A system that serves: Rebuilding finance for the future

Financial system vision Triodos Bank

Table of contents

Triodos Bank

Executive Summary

Triodos Bank's mission is to create a society that promotes the quality of life of all its members on a thriving planet, with human dignity at its core. We do so by *Financing Change* and by *Changing Finance*. This paper outlines the challenges we see in the financial system today, and the levers we see to address them. The financial system comprises the markets, intermediaries, instruments and regulations designed to fulfil three key functions: facilitating payments, mobilising capital and managing risks. This system, an entirely human creation, is one of the main forces shaping our economies, societies and future.

We believe it is urgent to change the financial system, simply because there is so much to improve. Today, the system allocates far more financing to the destruction of ecosystems and the exacerbation of climate change than to regenerative and innovative goals. The system mixes up public objectives, such as access to payment services, with private incentives to become extremely rich. As a result, the financial system is a conservative force rather than a progressive one. This is a big problem in a world that needs to change. Over the past few decades, the financial system has also grown much more rapidly than the real economy it is meant to serve, becoming increasingly complex and disconnected. Oligopolistic market structures are distorting how financial markets function, while rising debt levels make both economies and the financial system more fragile. Meanwhile, private actors increasingly facilitate public goods. This has handed both power and implicit public protection to these profit-maximising actors. There really is much to improve.

This paper doesn't offer a granular blueprint or a 10-step plan for improvement. Systems change is more complex than that. Instead, we point out levers for change: reforms of parts of the financial system which could improve its functioning and potentially trigger further change. We begin by describing what the financial system is, what we believe its purpose should be and how it has become what it is today. We touch upon what makes this system powerful, including which institutions are powerful in particular. Next, we turn to the three main functions of finance in turn. For each, we analyse the problems we see and propose levers for change.

Payments are primarily facilitated by banks and payment service providers. These payment service providers are oligopolistic and increasingly pricey, while banks use the privilege of money creation mainly to maximise their profits. Well-intentioned regulations make Know Your Customer (KYC) and Customer Due Diligence (CDD) procedures onerous and reduces access for some groups of people, while international payments are dominated by national interests. We propose a stronger role for public actors in facilitating payments and creating money through a public payments system and central bank digital currency. Centralising KYC and CDD procedures and creating a truly global currency and payments institutions would help further.

We then turn to the most influential function of the financial system: mobilising capital, including banks and governments who create money to be allocated as capital. We identify five main, interrelated problems. First, a growing share of financing is directed towards unproductive activities, such as transferring existing assets between owners. While some level of unproductive financing is acceptable, the increasing liquidity available for their purchase mainly drives up prices and increases indebtedness, rather than shaping a desirable real economy. This development has been buoyed by a system of bank regulation focused on reducing credit risk, which has helped grow a network of shadow banks that are interconnected with banks through long and impersonal chains of credit intermediation. In our view, we should aim for short credit intermediation chains in which banks or private debt funds raise money directly from depositors and investors, to lend towards the real economy. Second, we note that impact considerations are virtually absent from allocation decisions for most actors in the financial system. Disclosures and risk logics will not fundamentally remedy this. Really integrating impact considerations in the direction of financial flows therefore requires a guidance regime, in which innovative forms of democratic governance shape where private capital can and can't flow. Third, we discuss how from an early stage onwards, the current financial system pushes organisations towards a shareholder-centred ownership and governance model, disadvantaging other stakeholder interests in the process. Catalysing alternative forms of ownership and governance, such as steward-ownership, would be a great step towards more mission-oriented organisations. Fourth, we discuss how oligopolistic market structures have become pervasive in both banking and asset management, distorting incentives and increasing costs to clients. Dismantling institutional scale benefits, promoting diversity and balanced European integration would all help solve this situation. Last, we note that there are instruments that are never useful to the real economy, and instruments that sometimes are but get used for speculative reasons frequently. We propose tighter regulation

for both, as well as transaction taxes to discourage speculative behaviour.

Last, we turn to risk management, where we focus our analysis on sustainability risks and insurance. We discuss why sustainability damages are hard to insure and why they are grossly underestimated by traditional risk management techniques. Improvements can be made by taking a truly precautionary approach to prevent further damage and implementing forward-looking risk management techniques, as well as by making polluters pay for damages that already are unavoidable and by using insurance premiums to mitigate risks, too.

We believe these levers for change could bring about a better financial system. A financial system that truly serves the real economy, not itself. Where public interests are safeguarded by public actors, not used for private gains. And where money is used consciously, because finance is ultimately about social relationships. Let's make it happen together.

1 Introduction – The turning point

Triodos Bank's mission is to create a society that promotes the quality of life of all its members on a thriving planet, with human dignity at its core. Through our financing activities, we make money work for positive change in society. We want to *Finance Change*.[1]

But we also want to *Change Finance*. We understand that beyond our own financing, the financial system we are part of plays a major role in shaping society. In pursuit of our mission, we want to reform the financial system so that it truly serves society. We believe the way it works can and should be improved.

This ambition is based on our understanding that the financial system shapes both economic life and social relationships. The current financial system has evolved from a series of historical events, challenges and power struggles throughout societies and is very much human-made. Recognising this allows us to see that we can redesign our financial system to address the challenges we face today.

1.1 There is so much to improve

It has become unmistakably clear that the financial system, as it currently operates, does not help to address the world's major challenges. More money still flows towards destruction and extraction than towards renewable energy, the circular economy, nature restoration, social inclusion or human wellbeing. This is not the result of bad intentions of those working in finance, it is a systemic failure. That is why, even after 45 years of Triodos Bank, transforming finance is more urgent than ever.

A number of deep-seated problems are embedded in today's financial system. They have developed gradually, but together they have produced a system that channels wealth and power upwards, disconnects from real economic value creation, and undermines both ecological and social resilience.

A system disconnected from the real economy
Financial wealth has grown far faster than productive output. Since 2000, global net worth and asset values have soared, while productivity growth has stagnated. More and more wealth now exists as financial claims rather than as real productive capacity. The financial system increasingly generates profits from trading, balance sheet expansion and speculative activity instead of financing the goods, services and infrastructure that sustain people and the planet.

For example, recent analysis by McKinsey shows that global assets and net worth have grown far faster than GDP: global net worth grew 1.3 times faster than global GDP and each USD 1.00 in net investment generated USD 1.90 in net new debt.[2]

An extractive system
Finance fundamentally optimises for financial returns. That is, for things that can be priced and captured in monetary form. Everything that exists outside the price system, such as clean air, stable ecosystems and community wellbeing, is for free from a financial perspective. As a result, pollution, resource depletion and social costs are systematically externalised. The financial system rewards extraction and short-term returns, not long-term regeneration.

This logic explains why so much capital continues to flow into nature-negative activities. According to the UN Environment Programme, roughly USD 7 trillion per year in global finance flows are directed towards activities that harm nature, while only USD 200 billion support nature-based solutions, a ratio of more than 30 to 1.[3] Private capital tells the same story: about USD5 trillion annually funds destructive activities versus USD 35 billion for nature-positive investment, a 140:1 imbalance.[4]

The IMF estimates that implicit and explicit fossil fuel subsidies totalled USD 7 trillion in 2022 (7% of global GDP) and could rise further without reform.[5] Even in the energy transition, alignment remains inadequate. The International Energy Agency projects that global energy investment will reach USD 3.3 trillion in 2025, with USD 2.2 trillion in clean energy, roughly twice fossil fuel investment. However, this is still far below what is required.[6]

The same imbalance is evident elsewhere. The global economy is less than 7% circular, as material extraction keeps rising, while investment in the circular economy remains a fraction of what is required.[7]

1 Our articles of association explicitly state this goal under Article 2, *Objects:*"the company aims to contribute to social renewal"
2 McKinsey (2023). The Future of the Economy and Global Wealth | McKinsey
3 UNEP (2023). State of Finance for Nature 2023
4 UNEP (2023). UNEP | Finance for Nature: Flows
5 IMF (2023). Fossil Fuel Subsidies Database
6 IEA (2025). World Energy Investment 2025
7 Circle Economy (2025). Circularity Gap Report 2025, Amsterdam: Circle Economy.

The food and agriculture sector generates roughly one-third of global emissions yet attracts only about 4% of climate finance.[8] And across social domains, the UN estimates an annual SDG financing gap of USD 2.5–4 trillion, signalling chronic underinvestment in education, health and community resilience.[9]

In short, today's financial system extracts more value from society and nature than it helps to regenerate. It optimises for what pays, not for what matters. What makes transformation so difficult is that finance is, by design and by regulation, inherently backward-looking: risk models are built on past data, and return expectations rely on historical performance. As a result, new and sustainable business models (by definition unproven) struggle to attract capital, while established and even destructive ones are rewarded as the "safer" choice.

A highly leveraged and fragile system
Since the 1970s, finance has fuelled growth through debt expansion, global outsourcing and monetary intervention rather than through real productivity gains. After the global financial crisis, extraordinary measures (ultra-low or even negative interest rates, quantitative easing and "too-big-to-fail" guarantees) further decoupled financial returns from real-world value creation.

Global debt has reached record levels. Total public and private debt stood at USD 251 trillion in 2024, around 235% of global GDP, up from roughly 100% in the 1960s.[10] Public debt now exceeds 93% of GDP, while private sector debt accounts for about 143%.

Although leverage can facilitate productive investment, its persistent expansion makes economies more fragile and growth dependent. It commits future income – and ecological capacity – to servicing past obligations. Excessive macro leverage thus amplifies systemic risk and locks societies into a trajectory of perpetual expansion on a finite planet.

A concentrated and non-diverse system
Power in finance has become ever more concentrated. A handful of global asset managers now control large shares of most listed companies, effectively acting as universal owners with influence across sectors.[11] Their rise has shifted the structure of financial power from banks to institutional investors and asset managers who wield control through ownership and governance rather than lending.[12]

Concentration is also evident in banking. Across OECD countries, the top three banks control on average around two-thirds of total banking assets, limiting diversity and competition.[13] Large banks benefit from scale advantages in regulation, technology and data access, reinforcing their market power and raising barriers for smaller and mission-driven institutions.

Such concentration reduces diversity, creates systemic vulnerabilities and entrenches moral hazard: institutions deemed "too big to fail" effectively enjoy public guarantees for private risk-taking. Regulatory frameworks often exacerbate these dynamics. Compliance costs, capital requirements and investment in digital infrastructure favour incumbents over smaller players, while emerging technologies such as artificial intelligence may further strengthen scale effects.

A resilient financial system requires diversity of ownership forms, missions and business models, (banks, cooperatives, public institutions and new intermediaries) that together provide redundancy, innovation and stability.

A system where banks and non-banks struggle for power and money
The architecture of finance is changing rapidly. While traditional banks once dominated credit and payments, an expanding ecosystem of non-bank financial institutions (NBFIs) – asset managers, insurers, pension funds, private credit and hedge funds – now holds almost half of all global financial assets.[14] Their assets grew by 8.5% in 2023, outpacing the banking sector's 3%. Together, they are reshaping how savings

8 World Economic Forum (2023). Green Returns: Unleashing the Power of Finance for Sustainable Food Systems, Geneva: WEF.
9 United Nations (2024). Financing for Sustainable Development Report 2024, New York: UN DESA.
10 IMF (2025). Global Debt Remains Above 235% of World GDP
11 Braun, Benjamin (2021). Asset Manager Capitalism as a Corporate Governance Regime, in: Hacker, J., Hertel-Fernandez, A., Pierson, P. & Thelen, K. (Eds.). The American Political Economy: Politics, Markets, and Power (pp. 270-294). Cambridge University Press.
12 Braun, Benjamin & Christophers, Brett. (2024). Asset Manager Capitalism: An Introduction to its Political Economy and Economic Geography, *Environment and Planning A: Economy and Space*, 56(2), 546-557
13 The Global Economy (2023). Banking System Concentration: Percent of Bank Assets Held by Top Three Banks
14 Financial Stability Board (2024). Global Monitoring Report on Non-Bank Financial Intermediation 2024

are channelled, risks are distributed and power is exercised.

Non-banks increasingly perform roles once reserved for banks (corporate lending, infrastructure finance and even payments) yet they often operate under lighter regulatory regimes. The IMF warns that their growing leverage, liquidity mismatches and tight linkages with banks pose "key risks to global financial stability."[15] In the United States alone, assets of non-bank institutions have expanded from about USD 40 trillion to more than USD 100 trillion over the past two decades.[16]

A newer layer of non-bank money has emerged through cryptoassets, stablecoins and tokenised finance. Although still small relative to the global system, these instruments challenge the boundaries of public money, private credit and payment infrastructure. The Bank for International Settlements estimates that stablecoins reached USD 255 billion in circulation in 2025, mostly backed by bank deposits and short-term securities.[17] This creates a new public–private hybrid: digital instruments that depend on traditional banking for reserves, yet circulate largely outside the regulated monetary framework.

The result is a fragmented and contested landscape in which banks, non-banks and new digital actors compete for power, profits and legitimacy. Risks increasingly migrate to less regulated domains, while public accountability lags behind innovation. Ensuring that all financial actors – old and new – contribute to real economy resilience rather than speculative extraction will be a defining challenge of the next decade.

A system where public and private interests are increasingly mixed up

The financial system is meant to balance two aims: the public interest (economic stability, inclusion and long-term resilience) and the private interest (profit and shareholder value). In practice, the boundary between them has blurred, and private interests increasingly dominate.

A clear example is money creation. In most economies today, the majority of money is created not by central banks but by private commercial banks when they issue loans, creating deposits in the process.[18] This means that a core public function – the provision of money and credit – has effectively been delegated to private actors whose incentives are commercial rather than societal. The result is a public–private hybrid in which profits are privatised, but risks and losses are socialised.

Public institutions also underpin private finance in other ways: central banks provide liquidity, deposit guarantees and crisis backstops; governments issue subsidies and tax breaks; and public infrastructure supports private trading and payment networks. Yet the benefits often accrue to financial intermediaries rather than to the real economy. Over time, this has produced what some scholars call a "public–private partnership in money creation" – a system that blurs accountability and weakens democratic control.[19]

Conclusion: A complex system

These dynamics create familiar distortions: gains are privatised while risks are socialised; regulation tends to favour scale and incumbency; credit follows profit rather than purpose; and access to finance remains unequal. Yet these are not isolated flaws that can be solved one by one. They are the outcome of a tightly interwoven system – of incentives, power structures and institutional arrangements that reinforce one another. Excessive leverage feeds extraction, concentration amplifies inequality and blurred boundaries between public and private interests weaken accountability.

That is what makes change so difficult. Each reform risks being undone by the pressures of the broader system. But recognising this interdependence is also the first step towards transformation. Only by viewing finance as a connected whole can we identify the leverage points where change can ripple through the system.

[15] International Monetary Fund (2025). Global Financial Stability Report – October 2025: Shifting Ground Beneath the Calm
[16] Federal Reserve Bank of New York (2024). The Basics of Nonbank Financial Institutions
[17] Bank for International Settlements (2025). Stablecoin Growth – Policy Challenges and Approaches. BIS Bulletin.
[18] Bank of England (2014). Money Creation in the Modern Economy, Quarterly Bulletin 2014 Q1.
[19] Pistor, Katharina. (2017). Money's Legal Hierarchy. In: Herzog, L. (Ed.), *Just Financial Markets? Finance in a Just Society*. Oxford University Press.

1.2 Looking for solutions and pathways

The financial system is made up of countless actors – from central banks to asset managers, fintech companies and local cooperatives – each with their own ideas, interests and incentives. These interests do not always align, and public interests are intertwined with private ones. It can therefore be difficult to judge whether specific proposals serve the public good or primarily private gain.

Access to some financial services can be seen a basic right. A well-functioning financial system can support prosperity for all, enabling people and businesses to invest, trade, insure and save. Yet money is also – and always has been – linked to power. Those who control financial resources often shape the rules of the system to preserve their advantage. Without strong countervailing forces, the system risks prioritising the few over the many.

