Schramade, 2019a). The financial system becomes forward looking and impact-driven (green horizontal line in Figure 3) where the strength of the financial system is used to help create value.

Accelerating the desired transition?

Making this transition within an organisation or sector requires deep engagement with a new vision or purpose; and space for developing new routines, collaborations and capacities. In Chapter 6 we therefore translate our vision into a transition strategy: how can actors in the financial system (governments, regulators, financial institutions, pension funds, and education, for example) proactively and collaboratively help guide and accelerate the desired transition? Transition management determines the relevant levels in the financial system and where to start mobilising transformative networks and strategies:

- » **Level 1 – The overall finance transition:** the transition to a financial system that manages for integrated value;
- » **Level 2 – Financing sustainability transitions:** ensuring that other sustainability transitions, such as those in energy and food, are financed;
- » **Level 3 – Financial institutions in transition:** how financial institutions can participate in and accelerate the above two transitions;
- » **Level 4 – Financial professionals in transition:** what financial professionals can do in the above three transitions.

At each level, professionals in government, regulation, business, finance, research and education need to work together to support a positive finance transition. This means:

- i) developing an integrated value and nature-positive culture and mindset;
- ii) changing existing structures, incentives, indicators, and conditions to that end;
- iii) mainstreaming and normalising routines and practices, inside and outside the financial system, that work for planet and people.

Making it practical

Practically, this means people explore shared guiding principles or desired futures with the purpose of enabling this transition. With methods such as transition arenas it is possible to create networks of transformative professionals with shared discourses and agendas that support desired transitions through their daily activities and thus make their work more transformative. This involves critical reflections upon the existing regime as well as back-casting or wildcard scenarios – to explore desired futures and transitions and then working backwards to actions to be made today. Methods like these help people to visualise alternative futures, link these back to daily practices and begin transforming their default mindsets and ways of working to make positive outcomes a reality.

Our call to action

To start this journey, we call upon critical actors within the current financial regime (governments, regulators, pension funds, banks and universities) to invest and engage proactively with this transformative change. Making 'business as usual' more sustainable is evidently not enough and actually raises the existential risk for planet, people and economy. Moreover, creating a positive finance transition is a strategic opportunity. It can help accelerate and finance sustainability transitions in economic sectors towards a nature-positive economy that generates well-being for all. In the final section 'How to move forward?', we describe how critical actors can form transition arenas (Box 4 in Chapter 6) to make change happen.

1

Introduction

It is the grand challenge of our time: to achieve the transition to a global economy that supports a just society within ecological boundaries (Stiglitz, Sen and Fitoussi, 2009; Rockström et al., 2009; Steffen et al., 2015). If we focus on ecological sustainability, this implies redefining economic and financial logic to preserve, regenerate, and enhance our renewable resources, ecosystems, and their biodiversity and related ecosystem services (Guerry et al., 2015). Focusing on well-being means creating global access to clean energy, water, political stability, social equality and socio-economic development opportunities for all.

It is now increasingly understood that continuing along development pathways based on global, linear, fossil-based and GDP-oriented economic progress is quite literally unsustainable. It is unrealistic to expect this model to continue forever. There is also clear evidence that the increase in global GDP over the past few decades has not led to significant economic progress for most: socio-economic inequalities are growing as the rich become richer (Piketty, 2015).

The financial system is inherently embedded in an economic model focused on growth. To support growth, finance has excelled in creating financial value and profit. The system is increasingly targeted for supporting inequality, tax evasion, and for ignoring ecological and social value, while significant attempts are made to stimulate 'finance for good' and 'green growth'. Yet it seems that even where 'sustainability' or 'welfare' is introduced in policy and finance, the over-arching pattern of development remains oriented towards GDP and growth.

The mindset of the financial sector collectively operates as if changes are always gradual and small: there is a focus on innovation, improvement and problem solving, using rational models of innovation, policy and progress. But history shows us that while change is constant, disruptions are inevitable. Complex societal systems (economic sectors, organisations, or regions) go through periods of non-linear and systemic change. While financial actors are excellent in analysing and reducing risks, they structurally ignore the most important risk: that whole economic sectors and society at large might collapse.

In this book, we explore what it means to take seriously the system risk posed by such disruptions: one way or another – either through technological, ecological or socio-economic disruptions and crises, or through deliberate interventions from politics, communities or business – destabilisation will lead to fundamental, non-linear change. In the midst of a global pandemic and its economic aftershocks, accepting the inevitability of future disruptions implies preparing for uncertain futures. But it is also about exploring the potential for desired and rapid transformative change.

A transformative shift to an economy that prioritises nature and well-being over money, inevitably requires new forms of governance, strategy and finance. It requires a *double materiality* perspective on sustainability: not only *financial materiality* necessary for understanding the impact of sustainability on a company's development and performance (internal impact), but also *environmental and social materiality* for understanding the impact of a company's activities on nature and society (external impact). Until now,

decision-making tends to focus on financial materiality (e.g. by analysing the impact of so-called ESG factors on financial performance). Creating the conditions – within which economic activity will automatically generate value for nature and people first – requires decision-making based on *guiding principles for a sustainable future*.

In this book, we focus on the implications of these guiding principles for the financial system. We explore its vulnerability to disruption and how it still persists in more of the same (financial value creation) rather than proactively transforming itself (towards social and environmental value creation). We also highlight the emerging transformative changes and theorise how these could build up to a positive transition. For us, this includes the finance profession, finance education and the way the financial system is organised and regulated. We cannot expect such a massive and complex transition to be orchestrated or managed in a traditional way: it requires ongoing effort and co-ordinated actions, aided by external pressures and disruptions.

But it can be influenced through imaginative and forward-looking strategic interventions. To this end, we offer practical starting points and call upon professionals to engage with the risk and possibilities of a nature-positive finance transition. How long can we expect the current financial system to continue as it is today? How prepared are we for system risks? Beyond transitions, what are our alternative perspectives? Where are the sources of desired transformative change? How do we personally take responsibility?

2

A historical perspective on the current finance regime

Most (Western) economies refer to themselves as being 'capitalist', meaning market organisation is used to govern the production and distribution of goods and services, and believe that this is the best way. In essence, however, they are 'mixed economies' using, to different extents, both markets and the government to organise economic activity (Nelson, 2011). Such 'mixed economies' are either 'liberalised' or 'co-ordinated', emphasising either market principles or market co-ordination as mechanisms for organising economic actors (Akkermans, Castaldi and Los, 2009). In structure and governance, these economies are heavily influenced by the neoliberal paradigm and a dominant, societal orientation towards economic growth as the main goal of the economy. This paradigm is operationalised by incentivising competition through free trade, allowing free capital flows, deregulation, and maintaining a small government through privatisation and limits on public debt and fiscal deficits, i.e. austerity (Ostry, Loungani and Furceri, 2016).

2.1 Growth orientation

Policy, business, and society have developed shared values and discourses (*culture*), rules, institutions and networks (*structure*), and routines (*practices*) geared towards progress, growth, and innovation through markets over a period of decades. This growth-based orientation solidified under the influence of globalised markets, financial systems, and related facilitating structures. In this process, the financial system has become increasingly detached from the real economy, and has incorporated incentives that reward trading and speculation instead of long-term wealth creation (Kelly, McQuinn and Stuart, 2013). At the same time, the financial sector moved from being seen as largely 'unproductive' – mainly existing to facilitate the market economy – to a productive and central part of the economy while extracting an increasingly large share of revenue generated by other sectors (Philippon, 2015; Mazzucato, 2018). Also, there is increasing evidence that this financial sector growth is having negative effects on real economic growth (Cecchetti & Kharroubi, 2015). This detachment and growth in trading has further entrenched the need for growth into the system, for example, to balance out the large growth in bank and investment assets (see Figure 4 below). Next, overliquidity in the financial system (including low interest rates) has led to asset price inflation. Moreover, due to increasing returns on capital relative to labour, this financial sector growth (in terms of financial balance sheets) has led to rising income and wealth inequality in most economies (Piketty, 2015; De Vries, 2019), which has high social and economic costs (Dabla-Norris, Kochhar, Suphaphiphat, Ricka and Tsounta, 2015).

Dehumanisation of people to rational economic agents

On a micro scale, these structures and ways of thinking in terms of financial growth and optimisation have led to a culture of seeing people as 'rational economic agents' and 'consumers' rather than human beings with different values, aspirations, emotions, and roles in society. Although strict rationality assumptions about human behaviour in economic

exchanges were disproven a long time ago (Tversky and Kahneman, 1973; Barberis and Thaler, 2003), they remain pervasive to this day; most notably by triggering all sorts of actions, such as marketing and nudging, that aim to nurture the 'consumer' part within us and associated consumer behaviour. This has contributed to making people (and arguably businesses as well) more self-interested, calculating, and detached from others and nature (Morgan, 2006; Rouch, 2020). Nevertheless, although still very prominent in today's economy, neoliberalism as a governance ideology, and the related structures and cultures described above, are being questioned as a result of (global) economic and environmental crises and the growth of inequality (Ostry, Loungani and Furceri, 2016; Stiglitz, 2017).

From control to liberalisation

After World War II, the main purpose of the financial sector was to finance the rebuilding of the economy. Until the 1970s, the financial sector was heavily constrained and it grew more or less in line with the real economy. The credit growth of banks was controlled by central banks (e.g. the Competition and Credit Control regime of the Bank of England, see Capie and Wood, 2018). Capital controls meant it was hard to move capital to other countries, and investment was effectively directed into the domestic real economy. Figure 4 shows that the banking assets to GDP ratio and the stock market capitalisation to GDP ratio, were relatively stable at close to 1.0 and 0.4 respectively.

This changed dramatically after the collapse of the Bretton Woods system of fixed exchange rates in 1973. At the *structural* level, restrictions on international capital flows were gradually lifted in the late 1970s and early 1980s, partly in response to the emergence of off-shore markets in the 1960s (e.g. the Eurobond and Eurodollar market¹ in London and Luxembourg). Credit controls on banks were lifted in the early 1980s. The European Union embarked on an internal market for banking with its banking directives.² Over a relatively short period of time, the banking sector was liberalised, leading to a national and international expansion of the banking system since the 1980s (Panel A of Figure 4). And in 1986, the Big Bang heralded the liberalisation of the London stock market, which spurred the growth of stock markets (Panel B of Figure 4). Sectoral structures were also liberalised. In 1989, the ban on bank-insurance mergers (*structuurbeleid*) was lifted in the Netherlands (Van Riel, 2015). A major event was the lifting of the Glass-Steagall Act in the United States in 1999. This act had been introduced in the aftermath of the Great Depression to separate commercial banking and investment banking, and had limited financial speculation by banks for decades (Hendershott, Lee and Tompkins, 2002).

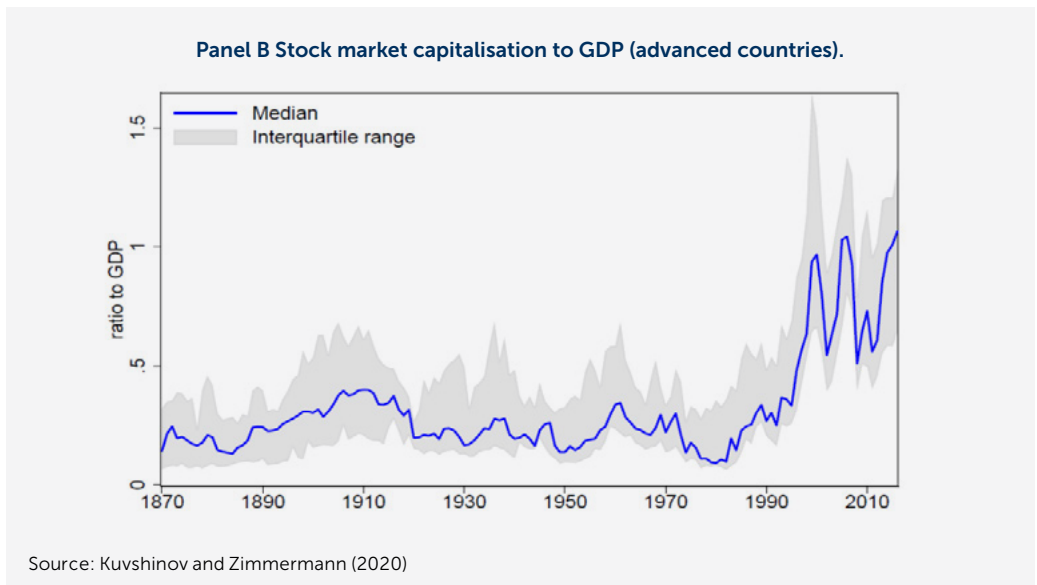
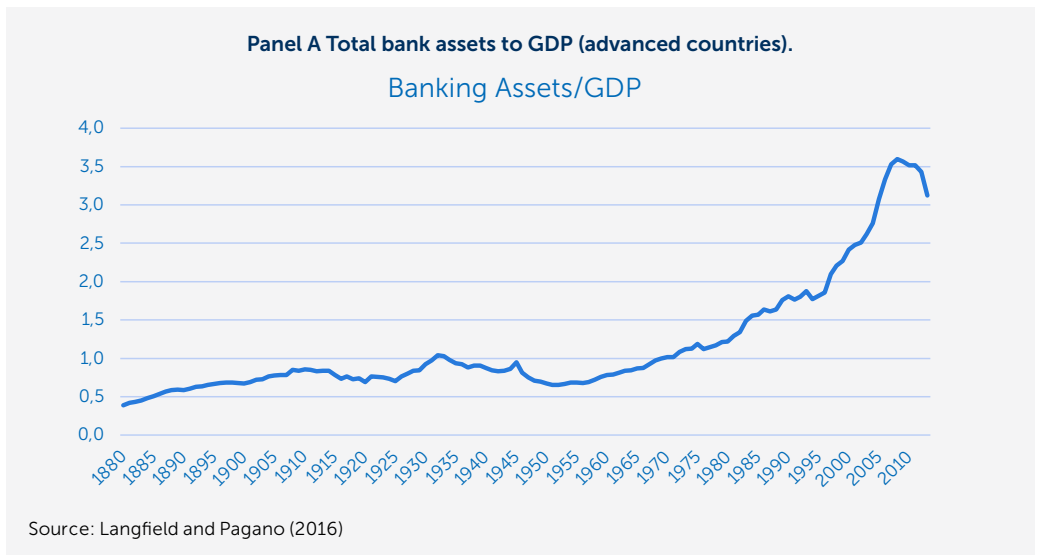
In the 1980s, the deregulation of the financial sector reached momentum as part of the broader economic deregulation agenda of the leading politicians of the day, US President Ronald Reagan and UK Prime Minister Margaret Thatcher, who promoted private markets. Deregulation, in combination with advances in IT and finance theory, unleashed spectacular growth of the financial sector, both the banking system and the asset management industry (pension funds, insurers and investment funds). Figure 4 shows the acceleration of the growth

1 A eurobond is an international bond denominated in a currency not native to the country where it is issued. Also called external bond. Eurodollars are deposits denominated in dollars at banks located outside the United States.

2 In particular, the First Banking Directive of 1977 and the Second Banking Directive of 1989.

of the financial sector. Financial institutions expanded at home and abroad. Finance theories, such as portfolio theory (Markowitz, 1952), the Capital Asset Pricing Model, Value-at-Risk models, combined with a belief in efficient markets (Fama, 1970) spurred financial institutions to optimise financial risk and return in internationally diversified portfolios using advanced econometric models. Moreover, the long-standing rule for interest payments deduction in corporate and income tax stimulated debt financing at the expense of equity financing within an expanding financial system.

Figure 4: Growth of financial system



Shareholder value culture

The dominant *culture* in the corporate and financial sector moved to the shareholder value paradigm embodied in the famous book *Creating shareholder value: the new standard for business performance* (Rappaport, 1986). Shareholder or financial value creation became the goal of the financial system. Shareholders received an important role in the newly emerging corporate governance codes (e.g. the UK's Cadbury Code of 1992, and the 2003 Tabaksblat Code in the Netherlands). Also, leading finance textbooks put shareholder value maximisation at the core of corporate valuation (e.g. *Principles of Corporate Finance*, Brealey, Myers and Allen, 2020).

Practices geared to capital markets, away from relationship lending

Moving to *practices*, the liberalisation of the financial system and advances in IT and finance led to internal transactions to further optimise financial risk-return. Large banks started to trade liquidity in the interbank market as well as foreign exchange and derivatives in over-the-counter (OTC) markets. Figure 5 shows the growth of OTC markets, where large banks are the leading players. As a result, the large banks moved from relationship lending (which reduces information frictions of SMEs) to transaction-based lending at arm's-length, and proprietary trading. Boot and Thakor (2000) show how relationship lending declines as banks face more competition from capital markets. Mutual funds offer interest-bearing accounts to retail depositors, and investment banks offer debt securities (corporate bonds) to companies. These capital market activities take market share from banks at both sides of the balance sheet (deposits and loans). To reflect the rise of bank trading, the Basel Capital Adequacy Accord complemented its capital rules for credit risk in the banking book with capital rules for market risk in the newly created trading book in 1998. These new rules allowed banks to use internal risk management models to calculate their capital requirement for the trading book (so-called Value-at-Risk models) and the banking book (internal models for credit risk).