Transformative change requires understanding this full picture. That is why we have chosen to discuss the *entire* financial system in this vision paper. So not only banks, but all finance-related actors, institutions and public authorities that together determine where money flows and what future it finances. We invite you to take a step back, to see how all the moving parts connect.

It is, intentionally, a long read – not to make you doze off, but to help you see the contours of the system as a whole: how it works, where it fails and how it can change. Only by recognising the systemic nature of finance can we chart credible pathways for reform.

The views expressed here align with Triodos Bank's mission and values, but this paper also reflects how our perspectives have evolved. Developments in recent years have deepened our understanding of both the financial landscape and the urgency of societal challenges. This vision paper brings together our insights and experience into one overarching framework for how finance can truly serve society.

In Section 2, we set the stage: explaining what we mean by the financial system, what functions it should perform and how it has evolved. Sections 3 to 5 then explore the three main functions of finance – facilitating payments, mobilising capital and managing risk – and propose ways to realign each with the public interest. Section 6 concludes by outlining paths towards a resilient, inclusive and sustainable financial system. Don't expect a blueprint; the financial system is too complex for that. We call it levers for change: ways we can change our current system before it is too late.

By understanding the system as a whole, we can begin to redesign it. Let us change finance – for the better.

2 Setting the stage

In this chapter, we set the stage for our financial system vision. We do so by providing context and background about what we mean when we speak about the financial system, what we think the financial system should be doing, and how it has changed over time. Because the financial system and money are intertwined, we first discuss the nature and functions of money (Section 2.1). We then turn to the societal functions (Section 2.2) and objectives of the financial system (Section 2.3). Next, we look at how the financial system has evolved in recent history (Section 2.4) and reflect on why parts of the financial system hold particular power (Section 2.5).

2.1 The financial system and money

When we speak about the financial system, we refer to markets, intermediaries, instruments and regulations designed to facilitate the flow of financial resources, allocate capital efficiently and manage economic risk.[20] We intentionally choose a broad definition that includes not only private financial institutions, but also public actors, existing laws and social norms regulating financial behaviour. This broad vantage point is necessary to evaluate the financial system and the way it shapes society as a whole.

Why society needs a financial system
The financial system is essential to the functioning of the economy in modern societies. Exchanging funds and extending credit in a market economy determines where natural resources and human efforts flow. In this sense, the financial system is one of the forces driving the direction of societal development. Furthermore, the financial system is connected to most economic activities. You could argue that even non-market economies had a rudimentary form of a financial system: debt relations are some of the oldest human relationships, preceding money and bartering.[21]

Money is a prerequisite for and intimately tied to the financial system. Modern money is essentially a social construct that represents an "I Owe You (IOU)". Whether in the shape of physical coins, banknotes, bank deposits or other digital records, money represents a promise that you can use it to settle debts in the future. Ultimately, money represents a claim on society – a token that its holder is entitled to goods and services from society. Historically, credit relationships without IOUs appear to have predated money itself.[22] When recorded debts began to circulate beyond their original holders, money emerged.

EXPLAINED: Trust in money[23]
Money relies on the social convention that others will accept it as a means of payment. Trust is the basis of a functioning financial system. During the Dark Ages and into the 20th century, cash money was either made of or convertible to precious metal equal to the nominal value it represented. Although this money was still an IOU, the precious metal served as a proof of its value. Currently, almost all the money in the world is fiat money; either cash or digital forms of money that can be exchanged for fixed physical goods like precious metals. You can convert the numbers in your bank account (private money) into bank notes (public money) if you want, but that just means you have a cotton slip with some foil and security features. If you tried to rip up the bank note to then sell the cotton on the street, you would get much less than the amount of euros printed on the bank note, if you managed to sell it at all. Our trust in money is no longer connected to the material that money is made of. Trust in money is trust in the institutions and in society itself – in the shared belief that others will continue to recognise money as money.

Trust that money will keep fulfilling its roles is essential for money to function. This holds for money in general, but even more so for today's fiat currencies, which have no inherent value. Central banks support the currency by issuing cash and steering liquidity through monetary policy. Yet most of the money we use originates through private bank lending, created when banks record new deposits. This process is publicly framed but privately executed: central banks and regulators set the boundaries and conditions within which money creation occurs.

[20] Levine, R. (2005). Finance and Growth: Theory and Evidence. In *Handbook of Economic Growth*, edited by Philippe Aghion and Steven N. Durlauf, vol. 1A, 865–934. Amsterdam: Elsevier.
[21] Graeber, D. (2014). Debt: The First 5,000 Years, Updated and Expanded. Melville House.
[22] Graeber, D. (2014). Debt: The first 5,000 Years, Updated and Expanded. Melville House.
[23] Van der Spek, R. J., & van Leeuwen, B. (2018). Money and Trust. In *Money, Currency and Crisis* (pp. 1-12). Routledge.

Money fulfils three social functions:[24]

1. **Store of value:** Money allows individuals to store wealth and purchasing power over time. This function is crucial for savings and investment, as it enables people to defer consumption until a later date.
2. **Unit of account:** Money provides a standard measure of value, enabling goods and services to be priced and compared.
3. **Medium of payment:** Money is used to facilitate the transfer of goods and services between actors, enabling economic transactions to take place. If people trust that the purchasing power of money will remain relatively stable over time, money can also function as a medium of exchange for deferred payments, making economic transactions smoother.

2.2 What tasks does the financial system fulfil?

The financial system creates, circulates, manages and transforms money. As such, the financial system both contributes and adds to the social roles that money fulfils. The financial system fulfils three main societal functions. We use these main functions as the structure for our vision by zooming in on how each function is fulfilled in separate chapters and providing our solutions for improving them.

1. **Facilitating payments.** Payments are necessary for economic activity to take place in modern societies. Commercial banks and payment service providers facilitate electronic payments between their account holders and play a role in making cash available throughout the countries they operate in. We elaborate on this function in Chapter 3.

2. **Mobilising capital.** Many financial institutions play a role in mobilising capital. Banks are unique in their ability to create short-term liabilities – such as deposits – based on long-term assets like loans, thereby injecting liquidity into the economy. Investment companies mobilise longer-term capital too. By extending loans or making investments, a developed financial system allocates resources more efficiently; rather than leaving savings idle as cash, it channels them to productive use elsewhere, enabling capital formation and economic activity. In doing so, the financial system finances development and can help shape the structure of the real economy. This capacity to influence real economic outcomes underpins the rationale for sustainable finance – the idea that how and where capital is allocated affects whether the economy becomes more inclusive, resilient and environmentally sustainable.[25] Mobilising capital also allows the financial system to provide avenues for individuals and institutions to store or build wealth. By foregoing current consumption in favour of investing or lending, savers can earn a return that can preserve or increase the value of their assets over time. We return to the function of mobilising capital in depth in Chapter 4.

3. **Managing risks.** On a basic level, most financial institutions manage risks by pooling capital. Disbursing loans through a credit union, for example, lowers the risk of individual creditors losses. Beyond this, insurance products and certain derivatives can reduce the exposure of individual economic actors to adverse influences such as interest rate changes or natural disasters. We elaborate on this function in Chapter 5.

2.3 What should be the objective of the financial system?

Finance should serve the real economy
For Triodos Bank, the objective of the financial system is to enable the development of a society that promotes the quality of life of all its members on a thriving planet, with human dignity at its core, in line with our mission. To enable desirable activity in the real economy, we need a financial system that strikes an optimal balance between how well it fulfils all its functions and the amount of resources (people, money) it costs society to deliver these functions. Trade-offs inevitably exist between the functions of the financial system – for example, between mobilising capital for new economic activity and minimising risks. Designing a financial system that truly serves the real economy will therefore always be a balancing act.

Financial relationships are social relationships
This understanding of the financial system's purpose rests on the idea that money and credit are fundamentally social relationships. Both are

[24] ECB (2025). What is money?
[25] Caldecott, B.L., Clark, A., Harnett, E., Koskelo, K., Wilson, C., & Liu, F. (2022). Sustainable Finance and Transmission Mechanisms to the Real Economy, *University of Oxford Smith School of Enterprise and the Environment Working Paper* 22-04.

human-made constructs that shape how we interact with each other. They reflect the qualities we value in those relationships – and should be guided by them. Yet there is a marked difference between money and credit. Money represents an impersonal social relationship: when you have money, the rest of society effectively owes you something, and you, the owner of the money, decide how you spend it. Credit, by contrast, represents a personal relationship. It binds together two defined parties, though not always natural persons. One party extends credit to the other, usually for a defined purpose, and expects it to be paid back. For the term of the loan, lender and borrower are connected in a direct social and financial relationship. Viewing money and credit as a social relationship calls for conscious use. This means considering the full consequences of spending, investing and lending – not only the immediate financial return. Today's financial system often does the opposite: it turns relationships into impersonal, tradable securities, detaching finance from the people and purposes it serves. We envision a system where financial institutions bring creditor and debtor closer together, restoring genuine connection and accountability, and recognising that every financial transaction is also a social relationship.

Public interests need public protection
Public oversight is essential in parts of the financial system that serve public interests – interests that benefit society as a whole. A well-functioning payment system, reliable money creation and a stable and trustworthy currency are prime examples of such shared goods. The way capital mobilisation shapes future economic activity also encompasses a public interest, as the economic system shapes the context in which we coexist. We believe that safeguarding these public interests requires the active involvement of public institutions. This does not mean that public actors must always perform these functions themselves. In many cases, their role is to set a framework within which private actors operate. However, those entrusted with the public good, such as well-functioning democratic governments, must remain vigilant to ensure that private interests do not override public ones.

2.4 How has the financial system changed?

Financial systems have taken many forms throughout history, and this evolution applies to all their core functions. For much of human history, payments were dominated by physical cash; in recent decades, they have become increasingly digital with a growing role for private actors. In mobilising capital, both the mix of private and public participants and the geographic scale of financial flows have changed dramatically, expanding from local to global networks. When it comes to risk management, insurers have evolved from small mutual associations into global financial institutions, while a proliferation of complex financial instruments has transformed how risks are priced and traded. At the same time, new sources of risk – such as those arising from climate and sustainability challenges – are rapidly emerging on the horizon.

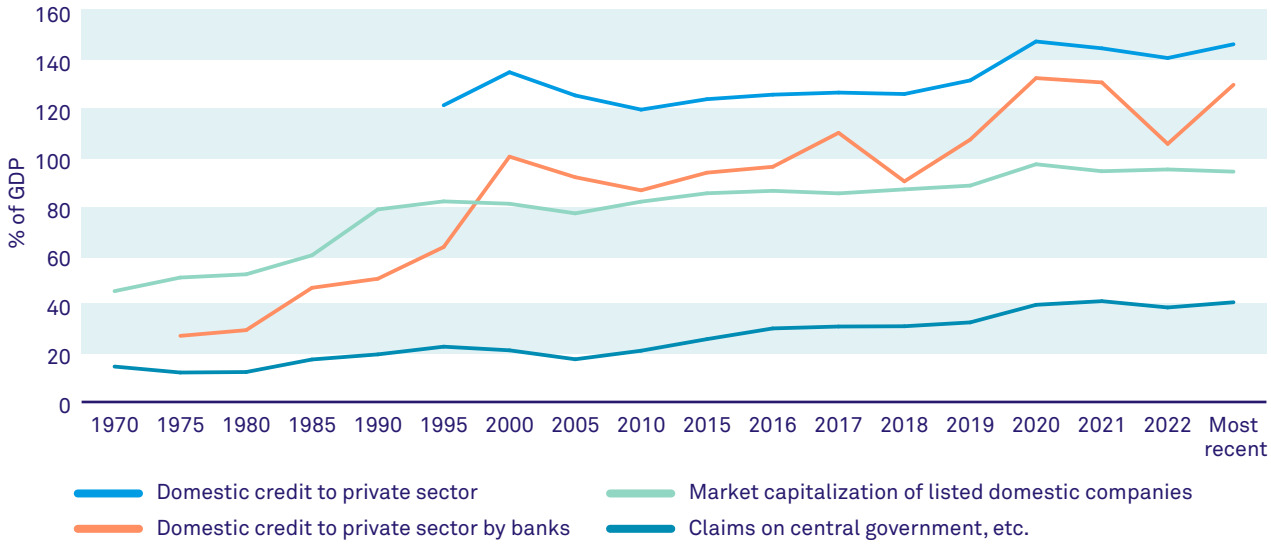
These shifts remind us that the financial system is not static but continually evolving – and that how we design and govern it remains, ultimately, a matter of collective choice.

The financial system has grown rapidly
The financial system has outgrown the real economy in recent decades. On a global level, assets under management and net worth at market prices have been growing faster than GDP for several decades.[26] Simultaneously, the total global leverage has increased over the last decades, levelling off in the past few years.[27]

Figure 1 shows how key aggregates of the global financial system have evolved relative to GDP since 1970 – the approximate start of large-scale financial liberalisation policies. The trends are shown at a global level, though both the pace and direction of development vary across countries. Overall, the trend is unmistakeably upwards. Domestic credit to the private sector has expanded sharply, including an increasing share of credit offered by non-banks. Government debt holdings by the financial sector have also risen relative to GDP. Meanwhile, market capitalisation to GDP – the equity component of the financial system – has grown even faster.

[26] McKinsey (2023). The Future of the Economy and Global Wealth | McKinsey
[27] IMF (2025). Global Debt Remains Above 235% of World GDP

Figure 1: Global financial sector to GDP trends



Source: World Bank

Together, these developments show how the financial economy has outpaced the real economy over time. The private financial sector has also become a major employer, accounting for around 3% of total employment in the euro area.[28] This further underscores finance's expanding footprint relative to its real economy function.

Bigger is not always better

The expansion of the financial system over time has not necessarily strengthened its capacity to serve the real economy. The link between financial transactions and real economic activity is complex and often indirect. Research examining the relationship between the size of the financial system and economic activity offer valuable insights into how finance supports – or fails to support – real economic outcomes. At a macro level, this relationship appears to be non-linear: beyond a certain point, a larger financial sector no longer contributes proportionally to economic development.[29] In countries with limited financial infrastructure, expanding access to finance typically stimulates economic activity. As financial systems develop, they enable productive investment, which in turn supports innovations and new forms of economic activity. Once investment opportunities become saturated, additional financial activity may no longer fund productive ventures and can even constrain the overall level of economic activity through speculation or resource misallocation.

The influence of the financial system on the real economy extends beyond investment efficiency. The sector's income structure, for instance, affects how economic rewards are distributed. In the European Union, employees in finance earn significantly higher average incomes than those in most other sectors, claiming a disproportionately large share of total goods and services. Roughly one in five of the top 1% of income earners works in the financial industry – illustrating how finance also shapes inequality within the broader economy.[30]

New instruments and actors entered the stage

Underlying these upward trends is a change in the composition and quality of the financial system. One of the most important developments in capital mobilising over recent decades has been the shift towards market-based finance, reflected in the growing share of assets held by non-bank financial institutions.[31] This evolution has been accompanied by the rapid rise of passive investing, which offers a low-cost way to track

[28] Eurostat (2024). 4.9 Million Employed in Finance and Insurance Sector

[29] Prochniak, M., & Wasiak, K. (2017). The Impact of the Financial System on Economic Growth in the Context of the Global Crisis: Empirical Evidence for the EU and OECD Countries. *Empirica*, 44(2), 295-337.

[30] Denk, O. (2015). Financial Sector Pay and Labour Income Inequality: Evidence from Europe, *OECD Economics Department Working Papers*, No. 1225, OECD Publishing, Paris, https://doi.org/10.1787/5js04v5wjw9p-en.

[31] Bank of England (2025). Assessing the Resilience of Market-Based Finance

predefined indices and has drawn a growing number of retail investors into publicly listed investments.[32, 33] Together, these shifts have altered how savings are channelled, how risks are distributed and who ultimately holds financial power.

The core segments of the financial sector are relatively oligopolistic. In asset management, just three companies own 18% of all US listed companies, concentrating vast influence in a few hands.[34] Alternative asset management – covering areas such as private equity, venture capital and infrastructure – show a similar pattern dominated by a small number of global players.[35] Banking is more geographically segmented but also displays strong concentration. In the Netherlands, the five largest banks own over 80% of all assets. This is not universal; Germany, for instance, has a more diverse and competitive banking landscape. Payment markets are equally concentrated, with two international card schemes together facilitating 61% of card transactions in the eurozone.[36]

None of these trends are natural or inevitable. the structure of the financial system has changed many times in history, shaped by policy choices, regulation and social priorities. That means it can change again – and directing that change is both possible and necessary.

2.5 What gives financial actors power?

Power structures must be taken into account when discussing any prospect of social transformation. At Triodos Bank, we believe that power comes with responsibility. Understanding how power is distributed within the financial sector is essential to determine the extent of its responsibility for shaping society.

Financial stability as a source of power

Financial stability is a foundation of any functional society. In a capitalist market economy, every economic actor faces a liquidity constraint: the cash flowing out of a balance sheet cannot exceed the cash flowing in.[37] It is almost impossible to balance cash flows perfectly at all times, so nearly all actors depend on the financial system to hold cash balances, access credit lines and make payments.

This reliance makes the system indispensable. People trust that their savings will remain safe in bank accounts, and businesses rely on payments being processed smoothly every day. Even minor disruptions, such as rumours about a failing bank or volatility in the currency exchange rates, can undermine that trust. Once confidence erodes, instability can spread quickly, threatening the very functions the financial system is supposed to perform. Since every economic actor is connected to it, financial instability becomes a problem for society as a whole.[38]

This societal need for stability translates into power for the financial sector as a whole, and for individual institutions large enough to threaten the system's stability. Because financial stability is essential for societal functioning, it is ultimately underwritten by public authorities. This creates an implicit guarantee: some individual financial institutions know that their own stability is, in effect, backed by the state. The global financial crisis (GFC) of 2008 made this dynamic unmistakably clear. When systemic risks materialised, governments stepped in to rescue failing institutions in order to prevent wider collapse. Over time, the public has also come to expect not only a stable financial system but also stable asset values – expectations that, in turn, place continuous pressure on public authorities to uphold financial stability at almost any cost.[39]

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32 Anadu, K., Kruttli, M., McCabe, P., & Osambela, E. (2020). The Shift From Active to Passive Investing: Risks to Financial Stability? *Financial Analysts Journal*, 76(4), 23-39.

33 Gempesaw, D., Henry, J. J., & Xiao, H. (2024). Retail ETF investing. *European Financial Management*, 30(4), 2305-2342.

34 Gibadullina, A. (2024). Who Owns and Controls Global Capital? Uneven Geographies of Asset Manager Capitalism. *Environment and Planning A: Economy and Space*, 56(2), 558-585.

35 Braun, B., & Christophers, B. (2024). Asset Manager Capitalism: An Introduction to its Political Economy and Economic Geography. *Environment and Planning A: Economy and Space*, 56(2), 546-557.

36 ECB (2025). Report on card schemes and processors

37 Mehrling, P. (1999). The Vision of Hyman P. Minsky. *Journal of Economic Behavior & Organization*, 39(2), 129-158.

38 Financial instability can be defined as a situation when shocks to the financial system interfere with information flows so that the financial system can no longer channel funds to those with productive investment opportunities. From: Mishkin, F. S. (1999). Global Financial Instability: Framework, Events, Issues. *Journal of Economic Perspectives*, 13(4), 3-20. A financial crisis might be defined as a severe disruption to financial markets leading to a significant fall in output. From: Eichengreen, B. (2004). Financial Instability. Global Crises, Global Solutions, 251-80.

39 Chwieroth, J. M., & Walter, A. (2019). *The Wealth Effect*. Cambridge University Press.

Systemic fragility – the degree to which external shocks disrupt the functioning of the financial system – is clearly harmful for society, though not necessarily for financial institutions themselves. A system becomes fragile not only when individual actors are weak, but also when some are large enough to endanger the whole, when interconnectedness allows instability to spread rapidly, and when complexity and opacity obscure oversight for all involved.[40] Greater fragility lowers the threshold at which public authorities intervene, effectively providing financial institutions with implicit insurance. This translates into an implicit subsidy, reducing their cost of capital,[41] and encouraging moral hazard among both banks and depositors. The inverse also holds true: a resilient financial system – one that is diverse, transparent and well-governed – acts as the best safeguard against the excessive power of individual financial institutions.

While post-GFC reforms aimed to replace bailouts with bail-ins, recent events such as the unlimited deposit guarantees extended during the collapse of Silicon Valley Bank show that public backstops remain a key tool for containing financial instability. Even relatively small financial actors can trigger market turmoil, when they are highly interconnected with others. In such a system, concerns about one institution's solvency can quickly spread through direct exposures and similarity of balance sheets, amplifying systemic risk.

International finance meets national jurisdictions
Because finance operates globally, financial actors can wield influence over national governments. One key factor that has amplified the power of private financial interests in recent decades is the liberalisation of international capital flows. Much like at the turn of the 19th century, it has become uncommon for countries in the Global North and many in the Global South to impose currency or capital controls.[42]

This commitment to free capital mobility subjects entire economies – and especially public finances –to the logic of private financial markets.[43] As investors can freely redirect their funds in search of higher returns or perceived safety, countries facing economic downturns often experience capital flight just when they need investments the most. In such situations, a government's capacity to pursue countercyclical fiscal policy depends on its ability to issue debt at affordable rates, which, in turn, is determined by the financial actors collectively. Economic policy therefore operates within boundaries defined not only by democratic mandates, but also by the confidence of investors.

Of course, it is not a given that all financial actors pursue the highest yield at any cost. Some may choose to hold domestic government debt, to invest where they believe public spending will serve societal welfare. Yet, the ultimate power to decide remains highly concentrated: it lies with the financial actors themselves, and with the relatively small group of asset owners who entrust them with their capital – rather than being distributed among citizens whose livelihoods are shaped by these flows. This global asymmetry of power – between mobile capital and territorially bound governments – mirrors the concentration of power that also exists within national financial systems. Some institutions wield such influence not only through market forces, but by virtue of the legal privileges granted to them.

Some institutions have special powers by law
In addition to the general characteristics of the current financial system that empower both the system itself and the private actors within it, three types of institutions stand out as particularly influential.

1. **Commercial deposit-taking banks**
   These institutions create money and are integral to the current payments system alongside private payment service providers. As discussed earlier, the need for a stable payment infrastructure grants banks considerable power. Moreover, banks are not required to hold in reserve the full amount of deposits they accept. Instead, they create new deposits as liabilities whenever they grant loans, with those loans appearing as assets on their balance sheet. This is how banks create money. This privilege – granted by governments on behalf of society – gives banks both explicit and implicit

[40] Volz, U. (2015). Effects of Financial System Size and Structure on the Real Economy. What do we Know and What do we not Know? *UNEP Inquiry into the Design of a Sustainable Financial System*. http://unepinquiry.org/publication/effects-of-financial-system-size-and-structure-on-the-real-economy/
[41] Schich, S. (2019). Implicit Bank Debt Guarantees: Costs, Benefits and Risks. *Contemporary Topics in Finance: A Collection of Literature Surveys*, 41-78.
[42] Frieden, J. A. (2007). Global Capitalism: Its Fall and Rise in the Twentieth Century. WW Norton & Company.
[43] Rodrik, D. (2011). The Globalization Paradox: Why Global Markets, States, and Democracy Can't Coexist. Oxford University Press.

public protection, which can be understood as implicit subsidies.[44, 45]

2. **Asset managers and owners**
Asset managers hold significant power because they control shares on behalf of their clients, giving them a central role in the governance of the companies they invest in. This influence extends deeply into the real economy. Their power stems from the dominant shareholder model, which defines most corporate governance today. Owning shares not only provides a claim to (often unlimited) future cash flows, but it also confers voting rights, enabling asset managers to shape the strategy and behaviour of major companies. Other organisational forms also exist, such as employee-owned businesses or steward-owned companies, but they remain marginal in the current system. Today, a handful of asset managers collectively control large portions of corporate equity, giving them outsized influence over markets and economic priorities.[46] While this power formally resides with asset owners, who can choose managers aligned with their values, the high concentration in asset management and information asymmetries means that, in practice, real power lies with the asset managers themselves.

3. **Central banks**
Central banks have great power as they face few constraints in pursuing their mandates.[47]
They set interest rates and can invent new measures such as unconventional monetary policy, which involves creating money by purchasing assets in exchange for newly issued reserves. One important limitation, however, is that most central banks are not allowed to finance governments directly. Instead, they pursue their mandate primarily through financial markets, interacting exclusively with banks as their counterparts rather than with non-financial corporates or households. This way of operating reinforces the influence of the financial system – and banks in particular. That said, central banks are still deeply involved in government finances: many have acquired large quantities of government debt, though typically not directly from governments.

EXPLAINED: Central banks
In most countries, central banks are independent, mandated institutions responsible for setting and implementing monetary policy, with the primary goal of maintaining price stability. This role can be complemented by additional objectives, such as job creation or economic development. Some central banks are also tasked with macroprudential supervision.

Central banks usually carry out these functions through policies directed at commercial banks as their main counterparts. By setting policy interest rates, they influence borrowing costs and liquidity affecting virtually all parts of the financial system. In recent years, central banks have expanded their toolkit to include unconventional monetary policy operations. They initially provided long-term financing operations to banks on favourable terms, contingent adequate collateral, to stimulate lending to specific sectors. Later, they went further by purchasing large volumes of government bonds, leading central banks in both the US and the eurozone to hold a substantial share of their countries' public debt.

Together, these three institutions – banks, asset managers, and central banks – constitute the core power structure of modern finance.

Overall, the private financial sector – and the companies within it – hold exceptional power, which comes with a heightened responsibility. This sets it apart from most other industries. Society's dependence on financial stability gives financial institutions significant influence, with banks and asset managers standing out as especially powerful actors. Such concentration of power demands that the financial system – and those who operate within it –be held to the highest standards of resilience and societal purpose.

We now turn to the three core functions of the financial system to explore how each can be realigned with the public interest.

[44] Knight, B., & Mitchell, T. (2019). Private Policies and Public Power: When Banks Act as Regulators Within a Regime of Privilege. *New York University Journal of Law & Liberty*, 13, 66-149.
[45] Werner, R. A. (2014). Can Banks Individually Create Money Out of Nothing?—The Theories and The Empirical Evidence. *International Review of Financial Analysis*, 36, 1-19.
[46] Braun, Benjamin (2021). Asset Manager Capitalism as a Corporate Governance Regime, in: Hacker, J., Hertel-Fernandez, A., Pierson, P. & Thelen, K. (Eds.). The American Political Economy: Politics, Markets, and Power (pp. 270-294). Cambridge University Press.
[47] Buiter, W. H. (2014). Central Banks: Powerful, Political and Unaccountable? *Discussion Paper, Centre for Economic Policy Reform*.

3 Facilitating payments

A well-functioning payment system is one of the foundational pillars of any modern economy. It can be considered both a basic and quasi-public good providing the essential infrastructure that enables participation in economic life.[48]

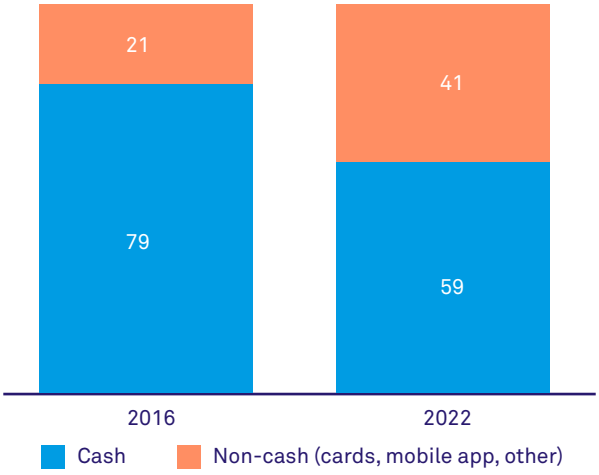
This chapter begins by identifying four main problems in today's payments system. We then examine whether cryptocurrencies and stablecoins could address these challenges, followed by an assessment of complementary currencies. Neither provide an adequate solution. We conclude by outlining ways to strengthen payment systems, emphasising the need for a strong role for public actors in ensuring that it remains safe, accessible and resilient.

3.1 The problems with the payments system

The payments system is where most people experience finance in their daily lives, the invisible infrastructure that allows value to move through society. It should serve everyone equally, ensuring safe, affordable and universal access to money. In practice, however, the system has evolved in ways that concentrate power, exclude some users and create new dependencies. The following section outlines four key problems that need to be addressed to make payments truly serve the public interest.

1. Structural advantage of banks, especially big ones
The traditional role of banks in facilitating payments has strengthened their power and privilege, while introducing economies of scale. This dynamic reinforces the "too big to fail" problem and weakens competition in lending and deposit-taking. Historically, commercial banking (lending and deposit-taking, money storage, and payment facilitation) has become deeply intertwined. Over time, this integration has granted banks significant advantages and protections.[49] Because banks sit at the core of the payments chain, their continuous functioning is essential for maintaining trust in the payments system and safety of deposits. The shift from cash to digital money has deepened this dependence, marking a transition from public to predominantly private money, as shown in Figure 2.

Figure 2: Proportion of payments means in the eurozone



Source: ECB, 2023

Most people are barely aware of the distinction between the two types of money, partly because public measures to stabilise the banking system make private money feel very safe. Deposit guarantees are the biggest form of such support currently.[50, 51] These guarantee schemes are in place to prevent the mass withdrawal of deposits (bank runs) in the case of a likely bank failure.

This dynamic arises from intertwining banks' lending function, which inherently involves risk, with their role storing money and facilitating payments, where society collectively accepts almost no risk. The result is an implicit subsidy as public protection effectively de-risks private risk-taking. Especially big banks benefit from this implicit subsidy through lower funding costs.[52]

[48] A fundamental aspect of understanding how payments work is recognising which currency is used to make a payment in the first place. This is usually a national or supranational currency such as the euro or the pound, but can also involve exchanges between different currencies, or alternatives such as cryptocurrencies or local currencies.
[49] Awrey, D. (2021). Unbundling Banking, Money, and Payments. *Georgetown Law Journal*, 110, 715-784.
[50] Deposits up to 100,000 EUR are currently guaranteed in Europe. Source: Deposit guarantee schemes - European Commission
[51] Deposits up to 85,000 GBP are currently guaranteed in the UK. Source: Bank of England. (2023). Deposit Guarantee Scheme
[52] Davies, R., & Tracey, B. (2014). Too Big to be Efficient? The Impact of Implicit Subsidies on Estimates of Scale Economies for Banks. *Journal of Money, Credit and Banking*, 46(s1), 219-253.

In addition, there are significant economies of scale in payments, which primarily benefits bigger banks.[53] These scale advantages also reduce competition and diversity in other parts of the banking sector, since banks often cross-sell loans and future deposits to their existing customers.[54] The combination of these roles – facilitating payments, storing value and mobilising capital – therefore grants banks enduring privileges over other companies and financial actors, while reinforcing structural bias toward size.

2. Cashless retail payments are dominated by a few international private actors

Cashless payments are both costly to users and introduce geopolitical dependencies, as only a few private companies dominate these markets. All cashless retail payments rely on private money – whether it be a card transaction, direct debit, credit transfer or online payment – but, the degree of concentration and geopolitical vulnerability differs by type.

Concentration is highest in card payments, which account for just over half of all cashless transactions in the eurozone.[55] Here, Mastercard and Visa effectively form a duopoly. Such oligopolistic structures are not surprising: card schemes and payments systems exhibit network externalities and increasing returns to scale.[56] As usual with oligopolies, the dominant players possess significant pricing power – and appear to be using it. Although data is scarce, the fees for their services have risen sharply in recent years.[57, 58] That is harmful to society, as these businesses can now extract rents, earning profits well above the true cost of facilitating payments.