Figure 5: Global derivatives markets (\$ trillion), notional amounts, 2000-2017

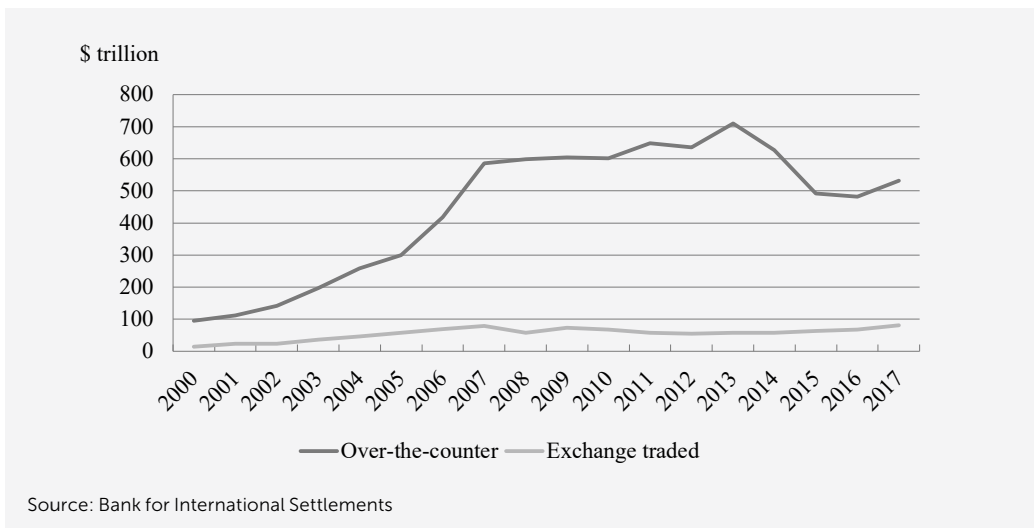
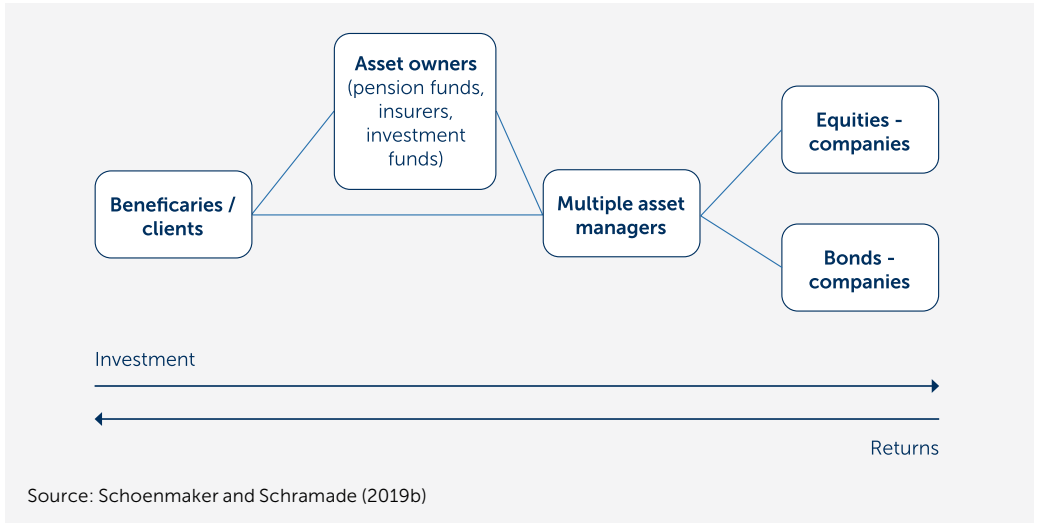


Figure 6: A stylised investment chain



Source: Schoenmaker and Schramade (2019b)

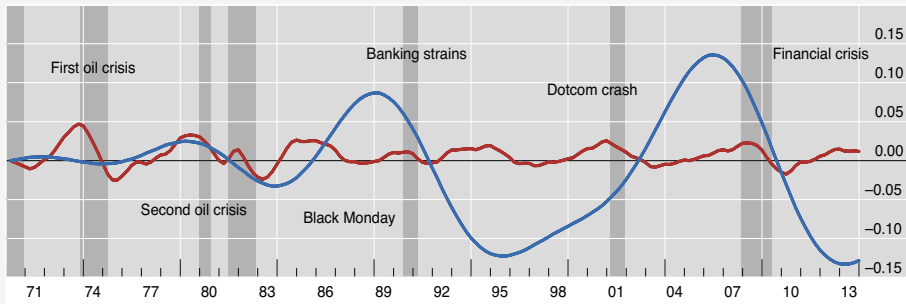
Long and complicated investment chains

At the same time, the growth of institutional investors, like pension funds, insurance companies and investment funds, started to accelerate. Assets of institutional investors quadrupled from about 50 per cent of GDP in 1990 to more than 200 per cent in 2017 in the European Union and the United States (De Haan, Schoenmaker and Wierst, 2020). In institutional investment, there is a long and complicated chain of parties that sit between the ultimate provider of capital (typically someone investing for their retirement) and the ultimate user of capital (typically a company or project). In their simplest form, such investment chains look like Figure 6 (Schoenmaker and Schramade, 2019b). In practice, however, such chains are much more complicated because beneficiaries have investments with multiple asset owners (pension funds of current and past employment; several insurance products) and multiple asset managers. In an investment chain, there is a principal-agent relationship between the parties at each link, with implications for allocation and performance. The investment performance of the asset manager is, for example, measured against a clearly articulated market benchmark. Along the investment chain, a lot of valuable information (e.g. on the long-term potential of companies) is lost and substantial transaction costs (both physical and reporting) are added.

Volatile financial cycles

These trends led to an endogenous growth of the financial system, beyond its original function of financing governments, business and households in the real economy. This endogenous growth was in particular spurred by debt financing (inter alia because of tax-deductible interest payments). The resulting leverage led to more cyclical behaviour of the financial system itself. Figure 7 illustrates how the financial cycle (measured by credit and house prices) and the business cycle (measured by GDP) diverge. Moreover, the amplitude of the financial cycle started to outpace that of the business cycle and is now five times that of the business cycle in the US. While Figure 7 represents the US cycle, similar patterns can be found across Europe

Figure 7: Business cycle vs financial cycle in the US, 1970-2011



Note: Blue is the financial cycle; red the economic cycle; this graph shows the new regime since the mid-1970s after the breakdown of the Bretton Woods system of fixed exchange rates. Source: Borio (2014)

(De Haan, Schoenmaker and Wierts, 2020). The large upswing from 1995 to 2007 was matched by a large downswing during the Global Financial Crisis of 2008³.

Post-crisis reforms limited

There was broad political and societal consensus during the Global Financial Crisis that banks needed saving to avoid further disruption of the economy. Public authorities (ministries of finance and central banks) thus backstopped the banks and no alternatives were explored. The outcome was a strengthened banking system and a wider financial system. However, there was public outcry and debate about the transfer of public money to private parties. This resulted in post-crisis regulatory reforms that aimed to reduce the likelihood and the size of future bailouts. These reforms included an increase in bank capital buffers; a reform of resolution frameworks; a ban on proprietary trading by banks and a move of bilateral OTC derivatives trading to central clearing, including netting of transactions (Schoenmaker, 2017a). The reforms partly explain the minor declines after 2008 shown in Figures 4 and 5. Moreover, European regulations put a cap on bankers' bonuses. The European cap limits bonus pay-outs to 100 per cent of salaries. The Netherlands has further tightened the bonus cap to 20 per cent of salaries.

Because the large players were rescued, for the financial system the economic crisis was only a temporary shock that led to the strengthening of its position and further optimisation. The endogenous features of the financial system have not been reformed (van Tilburg et al., 2018), leaving scope for future financial cycles as shown in Figure 7. Investment bankers keep behaving in their own interest, pushing corporates to take on more debt and buy back their stock – allowing bankers to reap large fees and CEOs to cash their stock options. As a result, corporates are less resilient to weathering shocks like the coronavirus crisis, forcing many companies to ask for state support.⁴

³ See Reinhart and Rogoff (2009) for a good overview of the causes and consequences of the Global Financial Crisis.

⁴ For example, the US airline industry bought back stock for about \$50 billion in the years before the coronavirus crisis and then asked to be bailed out by the state for a similar amount.

2.2 Dominant socio-institutional regime

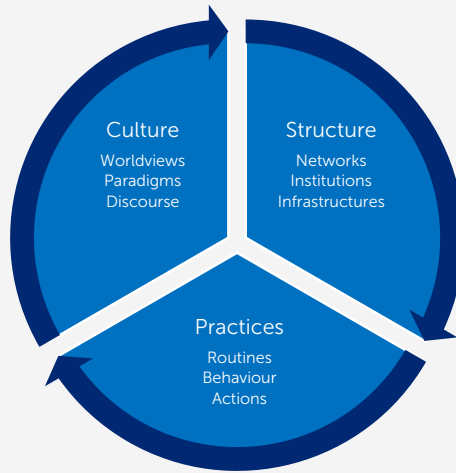
Within transitions theory, the financial system as described here is conceptualised as a 'socio-institutional' regime (Loorbach et al., 2017): the dominant cultures, structures, and practices in a societal system (in this case the financial system) that have evolved historically. These three regime dimensions reinforce and stabilise each other, leading to a degree of path-dependency and lock-in. The dominant culture (worldviews, paradigms, discourse, and guiding values) in a particular regime leads to, and reinforces, structural elements such as institutions, rules, and networks. This in turn 'structures' and guides the practices and behaviour of actors, which reinforces shared values and structures (Giddens, 1984; Grin et al., 2010). Table 3 provides an overview of the key actors in the financial system.

Table 3: Key actors in finance

Financial institutions	» Banks: retail, corporate and investment banks
	» Pension funds, insurance companies
	» Investment funds: retail and wholesale
	» Large companies with treasuries
	» Hedge funds
	» Private equity
	» High-frequency traders
» Stock exchange	
Official parties	» Supervisors: prudential and conduct of business
	» Central banks
	» Ministries of Finance, Economic Affairs and Justice
	» Parliaments
	» Multilateral financial institutions (e.g. BIS, IMF)
Other influencers	» Representative bodies (e.g. banking associations)
	» Accountants, consultants
	» Law firms
	» Educators (e.g. business schools)

Source: The authors

Figure 8: Lock-in within a socio-institutional regime



Source: adapted from Loorbach et al. (2017)

Lock-in of a disconnected financial regime

This dynamic creates a path dependency or 'lock-in' within which actors seek to improve the existing system and are fundamentally unable to change course (Geels, 2002; van Raak, 2016), as illustrated in Figure 8. Innovation, regulation and strategies predominantly 'solve' short-term problems, thereby investing even more in the existing regime aimed at financial value optimisation and making it even harder or more costly to change course.

The financial system has transitioned from a regime that supported the real economy to one that is based on extreme quantification and specialisation (with multiple parties in the investment chain as shown in Figure 6). This has created a separation of finance and ethics; a general lack of responsibility, and a system that functions in a largely virtual way, and independently from the real economy. Only 44 per cent of total assets of the large global banks are devoted to lending to the real economy (Table 4). The regime's practices are often value extracting instead of value creating (Mazzucato, 2018): they extract financial value from the real economy by creating artificial value, externalising ecological and social cost and maximising private financial gains for a specific group of actors. If we dig deeper, we can unpack the current finance regime by describing its three dimensions based on our analysis in this Chapter (Table 5).

These issues are all interrelated and mutually reinforcing. Without specific design or management, the financial sector is evolving around these shared cultures, structures and practices. While its negative effects and characteristics have been well documented, and many have argued for changes, it is almost impossible for individuals to escape or fundamentally challenge it. A 'regime' in that sense is the collective comfort zone: educational systems, reward systems, colleagues, organisational structures and routines, daily practices and regulations are all busy optimising their own interests and trying to

improve by addressing problems but cannot escape the longer-term trajectory. This escape can only be made by stepping out of the regime and finding a niche or other position.

Incumbents sustain the regime

Societal regimes are understood as ‘dynamically stable equilibria’: they provide stability to societal systems but also develop path-dependently. The normal condition is continuous incremental change and improvement through optimisation of existing structures, often with a focus on efficiency. Actors within such a regime context contribute to this path-dependency by optimising their own functionality in relationship to its context, thereby investing in their position, assets, capacities and strategic position. ‘Incumbents’ are thus inherently part of sustaining established regimes, are conditioned by them, but also reinforce and reshape them. In the financial system this is visible in the growing scope and complexity of investment chains, products, jargon, and processes. The incumbents are the banks, the pension funds, the big investment funds, as well as consulting and auditing firms and business schools. These are relatively stable institutions within a shared regime, yet there is continuous change and innovation happening, leading to improvements of efficiency, maximisation of turnover or optimisation of profitability. Philippon (2015) finds that the annual cost of financial intermediation remains stable (at 1.5 to 2 per cent of intermediated assets) notwithstanding efficiency improvements. The revenues are shared among the incumbents paying high (fixed and variable) salaries.

Societal awareness of systemic problems

Such patterns of improvement and optimisation seem to be logical, rational and ‘normal’: it is almost impossible to imagine things to be completely different and it is also just ‘how things are done’. During and after the financial crisis of 2008, public voices, including the Occupy Wall Street movement, were heard but did not have much effect: there was no

Table 4 : Real economy focus of banks

Real economy focus	2008		2018	
	Values-based banks	Global banks	Values-based banks	Global banks
Loans to total assets	71%	39%	75%	44%
Deposits to total assets	73%	46%	76%	58%

Note: The table compares a group of 51 values-based banks (sustainable banks) and a group of 31 global systemically important banks. Source: Global Alliance for Banking on Values (2020).

Table 5: Cultures, structures and practices of the current regime in finance

Cultures	» Shareholder value
	» Shareholder primacy
	» Profit maximisation
	» Market efficiency
	» Portfolio theory
	» Value=financial value
	» Separation of finance and ethics - markets decide what's right
	» Narrow view of fiduciary duty to maximise financial returns or achieve at least 'market rates of return'
	» Cynicism is the basic attitude of many financial analysts
Structures	» Complex trading and investment chains
	» Market indices
	» Investment mandates
	» Regulation favours 'listed' investments and has high capital charges for long-term 'illiquid' investments
	» Backward looking quant risk management models (e.g. VAR)
	» Interest rate deduction in corporate and income tax favour debt over equity
	» Business schools and universities teach orthodox finance as the true belief
	» Governance and legal regimes aimed at investor protection and financial value, not at purpose / other capitals
	» Compliance rules favour scale and make incumbents even more entrenched
Practices	» Benchmarking
	» Debt financing for efficient capital structures
	» Arbitrage trading / Repackaging and trading assets
	» Activist investors push companies to maximise their financial value
	» Investment bankers push companies to increase market power with M&A
	» Intense lobbying for favourable regulation
	» Ethical implications of products are typically not considered
	» Shift from active to 'cheap' passive investing to minimise career risk
	» Any investment or lending decision or practice needs to be justified with reference to financial metrics

Source: The authors.

option but to save banks with public money and allowing financial institutions to further strengthen their position. In the short term, it seemed logical: there was the prospect of a systemic collapse and barely an alternative in sight. But from a longer-term perspective this pattern just makes future disruptions more likely: it strengthens the regime while the context continues to change. It urges more organisations and people to explore alternatives, become concerned and engaged, thus creating 'second order' learning effects for future crises. This 'reflexivity' (Beck et al., 1994) is the societal process in which societies become aware of systemic problems and develop collective responses.

Incremental change

What seems 'rational' and 'normal' in the short term might thus be inherently 'political' and 'problematic' in the longer term. While innovation and problem-solving measures are formally presented as rational, they in fact exclude more transformative changes and prioritise investments that strengthen the status quo and vested interests. In this way, societal regimes might function decently for a very long time, but eventually they become increasingly problematic, especially when societal preferences and contexts change. They represent a status quo in how costs and benefits are distributed, which actors are in the system and who is outside of it. Institutional change is often difficult because vested interests have strong positions not only inside the system, but also in the debate *about* the system. Vested interests can use their dominant institutional positions to anticipate potentially disruptive changes at the systemic level, and attempt to sustain the status quo. For example, large US asset managers have been slow in taking corporate engagement seriously, but are eager to offer investment funds with the label 'sustainable'. Unfortunately, these are mostly traditionally managed funds with an overlay of external ESG scores, without the serious integration of sustainability into the investment process.

Resistance and disbelief

Incremental innovation and gradual change are thus the normal condition; they are also what organisations and people typically like, and can do. Transformative change disrupts business as usual and also comes with friction, breakdown and resistance. But perhaps equally important: transformative change challenges the fundamental logic and assumptions underlying the regime. The combination of explicit and implicit forms of resistance and disbelief makes actors look for non-transformative options. That is why, for instance, since the financial crisis the financial sector has agreed to a wide range of regulatory policies *within* the system, as part of a strategy to keep out more fundamental changes *about* the system. In cases where regime actors *do* adopt transformative innovations, it is often in addition to their core business, typically in incubators, labs or other institutional forms that allow organisations to remain informed and in control.

Lack of reflection

Societal regimes are not just the result of economic or political calculations; they also have a cultural and normative dimension. Institutions are mechanisms of *normalisation*. Institutional pathways are translated into default options for day-to-day societal action. Institutions originate in historical political debate and (oftentimes) deliberate choice. But they become the default – options for normalcy that are no longer discussed and are no longer the issue of reflection. This can be seen in the generative language for issues, e.g. "alternative energy", "ethical investing", "market anomalies", "overinvestment in ESG",

“alternative banks” or “different types of mobility”. Institutional paths are wrapped in powerful discourse coalitions of language, generative metaphors, and cultural norms that guide day-to-day behaviour.

Confirmation and reproduction of the system

The combination of political interest, cultural norms, and regulative structures leads to deeply rooted institutional paths, creating positive feedback that maintains the status quo. Institutional theory calls this a ‘lock-in’ of the system; the structure of the system directs the actions of agents within the system to confirmation and reproduction of the system – for example, quarterly financial performance reviews and bonuses give short-term financial incentives; investors fail to invest sustainably because they believe it would be at odds with their fiduciary duty. Even in the face of failing outcomes, this lock-in persists; institutional theory provides a rich overview of institutional systems dealing with performance crises, by maintaining the status quo and making interventions within the current path. At work here is a powerful combination of disbelief in the possibility of transformative change; blindness to external and potentially disruptive trends and threats, and the desire to protect vested interests. It ultimately means that transitions happen to actors within regime contexts, rather than the actors being proactively engaged in shaping transitions.