In e-commerce, a similar pattern has emerged.[59] Reliance on mostly US-based companies such as Visa, Mastercard and big tech providers such as Apple or Google, poses a risk to European strategic autonomy, exposing Europe to potential geopolitical leverage, including the use of economic sanctions.

EXPLAINED: Duopoly in card payments [60, 61, 62]

The market for services related to card payments in Europe is notoriously complex, with various companies fulfilling overlapping functions, such as providing a card scheme and processing the actual payment.International card schemes facilitate 61% of card payments in the eurozone. The remaining 39% transactions are facilitated by national and sometimes semi-public card schemes. These national card schemes exist only in some countries and often rely on an international card scheme to process payments abroad. In the UK, the dominance is even greater: two international card schemes together facilitate over 95% of all card transactions. In addition to operating card schemes, both operate their own payments systems, a form of vertical integration that makes it even harder for new entrants to compete.

For other cashless retail payments (direct debit, credit transfer, e-money) the market is more competitive. The Single Euro Payments Area (SEPA) has played a key role by harmonising standards across Europe and ensuring interoperability between national systems. E-money has also expanded significantly in the last decade.[63]

The problems described here are largely confined to retail payments. Most large-value transaction in the eurozone are settled through T2, a real-time gross settlement system owned and operated by the Eurosystem, which supports monetary policy

[53] Humphrey, D. (2009). Payment Scale Economies, Competition, and Pricing. *ECB Working Paper, No. 1136,* European Central Bank (ECB), Frankfurt a. M.

[54] Basten, C., & Juelsrud, R. (2023). Cross-Selling in Bank-Household Relationships: Mechanisms and Implications for Pricing. *The Review of Financial Studies*. p.1-34 Available at: Cross-Selling in Bank-Household Relationships: Mechanisms and Implications for Pricing | The Review of Financial Studies | Oxford Academic

[55] ECB. (2025). Report on card schemes and processors

[56] Pereira da Silva, L. A., Shirakami, T. (2019). Innovations in Retail Payments: Past, Present and Future. Keynote speech at Joint ECB NBB Conference: *Crossing the Chasm to the Retail Payments of Tomorrow*

[57] European Commission. (2024). *Study on new developments in card-based payment markets, including as regards relevant aspects of the application of the Interchange Fee Regulation : final report.* Publications Office of the European Union. https://data.europa.eu/doi/10.2763/03803.

[58] Payments Systems Regulator. (2025). MR22/1.10 Market Review of Card Scheme and Processing Fees: Final Report

[59] ECB (2025). Eurosystem's Retail Payments Strategy

[60] ECB (2019). Card Payments in Europe – Current Landscape and Future Prospects: A Eurosystem Perspective

[61] ECB (2019). Card Payments in Europe – Current Landscape and Future Prospects: A Eurosystem Perspective

[62] Payments Systems Regulator (2025). MR22/1.10 Market Review of Card Scheme and Processing Fees: Final Report

[63] ECB (2025). Report on Card Schemes and Processors

operations, bank-to-bank transactions major and commercial transactions.[64]

3. Cross-currency payments are slow and expensive
Transfers between accounts in different currencies remain slow, expensive and subject to geopolitical influence. For card payments, banks typically charge additional foreign exchange fees, while most non-card transfers mostly rely on SWIFT, a quasi-monopoly in facilitating such payments.

SWIFT is a member-owned network, overseen by G10 central banks, connecting more than 110,000 financial institutions.[65] It does not move money itself but facilitates communication between the institutions that do. Despite some private alternatives offering lower fees, SWIFT's vast network keeps it dominant. Transfers can take several days to settle, and fees vary widely between banks, making cross-border payments cumbersome and expensive.

The US dollar remains the most widely used currency in SWIFT transactions, with the euro a distant second.[66] The dollar's dominance is self-reinforcing: broad trust in US public authorities and ample dollar liquidity make it the preferred medium for global exchange. This gives the US significant structural power in the international financial system.[67] SWIFT has also been used for geopolitical purposes, for example in sanctions against Iran and Russia. In response, countries such as Russia and China have developed alternative international payments systems, and others are seeking to internationalise their own currencies. While these sanctions have aligned with EU interests so far, SWIFT's US dominance still represents a strategic dependency for the eurozone.

4. Customer screening does not align with private interests
Stringent Know Your Customer (KYC) and Customer Due Diligence (CDD) requirements often lead to unfair exclusions from payment services and reinforce the bias towards scale in the banking system. When onboarding and servicing clients, banks are required to conduct KYC and CDD checks, effectively acting as a gatekeeper to the financial system. Because this role is closely tied to the payment function of banks, we discuss the associated problems alongside other challenges in the payment system.

The underlying idea behind KYC and CDD regulation is that monitoring financial transactions can help detect and prevent illegal activity. It is intended to ensure that financial institutions do not facilitate criminal enterprises. However, assigning this screening role primarily to banks and payment service providers creates several practical challenges:

1. **Cautious behaviour leads to social exclusions:** banks and payment service providers tend to apply conservative interpretations of compliance requirements, which can result in the exclusion of individuals from payment services without clear justification. Without access to a bank account or digital payments, people may be excluded from government benefits such as health insurance or affordable credit. Participating in everyday economic life becomes very difficult. Approximately 4% of the EU population remains unbanked, with significantly higher rates for marginalised groups, such as refugees who might lack some of the documents that banks require to open an account.[68]
2. **Repetitive work:** Each financial institution must conduct its own KYC process, meaning that the same person may be evaluated multiple times across different financial institution. This leads to a significant amount of duplicated effort across the sector.
3. **Scale bias:** KYC and CDD processes both generate economies of scale, which tend to favour large institutions and contribute to the concentration of the banking landscape.[69] This dynamic reduces diversity within the financial system, which is relevant for both capital mobilisation and system resilience (see Chapter 4).

[64] ECB (2025). What is TARGET2?
[65] Federal Reserve (2025). Federal Reserve Board - Private-Sector Systems
[66] SWIFT (2025). RMB Tracker Monthly Reporting and Statistics on Renminbi (RMB) Progress Towards Becoming an International Reserve Currency, April 2025.
[67] Arslanalp, S., Eichengreen, B., Simpson-Bell, C. (2024). Dollar Dominance in the International Reserve System: An Update, *IMF Blog Financial Markets*.
[68] WSBI-ESBG (2022). https://www.wsbiesbg.org/number-of-unbanked-adult-eu-citizens-more-than-halved-in-the-last-four-years/ The World Savings and Retail Banking Institute (WSBI) and The European Savings and Retail Banking Group (ESBG).
[69] Bouyon, S. (2018). Cost and Value in Banks. A Model Fit for the Digital Age? *Research Report.* European Credit Research Institute.

3.2 Can cryptocurrencies solve these problems?

In response to the shortcomings of the current payments system – including concentration, cost, and dependence on large private actors – cryptocurrencies have been proposed as a potential alternative. Their main innovation lies in shifting trust away from financial institutions and public authorities towards technological systems based on cryptography and decentralised verification.

Public money is ultimately guaranteed by the state through the central bank, and private money is trusted because the institutions, supervision and the public guarantees behind it are generally reliable. Cryptocurrencies seek to replace this institutional trust with trust in blockchain technology.[70] In blockchain systems, each block (a transaction, an entry into the collective record) is verified by a distributed network of computers (the chain). A transaction is completed only when the majority of these network computers validate it, which makes the system difficult to manipulate or hack and offers protection against cyberattacks.[71]

Cryptocurrencies are explicitly designed to operate without central authorities or intermediaries, which some view as beneficial.[72] User data is encrypted and linked to pseudonyms, making it difficult to identify parties involved in a transaction, though not guaranteeing full anonymity in practice.[73] Proponents argue that this decentralised architecture could reduce reliance on dominant private platforms and state-controlled infrastructure, offering a model that is more resilient, transparent and geopolitically independent. It is also presented as a tool for financial inclusion in underbanked communities.[74]

There are several types of cryptocurrencies. The best known are decentralised tokens, such as bitcoin, which are designed to function as currencies in their own right. More recently, stablecoins have gained popularity. These are privately issued cryptocurrencies pegged to state currencies like the euro or, more commonly, the US dollar.[75] While transactions are recorded on a blockchain, maintaining the peg requires a central institution meaning that stablecoins combine decentralised technology with a centralised guarantee.

Drawbacks
There are several drawbacks to decentralised cryptocurrencies:

1. **Energy intensive:** Blockchain requires each transaction to be verified by multiple computers across the network, making it energy intensive and slow by design.[76, 77] In times of ecological overshoot, technologies with such high inherent energy use are difficult to justify compared to more efficient alternatives.
2. **Limited gatekeeping:** Because there is no central point of control, there is also no actor who can perform a gatekeeper role, at least for peer-to-peer transactions. It is technically possible to trace undesirable activity, such as criminal payments, but typically only after the fact.
3. **Lack of privacy:** Blockchain technology is not truly anonymous. Transaction data is, by design, shared and stored indefinitely across the distributed ledger. This raises questions about whether cryptocurrencies can comply with existing data protection and privacy regulations.[78]
4. **No backing authority:** Trust in money normally derives from public backing – the expectation that it will retain its value and function as a store of value, medium of exchange and unit of account. Cryptocurrencies, by contrast, explicitly reject such backing or oversight. The idea that a currency without credible public or institutional support could generate more trust appears inconsistent with the historical foundations of money.

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70 Pernice, I. G., & Scott, B. (2021). Cryptocurrency. *Internet Policy Review*, 10(2).
71 Ammous, S. (2018). Can Cryptocurrencies Fulfil the Functions of Money?. *The Quarterly Review of Economics and Finance*, 70, 38-51.
72 Bank of England. (2025). What are Cryptoassets (Cryptocurrencies)?
73 Herskind, L., Katsikouli, P., & Dragoni, N. (2020). Privacy and Cryptocurrencies – A Systematic Literature Review. *IEEE Access*, 8, 54044-54059.
74 Taher, S. A., & Tsuji, M. (2022). An Overview of FinTech in Bangladesh: Problems and Prospects. *FinTech Development for Financial Inclusiveness*, 82-95.
75 Van 't Klooster, J., Martino, E. D., & Monnet, E. (2025). Cryptomercantilism vs. Monetary Sovereignty. *Working Paper.* European Banking Institute.
76 Krause, M. J., & Tolaymat, T. (2018). Quantification of Energy and Carbon Costs for Mining Cryptocurrencies. *Nature Sustainability,* 1(11), 711-718.
77 Bratspies, R. M. (2018). Cryptocurrency and the Myth of the Trustless Transaction. *Michigan Technology Law Review*, 25, 1.
78 Morton, D. T. (2020). The Future of Cryptocurrency: An Unregulated Instrument in an Increasingly Regulated Global Economy. *Loyola University Chicago International Law Review*, 16, 129.

There are also practical issues, such as the inability to adjust the money supply in response to changing demand, which is essential for managing inflation. A fully decentralised protocol leaves no room for flexible monetary policy or the protection of public interests, which is especially relevant if cryptocurrencies are promoted as tools for financial inclusion.[79, 80]

While stablecoins share some of these drawbacks – particularly high energy and water use – they do not share all. Because they are pegged to state currencies, their issuers act as a central authority that must be trusted by users. However, many stablecoin issuers do not fully back all their tokens with hard currency, creating convertibility risks and even the risk of stablecoin runs.[81] Some argue that stablecoins could make international payments faster and cheaper, but widespread cross-border use could also enable regulatory arbitrage and erode monetary sovereignty in countries whose citizens now adopt stablecoins pegged to foreign currencies.

Taken together, these limitations show that cryptocurrencies and stablecoins, while technologically innovative, do not provide a viable solution to the structural problems of the payments system. The following section outlines our position on their role within a sustainable financial system.

Our position
So far, cryptocurrencies hardly fulfil the core functions of money, and we do not see a significant role for them in the future. They are rarely accepted as means of payment,[82] and as a store of value, they perform poorly: their exchange rates against conventional currencies are highly volatile. Even when purchases are made using cryptocurrencies, these transactions typically involve a conversion at the moment of payment – the price listed in a national currency is simply exchanged for an equivalent value in cryptocurrency.[83]

Although the long-term trend in some cryptocurrencies, such as bitcoin, has been upward, this behaviour makes them less a stable store of value and more a speculative asset. Their limited use in payments and extreme volatility also render them unsuitable as a unit of account – no one expects the price of a car to be quoted in bitcoin or Ethereum.[84] Given this lack of genuine economic use, we consider the capital flowing into cryptocurrencies to be primarily speculative. Decentralised cryptocurrencies are not a viable tool to improve the facilitation of payments.

While stablecoins avoid some of these issues, we also see no fundamental advantage compared to, for example, well-designed digitalised public money. Like bank deposits, stablecoins ultimately depend on public money and effective supervision to maintain stability. Moreover, balanced international use of digital currencies will require cooperation among states, rather than the further globalisation of a single national currency through the spread of stablecoins.

3.3 Can complementary currencies solve these problems?

Having dismissed private digital currencies as a solution to the shortcomings of current payment systems, we now turn to another proposed alternative: complementary currencies. We define these as sub-state currencies that operate in parallel to national and supranational currencies. Complementary currencies can be created for many purposes, but for the purpose of this vision, we focus on those designed to transform the nature of exchange – aligning economic activity more closely with social and environmental objectives.

Complementary currencies take different forms. Some operate locally, keeping value circulating within communities (e.g. the Bristol Pound[85]). Others function as regional or mutual-credit systems, such as Sardex

[79] Ammous, S. (2018). Can Cryptocurrencies Fulfil the Functions of Money? *The Quarterly Review of Economics and Finance*, 70, 38-51.
[80] Taher, S. A., & Tsuji, M. (2022). An Overview of FinTech in Bangladesh: Problems and Prospects. *FinTech Development for Financial Inclusiveness*, 82-95.
[81] Van 't Klooster, J., Martino, E. D., & Monnet, E. (2025). Cryptomercantilism vs. Monetary Sovereignty. *Working Paper*. European Banking Institute.
[82] Bank of England. (2025) What are Cryptoassets (Cryptocurrencies)?
[83] Pernice, I. G., & Scott, B. (2021). Cryptocurrency. *Internet Policy Review*, 10(2).
[84] Ammous, S. (2018). Can Cryptocurrencies Fulfil the Functions of Money? *The Quarterly Review of Economics and Finance, 70,* 38-51.
[85] Bristol Pound CIC. (2023). *Bristol Pound legacy.* https://www.bristolpoundlegacy.info/

in Sardinia[86] or WIR in Switzerland[87], which enable businesses to trade without conventional money. Many use digital or time-based accounting, linking value to hours worked or social exchange. Despite these variations, all share the goal of realigning economic activity with social or environmental objectives that conventional money overlooks.

Drawbacks
Complementary currencies face several challenges:

1. **Scalability:** Unless a complementary currency is accepted by a large network of vendors, it remains less useful as a medium of exchange than the national currencies. Limited acceptance means that many goods and services cannot be purchased within the system.[88] This often creates a dynamic where popular sellers accumulate large reserves of the currency and then seek to convert them back into the dominant national currency.
2. **Obsolescence:** Some social currencies can become victims of their own success. In systems such as time banking, where the goal is to strengthen community reciprocity, participants may stop using the local currency altogether once those relationships become firmly established.[89] Other local currencies struggle to maintain circulation because participants prefer saving to spending, reducing the flow of exchanges that keep the system alive.

Our position
We view complementary currencies as valuable social and institutional experiments that can offer insights into how national currencies might be improved, rather than a full-scale alternative to them. They are unlikely to solve the structural issues of today's payment system, but they can play an important role in testing new designs for money that support specific social goals or ecological goals. In this sense, complementary currencies can help explore what a more purposeful and inclusive monetary system might look like.

The most promising path for improving the payments system, however, lies not in private or local initiatives, but in redefining the role of public money itself – a topic we turn to in the next section.