Persistent unsustainability

From this perspective, it is hard to miss the increasing external ‘landscape’ pressures building up on the finance regime. Examples are growing inequalities and public debates about the 1 per cent and taxation, sustainability concerns, stagnating economic growth, geopolitical crises and so on. Actors within the regime context often respond to these growing external pressures by further improving the existing regime, only to add to its lock-in. In transition research, this is referred to as ‘persistent unsustainability’: efforts to address unsustainable practices reinforce regime structures, and thereby become part of the problem instead of driving change. Examples in the financial system are the use of ESG ratings and green bonds within the current system instead of fundamental investment in truly sustainable companies and governments (Schoemaker and Schramade, 2019a). Moreover, sustainable companies are also dependent on stock markets, which demand financial value maximisation. Busch, Bauer, and Orlitzky (2016) also make the paradoxical observation that increasing sustainable investment does not necessarily induce sustainable development, and call for a system perspective. Ever since *The Limits to Growth* report (Meadows, D., Meadows, D., Randers, J., Behrens, W., 1972) and its decedents, it has become increasingly clear that the foundations for the current dominant economic regime originated in an ‘empty world’ with abundant sources and sinks, a small population, and expectations of technological advance (Daly and Farley, 2011).

We have now become aware that we are facing planetary boundaries, that technological development alone does not solve our environmental problems, and that the economic growth paradigm does not necessarily lead to more well-being. It is increasingly evident that we need to transition to an economy that is compatible with our current ‘full world’ state. This can only be done by uncovering, and engaging with, the inherently unsustainable practices in our economic regimes instead of just addressing the symptoms of unsustainability. It forces us to think about ‘inherently better’ and ‘different’, rather than

'less bad' or 'more efficient'. Yet the latter terms do describe the current finance regime, which specialises in sending capital to those investments that yield the best financial risk-return trade-off; that forces companies to have an 'efficient' capital structure with high debt levels and low resilience, and in which sustainability is structurally misunderstood – and often merely a hygiene factor⁵ for use in exaggerated marketing claims.

5 The most commonly applied method of sustainable investing, for example, is negative screening of the worst companies or sectors (GSIA, 2019).

3

Moving to transition?

The historical perspective showed the development of the financial regime progressing in a path-dependent way towards increasing extraction and virtual value creation, while fuelling inequality and ecological crisis. This is clearly unsustainable. The regime literally cannot continue indefinitely in the same direction, and at some point external disruptions or internal tensions will lead to future crises within it. This will trigger periods of disruptive fundamental changes, which are best described as non-linear and shock-driven, through which a regime can enter a phase of structural systemic change.

This is the basis for transition research: that under certain conditions a path-dependent equilibrium is disrupted, leading to a relatively quick reconfiguration towards a new equilibrium. By taking a historical and systemic 'outside-in' perspective it is thus possible to start anticipating potential future transitions.

3.1 Individual actors start to experiment

In a context of persistent problems in locked-in regimes, all sorts of actors will start to explore alternatives outside the regime context. Such 'transformative' innovations (Loorbach et al., 2020) or 'niches' (Grin et al., 2010) are technologies, practices, visions, or business models that can develop over time, mature and start to become competitive. These innovations are transformative because they are identified as challenging the dominant logics, structures and practices of the existing regime. It has become clear from transitions research (Rotmans et al., 2001, Grin et al., 2010) that while actors embedded within regimes seek to sustain the status quo, other actors start to develop and experiment with alternatives. Initially they might be ridiculed (labelled 'alternative', 'radical', 'not effective', or 'too expensive') but over time they can mature and develop through learning effects, cost reductions, and social diffusion (Avelino et al., 2019). Such alternatives are more vulnerable but also more flexible than regime players and often they anticipate, or play into, broader societal trends and changes that regime actors are less able to respond to.

Alternative concepts emerge

As societal pressures and changes lead to increasing pressures on regime structures, the niches develop and, through diffusion by people, businesses, and organisations, are increasingly recognised as viable and possible. These include 'alternative' concepts such as 'green bonds', the 'green economy', 'the circular economy', and the 'doughnut economy' (Raworth, 2017). Alternative discourses are available, for example from economists such as Keen (1995) and Sedlacek (2011), who challenge the dominance of mathematics and use of equilibrium models. Alternative discourses also begin to emerge in finance, both in academia and in practice. In academia, first behavioural finance (since the 1970s) and more recently sustainable finance have emerged to challenge efficient markets thinking, whereby all information is incorporated into stock prices. By contrast, the adaptive markets hypothesis argues that the incorporation of new information (e.g.

about environmental and social factors) depends on the number of market participants looking at the new sources of information and the quality of their learning (Lo, 2017). So far, these alternative discourses have not succeeded in seriously threatening, let alone replacing the dominant paradigm. In practice too, alternatives have emerged, such as quant models that exploit specific inefficiencies, or sustainable investing approaches, but these are generally seen as perfections rather than challenges to the system.

Sustainability-minded professionals have long been rare in the financial sector. The few exceptions were typically not taken seriously. However, individuals who do try to put social and environmental value higher on the agenda, albeit with mixed success, now represent a significant minority within financial institutions. They have succeeded in making shallow forms of sustainable investing acceptable (also driven by client demand); in making engagement more serious, and have influenced several institutions that have decided to divest value destructive sectors such as tobacco. However, the systems and mindsets in the sector remain geared towards maximising financial return, not integrated or social return – and in trade-offs, the latter still loses. And when facing tough decisions that challenge the majority’s favourite investments or methods, the sustainability-minded – and their consideration of integrated or social return – are still often ridiculed and dismissed as naïve or idealistic.

Niches develop

Niche financial institutions like Triodos give a higher priority to non-financial targets and are able to attract an alternative type of customer and an alternative⁶ type of employee who is more intrinsically motivated by non-financial concerns. Yet, these niche players constitute less than 1 per cent of the global financial system (Schoenmaker and Schramade, 2019a). At the same time policy, business, and society have also been experimenting with alternative practices, and business models. Although such efforts have not resulted in significant reorientation of the system, there is a significant growth and accumulation of learning and knowledge developing in the niches. In banking, these include green mortgages and green loans – in which better sustainability performance results in slightly lower interest payments. In asset management, sustainable investing is of increasing importance.

Sustainable investing is a heterogeneous set of practices with a shared focus: to take sustainability considerations into account. These practices differ in the ways, and to the extent, they try to achieve this. They include ethical investing, thematic investing, impact investing, exclusions, active ownership, best-in-class, and ESG integration. In addition, these approaches differ in the way and rigour with which they are implemented at various asset management companies and at the various funds within those asset management companies. A large number of these companies have become signatories of the Principles for Responsible Investing (PRI), but many pay only lip service to them. It has to be recognised that ‘sustainable’ is often just a label, a rebranding of an existing product. Therefore, the high growth of sustainable investment strategies is not as impressive as it seems (Schoenmaker, 2019). And even those portfolio managers who are intrinsically

6 See the common cause analysis on the role of internal and external values: www.valuesandframes.org (e.g. Crompton and Weinstein, 2015).

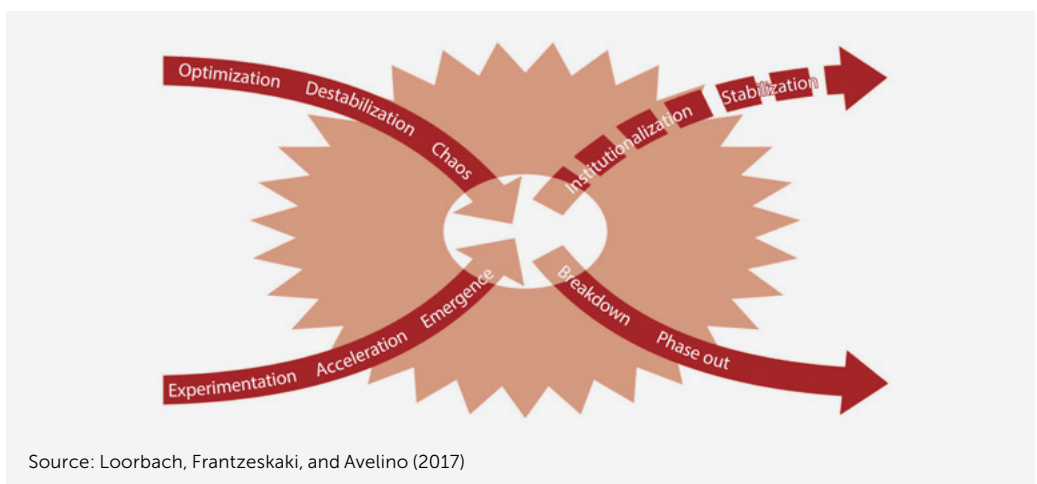
motivated to invest sustainably still succumb to traditional practices such as preferring an efficient capital structure (i.e. with high debt), or selling out when a rather unsustainable acquirer offers a large takeover premium. This means that financial value optimisation is still the prevailing paradigm. As actual pressures and societal mobilisation are now taking place, it seems that such alternative practices are rapidly diffusing and drawing interest from mainstream regime actors. However, the shareholder model with an inherent short-term perspective is still an important structural obstacle.

How transformative are sustainable finance initiatives?

As transition dynamics increase and internal tensions push incumbent actors to reflect upon longer-term futures, transformative innovations will emerge and become more attractive and viable. As incumbents and new actors then start to develop new shared discourses and practices, this might support institutionalisation and the relatively rapid shift towards a structurally different regime. It is still an open question to what extent some sustainable banking and sustainable investing practices are actually transformative. Some of the thinking and acting definitely is, with specific fund managers and certain niche asset managers really shifting their investment criteria and investment decisions in meaningful ways. That said, it is very hard to ascertain to what extent they really do as they say, and to what extent they still stick to the 'old rules'. There do appear to be some tipping points, in that certain sectors such as coal and tobacco have become 'uninvestable' for a large part of the asset management industry. And as ESG scores feed into quant models and indices, they do restrict capital to certain companies. In banking, sustainability tends to affect the qualitative aspects of the loan decision, but not the core credit models of banks and supervisors as yet. Nor have business models in these industries been seriously affected.

These transition dynamics of co-evolving dynamics of build-up and break-down are visualised using the x-curve (see Figure 9). Following an ideal typical s-curve, niches move along a pathway of experimentation, acceleration, emergence, institutionalisation,

Figure 9: The x-curve of transition dynamics



Source: Loorbach, Frantzeskaki, and Avelino (2017)

and stabilisation, replacing the old regime. Conversely, the existing regime follows a downward s-curve from optimisation, via destabilisation and disruption, to a breakdown and phase-out. In reality, these transition pathways are more chaotic and less clear-cut, with actors moving in different, and sometimes opposing directions. Moreover, it is not necessarily a conscious process in which those involved are aware of the ongoing transition. Based on studies of historical transitions and undertaking experimental action research into ongoing transitions, it was found that transitions take decades to materialise but that the actual period of transition is a relatively short disruption (10-15 years) of otherwise 'dynamically stable equilibria' (Folke, 2006; Holling 2001; Loorbach et al., 2017). The liberalisation of the financial system during the 1980s (see Chapter 2) is a case in point. In other words, societies develop specific regimes, within sectors and regions, that are path dependent and naturally optimise. Over time, however, the regimes can experience – following the specific pattern of transitions – increasing destabilisation and external pressure and competition leading to a deep systemic reorientation.

Public questioning of the financial system

The societal forces pushing for more transformative change and sustainability seem at odds with those who call for a return to the nation state, localisation, and are against global migration and 'the elites'. Generally speaking, however, both movements attack a globalised and extractive economic model in which profits go to extremely small groups of people while the negative effects are externalised to the environment or other people. The financial sector plays a central role in supporting the current economic system since it steers capital flows and determines access to it. In the current context of global post-pandemic economic recovery – with systemic uncertainties about future economic development – it is evident that there are transformative changes ahead. For example, the public pushes against saving shareholders, public institutions take control of parts of the economy, and alternative economic models and value systems gain traction. These dynamics enhance the friction in the current regime to such a level that it starts to destabilise. This is when actual transformative changes begin: a shock-induced process of systemic change in which new and dynamically stable combinations of actors, values, structures, and practices are formed. As to the financial sector, people are increasingly questioning its added value and academic evidence is emerging that the sector has indeed become value extractive (Mazzucato, 2018). Nevertheless, the forces of the financial incumbents are still large.

3.2 Signs of destabilisation of the financial system

The economic and environmental crises we have faced, and are currently facing, accelerate the emergence and diffusion of new economic paradigms and revitalise the interest in alternative practices and structures (Loorbach et al., 2017). Being at the heart of our economic system, this puts the financial sector in the spotlight. With increasing inequality and asset prices skyrocketing, people have become concerned that society is now too financialised (De Vries, 2019). The increasing attention in recent years for natural capital approaches is part of this revitalised interest, and the broadly shared search for more systemic changes leading towards sustainability. Proactive incumbents in the financial sector have been developing frameworks for carbon accounting (PCAF, 2019) and even biodiversity. Although action and policy focused on the optimisation of the regime is still dominant in many sectors, including the financial sector, there are more and more examples suggesting we are close to a period of destabilisation, disruption, and shock-driven change. This is not only illustrated by the rapid and sometimes exponential growth and diffusion of alternative discourses ('green economy', 'sharing economy', 'circular economy' or 'biobased economy'), technologies (renewable, electric, digital, bio-based) and models (sustainable and regenerative or circular business models, co-operatives, alternative currencies), but is also visible at the level of regime actors. Hence the almost universal eagerness of financial institutions to talk about sustainability, regardless of the actual sustainability of their own businesses.

This destabilisation was already visible before the pandemic: the growing fossil fuel divestment movement (Franta, 2017); the growth of climate litigation (Burger & Gundlach, 2017); 'shock' asset value losses foreshadowing stranded assets in the (fossil) energy sector⁷ (Caldecott, Tilbury and Carey, 2014); and the EU's green taxonomy. Further, the current economic crisis features a high visibility of calls for investing in transformative change, climate resilience and green recovery – and for NOT saving the old economy. Hepburn, O'Callaghan, Stern, Stiglitz and Zenghelis (2020) call, for example, for investment in clean physical infrastructure, building efficiency retrofits, investment in education and training, natural capital investment, and clean R&D. We are thus, in certain sectors, and within specific countries and economies, arriving at the destabilisation, and even the disruption phase. By definition this hits the financial sector as well, since it is heavily invested in the traditional fossil fuel, extractive sectors of the economy. Now the question is: what is next?

The challenges of assessing transitions in progress

In analytical terms, transitions are a process in which a societal system is pushed away from a 'dynamic equilibrium' (regime) into a phase of chaotic and non-linear reconfiguration. The outcome in abstract terms is always a new dynamic equilibrium. But if we apply this perspective to current 'transitions', we need to take two fundamental points into account. First, we can try to explore the build-up of transformative pressures.

7 See for example the rapid multi-billion euro devaluations of three newly built coal thermal power plants in the Netherlands (Wynn, 2016).

By no means are 'sustainability transitions' completed transitions in the proper definition: we are in the midst of them. Or as historians say: only future historians can say whether we are now 'in transition'. Second, the outcomes of a transition are by definition unpredictable, uncertain and highly contested: we can have preferences and ideas, but so do many others. It depends heavily upon perspective and position as to how one values, appreciates or engages with transformative change.

The need to imagine alternative futures beyond business as usual

These two points underscore the value of the transition perspective to developing a shared understanding of the inherent *unsustainability* of path-dependent regimes. They also stress the need to be extremely modest about the predictive or prescriptive value of the transition perspective. Most importantly, the transition perspective points at the need to assume systemic risks and to imagine alternative futures beyond business as usual. It implies doing what is almost impossible for actors embedded within the regime: to imagine that, within their lifetime, the regime will cease to exist as they know it. From a transition perspective, systemic change is inevitable. The transition perspective shows the strategic and practical need to explore futures beyond business as usual: if structural, non-linear changes are inevitable, what potential threats or opportunities do they offer? What are the desired and undesired alternative futures that need to be explored?

If we assume that we are in a transition away from 'finance as usual', what are possible futures? What emerging dynamics, drivers and conditions are present and how might they shape a pathway towards a future finance regime? A transition of the finance regime (a shock-driven shift away from the current regime) can typically follow different pathways. In the current context, there seem to be major forces at play that pull in opposing directions. On the one hand, the financial regime itself is still largely driving further financialisation and accelerated hypercapitalism (as illustrated by Figures 4, 5 and 7). On the other hand, public sentiment and institutions are seeking more public control over finance and are driving towards definancialisation. These two contrary dynamics create enormous tension and conflict which, if fully unleashed, might lead to undesirable futures. In the scenarios outlined below, we explore these projected futures, based on historical knowledge, assumptions and possibilities. In a generalised and somewhat provocative way, they represent undesirable paths that we might take.

Hypercapitalism

In the hypercapitalism scenario, backlash against the regime is reframed (for example, in cultural identities) and redirected at specific groups (for example, minorities, cultural elites or foreign countries), allowing for the reinforcement of the regime. If this is dominated by the financial institutions and logics of the current finance regime, these actors will be able to secure their interest through the current economic crisis and economic restructuring to further reinforce their position and power. This could result in a type of hypercapitalism reminiscent of the regime of the late 19th and early 20th centuries. It would feature powerful oligopolies that control segmented markets⁸;

⁸ This is already happening, in both product markets and financial markets. For example, just three passive fund providers have 90 per cent of the market; and only three ESG ratings providers control 90 per cent of their market: <https://theconversation.com/three-financial-firms-could-change-the-direction-of-the-climate-crisis-and-few-people-have-any-idea-131869>

corporate capture of state institutions; unrealistically high financial return expectations that push financial institutions and their employees to ever more desperate and extractive ways to generate profits, and the intense use of big data to allow insurers and banks to raise prices for high risk (that is, poor) individuals, effectively shutting them out of the financial system.

This would restabilise the finance regime but also strengthen its path-dependency so that a future transition would be inevitable and likely even more disruptive. Inequalities in income, wealth and opportunity would continue to rise, but financial institutions would refuse to give up their share of the pie as that would be at odds with their fiduciary duty – and they would push listed corporates to do the same. Public goods and non-financial capitals would continue to deteriorate. Media and politics would be increasingly captured by billionaires and corporate interests, turning former democracies into police states. A comfortable life would be possible for a small minority only, and they would need to live in gated communities to be safe from the poor masses. This scenario is fatal for human prosperity and survival, as ecological collapse will accelerate.