3.4 Our solutions to improve the payments system

If neither private digital currencies nor complementary currencies can address the shortcomings of today's payments system, attention naturally turns to public money. Public money – issued or guaranteed by the state – already underpins trust in all other forms of money. The question is how it should evolve in a digital economy, where payments are increasingly mediated by private infrastructures and foreign providers to overcome the problems associated with the current setup.

A public payment system could safeguard public interests
A public payment system for retail payments in the eurozone could strengthen both the market functioning and European strategic autonomy. Operated by the central bank or another public institution, it could provide a low-cost initiative to private networks, preventing excessive fees and ensuring that essential financial infrastructure remains under public oversight.

Public payments systems have already been introduced elsewhere, such as Brazil's Pix which achieved rapid adoption. Such systems foster competition among payments providers, increase financial inclusion by enabling transfers through basic identifiers like phone numbers or email addresses, and reduce reliance on cash distribution networks that tend to favour large banks. In Brazil, Pix has spurred growth in smaller digital banks and reduced inefficiencies – outcomes that a similar public system in Europe could replicate.[90]

[86] Sartori, L., & Dini, P. (2016). *From Complementary Currency to Institution: A Micro-Macro Study of the Sardex Mutual Credit System*. LSE Research Online. https://eprints.lse.ac.uk/67135/7/Dini_From%20complimentary%20currency.pdf
[87] Stodder, J. (2009). Complementary Credit Networks and Macroeconomic Stability: Switzerland's WIR-Bank. *Journal of Economic Behavior & Organization.* 72(1) 79-85. https://www.sciencedirect.com/science/article/abs/pii/S0167268109001772
[88] Boonstra, L., Klamer, A., Karioti, E., Do Carmo, J. A., & Geenen, S. (2013). Complementary Currency Systems. *Erasmus University Rotterdam Report*.
[89] Boonstra, L., Klamer, A., Karioti, E., Do Carmo, J. A., & Geenen, S. (2013). Complementary Currency Systems. *Erasmus University Rotterdam Report*.
[90] Górka, J. (2016). IBANs or IPANs? Creating a Level Playing Field Between Bank and Non-Bank Payment Service Providers. In *Transforming Payment Systems in Europe* (pp. 182-213). London: Palgrave Macmillan UK.

A European public payments system could coexist with private providers, ensuring resilience, accessibility and price discipline. Maintaining an open and interoperable infrastructure, accessible to all providers, would ensure that competition continues to drive innovation while safeguarding the public interest. Pure payment service providers could participate under the condition that all customer deposits are fully backed by central bank money, with fees covering operational costs.

Digital public money would offer additional benefits
We believe that, alongside a public payments system for retail payments in private money, a digital form of public money introduced under the right conditions could provide additional benefits. A central bank digital currency (CBDC), has already been implemented in some countries and is under active consideration in many others, including within the eurozone. We see many advantages to introducing a digital euro on the right terms.

The idea is to create a digital version of public money, issued and guaranteed by the central bank, that citizens can use directly as a means of payment. A CBDC would constitute a direct claim on the central bank, making it the most risk-free asset available to the public. Many other design questions remain open – including how much individuals should be allowed to hold, what technology should underpin the system, who should provide related payments services, and whether CBDC holding should bear interest.

Our preferred design for a digital euro would see it distributed through both private and public payment service providers, with a high holding limit and with no or low interest rates. Such a system would combine the resilience and inclusivity of a public payments structure with a risk-free option for storing nominal wealth for all citizens. Introducing a digital euro on these terms would also help clarify that private money, while currently insured, is not truly risk-free. This would open the way to reconsider the privileged position of banks stemming from their role in payment systems and restoring balance between private risk-taking and public guarantees. A transition to a fully implemented digital euro should be managed carefully with attention to financial stability. A gradual increase of the holding limit could prevent sudden outflows from the banking system during transition.[91] As the holding limit increases gradually, the deposit guarantee limit could be gradually reduced. In the long run, we envision a system in which citizens who wish to store money risk-free or wish to use a risk-free asset for payments can rely entirely on public money – in the form of either cash or CBDC – making a separate deposit guarantee scheme unnecessary.

In such a system, placing deposits with commercial banks would become the slightly riskier but also financially more attractive option, rather than the default it has become today. Holding money in a bank would therefore become an active choice again. Banks seeking deposits would need to attract customers by offering competitive interest rates or by demonstrating the positive impact of their lending activities. In addition, CBDC could potentially play a role in future monetary policy. If CBDC were to become low interest-bearing, central banks could use this as an additional monetary policy channel.[92] Furthermore, a CBDC could improve the inclusiveness of the payments system. Basic CBDC accounts could be made available more broadly than bank accounts are today – for example to individuals with no passport or fixed address–significantly improving the inclusiveness of the payments system.[93]

A CBDC could in time even serve as a stepping stone for banks to gradually withdraw from their payments function, fostering a more competitive and diverse banking sector focused on lending. Banks could still offer savings accounts, but not payments accounts, making the distinction between the two clearer, including the residual risk associated with saving through a bank. Removing the scale advantages linked to banks' payments would help reduce concentration and support a more diverse landscape of small-enough-to-fail institutions. This would go beyond traditional proposals to separate retail and investment banking, such as the Glass-Steagall act.[94] If bank deposits were more openly accepted as carrying

[91] Even after implementation, a flow from the banking system towards CBDC remains possible. This would be a new type of bank run, although the possibility of bank runs is very much present in our system today. While we believe the threat of bank runs always deserves supervisory attention, we do not believe CBDC meaningfully increases the risk of a run; if anything, the a priori clarity that bank deposits are in fact risk-bearing could help decrease the likelihood of a bank run.

[92] Davoodalhosseini, M., Rivadeneyra, F., & Zhu, Y. (2020). CBDC and Monetary Policy. *Staff Analytical Note* (No. 2020-4). Bank of Canada.

[93] Dalla Costa, A., Dissaux, T, Simic, A., Van der Linden, M. J., Van Eyck, V., (2023). A Digital Euro for the People. *Position Paper*. Positive Money & Veblen Institute.

[94] Kroszner, R. S., & Rajan, R. G. (1994). Is the Glass-Steagall Act Justified? A Study of the US Experience With Universal Banking Before 1933. *The American Economic Review*, 810-832.

some risk, banks could take on genuine economic risk in their lending, helping them better to fulfil their role in mobilising capital – a topic we elaborate on in the next chapter.

Some have argued that introducing a CDBC should be accompanied by eliminating bank money creation altogether – proposals often referred to as sovereign money.[95] While a successful CBDC would likely limit private money creation, it would not automatically replace it.[96] We believe that private money creation can and should continue to exist alongside public money. The main advantage to such a hybrid system we see is that it safeguards decentralised and diverse decision-making in credit allocation. Compared with a full sovereign money system, this approach is also more practically feasible. This does not imply that we believe banks' lending practices should remain as they are today; we discuss possible improvements to lending in capital allocation in the next chapter.

International payments need international institutions
For international payments, we believe SWIFT should come under the supervision of a truly global institution. In the long run, international transactions would function best with a single global currency, backed by such an institution.[97] The IMF's special drawing rights (SDRs) could provide the foundation for a global reserve currency, distributing both the benefits and burdens of reserve status more equitably across countries. SDRs are an international reserve asset created by the IMF to supplement member countries' foreign exchange reserves.[98] To function as a genuine international reserve currency, SDRs would need to become usable by commercial banks, for example through the ability to hold SDR accounts at the IMF, effectively turning the Fund into a global central bank. [99, 100]

While the political will for such reform is currently limited, this system could ultimately provide a fairer and more stable foundation for international payments.

Gatekeeping should be centralised and publicly governed
We believe that KYC screening should be centralised and brought under public governance to support a more competitive and diverse banking sector without unnecessary duplication. A single public authority could perform KYC checks, with payment service providers and banks accessing verified information when needed. Ideally, this would be a European authority in our view, to help integration and a level playing field between European countries.

Such a system could still be financed by a levy on financial institutions, but overall costs would be far lower, since each check would only need to be carried out once. Centralisation would also likely increase effectiveness, reducing false positives and preventing illicit actors from repeatedly attempting to enter the system through different institutions.

Finally and most importantly, a publicly governed authority would be placed to strike an appropriate balance between protecting society from money laundering and financial crime and ensuring inclusive access to the payments system. Access to the payments system is a key part of social inclusion, so public actors should get involved and guarantee equitable access.

Taken together, the measures outlined in this chapter suggest a rebalancing of the payments system towards public purpose. A resilient and inclusive financial infrastructure requires both strong public foundations and space for private innovation. Publicly governed systems – from digital money to centralised gatekeeping – can ensure stability, accessibility and strategic autonomy, while private actors continue to contribute efficiency and diversity. The next chapter turns to the second core function of the financial system: mobilising capital for productive and sustainable investment.

[95] Jackson, A., Dyson, B., & Hodgson, G. (2013). The Positive Money Proposal. *Positive Money: London*.
[96] Stellinga, B., De Hoog, J., van Riel, A., & de Vries, C. (2021). *Money and Debt: The Public Role of Banks*. Springer Nature.
[97] Boonstra, W. (2011). *Revitalizing the SDR–Building a New and Sustainable SDR-Based Global Financial Infrastructure.*
[98] International Monetary Fund. (2023). Special Drawing Rights
[99] Coats, W. (2011). A Global Currency for a Global Economy: A Real SDR Currency Board. *Speech at the 2011 Money and Banking Conference, Banco Central de la Republica Argentina*.
[100] Rangarajan, C., & Patra, M. D. (2012). Can the SDR Become a Global Reserve Currency? *Economic and Political Weekly*, 41-51.

4 Mobilising capital

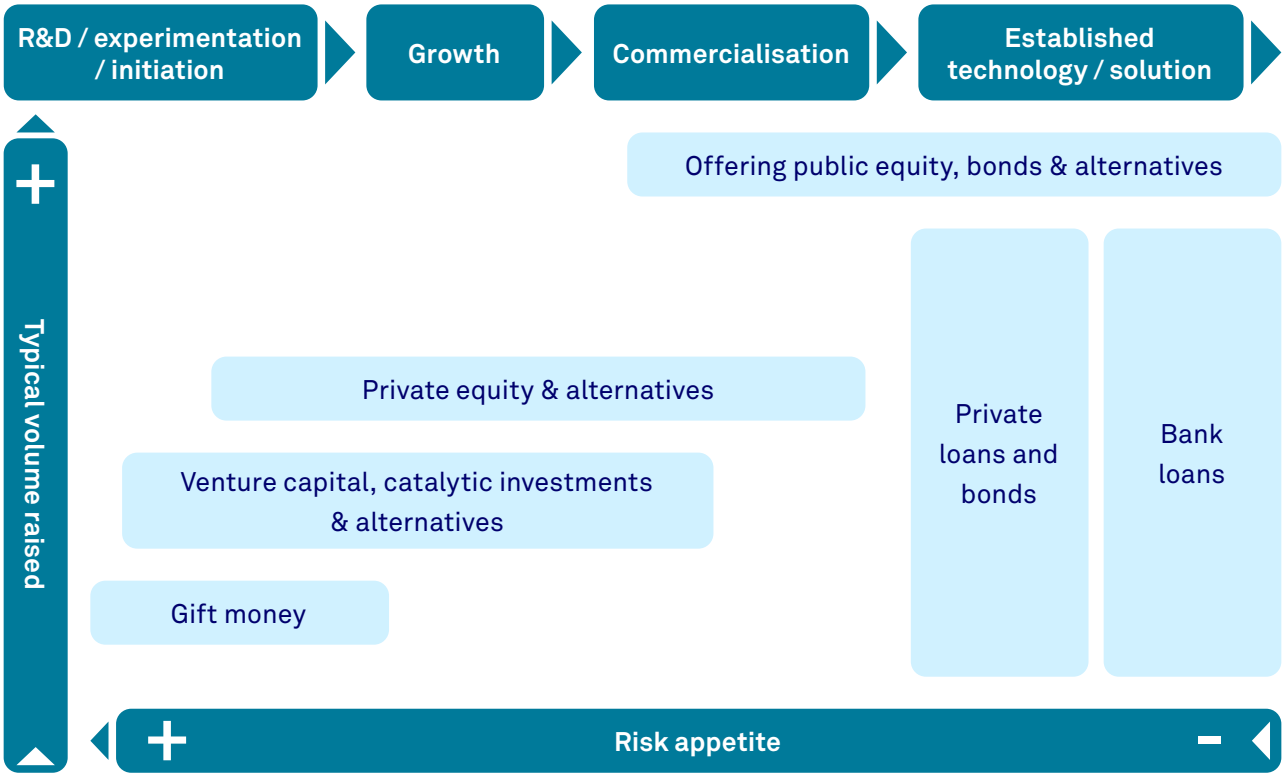
This chapter examines how capital is currently mobilised or created and how it could be reoriented to better serve society. First, we provide an introduction to how capital is mobilised. We go on to identify the five main problems relating to how capital is mobilised. We then propose solutions to mobilise capital towards a society that promotes the quality of life of all its members on a thriving planet, with human dignity at its core.

4.1 The basics of mobilising capital

Mobilising capital entails pooling funds (savings) to be allocated elsewhere and creating liquidity. This happens through various channels depending on the risk profile and volume of capital required.[101] It ranges from liquidity provided to start-ups in their very first phases in exchange for the promise of a share of future profits, to a short-term loan to an established business to cover an operational expense. These channels can be plotted along a spectrum from high-risk to low-risk investing for private financiers (Figure 3).[102] On the Y-axis, this image shows the typical volumes that a company can expect to raise through these forms of investment.

Public actors are present across this range of financing options but are especially critical in the early stages.[103] Governments are actively involved in distributing gift money (subsidies) to new economic activities through grants, distributed through channels from municipalities to public development banks. They also participate in venture capital and private equity constructions. In early stage, public actors might fund research at universities, sometimes in exchange for the associated intellectual property.

Figure 3: Private sources of capital[104]



[101] Levine, R. (2005). Finance and Growth: Theory and Evidence. In *Handbook of Economic Growth*, edited by Philippe Aghion and Steven N. Durlauf, vol. 1A, 865–934. Amsterdam: Elsevier.
[102] Note: not all organisations need external financing. Some organisations can start with capital already owned by founders. Some businesses reach an economically viable scale early on, allowing them to grow organically by reinvesting retained profits.
[103] Mazzucato, M. (2015). *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*. Anthem Press.
[104] Based on Dijk, J., Van den End, J. W., Schotten, G., Steins Bisschop, S. (2021). Financing the Transition: Opportunities for a Green Recovery. *Occasional Studies* 19-2. De Nederlandsche Bank (DNB), in turn based on Kerste, M. and J. Weda (2010). Financing the Transition to Sustainable Energy: Literature Overview. *Amsterdam, SEO Amsterdam Economics*.

They invest in growing companies through publicly owned impact investors such as InvestNL. Sometimes, governments have equity in established companies, like railways, typically when a public service is privatised. And through public banks and development banks, public companies also loan out money. Public actors often try to use public funds to attract further private investment, an approach known as blended finance.[105] Lastly, governments create money through central banks, for example through open market operations, in this way hoping to boost the mobilisation of capital in the economy.

EXPLAINED: Financing stages and private finance

Gift money: This stage is for new forms of economic activity starting off. Money can be sourced from private financier such as philanthropists and foundations or from the immediate network of entrepreneurs which is often jokingly referred to as the three Fs (family, friends and fools). The relationship between financier and entrepreneur is simple: the financier gifts money and does not expect to get it back. Gift money is sometimes also crowdfunded.

Venture capital: This stage is for organisations that want to grow beyond the experimental phase. Investments are still risky, as organisations raising money are often not breaking even yet. To secure funding, they turn to venture capital investors – investors that are willing to buy an equity stake in new companies. Such a stake usually gives them dividend rights (a share in company profits), voting rights (influence over the strategy of the organisation) and sometimes a board seat. Because of the risk, return requirements for funds in this investment phase are generally high, typically requiring double digit annual returns on investment.[106] Private equity is similar but applies to businesses that are slightly more established, with a correspondingly lower risk appetite. These funds are often managed by professionals who invest their own money and that of high-net worth clients. Other methods of raising capital include crowdfunding and high-yield bonds. Equity stakes acquired by venture capital or private equity funds are often sold on to new buyers. In such transactions, the company does not receive money, it just gets different owners. These are called the secondary market transactions. At this early stage, companies are generally informed when such transactions occur.