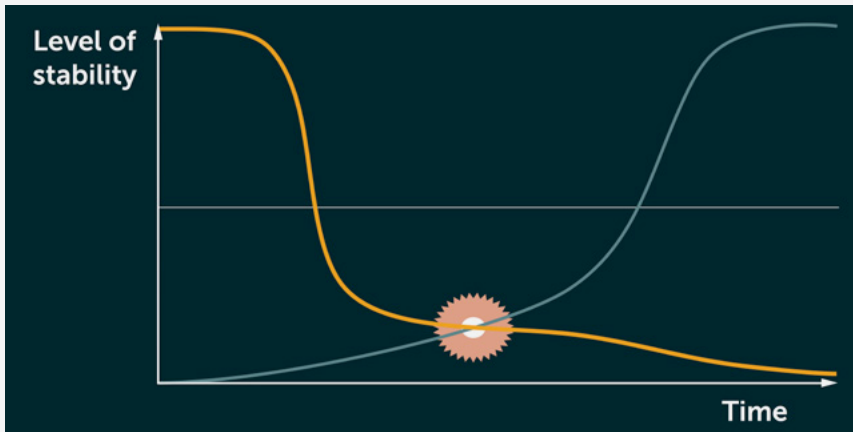
Complete definancialisation

Another undesirable scenario is that of complete definancialisation, in which the backlash is directed straight at the financial sector, and deflection fails. Instead, governments, driven by public sentiment against the corporate and financial sectors, take over control of the financial system and dismantle most of it: corporations and financial institutions are nationalised; stock markets are abolished (or a very high Tobin tax is imposed); protectionist policies are implemented; world trade comes to a halt; food production and health systems might fail; and in addition to financial capital, other types of capital also crumble as innovation halts. While some degree of definancialisation is desirable, the complete definancialisation scenario represents a massive overshoot similar to that of hypercapitalism. It will bring back national borders, work against entrepreneurship (particularly social entrepreneurship) and diversity. Further, it will not necessarily address global ecological or socio-economic crises, as both innovation and collaboration on a global scale will be under pressure.

Socio-economic collapse

Yet another possibility is that neither the financial sectors themselves nor public authorities are able to control the development pathway and societal dynamics. This is the scenario of socio-economic collapse, civil unrest and chaos. Particularly if there are no viable alternatives and no strategy to navigate the transition, destabilisation can lead to a very destructive collapse with long-term instability and uncertainty. Typical examples of this are the Arab Spring revolution, and the aftermath of long-term civil wars (in Syria, for example). On a smaller scale, it is possible to see the economic collapse of specific sectors in regions that were mainly dependent upon these sectors, such as textiles, coal or manufacturing.

Figure 10: Collapse and restabilisation



Source: Loorbach (2014)

Note: Collapse and restabilisation moving into undesirable restabilisation pathways or directly into collapse implies a prolonged period of social and economic instability in which stable futures are highly uncertain and costly.

All three scenarios are variations on Figure 10, and are obviously undesirable extremes. By now though, these scenarios are perhaps more likely than a continuation of business as usual or a return to pre-crisis conditions. This book, however, focuses on potential positive futures. If the path-dependency is broken and we are now entering a decade or more of transformative, structural and cultural changes, what then is the longer-term direction we should aim for? Can we envisage a future financial system that works for the planet and people? What would the building blocks be for such a positive future regime? And how can we navigate through transformative times to reach that future destination?

4

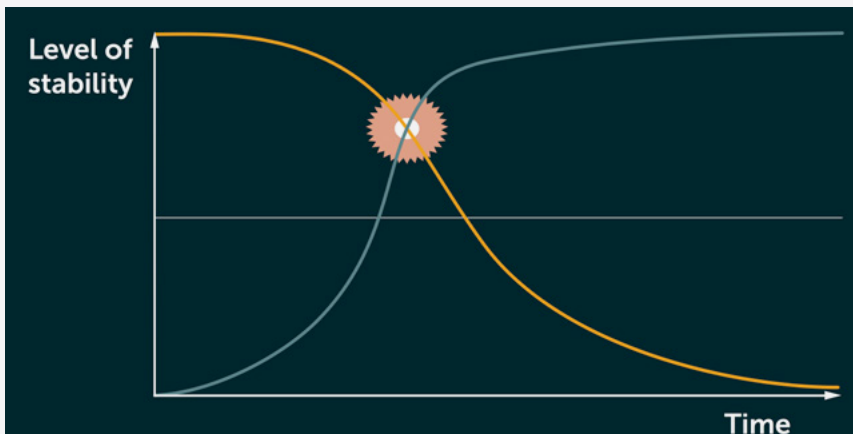
The transition governance perspective

In an ideal scenario, actors from within the regime truly recognise and act upon the long-term systemic risks; and emerging alternatives find ways to gain power and momentum as they find allies within the regime. This would allow us to transition to a desired future state, in which the financial sector succeeds in generating real value for society in such a way that we stay within social and planetary boundaries. This scenario, depicted in Figure 11, would thus imply new types of collaborations and a shared sense of direction that would create the momentum and vision to accelerate both the phasing-out of undesired cultures, structures and practices and the institutionalisation of new desired ones.

4.1 Transition governance

Transition governance is an approach that starts from this understanding of societal transitions as complex, unmanageable processes of systemic change, that do however follow specific patterns that relate to typical mechanisms. These patterns and mechanisms can provide the basis for strategic intervention to influence the speed and direction of transformative change. This is not meant to plan, manage or control, but to accelerate and guide processes of build-up and breakdown to reduce the frictions, socio-economic damage and disruption inherent to transitions.

Figure 11: Avoiding collapse and finding a new high level of stability



Source: Loorbach (2014)

Note: A scenario in which managed and rapid build-up of alternatives and proactive change from within the regime are coordinated and interlinked to minimise the societal frictions and economic costs of a transformation to a stable future state.

Identifying drivers of transitions

Research on historical transitions (Grin et al., 2010) shows that in hindsight many elements of new regimes were already present. In other words: when a transition becomes tangible on the surface of a societal regime, lots of people and organisations have already been engaged with that transition for a much longer time. Specific governance mechanisms and patterns of societal change play a critical role in the emergence and development of alternative drivers, narratives, practices and support for transitions. A key driver is the slowly converging idea of a longer-term transition: a broader societal consensus on the need for transformative change, linked to a broad sense of direction. In the finance transition this has been developing towards a new idea of value, accountability and finance to support social and ecological growth for all, rather than economic profit for the few. As we have described, there is a lot of path dependency, and vested interests that are likely to lose in a transition to 'nature-positive finance' (see below), but there are also strong signs that such a transition is possible as the dominant finance regime destabilises:

- » The current dominant paradigms (shareholder value, efficient markets) are increasingly exposed as unfair, ineffective and outdated;
- » Lawmakers and regulators make modifications to the legal system and reporting rules, which gradually affect incentives and result in changing the behaviour of key actors;
- » Alternative steering mechanisms that do more justice to social, human and natural capitals are embraced;
- » Various hitherto-standard practices become unacceptable and/or unprofitable;
- » Many small steps are taken to re-align the performance of financial institutions and their employees with long-term value creation on all capitals, which should allow them to again perform the true social function of finance, namely to help provide prosperity for all.

The transition perspective helps us to understand how momentum for deep systemic change in societal sectors is developing, but it also makes clear that such processes are impossible to manage or control in a traditional sense. Moreover, the planning and control logic of actors within the regime is primarily adding to the lock-in and increased systemic risk. But it is also clear that decisions, action and choice do influence the pathways and outcomes of a transition. If we assume the inevitability of a finance transition away from the previously dominant regime, what then might be desirable outcomes? In a very general sense it seems rather obvious that, given the ecological and societal crises on the horizon, we should strive for a nature-positive economy that is 'socially just' and stays within 'planetary boundaries' – a direction set by the UN SDGs (UN, 2015) or the 'safe and just space for humanity' (Stiglitz, Sen and Fitoussi, 2009; Steffen et al., 2015). The challenge now is to explore how emerging transition dynamics can be guided and accelerated proactively to support transitions to desired, positive futures.

Guiding transition dynamics towards positive outcomes

Transition governance formulates a number of principles and frameworks to develop concrete strategies. It argues that:

- (1) it is possible to identify actors and activities that are influential in guiding and accelerating transitions in institutional structure; that
- (2) governance can support the efforts of these agents; and that
- (3) this can be a basis for developing new forms of governance (Loorbach, 2010).

Whatever shape transition governance takes, it always combines strategies to support emerging desired transitions with strategies that challenge and destabilise incumbent and undesired regimes. This combination of build-up and break-down requires a type of *governance* that can support transformative and disruptive changes, rather than implement solutions and incremental changes to improve the existing regime. In finance, transition governance could be developed to explore a shift away from profit maximisation towards steering on integrated value. Transition governance is thus a normative approach in that it starts from assuming the long-term inevitability of transformative change and the need to fundamentally question the existing and dominant regime – and that improving this regime is only adding to the problem. Therefore there is a need to prepare for future disruptions, shocks and tipping points (Loorbach, 2010). As the starting point is social, economic and ecological unsustainability (for example, current climate change, recycling, carbon emissions, pollution, biodiversity, living wage, gender balance, and so forth), transition governance has a long-term orientation towards exploring futures within ecological and social boundaries. Futures that are resilient deliver value for nature and people and can adapt and transform in light of new possibilities or threats.

Direction rather than goals

What such futures look like is impossible to determine: we can merely experiment ourselves away from existing structures that are not positive, and learn from activities that try to operationalise such positive futures at a small scale. Transition governance thus implies forms of intervention without goals, but with a transformative direction. Flexible targets and intermediate goals can be identified, but transition governance processes are designed to connect, empower and guide communities of transformative change agents to translate shared transition visions into their individual daily contexts.

Basic transition governance principles

This means that in practice transition governance can take many different forms, but in general always arises from a number of basic governance principles as starting points for engaging with emerging and desired future transitions (Frantzeskaki and Loorbach 2010; van Buuren and Loorbach 2009; Loorbach and Wijsman 2013):

- » *A transitions perspective to rethink the present.*
Exploring the historical path dependencies of a societal regime against the background of a changing societal context (landscape) and identifying which transformative innovations (niches) have been emerging as a way to critically question the sustainability and vulnerabilities of the regime. What are the systemic risks and uncertainties that are not taken seriously but are becoming increasingly likely?

- » *Long-term thinking as a basis for short-term action.*
The evolutionary nature of transitions requires longer time frames of decades or more. On this scale systemic change becomes possible to imagine and can provide a basis for back-casting: translating alternative, positive, futures into transition pathways and identifying short-term actions that contribute to them. In finance, this implies a vision of what a better financial system looks so as to identify specific pathways of institutional, regulatory or behaviour change before we can identify and implement transformative actions.

- » *Objectives should be flexible and adjustable at the system level.*
The complexity of the system is at odds with the desire to formulate specific objectives and blueprints. The long-term vision and intermediate goals should change as a regime moves through transition, implying continuous updates and readjustments, both at a collective and individual level. The vision of a better financial system can be quite clear, but its exact architecture can play out in several ways, depending on how the context develops.
- » *Managing a complex, adaptive system means using disequilibria as well as equilibria.*
Relatively short periods of non-equilibrium offer opportunities to direct the system in a desirable direction. While crises are often used by actors within the regime to strengthen their position, anticipated crises can also be used by transformative coalitions to accelerate their agenda. Financial crises tend to offer strong opportunities to effect change in the financial system, but for it to work for a positive finance transition, it needs to work against incumbent powers and interests and needs to have an equally strong or concrete agenda.
- » *Creating space for actors to build alternative regimes is crucial for innovation.*
Actors at a certain distance from the regime can effectively develop transformative alternative cultures, structures and practices, if they are provided with a protected environment that permits investment of sufficient time, energy, and resources. To prevent hijacking or appropriation by incumbents, it is critical to resist regime actors in creating this space and designing and safeguarding it from a transition perspective. In later stages, the challenge is to help such niches open up when ready, connecting them to other niches and supporting their diffusion. This is particularly challenging in the financial system, where regulation and scale set high entry barriers and very powerful actors can control, take up or work against more disruptive changes.
- » *Focus on transformative actors from inside and out.*
Structures, actors, and practices adapt and anticipate external changes and interventions. A transitions perspective implies identifying actions inside and outside the regime that influence the speed and direction of a transition. Transition governance therefore combines actors and actions from within and without the regime to collectively explore potential transitions. But this is done selectively: identifying actors and individuals already exploring a transitions perspective rather than actors that represent existing interests, positions or agendas. It is therefore crucial to identify and connect the financial system insiders with promising external niches that have the will and means to experiment and challenge the existing regime.
- » *Focus on learning-by-doing and doing-by-learning*
A focus on learning-by-doing and doing-by-learning about different actor perspectives and a variety of options requires a wide playing field, and is necessary as a precondition for change. Unfortunately, financial institutions tend to be complacent and secretive about their processes, overrating how special they are. This makes it hard to innovate and share best practices. There is a role for executive education in filling this gap, but that also requires institutions to become aware of the gap in the first place.

4.2 From principles to framework

As transitions cannot be managed through blueprints, there are limits to specific goals and targets. Rather it is about identifying a broader direction for transformative change. In complex systems theory the term 'attractor basin' is used: a state within which a system can operate in a stable way (Holling and Gunderson, 2002). It also implies a systems state that is hard to escape from: a regime. Through the transition analysis and identification of persistent problems, it is possible to identify key design principles for a future regime. These 'guiding principles' typically also emerge in sectors or societal domains over time as societal consensus emerges around the need for systemic change and its direction. An example is the energy transition, in which there is now quite a broad societal consensus on the need for renewable, affordable and safe energy. While the energy transition is an end-goal transition (towards renewable energy), the finance transition is intermediary and more complex. Guiding principles in finance will need to be consistent with an attractor basin in which the system employs value creative practices for an economy within planetary and social boundaries (see Figures 12 and 13).

Awareness, belief and internalisation of a new transition perspective

Transition governance is based on the premise that we need to anticipate disruptive and transformative changes ahead, and that future transitions are inevitable. We therefore need to explore positive futures. But to ensure people take alternative futures seriously, they need to become aware of the unsustainability and systemic risks of continuing business as usual. That creates the mental space to start believing in transitions: that in the longer term radical systemic change is not only possible but inevitable. Only then will people seriously explore positive futures in a way that leads to internalisation of a new transformative perspective. Only then will they have the dedication, willingness and ability to translate this perspective into short-term, small-scale action.

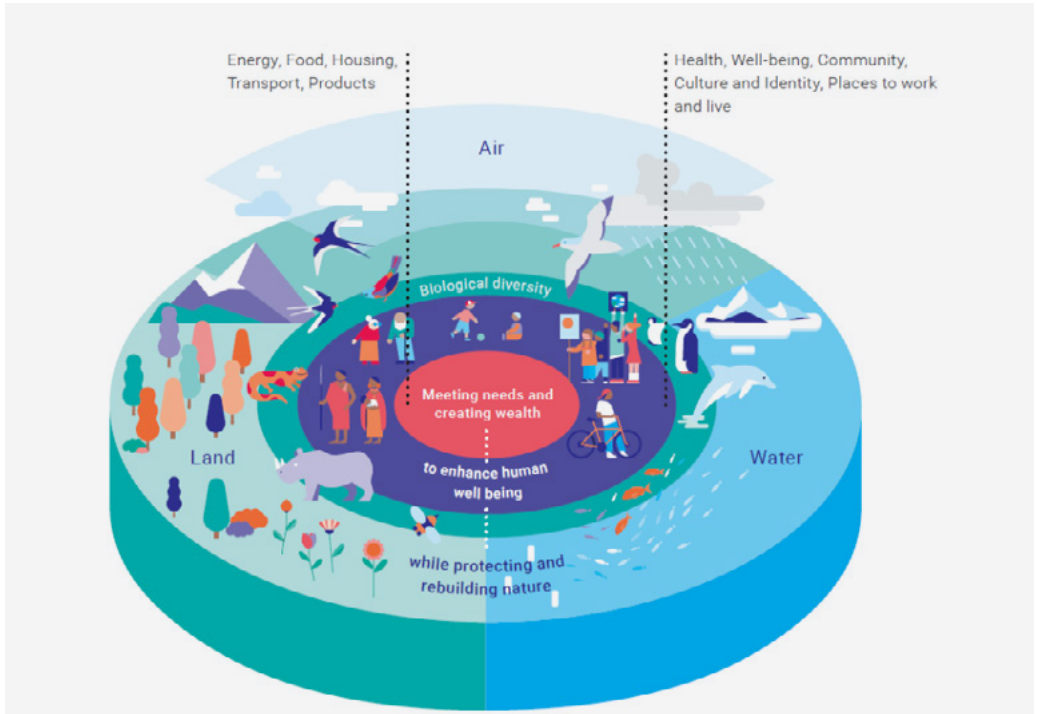
Characteristics of positive transition visions

A positive transition vision is typically a reaction to the persistent problems in a societal regime. It synthesises the values that drive change agents. Typically, such transformative visions relate to a future economy within 'planetary boundaries', a circular or bio-based economy or address more socio-economic challenges, such as a sharing, degrowth or social economy. In general, these are all visions that try to help guide us towards a 'nature-positive economy' in which the economy meets the needs of society and creates wealth to enhance human well-being while protecting and regenerating nature (see Figure 12). Such a new 'nature-positive economy' is based on the concept of broad welfare, encompassing economic, social and environmental value (Stiglitz, Senn and Fitoussi, 2009).

The financial system's inadequate goal function

The key question in this book is how the financial system reacts to this economic transition. Until now, the current financial system has looked through a risk lens at the emerging new economy (with economic, social and environmental pillars) to preserve financial value (see Figure 13). ESG factors are used as a mechanism to mitigate risk. The dominant narrative is still economically based and phrased in terms of risk-adjusted financial returns. 'Sustainable' investing is fine as long as it does not come at the expense of financial return. The system will effectively have to change its goal function from narrow financial value to *integrated value*.

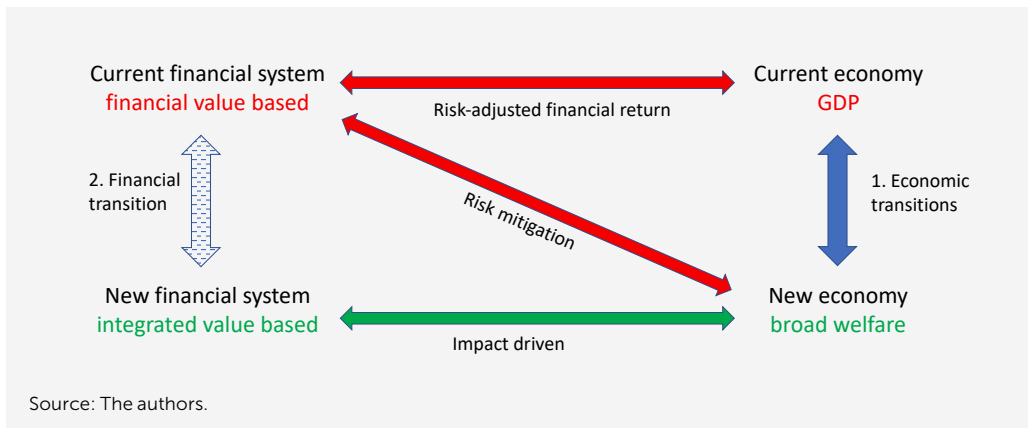
Figure 12: A Nature Positive Economy



Source: UNEP Policy Brief (2020)

Note: A Nature Positive Economy: visualising how the economy needs to meet needs and to create wealth to enhance human well-being while protecting and rebuilding nature.

Figure 13: Economic and financial transition



If the financial system is able to transition itself towards a nature-positive economy as well, it can fund the opportunities in the new economy and generate financial return as well as achieve positive impact. At the core of the finance transition is a change of paradigm from financial value to integrated value (see Figure 13). The integrated value paradigm combines financial, social and environmental value in an integrated way (Schoenmaker and Schramade, 2019a). Integrated value is the private sector equivalent of the public concept of broad welfare. The new narrative argues that positive social and environmental value can only be achieved in the new economy, and not in the financial system itself. Based on the integrated value paradigm, financial institutions reorient themselves on the real economy and directly fund companies that aim for long-term value creation.

Guiding principles for a positive finance transition

If we apply this perspective to the financial system, we can start by formulating a number of guiding principles for a positive finance transition:

- 1) **From financial to integrated value.** A first guiding principle is a financial institution's measurement, targeting and reporting of integrated returns, rather than purely financial returns. This is embedded in a serious statement of purpose of what the institution's value creation looks like and who it will benefit (linked to sustainability transition; SDGs).⁹ Effective systems are needed for transmitting information on social and environmental capital to and from corporates, citizens and governments. New mental models and new business school programmes will be based on integrated value creation;
- 2) **Stewardship based on a direct link between financiers and companies.** For banks, it will again include a stronger role for relationship banking. For asset managers and asset owners, it will likely include more concentrated ownership stakes, deeper engagement, and shorter investment chains. This second guiding principle enables a direct dialogue

⁹ This also requires a change for corporates (which need to manage and report on integrated value) and clients (who need to welcome integrated return as their reward).

between financiers and companies on targeting integrated value (aligned with the SDGs) without intermediary actors;

- 3) Capital allocation based on long-term societal value.** Quantified and accountable positive impact on ecological and social capital is obtained by financing sustainability transitions. The emerging nature-positive economy will be based on completely different financial logics of a circular, non-extractive and service and sharing-based economy. The market transitions in food, energy, production, mobility and so on need to be financed as well as they require a financial transition strategy.

Integrating the guiding principles

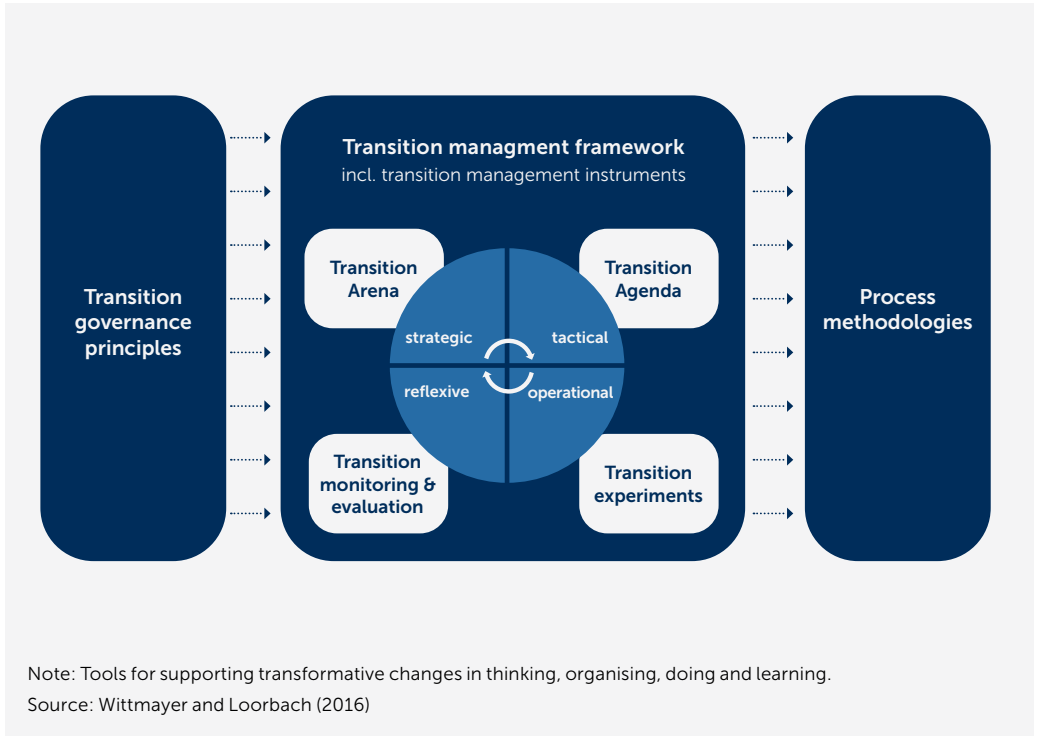
While such ideas are not new, a fundamental transformative change to reorganise the financial system and make this normal practice implies deep changes in how professionals, organisations and the sector collectively thinks, behaves and organises. The fact that these principles are not new is reason for optimism: there is a long history of academics, entrepreneurs, organisations, and professionals developing new ideas, models and practices. However, these are fragmented, dispersed and alternative instead of powerful and the norm. Transition management takes the guiding principles and radical vision on long-term transition as the starting point and offers a framework to help guide, accelerate and empower the transformative changes already present in a system.

The transition management framework identifies four dimensions for intervention, for which specific 'instruments' were developed (Loorbach 2010; Loorbach and Rotmans 2006):

- » *Collective thinking (strategic)*: problem structuring, establishing, and organising transition arenas and envisioning future states;
- » *Collective structures (tactical)*: developing transition agendas and coalitions, visions of sustainable futures, and transition paths;
- » *Collective practices (operational)*: establishing and carrying out transition experiments and mobilising the resulting transition networks; and
- » *Collective understanding (reflexive)*: monitoring, evaluating, and learning lessons from transition experiments and supporting reflexivity and learning across the transition.

The transition management framework (see Figure 14) provides a template for interventions. Based on analysis of transition dynamics and governance principles, actions can be taken to accelerate and guide transformative changes. Transition management activities can typically be implemented in contexts where specific actors start to anticipate or try to advocate future transitions. By working together with transition researchers, these actors (in early stages often government actors, communities or social entrepreneurs) develop their own understanding of transition dynamics in their domain and identify intervention points.

Figure 14: Transition management framework



4.3 Rethinking change

In practice, the specific instrumental approaches referred to are often a combination of existing instruments with transition thinking. It is about analysis-based intervention, but the analysis includes an interpretation of data and facts from a systemic transition perspective. It is about participation and engagement – not with incumbent actors focused on improvement – but with motivated change agents focused on transformative change instead. It is about strategic scenario development, but instead of forecasting multiple possible futures; it is about back-casting from desired futures. It is about experimentation; not to implement or develop solutions but to learn about the possibilities and barriers of desired transitions. And it is about monitoring and learning; not in terms of whether a project/programme was successful, but in terms of reflexivity and effectiveness of actions in a changing context.

Aligning initiatives for systemic change

In finance, there are all sorts of actions happening with potentially transformative implications and in line with transition management: sustainable finance labs, natural capital projects, dialogues, scenarios studies and transitions experiments. These include new alliances and explorations of transformative futures, such as insurance companies participating in joint company engagement with NGOs; impact funds that look for a societal return; and the development of accounting frameworks, such as PBAF, for valuing natural capital or biodiversity. Today's challenge is to start thinking about how to develop alignment, co-ordination and institutionalisation with the purpose of moving to a next phase of transitions. A lot of these initiatives explore and experiment with, rather than collectively strategise for, systemic change.

Engagement in transition arenas

In such a context, a transition arena can be used to engage individuals active in different transformative networks and initiatives to explore a common transition and identify the shared regime barriers they face. If they collectively go through a process of sense-making and strategising, they can start to position their own activities and recognise the value of other activities within a broader, shared long-term transition. This indirectly will lead to new shared discourse, activities and lobbying. A transition arena is thus a particular setting that creates a space for convergence, focus and empowerment. These arenas will typically be developed per sub-system or around specific branches or areas in which a community and strategic agenda can be identified. But they can also be organised within organisations to help develop new networks and collaborations, and to increase the reflexivity and resilience of the organisation (Loorbach and Rotmans 2010; van Buuren and Loorbach 2009).

Building transition networks

In the early phases of transitions where the regime is still relatively stable and alternatives quite marginal, transition management aims to develop transformative networks and coalitions that have a common understanding of a transition challenge, with a shared ambition to drive that challenge towards sustainability. They complement more formal networks that operate at the regime level and are focused on improving the existing systems. Transition networks provide individuals and organisations the mental, social, and physical space to develop new ideas, common language, and ambitions, as well as new joint

projects. In doing so over a longer period of time, participants will increasingly translate and incorporate the transition perspective and ideas into their operating context, which can also include the regular, more formal networks. Transition management processes thus indirectly influence and change regular policies in government, business, research, and civil society.

Introducing a transition governance mix

In later phases where existing regimes clearly destabilise and competing alternatives and their political and societal support becomes much stronger, more co-ordinated and top-down interventions come into play. In transitions management this is referred to as the transition governance mix: combining the co-ordinated support for **build-up** with programmatic **transformation** of existing institutions, rules and regulations, and the **managed decline and phase out** of undesired structures and practices. On a societal level, we see that we are now moving in this direction in the financial system more generally: tax evasion, public funding to bail out private business, private profits at the expense of the environment and social conditions, are increasingly problematic. Initiatives to assess value differently, to shift to carbon taxes, to adopt natural capital accounting, to consider broad welfare indicators, and so on, are getting more support. And transformative business and financial-economic models are becoming more attractive and practical. This movement towards a new definition of value is also visible in the growing number of people with 'sustainable finance' in their job title.

This might suggest we are moving to actual destabilisation and a period of disruptive changes. In this context the focus should shift from supporting an emerging positive transition to developing a transition governance mix that supports regular policies to transform, and over time develop towards normalised new incremental and regular policies. In finance, institutions like the Bank of England, Banque de France, De Nederlandsche Bank, and Bafin identify with green and sustainable finance but hardly focus on phasing out undesirable practices or supporting a transformation of the sector. A case in point are current financial regulations, which favour short-term and exchange-listed assets and also, implicitly or explicitly, promotes diversification.¹⁰ New rules are needed that enable investment in more concentrated portfolios (with, of course, proper risk management procedures) and in illiquid, long term assets, such as energy and transport infrastructures, and land restoration. These investments receive currently higher capital charges because of their supposedly inferior market 'liquidity'. However, sustainable investing and lending is more focused on stewardship (see guiding principle 2, above) than on trading.

Towards a new paradigm for the financial system

Following the transition governance perspective, the starting point for this is focus on achieving a positive finance regime: a finance regime that works for planet and people. In that regime, companies and institutions create integrated value in the long term; they are supported through public institutions and regulations to create this integrated value, and are

¹⁰ An example in retail investment is the Undertakings for Collective Investments in Transferable Securities (UCITS; 2009/65/EC). UCITS are collective investment funds operating freely throughout the European Union on the basis of a single authorisation by a supervisory authority. The UCITS concept is based on a small set of core criteria: 1) diversification rules; 2) concentration limits; 3) transferability of listed securities; and 4) strictly regulated use of derivatives for protection purposes only (Schoenmaker, 2017b). Similar examples can be found in prudential rules for pension fund and insurance investments and for bank lending.

rewarded for it. As argued above, this requires a paradigm shift, as illustrated by Figure 15. The current paradigm in finance is based on financial value creation. ESG factors are included to reduce the risk of loss of financial value. This is inherently a risk mitigation perspective towards sustainability. The new paradigm is based on integrated value, which integrates financial, social and environmental value (Schoenmaker and Schramade, 2019a). It aims to grasp the opportunities of financing companies and projects that create positive environmental and social value as well as positive financial value. The value creation matrix of Table 6 summarises the transformative change (Schramade, 2020). The current financial regime funds companies and projects with a positive financial value (Quadrants 1 and 2), while the new financial regime only funds those with a positive financial, environmental and social value (Quadrant 2).

Obviously, the transformations needed to get there require a multitude of changes in all sorts of dimensions: economically, institutionally, behaviourally and culturally. It is hard to imagine, yet worthwhile to explore. As we know that transitions are co-evolving patterns of breakdown and build-up, we need to explore what types of changes in this desired direction are already present; and how they do or do not work to support a positive transition. In the next chapter we explore the contours as well as the governance process supporting a positive finance transition.

Figure 15: Financial system transition

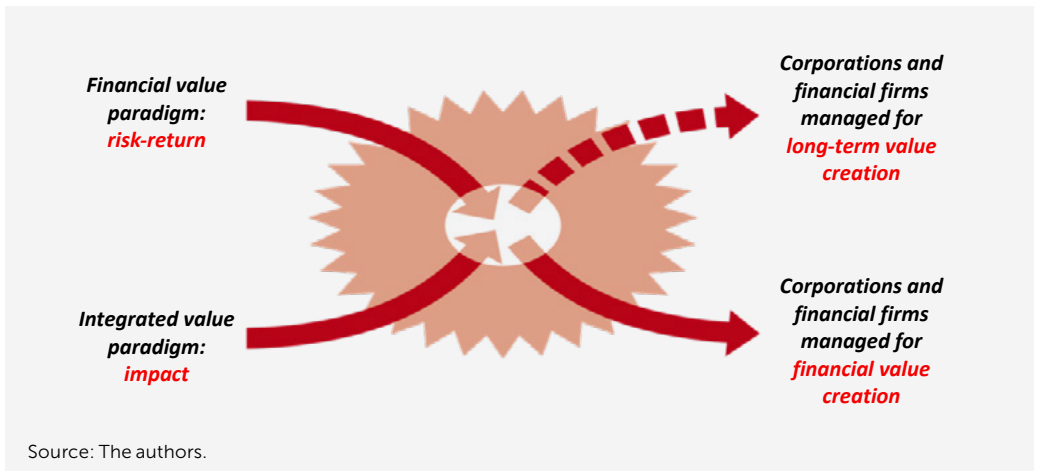


Table 6: Value creation matrix

	E+S value destructive	E+S value creative
F value creative	Quadrant 1 Exploitation	Quadrant 2 Win-win
F value destructive	Quadrant 3 Collapse	Quadrant 4 Charity

Source: Schramade (2020).

5

Elements of a positive finance transition

The starting point of the transition governance approach is **the longer-term ambition for a positive financial system that creates well-being and value for planet and people**. That ambition can be operationalised by means of the aforementioned guiding principles and their application in various transition arenas. Once we know where we want to be, we can apply back-casting: what steps can be taken now to arrive at that desired state? What are the elements and activities that could contribute to a positive finance transition? In what ways can the system change its goal function from narrow financial value to integrated value? Both at niche and regime level, there are many activities and ideas across the financial system that *could* become part of a transition, but equally could get locked in and only contribute to further optimisation. Adding a long-term perspective helps to identify the elements of transition *in context* with regard to their transformative potential: can they help to fundamentally challenge, alter or replace incumbent ways of thinking, doing and organising? It is therefore important to identify not only the innovation on its own, but also in context: how is the innovation positioned, developed, and by whom?

5.1 Facilitating transformative innovation

Challenging incumbent ways means moving away from the traditional management and innovation paradigm in which solutions are identified and implemented (technological innovation). We need novel approaches that embrace uncertainty and learning; and invest in creating platforms for organic growth (transformative innovation). This requires more entrepreneurial, collaborative and design-oriented strategies. This distinction between technological and transformative innovation is fundamentally important for a number of reasons. First, transformative innovations cannot be managed like technological innovations. The technological innovation paradigm is about making investments to reach economies of scale; it's about identifying problems, defining and implementing solutions, doing it in an efficient way, and measuring quantitative targets to monitor progress. In this process, problems and solutions are isolated to maximise the control over a limited number of variables. From a transition perspective, this only creates the illusion of control as there will always be external factors and developments. Transformative innovation is something different: people engage with it because they want it, or see it in their context and somehow feel intrinsically motivated to do it. Second, transformative innovations do not diffuse like technological innovations. As technological innovations become cheaper, more people use them, and they diffuse following s-curved pathways towards market saturation. Transformative innovations diffuse more organically: the principles and basic tools are globally shared, but how they work and are implemented is specific to the context. Third, transformative innovations maximise while technological innovations minimise. Technological innovations work for investors and developers by becoming as efficient and as productive as possible. Transformative innovations are typically collaborative new practices and ways of organising, focused on maximising social value creation. They seek to be inclusive and to produce multiple values simultaneously.