Private loans and bonds: These are lower risk from the perspective of the investor as the financee commits to paying back the loaned sum and interest at a given time. We are referring to loans made by private debt organisations or funds, or by retail investors directly.

Bank loans: Bank loans are loans made by banks. Bank loans qualitatively differ from other ways of mobilising capital including private loans because they increase the amount of money in the economy. Capital is mobilised out of thin air rather than existing money being used to fund economic activity.

Public equity: This stage is for companies that want to raise more capital and opt for a stock-listing through an initial public offering. Equity stakes are offered on a public exchange where anyone can buy the stake. After an initial public offering, investors can keep trading the equity stake amongst themselves on secondary markets. Established business also regularly issue bonds or obtain loans to mobilise capital.

[105] Mutambatsere, E., & Schellekens, P. (2020). The Why and How of Blended Finance. *International Finance Corporation World Bank Group*.

[106] Bygrave, W., Fast, N., Khoylian, R., Vincent, L., & Yue, W. (2022). Early Rates of Return of 131 Venture Capital Funds Started 1978–1984. In *Venture Capital* (pp. 449-461). Routledge.

4.2 Problems and improvements to mobilising capital

We have identified five main, interrelated problems in the way capital is currently mobilised. We start with two problems related to what is financed: too much capital by now flows to unproductive uses, and even more importantly, ecological and social impact considerations are virtually lacking from allocation decisions. After that, we turn our attention to problems in how capital is currently mobilised. We draw attention to the disbalance in shareholder models, the poorly functioning markets on which financial institutions compete, and the useless and misused financial products being sold in some cases.

Problem 1: too much unproductive capital
Capital – whether debt or investment – can be mobilised for productive or unproductive purposes, but the balance has shifted to unproductive purposes over time.[107] Productive financing finances the production, sale and consumption of goods and services in the real economy.[108] This can increase the productive capacity of an economy. As such, productive investments potentially generate the additional income needed to pay back debt. It is worth noting here that productive does not mean desirable. Financing new oil and gas exploration is productive, but it's not desirable in our view. We focus on the direction of productive financing in the next problem. Unproductive financing is where financing transactions in pre-existing assets moves money between people but doesn't alter the productive capacity of the economy itself. This type of financing is not a problem in itself. On the contrary, there has always been some unproductive financing, and some unproductive financing will probably always be necessary. However, the rising share of such financing over time creates serious social problems, which is why we need to pay attention to it.

The growing share of unproductive financing becomes problematic through indirect macro- and socioeconomic effects. Asset prices increase as more debt is available to fund their purchasing.

Example: Two typologies of financing
If a farmer wants to start growing corn and needs a loan to buy land and tools, this loan is productive. The farmer uses the money to produce food, made possible by the financing: productive.

If a person wants to buy a house and takes out a mortgage, this loan is unproductive. The house is transferred to a new owner. The same house as before has simply transferred owners: unproductive.

Of course there are exceptions. A mortgage for an existing house is usually unproductive, but if the space allows the buyer to open a home business, it becomes partly productive. Conversely, a loan to a non-financial company which on paper looks productive, could be used to purchase intellectual property rights with no intention of using them. Therefore, the seemingly productive credit becomes unproductive or even counterproductive.

This means asset owners experience higher capital gains and capital income, increasing wealth inequality. Financial expansion also fuels income inequality as people earning higher incomes benefit more from increasingly available credit, as well as by the financial sector paying high wages to an increasingly large group of people.[109] The rising debt to income levels on a macro level automatically means an increasing portion of income is used to pay off debt for asset prices that have now increased. The increasing share of unproductive financing also helps explain why productivity growth has been low by historical standards despite high levels of credit. Unproductive credit might take away from other productive credit, either through volume or price effects. To explain why an increasing share of financing is being directed towards assets (unproductive) rather than goods and services (productive), we will now examine how commercial banking and their regulation changed over time.

[107] Bezemer, D., Ryan-Collins, J., van Lerven, F., & Zhang, L. (2023). Credit Policy and the 'Debt Shift' in Advanced Economies. *Socio-Economic Review*, 21(1), 437-478.
[108] Bezemer, D., Ryan-Collins, J., van Lerven, F., & Zhang, L. (2023). Credit Policy and the 'Debt Shift' in Advanced Economies. *Socio-Economic Review*, 21(1), 437-478.
[109] Cournède, B., Denk, O., & Hoeller, P. (2015). Finance and Inclusive Growth. *OECD Economic Policy Papers*.

Land and real estate as 'assets'
Two related categories of asset markets stand out by both their size and economic relevance: land and real estate. Both have become the object of great financial flows, with real estate by now being one of the largest 'asset' classes.[110, 111] Yet, especially for land and to an extent for real estate, more financing mainly serves to increase prices, rather than increasing availability. Investors have become more attracted to these 'assets' by the prospect of increasing asset values, creating a self-reinforcing asset market dynamic. Classical economists already debated how land would capture an increasing share of production, being scarce by nature.[112] By now, both land and housing have become financialised, signifying an increasing dominance of financial motives for people active in these markets.[113, 114] This financialisation generally doesn't increase affordability or availability but drives up relative prices instead.

How banks stopped taking risk
To balance financial stability and high credit volume, banks have shied away from providing the financing needed to transform the real economy. Banks are inherently exposed to liquidity and credit risk due to their structural function: generating short-term, immediately redeemable liabilities (deposits) against long-term, illiquid assets (loans). This mismatch, while essential to their role, makes them vulnerable to bank runs. If sudden liability outflows cannot be met with sufficient liquid assets, this can be problematic. Banks can mitigate this by keeping a good portion of their assets in liquid instruments. However, this usually means sacrificing profits. Banks can, without regulation, be tempted to become relatively illiquid, especially during periods of economic growth. In addition, an unexpected rise in delinquencies might lead to a fall in asset values which in turn has to lead to a corresponding fall in the value of liabilities. Since customer deposits are almost risk-free, the idea is that banks take such hits on their equity rather than their deposits. However, attracting equity is relatively expensive for banks compared to other sources of funding, so banks could be tempted to hold low equity.

To safeguard the public interest in this double balancing act, banks need to comply with liquidity and capital ratios. These requirements have been made more stringent since the financial crisis, amongst others through the liquidity coverage ratio (LCR) and increased capital standards. However, capital ratios as they are currently calibrated tend to steer banks toward collateralised, low-risk lending.[115] This typically leads to large business or mortgage lending and away from SME and emerging business lending.[116] To be clear, lending to SMEs is definitely possible given capital ratios, but not incentivised. On top of this, disbursing many smaller loans requires more work from banks than a few bigger loans, which further helps explain why banks increasingly shy away from SME lending.

EXPLAINED: SMEs and bank finance in the EU
As monetary policy tightened in 2023, even established SMEs struggled to get access to finance in Europe, with a significant decline in SME financing. While large companies are now reporting easing credit conditions, SMEs continue to face credit tightening from banks into 2025. This is due to higher rates and increasing collateral requirements.[117] In some EU countries, this leads to increasingly small-scale and short-term SME financing, to the detriment of longer-term investments.[118]

Even when monetary policy in Europe was expansionary, including unconventional monetary policy, some SMEs remained credit constrained. This affected younger, smaller SMEs, as well as SMEs in 'stressed' countries (Greece, Ireland, Italy, Portugal, Spain).[119] This is particularly problematic for SMEs as they have less alternative funding options at their disposal, such as emitting bonds, than larger companies.

[110] Alternative assets as opposed to public equities and bonds.
[111] McKinsey (2023), The Future of the Economy and Global Wealth
[112] Lackman, C. L. (1976). The Classical Base of Modem Rent Theory. *American Journal of Economics and Sociology,* 35(3), 287-300.
[113] Christophers, B. (2017). The State and Financialization of Public Land in the United Kingdom. *Antipode*, 49(1), 62-85.
[114] Aalbers, M. (2016). *Financialization of Housing*, pp. 40-63. Oxfordshire, UK: Taylor & Francis.
[115] Anguren, R., Jiménez, G., & Peydró, J. L. (2024). Bank Capital Requirements and Risk-Taking: Evidence from Basel III. *Journal of Financial Stability*, 74, 280-292.
[116] Beck, T. (2013). Bank Financing for SMEs–Lessons From the Literature. *National Institute Economic Review*, 225(1), 23-38.
[117] ECB. (July 2025). Survey on the Access to Finance of Enterprises in the euro area - Second quarter of 2025
[118] OECD. (2025). OECD Financing SMEs and Entrepreneurs Scoreboard: 2025 Highlights (EN)
[119] Finnegan, M., & Kapoor, S. (2023). ECB Unconventional Monetary Policy and SME Access to Finance. *Small Business Economics*, 61(3), 1253-1288.

Now non-bank financial institutions fill the gap in intermediation chains

Non-bank financial institutions (NBFIs) in part have taken over the function of mobilising capital where banks started falling short. As the name implies, NBFIs include any financial institution that is not a bank, but that does extend financing. This ranges from investment management companies that provide equity or loans to companies, to *buy now pay later* platforms which extend consumer credit, to venture capital companies that buy equity in starting organisations.[120]

NBFIs have taken over part of the traditional business lines of banks. Private debt markets have grown quickly post-financial crisis, lending against higher rates and with higher leverage than banks.[121] Stricter regulation for banks partly led to the rise of NBFIs.[122] NBFIs have by now assumed some of the roles that banks once held, such as lending to younger, riskier companies.[123, 124] In the UK, many SMEs cannot meet major bank's credit criteria, which leads them towards secondary lenders for credit.[125] In Ireland, companies borrowing from non-banks have often been rejected or discouraged from bank credit, especially very young companies.[126]

Shadow banks, NBFI's that take over banks' traditional business lines, often have longer chains of credit intermediation than banks.[127] When banks grant a loan and keep the asset on their books, they are the sole intermediary in the credit process. As a result, they can know both depositor and borrower and potentially safeguard a social relationship. Shadow bank credit intermediation, by contrast, relies on seven steps that are usually performed by different institutions.[128]

This makes it nearly impossible to engage in 'relationship shadow banking'. The ultimate owner of the credit rights will not have a direct social relationship with the ultimate debtor, as there are many actors in between. This means a significant amount of financial activity with no direct connection to the productive activity in the real economy. At a distance, it is difficult if not impossible to really evaluate the impact of financing. We believe in the importance of knowing where your money goes and therefore take issue with lengthening chains of credit intermediation that obscure such insight.

In addition, banks and some NBFIs are heavily intertwined, implying that even though these NBFIs have taken over risks on paper, banks are still at least partly exposed to them.[129] The risks of such interconnections are hard to monitor but can be sizeable.[130] This dynamic is the worst of both worlds: banks and deposit holders still carry a good part of the risk, just less transparently. This type of interconnected NBFIs therefore pose serious risks to financial stability and weaken the social relationship between lender and borrower. To be clear, we do not have an issue with private debt funds which raise money from investors and invest it directly in the real economy; these types of funds have a very short credit intermediation chain, can clearly demonstrate where money goes and aren't necessarily connected to other parts of the financial system. In our view, the issue lies with NBFIs and shadow banks that are part of long credit intermediation chains, particularly when banks are part of these chains.

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120 World Bank. Non-Bank Financial Institution. From : *Global Financial Development Report / Background* Nonbank Financial Institution

121 Block, J., Jang, Y. S., Kaplan, S. N., & Schulze, A. (2024). A Survey of Private Debt Funds. *The Review of Corporate Finance Studies*, 13(2), 335-383.

122 Buchak, G., Matvos, G., Piskorski, T., & Seru, A. (2018). Fintech, Regulatory Arbitrage, and the Rise of Shadow Banks. *Journal of Financial Economics,* 130(3), 453-483.

123 Javadekar, A., & Bhardwaj, A. (2024). How Does Bank Lending to Non-Banks Affect Credit Allocation and Systemic Risk. *Indian School of Business Working Paper. Available at SSRN*.

124 Beck, T., Peltonen, T., Perotti, E. C., Sánchez Serrano, A., & Suarez, J. (2023). Corporate Credit and Leverage in the EU: Recent Evolution, Main Drivers and Financial Stability Implications (No. 14). *Report of the ESRB Advisory Scientific Committee*.

125 Bank of England (2024), Agents' Summary of Business Conditions - 2024 Q4, https://www.bankofengland.co.uk/agents-summary/2024/2024-q4

126 McGeown, E., Power, B., & Shinnick, E. (2025). The Non-Bank Lending Channel: An Important Substitute for SME Bank Debt. *International Journal of Entrepreneurial Behavior & Research*, 31(11), 172-193.

127 Pozsar, Z., Adrian, T., Ashcraft, A., & Boesky, H. (2010). Shadow Banking. *Federal Reserve Bank of New Yors Staff Reports*, 458, New York.

128 Pozsar, Z., Adrian, T., Ashcraft, A., & Boesky, H. (2010). Shadow Banking. *Federal Reserve Bank of New Yors Staff Reports*, 458, New York.

129 Acharya, V. V., Cetorelli, N., & Tuckman, B. (2024). Where Do Banks End and NBFIs Begin? *Working Paper* (No. w32316). National Bureau of Economic Research.

130 The fall of Archegos Capital Management and ensuing losses for banks provide an example.

Made possible by securitisation

A key instrument that enabled the rise of NBFI credit intermediation was securitisation. Traditionally, banks kept the loans they made on their own books, collecting the repayment streams from the clients they lent to. In this way, the social relationship between creditor and debtor matched the financial relationship and, theoretically, banks had a high stake in assessing whether borrowers can repay their loan.[131] Securitisation changed this.[132]

Securitisation is the process of selling loans in capital markets, loans that were previously held to maturity on the balance sheets of financial intermediaries.[133] Since the GFC started defaulting mortgage-backed securities, securitisation has had a bad reputation.[134] To securitise loans, banks have to set up a legal structure (such as a company or special purpose vehicle) to acquire the loans as assets, with the newly created securities as liabilities. To create these liabilities, preferential claims are established through a process called tranching. This process requires a significant amount of paperwork as well as elaborate periodic reporting. Banks currently use securitisation for multiple purposes. In some cases, banks sell on most or all of the securitised loans, thereby transferring the credit risk to another party. Banks then originate and service loans but are not the ultimate creditor. This type of securitisation is one of the engines behind shadow banking.[135]

Using securitisation to transfer credit risk is problematic to us, as the financial relationship between creditor and debtor is either reduced or completely lost. This does not match with our view of credit as a long-term social relationship. Such use of securitisation increases the chance of collateral rights being exercised.[136] Banks may also make riskier loans if they are planning on securitising and selling them later on.[137] Debt restructuring can also be more difficult for securitised loans compared to loans held by the originating institution. In other cases, where banks sell only the less-risky tranches, on-selling of credit risk securitisation can also worsen asset quality for the remaining assets on a bank's balance sheet. Some argue that when securitisation is used as a funding instrument, in turn enabling greater credit volumes than would be possible without securitisation, the benefits might still outweigh the costs. We are not convinced by this argument because we do not fundamentally see a lack of credit in total, but rather a lack of guidance for the available credit.

Banks sometimes use securitisation for liquidity management. Securitised loans can usually be used as collateral, whereas non-securitised loans either can't or receive a greater haircut than they would in securitised form. By securitising loans from a bank's balance sheet and buying the securities back themselves, banks make it easier to attract short-term liquidity through repurchase agreements. This

EXPLAINED: Brief history of securitisation

Before securitisation, loan agreements had been sellable for a long time, but this wasn't usually done for small bank loans. This meant that banks had a financial stake in the borrowers' ability to repay. Then, in the 1970s, US government agencies were set up to originate mortgage loans and sell these long-term assets onwards to interested parties – marking the beginning of securitisation. These securities are now an integral part of financial markets. When loans are securitised, the resulting securities might be retained by the institution that securitised them or sold on to anyone interested in buying a part of that package.

If the security is sold on, the owner is entitled to a part of the combined repayment stream from the underlying loans. A split is usually made between the least risky and the riskier parts of the repayment stream, known as tranches. By selling securitised loans, banks exchange their less liquid, riskier assets for more liquid assets, freeing up space for further loans. Securitisation grew at a relatively modest pace until the mid-1990s, after which issuance increased rapidly into the early 2000s.

[131] Gorton, G., & Metrick, A. (2013). Securitization. In *Handbook of the Economics of Finance* (Vol. 2, pp. 1-70). Elsevier.
[132] Securitization is a process whereby a number of loans is packaged up. This turns a stack of illiquid, long-term assets into more liquid and tradable securities.
[133] Gorton, G., & Metrick, A. (2013). Securitization. In *Handbook of the Economics of Finance* (Vol. 2, pp. 1-70). Elsevier.
[134] Tooze, A. (2018). *Crashed: How a Decade of Financial Crises Changed the World.* Viking, an imprint of Penguin Random House LLC.
[135] Greenwood, R., & Scharfstein, D. (2013). *The growth of finance. Journal of Economic perspectives, 27(2)*, 3-28.
[136] Stiefmueller, C.M. (2024). Introduction to Securitisation: Structures, Regulation and Market for Asset-Backed Securities in the EU. Finance Watch.
[137] Bord, V. M., & Santos, J. A. (2015). Does Securitization of Corporate Loans Lead to Riskier Lending? *Journal of Money, Credit and Banking*, 47(2-3), 415-444.

enhanced access to liquidity can make individual banks more stable. However, there is a risk with this practice too. When defaults in the underlying loan portfolio rise, the security becomes more risky. This reduces its value as collateral and will, once detected, lead to increased margin calls on the financial institution that supplied the collateral. The GFC started with rapidly increasing margin calls and financial institutions that were unable to meet them. We see fewer fundamental problems with this second use of securitisation by banks compared to the kind in which a significant portion of credit risk is transferred. Still, we are not convinced that the benefits outweigh the costs on a system-wide level.

All in all we see an increasing share of unproductive and disconnected financial activity. This can be partly blamed on inherent tendencies in banking, partly as a response to the current mode of bank regulation and supervision, and partly in response to new financial instruments. Let us now turn to solutions.

Our solutions to make capital productive again

Banks should lend to businesses
Banks need to be incentivised to engage in directly lending to businesses including SMEs and other organisations they know well. Part of the credit to SMEs is now provided by lending organisations that form part of a longer credit intermediation chain including banks. We believe it would be better for banks to engage in such financing, along with other direct credit providers such as private lending funds. Banks are diligently supervised, most people keep their money in a bank, and banks possess the special power of money creation. It seems only natural to us that banks put these special powers to good use through real economy financing.

Simple intermediation chains, such as those provided by banks or direct private lending funds, are best suited for relationship-based financing, which we believe is the only way to truly judge debtors in a holistic way.[138]

This serves multiple benefits:

1. **Improved social relationships:** Since money and finance are inherently social relationships, knowing where your money goes is a must for financiers. Financially, longer relationships with and geographical proximity to banks lead to cheaper loans for borrowers and reduces information asymmetries between creditors and borrowers.[139, 140]
2. **Lower interconnectedness:** It has been suggested that interconnectedness might make the financial system more resilient to shocks up to a point, but less resilient to bigger shocks.[141] While lower interconnectedness might mean a higher chance of individual bankruptcies, it means a lower chance of system-wide consequences. From a financial stability perspective, we consider this desirable.
3. **Greater transparency:** Fewer steps in intermediation should make it easier for investors to monitor where their money goes. Such transparency is a necessary, though not sufficient, condition for a conscious use of money.

To realise this more direct lending role, banks need to shift their focus from mainly low-risk collateralised financing to more small business lending. To combine stability with slightly riskier lending, regulators should push banks to increase the maturity of their liabilities and increase their capital ratios. This could be implemented through a higher generic capital ratio (the leverage ratio) for all institutions. A higher generic capital ratio incentivises higher risk lending.[142] We consider it positive that the leverage ratio is becoming the binding capital constraint for some banks and would like it to be raised further. These measures would likely lower total credit volumes compared to today. As long as the transition is managed carefully, we think this is desirable because the quality of credit will be higher.

Even with these measures, the chance of a bank going bankrupt remains, as it does today. We think such bankruptcies could become tolerable, on some conditions. A fully fledged CBDC outside of commercial banks, as we argued for in Chapter 3, would offer a genuinely risk-free store of value to citizens. Consequently, the risk of a bankruptcy could be borne by citizens who have actively chosen to put their

[138] Boot, A. W., & Ratnovski, L. (2016). Banking and Trading. *Review of Finance*, 20(6), 2219-2246.
[139] Boot, A. W., & Thakor, A. V. (2012). The Accelerating Integration of Banks and Markets and its Implications for Regulation. *Amsterdam Center for Law & Economics Working paper* 2008-2.
[140] DeYoung, R., Glennon, D., Nigro, P. (2008). Borrower–Lender Distance, Credit Scoring, and Loan Performance: Evidence From Informational-Opaque Small Business Borrowers. *Journal of Financial Intermediation* 17(1), 113-143
[141] Martinez-Jaramillo, S., Carmona, C. U., & Kenett, D. Y. (2019). Interconnectedness and Financial Stability. *Journal of Risk Management in Financial Institutions*, 12(2), 168-183.
[142] Fatouh, M., Giansante, S., & Ongena, S. (2024). Leverage Ratio, Risk-Based Capital Requirements, and Risk-Taking in the United Kingdom. *Financial Markets, Institutions & Instruments*, 33(1), 31-60.

money in banks. In addition, banks should be small enough to fail without endangering broader financial stability. Even with these conditions, bankruptcies should remain exceptional because if bankruptcies become too frequent, the trust in the value of bank deposits would decline, and the banking system's money creating function could come under pressure altogether. That's why even if the two conditions above are satisfied, a regulatory framework should make bank bankruptcies highly unlikely. Higher prudential ratios in general could help reach a desirable balance.

Intermediation chains should be shortened and well-supervised
The regulatory regime for interconnected NBFIs credit intermediation needs to be strengthened, with the aim of shortening intermediation chains wherever possible. Such supervision can likely largely be done through bank supervision. There are specific cases, such as microfinance funds, where a slightly longer intermediation chain genuinely enables transparent and productive financing of the real economy. We of course support such financing. Yet, in contexts like European bank lending there is generally no need for long intermediation chains.

Securitisation should be limited
We believe securitisation should be employed sparingly. We oppose the use of securitisation to transfer a significant part of credit risk as it breaks the lender-borrower relationship, misaligns a bank's financial interests with their duty to assess long-term creditworthiness, and creates longer intermediation chains.[143] Using securitisation to use the securities as collateral is less problematic in the context of the current system, but still not the best or most robust way to ensure sufficient liquidity. Increasing liquidity requirements and introducing a simple and standardised system for valuing assets could reduce the need to securitise assets for short-term borrowing.

Problem 2: Capital doesn't chase impact
Even within productive financing, there is a big issue in what is financed: non-financial impact is still hardly considered in most financing transactions. Ethical banking is founded on the premise that allocation decisions in the private financial sector affect the development of the real economy. Finance is not neutral because it steers money in the direction of a certain type of organisation and therefore pushes the economy into a specific direction. The effects of a financial transaction in the real economy beyond the financial relationship with the financier is what we call impact. Non-financial impact are all non-financial effects among these impacts. Impacts can be both positive and negative, depending on the values of who judges. Reasoning from the mission of Triodos Bank, for example, increased CO_2 emissions are an example of a negative ecological impact while strengthened social relationships can be considered a positive social impact.

One might think that such non-financial impact will ultimately be important to financial returns too, and that financiers should therefore automatically take these factors into account. That is not the case, for two main reasons. Firstly, there is the concept known as a tragedy of the horizon. Banks, for example, give out business loans with varying maturities, but mostly shorter than 10 years.[144] Some non-financial impacts echo through for a hundred years or more. Therefore, financiers do not automatically evaluate impacts with a long enough timeframe. More fundamentally, these impacts do not always matter to the financial risk-return of a specific financing.[145] While there could be all sorts of social and ecological harm related to the economic activity financed, there is *not* always a financial mechanism that relates these impacts back to businesses, let alone financiers. These unpriced impacts are known in economics as externalities.[146] Non-financial impact – although vitally important to our collective future – has not affected short-term risk-return much yet, and that is what most financial institutions steer on. Capital flows on a macro level will be guided by risk-return considerations primarily as long as impact is not reflected in market prices for goods and services. Currently, market prices do not reflect impact, and they will not fully do so in the future either.[147] From a purely financial perspective, financiers often do not need to care that much about impact.

[143] In case of financial stability issues, bank loans might have to be sold anyway. We understand that in exceptional situations this is necessary. Yet, it shouldn't be commonplace in our view.
[144] Vilerts, K., Anyfantaki, S., Benkovskis, K., Bredl, S., Giovannini, M., Horky, F. M.,... & Zutis, K. (2025). Details Matter: Loan Pricing and Transmission of Monetary Policy in the Euro Area. ECB Working Paper No. 2025/3078. ECB, Frankfurt.
[145] We do not think all risks are properly evaluated either, with especially sustainability risks being underestimated. We elaborate this point in Chapter 5.
[146] Baumol, W. J. (1972). On Taxation and the Control of Externalities. *The American Economic Review,* 62(3), 307-322.
[147] Schoenmaker, D., & Stegeman, H. (2023). Can the Market Economy Deal with Sustainability? *De Economist*, 171(1), 25-49.

Impact is not always disregarded: there have always been financiers who care about more than just financial returns.[148] The idea that financial flows are connected to social and environmental impacts – beyond their financial returns – that should be considered, gained popularity following the financial crisis. This was helped by the fact that banks which had applied ethical lending policies in general were more stable throughout the crisis than other banks.[149] As an illustration from the asset management side, total assets under management in 'impact investing' have grown rapidly in recent years.[150, 151] Still, impact investments make up a small part of the percentage of global assets under management.[152] Moreover, a growing share of investments is passive, simply tracking entire indices.[153, 154] Even impact investments in practice often closely resemble traditional investments, implying few asset owners are willing to sacrifice financial returns for non-financial impact performance.[155] In banking, impact considerations are also still niche. Dutch banks, for example, still allocate about four times as much of their loans and underwriting in the energy sector to fossil fuels (clear negative ecological impact) as they do to renewable energy (with less negative ecological impact).[156] Fossil fuel financing by banks is on the rise worldwide.[157] Some institutions operate differently, and a select group of financial institutions do use impact as a selling point. But for most, non-financial impacts simply do not matter much.

Lack of impact in supervision and regulation

Supervisors today are not mandated to take into account non-financial impact as seriously as financial considerations. The supervisory framework reinforces the imbalance between risk-return considerations and non-financial impact: while risk management (including risks stemming from ESG factors), capitalisation and even minimum returns are closely monitored, non-financial impacts are not equally recognised in supervisory frameworks.

This is partly due to the way legal frameworks are structured around risk-return requirements aimed at safeguarding short-term financial stability. There is some room for non-financial impact within these frameworks, mainly through the concept of double materiality between financial institutions and impact factors. Double materiality consists of:

- **Financial materiality** means that some impacts can in time create transition or physical financial risks or opportunities.[158] For example, CO_2 emissions (a non-financial impact) drive global warming which could lead to flooding which decreases the value of the collateral tied to a loan (a financial risk).[159, 160]
- **Impact materiality** refers to the positive and negative effects that financial institutions have on people and the environment through their financing activities.[161]

Supervisors expect financial institutions to manage the risk stemming from impacts, meaning financial

[148] Volk, A. (2020). Investing For Impact: The Global Impact Investing Market 2020. The International Finance Corporation. Washington DC.
[149] Global Alliance for Banking on Values (GABV). (2012). Strong and Straightforward: The Business Case for Sustainable Banking.
[150] Hand, D., Ulanow, M., Pan, H., Xiao, K. (2024). Sizing the Impact Investing Market 2024. The Global Impact Investing Network (GIIN). New York.
[151] Chiapello, E. (2023). Impact Finance: How Social and Environmental Questions are Addressed in Times of Financialized Capitalism. *Review of Evolutionary Political Economy*, 4(2), 199-220.
[152] International Finance Corporation. (2021). Investing for Impact: The Global Impact Investing Market 2020. World Bank.
[153] Anadu, K., Kruttli, M., McCabe, P., & Osambela, E. (2020). The Shift from Active to Passive Investing: Risks to Financial Stability? *Financial Analysts Journal,* 76(4), 23-39.
[154] The rise of passive investments has given index providers power, as increasingly the indices they create and maintain direct capital. While we are aware of the issues in this domain, we do not elaborate it in this vision. We choose not to because in our vision, asset owners and managers should move towards considering impact and knowing where their money goes. Such a shift to conscious investing would automatically decrease the power of index providers, too. For a discussion of the power of index providers in the current asset management industry, please see: Petry, J., Fichtner, J., & Heemskerk, E. (2021). Steering Capital: The Growing Private Authority of Index Providers in the Age of Passive Asset Management. *Review of International Political Economy*, 28(1), 152-176.
[155] Edmans, A., Gosling, T., & Jenter, D. (2024). Sustainable Investing: Evidence From the Field. *FEB-RN Research Paper,* (18).
[156] Warmerdam, W., L. Pham Van, and J. Sanchez. (2024, October). Dutch Financial Institutions Decarbonising Their Energy Portfolios: Analysing Financial Flows to Fossil Fuels and Renewable Energy. Amsterdam, The Netherlands: Profundo.
[157] Banking on Climate Chaos Coalition. (2025). *Banking on Climate Chaos: Fossil Fuel Finance Report. Link: 2025* BOCC_2025_FINAL-4.pdf
[158] EFRAG. (2024). EFRAG IG 1: Materiality Assessment Implementation Guidance. IG 1 Materiality Assessment_final.pdf
[159] ECB. (2020). Guide on Climate-Related and Environmental Risks: Supervisory Expectations Relating to Risk Management and Disclosure. ECB. Frankfurt.
[160] DNB. (2023). Guide to Managing Climate and Environmental Risks. DNB. Amsterdam.
[161] EFRAG. (2024). EFRAG IG 1: Materiality Assessment Implementation Guidance. IG 1 Materiality Assessment_final.pdf

materiality and non-financial risks such as reputation risk. The risk-based framing leads financial institutions to manage their own exposure to climate or environment related risks in a broad sense, rather than decreasing their own negative non-financial impact on the world or increasing their positive non-financial impact, which would be considering impact materiality. This falls far short of what would be needed to make impact materiality itself a core factor in the financing decisions of financial institutions.

Impact materiality should really be a core factor in the financing decisions of financial institutions for multiple reasons. Reasoning from the principle that the financial system should serve the real economy and based on the recognition that non-financial impacts exist, you could argue that a democratic mechanism to incorporate these societal values in the direction of capital flows is necessary. Even without that reasoning, disregarding impact materiality now simply means the financial materiality of future risks is aggravated, and in the case of ecological tipping points, irreversibly so.[162] As usual, prevention (integrating impact materiality) would simply be cheaper than trying to repair the damage (considering only financial materiality). A precautionary approach would therefore be cheaper from a societal perspective.[163] We extend this reasoning in the next chapter on risk management.

Blended finance is too weak

Blended finance is a concrete way for public actors to steer capital towards more impactful destinations. Blended finance as pursued today uses public or philanthropic funds to generate returns on worthwhile projects or causes that are competitive with the returns that investors can obtain elsewhere. As a result, it relies heavily on these concessional funds. The flaw in this logic lies in trying to redirect private financial flows solely through subsidising. It offers compensation for positive impact without using the power of the state to prevent capital from causing negative impact. This strategy can be considered weak derisking; weak because the state does not fundamentally discipline where capital flows but only incentivises through derisking.[164]

In seeking to tweak the decisions made within the private financial sector without fundamental disciplining, blended finance is less effective than it could be. Rather than challenging the systemic drivers of capital misallocation, blended finance accepts prevailing financial norms – particularly the risk-return expectations of private finance – as fixed. These expectations are shaped by a system in which almost anything goes, from investments with negative social or environmental impacts to unproductive investment and to relatively low-risk, high-return equity stakes in multinationals. Governments do not simply have to accept these prevailing norms and could shape markets more actively instead.