Gorissen et al. (2018) identify diffusion mechanisms of transformative innovation: growth, replication, partnering, instrumentalising and embedding. These are also visible in the financial system:

- » Growing – attract more funding and/or participants. For example, growth in impact investment assets under management (AuM); the number of people undertaking sustainable finance courses. What are the right metrics here? What are the misleading ones (e.g. number of PRI signatories; ESG AuM)?
- » Replicating – translation of ideas, models and practices of a transformative innovation into another context. For example, academic finance and economics to take other fields more seriously; taking up of academic sustainable finance by finance practitioners in their methods; the sustainable equity methods of asset manager X being adapted for use in sustainable fixed income at asset manager Y.
- » Partnering – pooling of resources, competences and capacities between different transformative innovations. For example, ABN AMRO's impact report combining integrated reporting and true price at a bank; joint engagement efforts by NGOs and asset managers; and joint research, such as Candriam's collaboration with the Grantham Research Institute on Climate Change and the Environment.
- » Instrumentalising – strengthening and embedding of a transformative innovation by exploiting opportunities in the governance context. For example, developing an integrated approach to equity investing in a fund and translating it into improved reporting on social and environmental factors.
- » Embedding – institutionalisation of a transformative innovation through mainstreaming and structural anchoring. For example, successors to EU green taxonomy, and France's article 173 on mandatory disclosure (see below).

Such transformative innovations can contribute in different ways to the dynamics at play during transitions. Typically, we distinguish the following processes (see Figure 16):

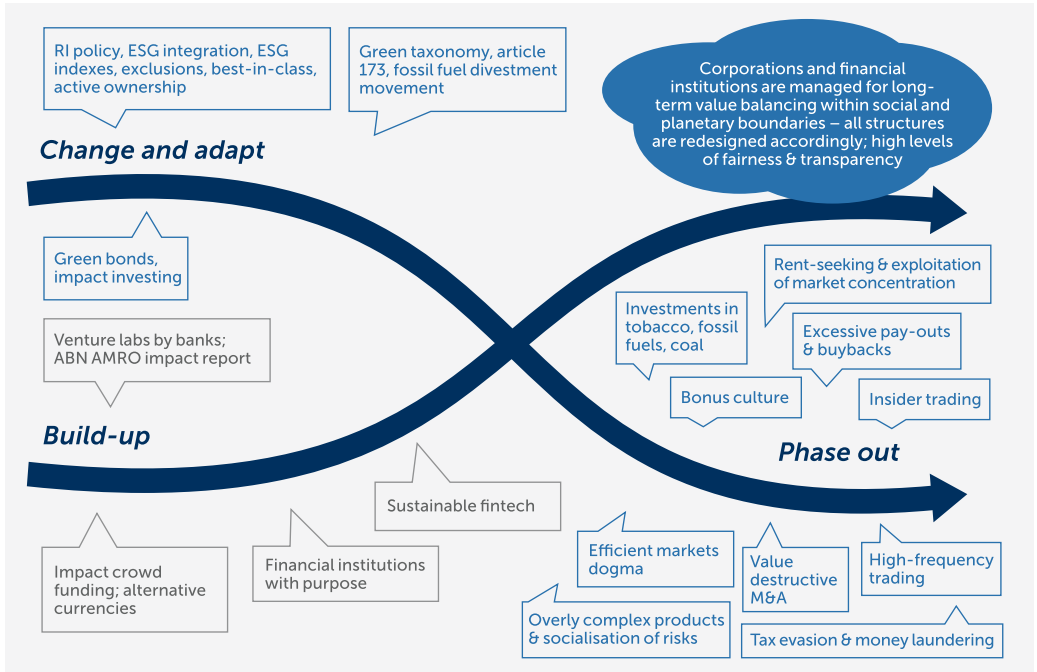
- » **Change and adapt:** the regime elements that are starting to change, transform and adapt away from the old regime;
- » **Build-up:** emerging transformative innovations that can develop towards new structures and regime elements;
- » **Phase out:** the regime elements that are being delegitimised, move towards end-of-lifetime or are disrupted.

Change and adapt

The top-left corner shows how the current financial regime tries to become sustainable without really changing, as it adopts optimisation tactics within the prevailing financial value paradigm. Over the past two decades, financial institutions of all types have increasingly adopted responsible investing (RI) policies and signed up to sustainability covenants and alliances. Banks have introduced green mortgages and sustainable loans. The asset management industry has gone furthest, introducing ESG integration, ESG indices, exclusions, active ownership, best-in-class, green bonds, and impact funds. It is now (incorrectly) claimed that sustainable investing is mainstream¹¹. The majority of asset managers, representing 66 per cent of assets under management, subscribe to

¹¹ Rather, it is mainstream to talk about sustainable investing and to claim that your products are sustainable.

Figure 16: The x-curve for the financial sector



Source: the authors

the Principles for Responsible Investment (PRI, 2019). The Global Sustainable Investment Alliance (2019) reports that 33 per cent of global assets under management were sustainably invested in 2018. However, our empirical findings suggest that the financial system is still at low levels of social-environmental value, at just 18 per cent, based on a scale from 0 to 100 per cent (Schoenmaker, 2019). Table 7 shows that the vast majority of sustainable investors still operate at Sustainable Finance 1.0, at which they merely avoid unsustainable companies from a risk perspective (i.e. negative screening). These investors continue to work and argue within the financial value paradigm. About 17 per cent of sustainable investors have completed the migration to Sustainable Finance 2.0, which operates at an intermediate level of social-environmental value. A tiny group of frontrunners, comprising less than 1 per cent of the overall financial system, are at Sustainable Finance 3.0, and aim to realise the full social and environmental impact in their investment and lending.

However, signs of destabilisation are starting to appear. For example, the EU green taxonomy; the fossil fuel divestment movement; and France's Article 173 on mandatory climate disclosure requirements for companies and investors, could all spell serious trouble for incumbents, especially the ones that are most superficial in their ESG optimisation efforts, such as the large US asset managers (Bolton, Ravina and Rosenthal, 2020). As the pressure continues to mount, and the frequency and intensity of such destabilising actions (driven by regulators, politicians, clients, and the general public) rises, large parts of the sector might descend into chaos. Only incumbents that can adapt to integrated value thinking will survive, and will form the new regime, together with emerging alternatives.

Table 7: Framework for sustainable finance

Sustainable Finance Typology	Value created	Ranking of factors	Optimisation	Fraction	SEV level
Sustainable Finance 1.0	Financial value	$F \gg S \text{ and } E$	Max F subject to S and E	82.9%	10%
Sustainable Finance 2.0	Integrated value	$I = F + S + E$	Optimise I	17.0%	55%
Sustainable Finance 3.0	Impact	$S \text{ and } E > F$	Optimise S and E subject to F	0.1%	100%
Total				100%	18%

Note: F = financial value; S = social impact; E = environmental impact; I = integrated value. At Sustainable Finance 1.0, the maximisation of F is subject to minor S and E constraints. SEV level = level of social-environmental value.

Source: Schoenmaker (2019)

Emerging alternatives: build-up

The emerging alternatives to the current financial regime are shown in the bottom-left corner. These include new niches and experiments, mostly by outsiders, some of them by advanced incumbents. Think of crowdfunding and impact private equity which invests in green and social entrepreneurs, with lower financial return expectations, but higher (namely positive) social return expectations (Schramade, 2019). Niche players try to take away customers from existing players with a different mission and different revenue model. In the Netherlands there are niche investors such as Bamboo Capital Partners, Social Ventures NL, Double Dividend and Ownership Capital, who often do better things than the established order with an alternative approach – but have a cost disadvantage due to their smaller scale. Phenix Capital brings impact investors together. Family offices, which manage the wealth of wealthy families, are also increasingly focusing on impact investing. VP Capital is probably the first family office in the Netherlands with an impact report. Viisi is a mortgage lender with a dual purpose: "We want to make the financial world much better, more sustainable and more long-term oriented; we want to create an environment where everyone at Viisi can achieve their own dreams, their 'personal why'." Viisi was probably the first company in the financial sector to introduce self-organisation. The self-organising teams have chosen rotating leadership (*primus inter pares*) with daily peer-to-peer feedback. The salary model is also unique: in order to create maximum 'psychological safety', salaries are transparent and completely decoupled from performance.

Some incumbents are slowly transforming into purposeful institutions, or have been from the start – e.g. Handelsbanken and Triodos.¹² Rabobank has built a blended finance team that helps farmers invest in future-proof solutions. Blended finance means that the financing is mixed with public money or donation money. In an interview, team leader Agnes Johan explains why this is good: “The added value is that you can finance things with blended finance that would normally not be feasible for a commercial bank”. Other examples are fintech companies (with or without a sustainability driven purpose) that partly replace the activities of incumbent financial institutions by offering lower prices, higher performance or something completely new¹³. They also include alternative currencies, ranging from local currencies that want to be complementary to the current main currencies, to the likes of bitcoin which is aimed at replacing them. All of these alternatives add to the diversity of financial activities, making the emergence of new and better alternatives more likely from an evolutionary perspective.

Managed decline: phase out

Part of the old regime that does not adapt to the integrated value paradigm (Figure 15) will be phased out. The bottom-right corner shows examples of practices and cultures of the current regime that are only financial-driven and will likely be abandoned. Some of these practices have already started to become taboo, such as insider trading, money laundering, tax evasion services, and investing in tobacco (extreme quadrant 1 activities in Table 6). Others will likely follow, such as investments in fossil fuels and value destructive M&A (De Adelhart Toorop, De Groot Ruiz, and Schoenmaker, 2017). More challenging are the leading paradigms at the core of the current regime, such as efficient markets thinking, and the objective of shareholder value creation. These concepts have come under attack from the outside, but are defended by the majority of the system, including its intellectual guardians, namely professors of finance and economics. Shareholder value can lead to counterproductive practices. DesJardin, Marti and Durand (2020) show evidence that activist hedge funds see corporate social responsibility (CSR) activities as a signal of wasteful spending that distracts companies from maximising shareholder value in the short term. Companies perceived to be wasting resources are ideal targets for activists whose business model is to generate significant profit by reorienting such companies towards maximising short-term shareholder value. Yet other practices, such as rent-seeking (Mazzucato, 2018) and exploitation of market concentration (Philippon, 2019), are also the result of such beliefs, as well as a political climate that is very friendly of big business. Phasing out these elements of the financial regime is very challenging indeed, given the huge interests at stake, and the large amounts of assets and liabilities concerned.

12 Another example is the Global Alliance for Banking on Values founded by Triodos Bank (www.gabv.org).

13 <https://findexable.com/> gives a nice overview of global fintech activity.

5.2 A transition governance mix

Breaking out of path-dependency and facilitating transition dynamics requires different types of tools, processes and methods that help to co-ordinate, connect and guide such dynamics. It requires more than transformative innovation alone: it involves new coalitions and structures which often inherently include institutions and organisations from the old regime. It also requires working systematically to push dynamics in these three dimensions, using a mix of strategies, instruments and approaches:

- » **Build-up:** massive and structural support for emerging sustainability transitions by directing public investments and economic recovery, creating support mechanisms through legal and fiscal measures, offering physical space and land, measuring and valuing positive impacts, offering platforms for exchange of lessons and experiences from place to place, training and re-education programmes. Given that niche players lack the scale economies and deep pockets of the incumbents, they are at risk of being destroyed by the latter. Therefore, they should get protection and be rewarded for the social and environmental value they create.
- » **Change and adapt:** changing policy and institutional contexts, adjusting fiscal and regulatory frameworks to support nature-positive markets,¹⁴ adapting economic conditions and incentives, changing contracts and buyer agreements, adjusting trade agreements, changing the way infrastructures or public services are operated, reorganising public policy departments and policy-making procedures, developing just transition funds.
- » **Phase out:** managed decline for fossil, linear and nature-negative economic activities, managing sunk costs, stranded assets and unemployment and path dependencies, exit strategies for fossil subsidies, fiscal dependencies on linear consumption and economic growth.

Participatory processes

To develop such strategies requires developing participatory processes in which only actors who strive to contribute to a shared (positive finance) transitions are engaged. In everyday practice they might compete or fundamentally disagree (activists versus regulators, commercial organisations versus co-operatives) but can be brought together within a shared ambition for long-term systemic change. In such hybrid network strategies for a positive transition, the emphasis is on creating enabling environments for new ways of thinking, doing and organising to mature, develop, gain legitimacy and power and diffuse or transfer to new contexts and ultimately institutionalise. This is only possible once incumbents are pushed towards transition or proactively take a leading role in accelerating transitions (Hengelaar, 2017), and then are open to joining forces with successfully emerging alternatives and adopting principles from the niches. Examples include investors putting pressure on oil companies to set net-zero targets, grid operators teaming up with local energy co-operatives to work towards sustainable decentralised energy systems, and asset

14 An interesting proposal for structural change is to withdraw limited liability for bank insiders, such as higher bank management (Goodhart and Lastra, 2020). The idea is that board members, who are often also rewarded in shares of their bank, will become more long-term oriented, as they are confronted with the (long-term) consequences of their decisions. This long-term orientation may reduce excessive risk-taking and increase managing on social and environmental value.

managers hiring sustainability professionals to build more sustainable investment practices. Such 'new combinations' are hypothesised to be the most likely and desirable pathways to finding new future equilibria.

Putting new combinations in context

New combinations in finance include, for example, asset managers or banks teaming up with NGOs to challenge companies with large negative externalities. Asset managers also increasingly use data from emerging alternative data providers that do not rely on company disclosure. Banks and insurers are also increasingly taking NGOs seriously, as providers of both data and alternative perspectives. And fintech companies are seen as both competitors and collaborators. In such examples new hybrid combinations emerge that shift the norms culture and develop new structures facilitating economic and financial practices. Too often these are regarded as individual innovations or solutions, and not seen in a long-term transition perspective. As a result, regulators, institutional actors or governments tend to respond to them individually and from within the existing context, rather than promoting them based on a long-term desire to achieve positive transition. In the financial system this lack of transition governance relates both to the finance transition itself, and to the role of finance in other sustainability transitions. Nevertheless, some networks are emerging, such as the international Network of Central Banks and Supervisors for Greening the Financial System (NGFS) and the Platform voor Duurzame Financiering in the Netherlands. But real transition governance would go a few steps further to develop a broader societal narrative, embrace a future positive finance transition, diversify networks to combine niche and regime, support reflexivity and experimentation and increase pressures on phase-out and decline. In the next chapter we develop such a transition strategy in a rudimentary form.

6

Transforming the Financial System

Transforming the financial system requires a governance strategy that supports transformative changes at multiple interconnected levels:

- » **Level 1 – The overall finance transition:** the transition to a financial system that manages for integrated value;
- » **Level 2 – Financing sustainability transitions:** ensuring that other sustainability transitions, such as those in energy and food, are financed;
- » **Level 3 – Financial institutions in transition:** how financial institutions can participate in and accelerate the above two transitions;
- » **Level 4 – Financial professionals in transition:** what financial professionals can do in the above three transitions.

The four transition levels affect each other, with success at one level making success at the other levels more likely. The transition process itself is completely chaotic and far too complex to manage, although deliberate strategies of actors such as DNB, economic think tanks, the ministry of finance, pension funds and banks obviously do influence the course of development. But they mostly do so by improving the existing regime. Taking the broader transition governance perspective, we have seen all sorts of other influences that have a potentially disruptive or transformative impact. Through transition management it is possible to organise co-ordinated interventions that try to influence (indirectly) the bigger dynamics. We first describe and illustrate the basic goals of transition management interventions at these four levels. We end with a final concrete proposal to move forward.

Level 1 – The overall finance transition

We start with a new vision for the financial system:

The overall finance transition is about the overarching goal of transforming the financial system, academic finance and the finance profession to fund an economy that supports nature and human well-being. This implies that the financial system performs its societal function of identifying and financing investments that are value creative in the broadest sense: investments that create value for ecology and society as well as for the investor or lender.

This means investors and lenders think and act in terms of integrated value ('B thinkers') instead of purely financial value ('A thinkers'). This requires a set of mutually reinforcing changes:

- » **Change in mindset and culture:** current thinking and methods in the financial sector are geared to financial value ('A thinkers'). So, to help people think in terms of integrated value, we need to change education (e.g. responsible finance education can help in making 'B thinkers'), which implies changing financial research as well, since the researchers are the ones who teach finance and write the textbooks. It also implies

changing management information systems and reporting to foster integrated thinking, and a corresponding change in evaluation methods and performance measurement. More fundamentally, a change in the finance mindset is needed: from risk (minimising the downside from ESG risks) to opportunity (grasping the upside from SDG transition);

- » **Change in structures:** many financial, legal, and information structures in society are geared towards maximising financial value without regard for other types of capital. Hence, to reward people for acting in a way that promotes integrated value, the relevant structures need to be adapted. This concerns both structures within and outside financial institutions. Within financial institutions, information structures and incentives need to be set up to measure and steer on integrated value, like ABN AMRO is doing with its impact report. Outside financial institutions, rules and regulations need to be adapted so as to promote transparency and steering on integrated value. For example, one could think of eliminating the tax-deduction of interest payments; changes in capital charges for positions in securities with high commitment to the company; a move to true prices; incentives for niche markets in social finance; public private partnerships; corporate law that makes integrated value the goal of the firm, with societal responsibility of board members and a purpose guarded by committed shareholders; integrated reporting; taxation of (high-frequency) trading; and penalties on long investment chains. It also involves building completely new purposeful financial institutions, such as Invest-NL.
- » **Change in behaviour:** a lot of behaviour is driven by mindsets and structures. As those change, behaviours change as well. It also goes the other way: certain types of behaviour can affect mindsets and structures. Negative behaviours can confirm negative mindsets or alert people that change is needed. Positive behaviours set the stage for changes in mindset as people see that alternatives are possible; and they help build the willpower and coalitions to change existing structures. The tone from the top is very important: it should be positive and consistent with behaviour. For example, when sustainability became an important topic at Robeco, it was followed up with the development of sustainable products and with the introduction of sustainability as a major component of employee evaluation.

Building and extending the narrative

In this book, we have attempted to develop a basic narrative for this positive finance transition, including its guiding principles and elements. This narrative could be the basis for a broader and more detailed, elaborate and systematic exploration. What are the new metrics, models and instruments? How can integrated value thinking be operationalised and what kind of economy and business would it support? How can economic activities that generate value for nature and people be profitable? But also: what are the vulnerabilities and unsustainability in the current system, how can patterns and dynamics resisting transition be identified and addressed? How can emerging sustainability transitions in other areas such as the circular economy or renewable energy transition be facilitated, supported or engaged with?

Transition dialogues beyond the dominant finance logic

Such questions need to be discussed beyond the usual suspects, insiders and sustainability advocates. More importantly, such discussions are needed to support emerging sustainable markets and societal transitions. The current dominance of finance logic dictates that we discuss and organise decision-making regarding future transitions and innovations from a cost-benefit logic based on historical data and models. The logic of transition, however,

is that the resulting expectations (which are in fact extrapolations) are not valid and that systemic risks (and benefits) are by definition not accounted for. Such transition dialogues actually share more in spirit with finance thinking than most regular discussions in society and politics related to finance – after all, finance is about anticipating events. The challenge is to move from business as usual to SDG transition thinking in the financial sector. If we start from societal goals to realise broad societal and ecological benefits and see those as profits, what then would be the investment logic? And what would be our exit strategy to move our economy out of its dependence on fossil resources and extractive, linear resource consumption? It is probably helpful to take an opportunity cost perspective: what would be the cost of continuing on the path of business as usual? At any rate, one needs to move beyond traditional finance logic and to be explicit about both costs and benefits of alternative paths (see Table 8).

Exploring a transition ahead with strategic actors inside and outside the sector will help to create space for transformative innovation but also appears to be a necessary exercise from a risk mitigation perspective. It is important to stress that the various sectors and gatekeepers (regulators, supervisors, accountants) within the financial system have their own transition process and their own transition paths – a natural consequence of the fact that, although they share the basic thinking, they each have their own particular dogmas and processes to overcome.

Table 8: Replacing the traditional financial frame with integrated value

	Keep the current unsustainable system running	Phase out the old and invest in a sustainable solution
Typical financial logic (frame)	» “efficient and cheap”	» “too costly”
Reasoning	<ul style="list-style-type: none"> » Investments are sunk & marginal costs are low » Low cost of capital & high visibility 	<ul style="list-style-type: none"> » High investment outlay and (supposedly) dependent on subsidies » High cost of capital & low visibility
Point missed	<ul style="list-style-type: none"> » Subsidies and true costs are not taken into account » Extrapolation of current performance is not realistic » Cost of capital is derived from backward looking model and does not take transition risk into account 	<ul style="list-style-type: none"> » Opportunity costs of not making the investment are higher » Cost of capital can be low & visibility can be high with government guarantees
Integrated value	$E < 0$, $S < 0$, and also $F < 0$ (becomes stranded asset), hence negative integrated value	$E > 0$, $S > 0$, and F is a question mark that depends on technology, execution and government role; hence likely positive integrated value. Choose the best project among those with $E > 0$, $S > 0$ and $F > 0$

Note: See Table 6 for E (Environment), S (Social) and F (Financial). Source: The authors.

Level 2 – Financing sustainability transitions

The financial system could be playing a catalytic role in channelling funding for sustainability transitions in fields such as energy, transportation and food systems. That implies directing capital to truly value-creative activities, which would be reflected in incentives, hurdle rates, risk weighting, scenario analysis and reporting on social and environmental value. It also means rationing capital to unsustainable incumbents while helping them to transform their business models and phase out the 'old regime' aspects. But neither is really happening. As a result, finance is improving in terms of talking and thinking about sustainability and transitions, but it is hardly improving in actually changing its methods and capital allocation. This is persistent unsustainability at work: by showing how it seems to be improving, the financial system eases the external pressures it faces. Transition metrics can be useful to give insight into whether the transition from the old regime (A) to the new regime (B) is really taking place, or not. This means not only more B, but also less A (see Box 1). A case in point is energy-related lending and investment. If a bank really wants to steer the energy transition, it should not only develop targets for more lending to renewable technologies, but also set targets for phasing out fossil fuel-based lending.

What is needed are:

- » Changes in investment and lending evaluation criteria and methods. These need to reflect integrated value and help to manage it. For example, a banking CFO should have a dashboard that slices the bank's lending portfolio by type of transition exposure, distinguishing leaders and laggards as well as risks and opportunities;
- » Changes in regulation and incentives to make the above methods truly relevant. Institutions need to be held accountable for, and be rewarded for, managing on integrated value;
- » Changes in reporting consistent with the above, both internally and externally.

Box 1: Transition metrics for financing sustainability transitions

There are several indicators or metrics to assess progress on a transition from A to B. A transition means replacement of A by B over time. However, some indicators can give mixed signals on progress. We will present several indicators and apply them to the energy transition from fossil fuels to renewables.

- » Indicator 1: increase in B (expressed in quantities)
- » Indicator 2: increase in proportion of B (expressed in percentage points)
- » Indicator 3: decrease in A (expressed in quantities)

Numerical example

The working of the indicators is illustrated with a numerical example of the energy transition from fossil fuels to renewable energy. Table 1.1 presents the International Energy Agency's stated policies scenario of the primary energy supply for 2010 to 2040, expressed in millions of tonnes of oil equivalent (Mtoe) (IEA, World Energy

Outlook 2019). The stated policies scenario is the middle scenario between the current policies scenario and the sustainable development scenario. The bottom line provides the proportion of renewables in the primary energy supply, which suggests progress in the transition.

Table 1.2 presents our indicators. On the first two indicators (increase in the amount of renewables or the proportion of renewables), there is a suggestion of progress in the energy transition. However, the third indicator (increase in the amount of fossil fuels) suggests no progress in the reduction of fossil fuels until 2040. Moreover, the increase in fossil fuels is even higher than that of renewables until 2025 (see Table 1.2). These fossil fuel figures indicate that energy-related carbon emissions are expected to increase until 2040, notwithstanding the growth in renewables (see Table 1.1 and Panel A. of Figure 1.1). But the growth of renewables starts from a small base.

Table 1.1: Primary energy supply in Mtoe

	2010	2018	2025	2030	2035	2040
Fossil fuels	10,526	11,595	12,290	12,609	12,877	13,145
Renewables	1,608	2,011	2,518	2,900	3,279	3,672
Total	12,134	13,606	14,808	15,509	16,156	16,817
Proportion renewables	13%	15%	17%	19%	20%	22%

Source: World Energy Outlook 2019, IEA.

Table 1.2: Indicators on energy transition

Indicator	2018	2025	2030	2035	2040
△ Renewables	403	507	382	379	393
△ Proportion renewables	2%	2%	2%	2%	2%
△ Fossil Fuels	1,069	695	319	268	268

Source: Author calculations based on Table 1.1.

Note: The change is calculated with reference to the previous period.

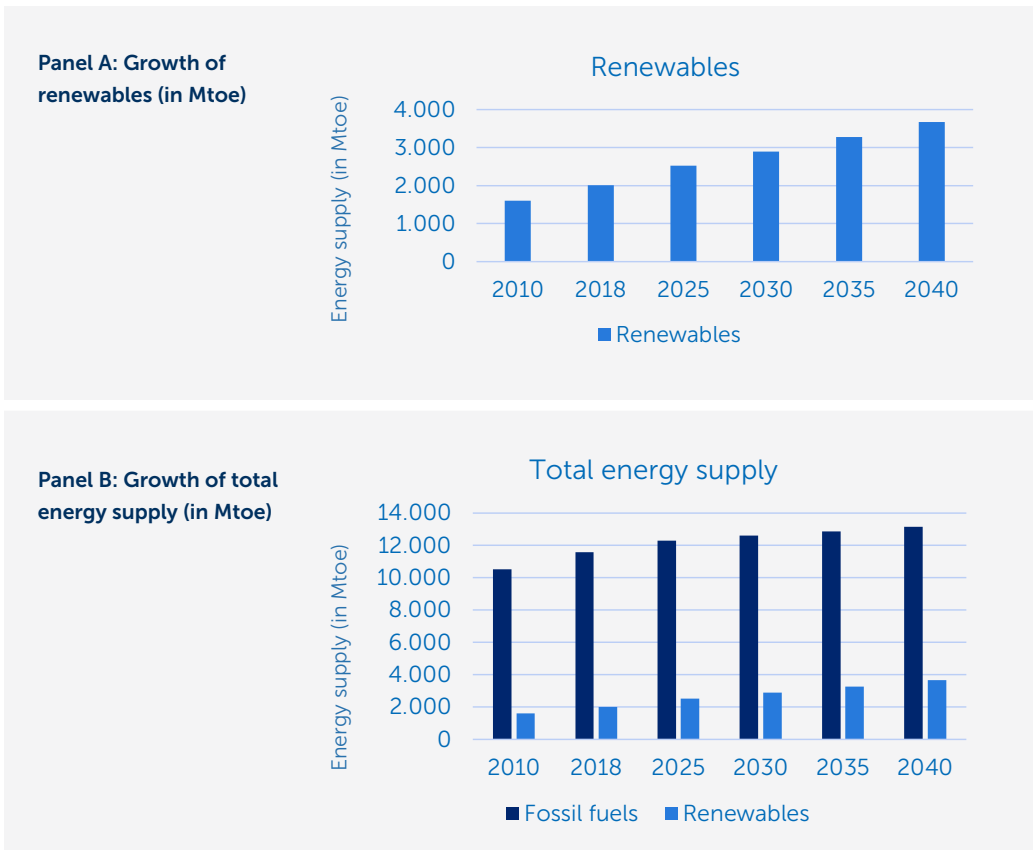
Panels A and B of Figure 1.1 give different messages. Panel A illustrates an increase in renewables, while Panel B shows both energy types and illustrates that fossil fuels remain the dominating form of energy supply. These metrics show the importance of having the full picture, including a possible increase of overall supply.

Policy implications

The Green Paradox (Sinn, 2012) indicates that while green policies stimulate renewables, they may also accelerate extraction of fossil fuels before they become worthless. The result is an increased energy supply from both renewables and fossil fuels.

Another example is the transport transition from cars to public transport. As public transport becomes more attractive through improved infrastructure (network and capacity) and/or lower prices, overall use of transport can increase when people start to live further from their work because of the increased attractiveness of public transport. Effective transport transition policies stimulate public transport and reduce road traffic via road pricing and concurrently no new road development.

Figure 1.1: Energy transition



Source: World Energy Outlook 2019, IEA.

Level 3 – Financial institutions in transition: supporting organisational transitions

The above-mentioned transformative changes also happen at the level of individual financial institutions. To effectively process and implement these changes, financial institutions will need to adapt their:

- » **Strategy:** as goals change, the way to get there will also change;
- » **Investment and lending processes:** to balance integrated value instead of profit maximisation;
- » **Products:** all products will have to be judged on their value creation in the financial, social and environmental dimensions. This means that some products will be phased out, some adapted, and new ones developed;
- » **Appraisals:** board member and co-worker appraisals are based on contribution to integrated thinking and integrated value creation;
- » **Performance evaluation and internal and external reporting:** evaluation and reporting methods will have to extend from current financial and operational metrics that drive financial value to include metrics (and narratives) on social and environmental value;
- » **Information systems:** information flows change since social and environmental information flows will have to be processed in both more rigorous and more meaningful ways;
- » **Organisational structures:** will have to reflect adjustments in goals, products, appraisals and information flows.

Nurturing transformative thinking

At the core is a shift for financial institutions: from finance as usual to financing transitions and exploring their own transition. The way financial institutions work is path-dependent: they have staff educated in traditional finance; and organisational structures and incentives that stimulate profit maximisation, shareholder value and business optimisation. They operate in a context with other financial institutions, regulators, business schools and other actors that create the socio-economic regime (which reinforces an internal debate and discussions and prioritises innovations that from a transitions perspective lead to optimisation and increased lock-in). Engaging in an organisational transition implies embracing uncertain systemic change and back-casting from a desired future transition in finance. It requires organisational space for experiments, and initiating a co-creative process that engages transformative actors from within and outside the organisation. The aim is not to plan a transition, but to cultivate and nurture transformative thinking; doing and organising that in itself will help organisations to proactively prepare for future disruptions.

Good examples of the value of such organisational transition strategies come from the energy domain, where in renewables in particular the transition has clearly moved to a later stage. Some companies (such as RWE and EoN) were forced into disruption, and had to separate fossil activities from renewables and accept huge write-offs. In the same context Dong Energy managed to accelerate a transition from a fossil to a fully renewables-based company (and is now Ørsted). The company had already been exploring renewables and seriously invested in capacities, knowledge, new networks and financial/business models, and when the market was disrupted it was able to radically transform.

A similar example can be found in the Port Authority Rotterdam (Bosman et al., 2018). The organisation had a strong sustainability strategy but it was largely based upon forecasting and aimed at making the dominant model of transport, storage and production of fossil fuels more sustainable. The Port Authority is replacing this with renewables in a gradual way. In 2015-2016 they started to explore disruptive futures and back-casting scenarios. This allowed them to develop insight into the need for structural investments in flexibility, diversity and resilience – in terms of their external networks, project and investment portfolio as well as in terms of their internal organisational culture, structures and practices. Carried by an internal group of change agents the Port Authority embraced the prospect of a long-term (energy) transition and the Paris agreement; and it started to attract new business and personnel while changing its investment strategy and organisational structures. At the time of writing, the COVID-19 pandemic is having enormous economic impacts, but the Port Authority shows resilience and is now able to combine economic recovery support with proactive investments and upscaling of its transition portfolio.

Imagining alternative regimes

For financial institutions, such a process would start with assuming that the current financial regime will implode one way or another. It is so unsustainable that it will be transformed and disrupted. But the future also needs finance: on what basis will it have to be provided? What kinds of value and services will society demand? What possibilities do new models, technologies and practices offer? And what processes, pathways, steps and actions can be taken to explore and develop such desired futures? These are processes every organisation has to go through: in a way these dialogues and reflections are a fundamental part of the transformation. To illustrate the possible transition at the level of individual financial institutions, Box 2 shows what a pension fund could look like in a new finance regime. This case shows that a transformation of the entire eco-system (pension funds, as well as beneficiaries, regulators/supervisors, reporting standards, asset management practices and finance education) is needed to achieve true transition. A jointly developed vision of the financial system of the future (see Level 1) is instrumental in this process.

Box 2: Pension funds in a new finance regime

What might a pension fund look like in a sustainable finance world? The idea is to sketch a possible design of a pension fund in a society that has embraced sustainable development based on the SDGs. Discussion and feedback are invited to further sharpen the design of our future pension fund system. The sketch is based on the aforementioned three guiding principles for sustainable finance.

1) Capital allocation based on long-term societal value

As large institutional investors, pension funds are universal owners of a substantial part of the economy. They are thus co-responsible for achieving an SDG-compatible world. Leading pension funds in the Netherlands have already started to work on Sustainable Development Investments (SDIs). SDIs are investments in companies and projects that provide solutions for achieving the SDGs. Mapping those should allow them to make their transitions exposures more visible. However, their portfolios have only just begun to shift accordingly (i.e. very early stage Level 2 transition). The reason is that most of their structures and mindsets are still aligned with traditional finance (i.e. very early stage Level 1 transition).

2) Managing on integrated value

Pension funds are 'managing' the assets of pension beneficiaries. The investment policy could thus be based on their preferences. In a society embracing sustainable development, pension beneficiaries have various preferences:

- i. Material preferences: pensioners need financial income to pay for rent, food and other material matters from the moment of retirement onwards. Pension fund investments should thus deliver financial value.
- ii. Social preferences: pension beneficiaries may care about a 'fair' world, where money is earned with payment of living wages, equal treatment of men and women, social equality and respect for human rights. Pension fund investments should thus deliver social value.
- iii. Environmental preferences: pensioners want to enjoy their pension in a liveable world without global warming, biodiversity loss and depleted resources. Pension fund investments should thus deliver environmental value.

Pension funds can conduct surveys among their pension beneficiaries to learn about their preferences (Bauer, Ruof and Smeets, 2019). It is important to take the preferences of all generations into account, not just the ones that are close to retirement age. These preferences are then input for the investment policy. Assuming that all three preferences are present (of course in varying degrees), pension funds can manage the assets on the basis of integrated value, which combines financial, social and environmental value.

Another concern is that managing on financial value only is short-sighted, since social and environmental values increasingly affect financial value. The rear-view mirror of models based on historical financial returns does not suffice, as these models do not capture social and environmental risks and opportunities very well. Moreover, after decades of outsized financial returns at the cost of social inequality and environmental degradation, current practice likely overrates sustainable financial returns. And it underrates the interplay between returns on financial, social and environmental value. Therefore, current practice will likely fail to protect beneficiaries from heavy losses in foreseeable crises.

3) Stewardship based on a direct link between pension funds and companies

The first two principles suggest that pension funds 'steer' their investments towards sustainable companies and projects and act as stewards. Active stewardship requires more concentrated ownership stakes, deeper engagement, and shorter investment chains (Schoenmaker and Schramade, 2019b). It implies a direct dialogue between pension fund and companies on pursuing integrated value (aligned with the SDGs) without loss of focus and information due to intermediary actors. Concentrated portfolios also allow for capital allocation towards new business models and away from phase-out models. And where they are invested in phase-out models, they can help those particular companies in navigating the transition and changing their business models.

The application of these principles leads to a world wherein pension funds are re-connected with the real economy. That fits with the recent thinking that pension funds cannot deliver 'guaranteed' pensions, but can deliver a return dependent on how the real economy fares. By taking an active role, pension funds take part in the shaping of the real economy and the achievement of the SDGs, delivering integrated value. This does require a change of mindset in the industry, as well as a mandate for change from beneficiaries and regulators.

It is also useful to adopt a dynamic approach for the financial value component of integrated value. Pension funds should thus not look only at financial returns today and extrapolate these more or less linearly, but also at the long-term viability of business models which determine future financial returns. Oil and tobacco are examples of industries whose financial returns today are unlikely to be sustained in the future. Focus on the long-term viability of business models brings us back to integrated value, as societal trends determine the viability of business models in the future.

Level 4 – Finance professionals in transition: supporting transformative capacities

All the above-mentioned transformative changes require a lot from finance professionals. They will need support in building transformative capacities. This is about:

- » **Mental software:** finance professionals need to adopt new mindsets, values, courage, responsibility, accountability, broader perspectives, and willingness to leave comfort zones. The challenge for finance professionals to apply integrated thinking in their own particular situations should not be underestimated;
- » **Support:** finance professionals need to be enabled by tools (like knowledge, IT and training) and mental space (networks, work autonomy). Ideally, they are stimulated to come up with innovations in their methods that help steering on integrated value;
- » **Finance methods:** finance professionals need new finance thinking, models and education (corporate finance and asset pricing) that embrace broad value creation, transition dynamics and back-casting.

Responsible management education

While providing information can raise awareness about sustainability, in itself it may not be sufficient to change mindsets and move people towards sustainable action. Mees (2019) proposes responsible education to build people's capacity to overcome motivational challenges for sustainable action. *Responsible management education* aims to develop the capabilities of students to be future generators of sustainable value for business and society. While sustainability values might initially be seen as external to students, they come to more and more fully understand and internalise these values through the educational process. This results in self-determined motivation and action.

Responsible management education in sustainable finance is not only relevant for students, but also for professionals who are already working in the financial industry (executive education). Finance students and finance professionals are then ready to take up their stewardship role in society. The education of finance professionals also helps them to deal with the fear to change fundamentally and leave old habits behind. An important feature of management education in sustainable finance is extending one's horizon in order to avoid a limited awareness of the consequences of one's behaviour. The outcome is intrinsic motivation, whereby one dares to follow his or her inner compass. The new thinking first starts intuitively and later on leads to a new action perspective. Transformative actors at new institutions (the challengers) or incumbent institutions can then start adopting the new models and approaches. The early adopters can attract human talent, as millennials tend to care about sustainability.

Sustainable finance education materials

Innovation in academia typically starts with frontier research in new publications, which after much discussion and delay find their way into the mainstream textbooks used in bachelor and master courses. Education is thus based on research of the past. Box 3 contains a sketch of possible new finance methods. To provide a shortcut to finance education, we provide teaching notes with these newly emerging finance methods (Schoenmaker and Schramade, 2020a and 2020b). These teaching notes complement mainstream finance textbooks, which adopt the traditional finance methods. These teaching notes can be easily adapted when new insights emerge.

A separate textbook *Principles of Sustainable Finance* is available for executive education and sustainable finance courses (Schoenmaker and Schramade, 2019a). Moreover, company-wide sessions on the three guiding principles and how to apply them at that particular institution can be organised at financial institutions.

Box 3: New finance methods

The academic finance profession is split into:

- » Corporate finance, which is about investment decisions, capital structure and valuation of companies; and
- » Asset pricing, which is about pricing of assets and functioning of financial markets.

These areas have diverged from each other and also from a sustainable economy. The challenge is to bring the three guiding principles identified in Chapter 4 into finance research and teaching:

1. From financial to integrated value;
2. Stewardship based on a direct link between financier and company;
3. Capital allocation based on long-term societal value.

Corporate finance

In the transition to a sustainable economy, companies are increasingly adopting the goal of long-term sustainable value creation, which integrates financial, social and environmental value. That raises the fundamental question in corporate finance about the objective of the corporation. The current objective in mainstream finance textbooks is profit maximisation, which boils down to maximising shareholder value. But the shareholder model is holding companies back from sustainable business practices. An enhanced shareholder view recognises that it is instrumental to treat the other stakeholders well in order to preserve long-term shareholder value.

An alternative view is to broaden the objective of the corporate to optimising the integrated value, which combines the financial, social and environmental value. In that way, the interests of stakeholders are ranked equally (Magill, Quinzii and Rochet, 2015). Such a move to the stakeholder model requires new rules for corporate governance, valuation, capital structure, and decision-making in corporate investments to deal with the various interests of current and future stakeholders. Using the integrated value methodology (Schoenmaker and Schramade, 2019a), the net present value (NPV) method for valuation and investment decisions can incorporate the social and environmental dimension in its calculation. Adjusting the NPV rule from financial value to integrated value is work in progress. The aim is to have an operational NPV method for integrated value calculations. The sustainability dimension can also be included in governance structures, executive contracts and compensation.

Asset pricing

Traditional investment approaches, based on the neo-classical paradigm of portfolio theory and efficient markets, only capture financial value in their financial risk and return space. The efficient markets hypothesis assumes that all available information about companies is incorporated into stock prices. The main asset pricing methods in finance textbooks are based on equilibrium models. The Capital Asset Pricing Model (CAPM), for example, explains how equities are priced in equilibrium. The CAPM suggests that investors should hold the market portfolio. The financial risk-return thinking has led to a focus on the stock price as the central performance measure for investor (and executive) performance. The traditional way of performance measurement is the benchmarking of an investor's returns to those of the relevant market index, which is confined to the financial risk and return dimension.

Sustainable or ESG investing has perverse effects in such equilibrium models. ESG preferences leads to lower risk-adjusted returns (green discount) as equity prices of green companies are overbid; and to higher risk-adjusted returns (brown premium) for brown companies (Pastor, Stambaugh and Taylor, 2020). This will lead to a clientele for brown companies – from unsustainable investors harvesting these higher returns. There are two shortcomings in this approach. First, ESG ratings have limited capacity to capture material sustainability factors of companies (Schoenmaker and Schramade, 2019b). Second, these equilibrium models discard the possibility of transition. In equilibrium models, ESG preferences are typically labelled as overinvesting. But sustainable investing could be based on a positive assessment of sustainability transitions (in part or full) happening, which would make brown assets obsolete.

An alternative investment paradigm, based on adaptive markets and fundamental analysis of the transition potential of a company, is better able to pursue long-term sustainable investing. It breaks away from efficient market thinking and assumes adaptive markets where the incorporation of sustainability information into stock prices is an adaptive process (Lo, 2017). The success of sustainable investing is dependent on the number of fundamental analysts that perform transition preparedness analysis – and the speed and quality of their learning. Investors also engage with companies to steer them towards sustainable business practices.

New synthesis

These new methods reconcile corporate finance and asset pricing and cut out the multiple middlemen in the investment chain (see Figure 6). Financiers (pension funds and insurers as asset owners or banks as lenders) perform fundamental analysis of potential investee or borrowing companies based on integrated value methods. Such elaborate analysis can only be performed for a limited number of companies. These financiers then invest in or lend to these companies in a concentrated investment or lending portfolio. The financier that takes the financing decision also engages directly with his or her companies. In that way finance professionals can perform their stewardship role. And the financial system can fulfil its main task of allocating funding to its most productive use, and achieving long-term societal value creation.

How to move forward?

In this book we set out to explore the path dependencies of the current financial system and its vulnerability to transitions. We face the risk of systemic collapse due to our collective inability to make improvements that address the fundamental and persistent ecological and socio-economic problems related to the way the financial system operates. The way organisations and professionals, inside and outside the system, strategise and operate is part of path-dependencies: through rational planning, individual optimisation, extrapolation and a focus on managed innovation, both the possibility of systemic risks as well as emerging transformative alternatives stay out of sight.

For professionals and organisations educated and working within the financial system it is also difficult to imagine something else: where to start, and how to make a transformative change happen? As we learn from transitions research and transition management, it starts with a much more systemic, historical, and critical analysis of the regimes that organisations and individuals are part of. How normal is the current regime? What are its assumptions, principles, and their historical origins? In what societal context did they emerge, what purpose did they serve and what kind of changes are happening in its context? And how vulnerable is it in terms of transitions? As we have sought to argue in this book, there are ample signs that destabilisation and transformative changes in the financial system are likely and increasing.

If people or organisations truly internalise this understanding of the inevitability of transitions as well as their complex, unmanageable and non-linear nature, it is possible to start developing transformative capacities for desired transitions. In essence, this implies exploring and identifying shared guiding principles or desired futures as a way to develop a shared new orientation for action. With methods such as back-casting or wildcard scenarios, people can not only start to imagine alternative (positive) futures, but also link these back to their daily practices. In formulating concrete actions and identifying where such positive futures are already emerging, people can then start to reorient daily decisions and practices – not to ‘make the transition’, but to start to contribute to small evolutionary or transformative innovations. One can say that, in a way, seeing the transitions developing is also a way to start to become part of them.

Whether it is at the level of the financial system in general, specific subsystems or organisations, across these levels similar patterns of transformative change are emerging in a shared societal context with increasing pressures and new demands. But wherever an actor or individual is, it is worthwhile exploring what these transition dynamics bring in terms of risks and opportunities. This can be done through:

- » Joint action research projects exploring historical path-dependencies, limitations, persistent unsustainability and systemic vulnerabilities of the current financial system;
- » Transition arena processes at different levels (sector and organisations) to explore pathways and strategies for positive finance transitions;
- » Strategic agenda-setting to identify governance interventions to phase-out and break down undesired conditions, institutions and activities;
- » Engaging in serious transformative experimentation outside or across the boundaries of the current finance regime following emerging niches;
- » Organising public debates, education and knowledge sharing on transforming understanding and practices in finance.

It is now up to all those change agents within and outside the financial system that feel frustrated by the slow pace of change and the inertia of the existing system. They must become the ones that explore alternatives and have the curiosity to see just how a positive financial system could develop. Moving forward in transition is about making new connections and questioning what is normal in order to discover other ways that things could be. The role of institutions, academia and government is to facilitate this: to create platforms for a positive finance transition. To make our call to action concrete, Box 4 sketches the transition management process.

Box 4: Transition management process

Transition governance and management is an overarching label for a theoretical perspective on agency in transitions, a set of principles for a governance approach and a toolbox of methods and instruments to operationalise these. The agency perspective is based on the transitions framework of societal regimes, path dependency and the x-curve dynamics of structural systemic change. Transition scholars can analyse historical patterns as well as emerging dynamics on a societal systems level, but also focus on the role of agency herein. It leads to an important starting point for transition governance: actors embedded within the regime will collectively by default act to optimise and improve the existing system. Transitions (in hindsight) start with individuals or actors outside such contexts that challenge or seek to challenge, alter, or replace the regime or elements of it.

This leads to a set of starting principles for a proactive governance strategy:

- » Systemic: based on emerging patterns and dynamics of transformative system change;
- » Selective: focus on the actors and individuals intrinsically engaged with transformative change;
- » Back-casting: desired transformative futures as radical purpose guiding short-term actions;
- » Experimental: learning-by-doing and doing-by-learning approach to practice and action;
- » Reflexive: organised social learning and critical evaluation as drivers of transformative change;
- » Diplomatic: inclusive and connecting approach to engage and broaden engagement, co-operation, and co-creation.

Transition arena

One of the transition management instruments to operationalise these principles is the transition arena. It is a method in which a small transition team (involving transition researchers, experts, and practitioners) is established. This transition team develops a transition analysis of the specific societal regime by integrating scientific, empirical, and tacit knowledge. Through document analysis, literature study and interviews an analytical narrative is developed to explain historical development,

path-dependencies, persistent problems, and identify transformative potentials. The interviewees are selected based on a variety of perspectives, positions, and ideas. The interviews are used to explore, discuss, and test the historical transition narrative.

This preparation phase leads to a basic analysis and a group of participants for the transition arena: a group of 15-25 change agents with different backgrounds and perspectives that develop a shared and internalised new understanding of a transition. It is practically organised as a process in which a number (4-6) of intensive sessions of three to four hours lead to a social learning process producing a transition agenda. The process is organised and facilitated so that it leads to a shared document, but more importantly to a shared understanding and action perspectives for the participants that they will bring back to their daily positions and activities. The selection of these participants will thus have indirect but deep impact on the broader transition.

The logic of the transition arena process is that the first part is focused on problem structuring: creating a shared understanding of the unsustainability of business as usual. This is often an exciting, confronting, and confusing phase and takes two or three sessions. It is exciting as participants engage in a high-level discussion with interesting people on a topic they care about. It is confronting and confusing because it will make them fundamentally question their own understanding of the world, what they do and how they (or do not) contribute to transformative change. It is also a creative process in which the initial transition analysis is refined, validated, enriched, and consolidated.

Based on the emerging consensus, the process then shifts to transition pathways: formulating guiding principles and back-casting as ways to explore how transformative changes (forecasting) combined with desired futures (back-casting) could be combined in concrete pathways. This step helps participants to bring radical long-term futures closer to reality and develop the understanding that radical systemic change happens in many small steps that are beyond individual control but are also partly happening already and automatically as many more actors engage or begin to engage in this transition. Such pathways can typically be developed in one or two sessions.

The last phase of a transition arena then brings back the internalised transition thinking and pathways to the daily context of the participants. How can they change, challenge, intervene or improve their activities to contribute to transformative change? What collaborative and transformative ideas emerged and can be translated into projects, actions, or interventions? What is needed to further accelerate and support this? In one or two sessions this is then translated into concrete strategies and an integrated transition agenda in which the whole narrative, direction, pathways, and actions are combined.

Process facilitation

The facilitation of this process through the transition team is critical – not only in providing the transition analysis and actor selection as a basis for it, but also through the sessions. The sessions themselves need to be organised and facilitated to create an atmosphere and context supportive of transformative thinking and creative energy. For example, alternative locations and catering, and high-level discussions rather than conferencing. Facilitation is focused on challenging participants, enhancing reflexivity, and nudging participants towards shared discourse and ideas. In between sessions, the transition team interacts with participants to support the group collectively aligning and converging towards a shared vision.

The transition team also uses time between sessions to gradually develop the transition agenda. To synthesise discussions into parts of the envisaged transition agenda: problem framing, vision, pathways, and actions. These syntheses are used as starting points for the next session, thus creating a continuation of the process, and moving towards a shared outcome. During the process the transition team will also identify missing elements, engage new participants and, towards the end, help to organise the presentation, communication, and diffusion of the transition agenda.

Glossary

A general glossary of key concepts applied in the fields of finance, sustainability, and transition

Adaptive markets hypothesis implies that the degree of market efficiency depends on an evolutionary model of individuals adapting to a changing environment

Back-casting is a scenario method that starts with defining a desirable future and then works backwards to identify changes, actions, policies, and interventions that will connect that specified future to the present

Benchmarking in investment is the process of measuring an investment portfolio's performance against a market index

Broad welfare encompasses economic, social, and environmental value

Business-as-usual refers to the normal execution of operations within a company seeking to improve these

Double materiality perspective on sustainability: financial materiality for understanding the impact of sustainability on a company's development and financial performance (internal impact) and environmental and social materiality for understanding the impact of a company's activities on nature and society (external impact)

Efficient markets hypothesis states that stock prices incorporate all relevant information and thus on average reflect the long-term fundamental value of the firm

Engagement refers to investors' dialogue with investee companies on a broad range of environmental, social, and corporate governance (ESG) issues

ESG stands for Environmental, Social, Governance

Externalities refer to consequences of activities, which affect other (or third) parties without this being reflected in market prices

Goal function is the development direction of a system that is embedded in how it is organised: the goal function of the financial system is optimising financial value or integrated value

Guiding principles are design principles for a future system; for a positive finance transition these include i) from financial to integrated value; ii) stewardship based on a direct link between financiers and companies; and iii) capital allocation based on long-term societal value

Integrated thinking refers to considering the connectivity and interdependencies between the factors that affect an organisation's ability to create value over time; it combines the financial, social, and environmental dimensions

Integrated value is obtained by combining the financial, social, and environmental values in an integrated way (with regard for the interconnections)

Long-term value creation refers to the goal of companies, which optimise financial, social, and environmental value in the long run

Investment chain refers to the parties that sit between the ultimate provider of capital (typically someone investing for his or her retirement) and the ultimate user of capital (typically a company or project); asset owners and asset managers are key players in the investment chain

Nature-positive economy is an economy that meets the needs of society and creates wealth to enhance human well-being while protecting and regenerating nature

Planetary boundaries framework consist of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come; these boundaries include climate change, biosphere integrity, land-system change, freshwater use, biochemical flows, ocean acidification, atmospheric aerosol loading, stratospheric ozone depletion and novel entities

Positive finance transition means i) developing an integrated value and nature-positive culture and mindset; ii) changing existing structures, incentives, indicators, and conditions to that end; and iii) mainstreaming and normalising routines and practices, inside and outside the financial system, that work for planet and people

Regime refers to the dominant cultures, structures, and practices in a societal system

Responsible management education aims to develop the capabilities of students to be future generators of sustainable value for business and society

Shareholder value approach means that the ultimate measure of a corporate's success is the extent to which it enriches its shareholders

Social foundations are minimal social standards that focus on enabling people to be: 1) well: through food security, adequate income, improved water and sanitation, housing and healthcare; 2) productive: through education, decent work and modern energy services; and 3) empowered: through networks, gender equality, social equity, having political voice and peace and justice

Stewardship refers to the notion that managers, left on their own, will act as responsible stewards of the assets they control

Stakeholder value approach means that a corporate should balance or optimise the interests of all its stakeholders: customers, employees, suppliers, shareholders, and the community

Stranded assets refer to assets that lose their value; this term is often used for fossil fuel assets, which may become stranded due to government regulation or technological change; it is wider applicable to carbon-intensive assets or other assets, such as land, which may become stranded due to soil erosion

Sustainable development means that current and future generations have the resources needed, such as food, water, healthcare, and energy, without stressing processes within the Earth system

Sustainable finance looks at how finance (investing and lending) interacts with economic, social, and environmental issues

Sustainability transition refers to the desired system change from the current linear, fossil-fuel-based, and extractive economy to a regenerative, inclusive, and sustainable economy

System risk refers to risk at the level of the economic and/or financial system

Transition refers to the structural, non-linear system change from one state (regime) to another

Transition arena is a selective participatory process to stimulate social learning and empowerment; it is supported by transition research in which a group of strategic actors goes through analysing a transition, envisioning futures, back-casting and agenda-setting, and can be used to engage individuals active in different transformative networks and initiatives to explore a common transition and identify the shared regime barriers they face

Transition governance looks at how actors can influence transition processes; transition governance is a multi-actor process in which systemic solutions, disruptive innovations, and (reflexive) institutions are formed by experimenting and learning

Transition management refers to the management of transformational change from an old regime to a new regime through different stages

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- 1) from financial to integrated value, which combines financial, social and environmental value;**
- 2) stewardship based on a direct link between financiers and companies; and**
- 3) capital allocation based on long-term societal value.**

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