A second shortcoming with some blended finance is that while some risks are borne publicly, rewards do not always come back to the public purse in the same proportion.[165] Mechanisms that derisk private financial actors without a potential return for public actors are in our view both economically and ethically flawed.

Transparency is necessary but not sufficient

New regulation doesn't do enough to make non-financial impact matter. There have been significant regulatory initiatives in Europe over the past few years to improve disclosures. Notable among these are the Pillar 3 of the banking rules (the market discipline pillar), the Corporate Sustainability Reporting Directive (CSRD), the Corporate Sustainability Due Diligence Directive (CSDDD) and the Sustainable Finance Disclosure Regulation (SFDR). The underlying hope was that mandatory disclosures would help investors make more informed decisions, potentially contributing to sustainability transitions.[166]

We firmly believe that transparency is an important first step.[167] But transparency by itself is insufficient. Regulation that focuses only on disclosures will not move capital flows sufficiently, as long as investors focus on short-term risk-return considerations.

[162] Trust, S., Saye, L., Bettis, O., Bedenham, G., Hampshire, O., Lenton, T. M., & Abrams, J. F. (2025, January). Planetary Solvency–Finding Our Balance With Nature.
[163] Chenet, H., Ryan-Collins, J., & Van Lerven, F. (2019). Climate-Related Financial Policy in a World of Radical Uncertainty: Towards a Precautionary Approach. *UCL Institute for Innovation and Public Purpose Working Paper, 13*.
[164] Gabor, D., & Braun, B. (2025). Green Macrofinancial regimes. *Review of International Political Economy*, 32(3), 542-568.
[165] Mazzucato, M., & Li, H. (2018). The Entrepreneurial State: Socializing Both Risks and Rewards. *Real-World Economics Review,* 84(19), 201-217.
[166] McGuinness, M. (May 2024). Letter to Mr. Marton Nagy, chair of The European Commission Competitiveness Council. European Commission.
[167] Triodos Bank. (2025). European Commission's Omnibus proposal weakens sustainability framework

In addition, current regulation places disproportionate demands on financial institutions that genuinely try to act responsibly. In the ambition to prevent greenwashing, the burden of proof has come to lie with institutions that claim to consider non-financial impact in their decisions. This increases the non-financial impact 'cost' to those institutions actively working on it and leaves less responsible actors comparatively unchallenged.

The limits of current impact practices, where measurement dominates management
Some institutions in the financial sector already try to take impact into account. We support this, but we also see a lack of nuance in how non-financial impact is evaluated in the financial sector, with impact measurement often dominating impact management.

Mainstream financial practice currently is to report on absolute non-financial impacts of investees attributable to their owners and financiers (e.g. attributing CO_2 emissions financed), or relative non-financial impacts (e.g. comparing CO_2 intensity to a reference scenario for a given year), or both. Both ways of calculating non-financial impacts are useful in some contexts. For setting emission caps to financial institutions, absolute emissions would be appropriate. For comparing banks with each other, relative emissions are usually appropriate.

We note a problematic trend of financial institutions delaying impact management to improve or refine impact measurement. For the majority of financial institutions still financing obviously harmful organisations such as fossil fuel companies, waiting for better data is used as an excuse for inaction, even though precise data is often not necessary to know that you are financing negative impacts.

For the relatively small group of institutions and their clients that aim to use money for positive change, we believe qualitative and holistic judgement formation is a necessary complement to backward-looking impact data. This nuance is necessary for multiple reasons. First, even if a financier holds a portfolio of green financial assets, this does not imply that the financing has actually generated that non-financial impact.[168, 169] Assessing if a financing transaction actually generates non-financial impact requires examining additionality: did the financing lower the cost of capital or influence the behaviour of the organisation?[170, 171] Second, static, backward-looking impact measurements risks overlooking which organisations have the most potential for systemic change.[172] Evaluating what goods or services an organisation provides and whether they align with a sustainable transition is therefore essential for impact-minded institutions and clients, beyond non-financial impact data. Without this nuance, the financial system can't have a serious discussion about its role and responsibilities towards society.

Our solution: Democratic guidance for where capital flows
To integrate non-financial impact in financial decisions, financial guidance is necessary for both credit and investment. Credit guidance was commonplace across capitalist economies between World War Two and the 1980s.[173] However, these policies were halted throughout the 1980s as the belief took hold that they might distort the efficient allocation of resources across the economy and hamper growth. This was based on the presumption that markets, and hence financial institutions, make optimal decisions. This presumption is incorrect. Fundamentally, without all impacts being reflected in price, there is no risk-return incentive to reflect all societal values in credit and investment decisions. Even if all impacts were reflected in prices, financial markets might endogenously tend to lower risk unproductive financing, fuelling credit cycles.[174]
We therefore believe that public actors should start making guidance policy to ensure capital flows align

[168] Caldecott, B., Clark, A., Harnett, E., & Liu, F. (2024). How Sustainable Finance Creates Impact: Transmission Mechanisms to the Real Economy. *Review of World Economics*, 1-33.
[169] Busch, T., Bruce-Clark, P., Derwall, J., Eccles, R., Hebb, T., Hoepner, A.,... & Weber, O. (2021). Impact Investments: A Call for (Re) Orientation. SN Business & Economics, 1(33), 1-13.
[170] Caldecott, B., Clark, A., Harnett, E., & Liu, F. (2024). How Sustainable Finance Creates Impact: Transmission Mechanisms to the Real Economy. *Review of World Economics*, 1-33.
[171] Measuring additionality is relatively hard, which is why some definitions (e.g. Busch et al, 2021) of impact generating stick to 'an apparent causal effect on an outcome attributable to the underlying investment made'. While we agree that demonstrating additionality is complicated, we believe the theoretical notion to be important, nonetheless.
[172] Penna, C. C., Schot, J., & Steinmueller, W. E. (2023). Transformative Investment: New Rules for Investing in Sustainability Transitions. *Environmental Innovation and Societal Transitions*, 49, 100782.
[173] Bezemer, D., Ryan-Collins, J., Van Lerven, F., & Zhang, L. (2018). Credit Where it's Due: A Historical, Theoretical and Empirical Review. *Working Paper, Institute for Innovation and Public Purpose, University College London*.
[174] Bezemer, D., Ryan-Collins, J., Van Lerven, F., & Zhang, L. (2018). Credit Where it's Due: A Historical, Theoretical and Empirical Review. *Working Paper, Institute for Innovation and Public Purpose, University College London*.

with societal values. Another way to put this is: public actors should bring impact into the decisions taken by private financial actors.

A financial guidance framework requires creating a vision for a desirable real economy embedded in a broader strategy for change.[175] This cannot simply be reduced to a singular numeric policy goal, such as reducing carbon emissions through a carbon price. There are numerous trade-offs in the use of scarce ecological resources. When choosing a target (carbon emissions) and a method (pricing), both ecological and social trade-offs could be overlooked. For example, lowering carbon emissions can be done by building renewable energy capacity, but this comes with the trade-off that this requires scarce resources itself. A pricing mechanism implies that whoever can pay the most for these scarce materials will receive the energy. As income and wealth inequalities are high and access to energy a basic necessity, we do not believe that solely using a pricing mechanism will lead us to desirable outcomes. Instead, a more fundamental and democratic planning is necessary. This requires asking questions such as what economic sectors citizens collectively would like to see in their respective countries or regions in 10 or 20 years and calibrating financial guidance accordingly. One might argue that such central guidance can impossibly align exactly with what's desirable in a top-down manner. We partly agree. We do not think that the point of credit and investment guidance should be to exactly determine which project or organisation gets financed at what rates. Yet, on a more abstract level, there are some clear societal priorities such as decarbonisation, affordable housing or strategic autonomy that can be translated to more and less desirable sectors. Furthermore, governments already shape the real economy through other policy areas, such as fiscal and industrial policy. We therefore believe that high-level guidance is both possible and desirable.

Financial guidance instruments

A wide range of policy instruments can be used to implement credit and investment guidance. Some generic credit guidance instruments, like loan-to-value ratios, are still in use in some countries. A more prescriptive approach would be a combination of sectoral credit ceilings and quotas. A forward-looking component to how capital requirements for individual loans are determined would also help. We elaborate this proposal in Chapter 5 on risk management. Central banks could also employ instruments like green targeted longer-term refinancing operations (TLTROs) to ensure cheaper credit towards priority sectors. Tilting central bank asset purchase programmes further or adjusting collateral requirements might also help. Determining the optimal policy mix depends on the goal and timing and might change over time. Inspiration for a European credit policy might be found in examples from the past, when multiple countries employed forms of credit guidance.

Example

France had a relatively strong credit policy between 1945 and 1984, during which the French Central Bank included a Banking Control Commission and was subordinated to the French Ministry of Finance.[176] Tools such as credit ceilings to limit undesirable forms of credit and privileged conditions for more desirable forms of credit through, for example, discounted central bank financing were applied by this commission to guide the direction of credit in line with democratic priorities, such as favouring key export-oriented sectors or construction.[177]

We believe that governments should take care to add negative (punitive or limiting measures) in addition to positive levers (promotional measures) at all times. Instituting promotional measures, like derisking certain investments or subsidising credit, is often politically more feasible. However, given the sustainability transitions society faces, a purely promotional regime is bound to fall short.

Blended finance today illustrates this point. There are forms of economic activity that society would be better off without even if they are still financially profitable, such as fossil fuel expansion. Financiers keep on financing such activities even after the market price of renewable energy has become competitive.[178] A financial guidance regime should therefore accelerate the phase-out of such activities. The price of credit and investment for societally useful goals

[175] A financial guidance regime at the global level would be best, but we see very limited space for such a deep form of international cooperation at the moment. We therefore consider a European credit guidance most feasible.

[176] Hotori, E., Wendschlag, M., Giddey, T. (2022). France: Credit Control and Formalization of Banking Supervision. I*n: Formalization of Banking Supervision.* Palgrave Macmillan, Singapore. https://doi.org/10.1007/978-981-16-6783-1_8

[177] Monnet, E. (2018). *Controlling Credit: Central Banking and the Planned Economy in Postwar France, 1948 1973*. Cambridge University Press.

[178] Christophers, B. (2025). *The Price is Wrong: Why Capitalism Won't Save the Planet.* Verso Books.

is partly dependent on the amount of alternative 'destinations' credit can find. The rise in unproductive investment, for example, has contributed to the increasing difficulties SMEs face in obtaining financing. Fully accepting that some credit is more useful than others also requires using both promotional and punitive measure to redirect finance. In a financial guidance regime, a new challenge compared to historical examples is the growth of the non-banking financial sector. To be effective, all significant financial flows will need to be addressed in a financial guidance policy.

Return-seeking capital can only do so much
Even with financial guidance, not all goods are suitable for return-seeking private finance. Under the current blended finance regime, it has become fashionable to 'leverage' public funds by using them to induce further private investments in sectors where capital is considered lacking. Future income streams to pay back whatever kind of financing is raised are a minimum requirement. In general, this makes public goods (non-excludable and non-rival goods, like justice or knowledge) as well as common pool goods (non-excludable but rival goods, like fisheries or groundwater) ill-suited candidates for private markets and, in turn, for attracting private finance.[179, 180]

To be clear, we do not oppose government trying to channel return-seeking private capital to where it's needed. But not every single worthwhile cause is easily financeable for return-seeking investment. We therefore call on public actors to scrutinise not just whether money is needed for a cause, but also whether that cause lends itself to private return-seeking finance or whether it should be more purely publicly financed. If private return-seeking finance is proposed to fund public or common pool goods, strong public oversight to ensure that public interests are safeguarded is necessary. In other cases, we believe public actors should actively keep private financiers out.

Example
Some initiatives, such as the EU Nature Credits Roadmap, try to make quasi-public goods investable for private finance by creating revenue streams for services derived from them. The stated aim is to "put nature on the balance sheet", which requires generating measurable units, or credits, representing a nature positive outcome.[181] To make these credits credible, independent certification and verification is required and nature is commodified in the process. Generating such credits therefore entails significant work. Still, since many nature and biodiversity benefits like flood protection are hardly excludable, there is no clear incentive for individuals or businesses to buy credits. The demand for credits will therefore need to be created in some way, such as making it mandatory to buy them.

It is not impossible to implement all these mechanisms, but it will take a lot of effort. In many cases, such as nature conservation and even many nature restoration projects, it would be much easier to raise funds through taxation and then have public actors or contractors do the work. Setting norms that require a contribution to restoration efforts from private sector actors can also be effective, such as the UK Biodiversity Net Gain system.182 In this system, private actors are required to restore more nature than they degrade, in principle on their own or close-by land, with credits serving as a back-up option.183 Therefore, such a system relies on the commodification and standardisation of 'nature' much less than a biodiversity credit market would.

Blended finance needs teeth
Blended finance instruments such as public guarantees can occasionally be useful, provided a guidance regime limits capital flows to undesirable goals. Risks and rewards should also be shared fairly, for example through profit-sharing mechanisms or partial ownership of patents.[184]

[179] Kedward, K., Zu Ermgassen, S., Ryan-Collins, J., & Wunder, S. (2023). Heavy Reliance on Private Finance Alone Will Not Deliver Conservation Goals. *Nature Ecology & Evolution*, 7(9), 1339-1342.
[180] Ostrom, E. (2010). Beyond Markets and States: Polycentric Governance of Complex Economic Systems. *American Economic Review*, 100(3), 641-672.
[181] European Commission. (2025). Nature Credits Roadmap to Reward Nature-Positive Action and Boost Private Finance. *European Commission – Press release*. IP_25_1679_EN.pdf
[182] UK Government. (2025). Biodiversity net gain
[183] In general, before thinking about attracting private finance towards restoration or conservation efforts, governments should make sure that financial flows towards degradation are reduced as much as possible, for example through the guidance approach we described above.
[184] Mazzucato, M., & Li, H. (2018). The Entrepreneurial State: Socializing Both Risks and Rewards. Real-World *Economics Review, 84(19), 201-217.*

To ensure that private investment safeguards this societal interest, conditionalities can be included in blended finance arrangements tied to the desired outcomes.[185] Subsidies to catalyse a certain type of investment might sometimes still be desirable, but these can only be justified if they are truly temporary. In some cases, opting for public banks of investment institutions to finance desirable forms of economic activity by themselves rather than through blended finance constructions can work as well.

Improving and streamlining impact data requirements
To level the playing field, impact-related disclosures must not only prove how green institutions are but also expose how non-green others are. Reporting requirements should be at least equally onerous for less-ambitious institutions. Such disclosures could be helped by defining in the EU Taxonomy which sectors or types of economic activity are 'dirty' and should be phased out in time. Furthermore, similar to KYC and CDD data, all financial institutions currently need to set up their own data management systems to collect largely overlapping impact data from clients. In some cases, financial institutions even use this as an excuse to delay action. Centralising the collection of a basic set of impact-related data points, at least for SMEs, would decrease the amount of bureaucratic work in the system and could help speed up the integration of impact considerations in allocation decisions. Lastly, we call on impact-minded institutions to look beyond just backward-looking impact indicators, and to evaluate critically to what extent their financing generates impact.

Problem 3: The bias of shareholder models
In problem 3, we switch to how the financial system interacts with the business model and governance of organisations across all economic sectors. This starts in early-stage financing and works its way through to publicly listed companies.

Shareholder models prioritise return over impact
In early-stage financing, funding is most readily available for shareholder-centred companies that prioritise short-term financial gains over impact. Early-stage companies often lack stable revenue, making them less eligible for traditional loans or debt financing. As a result, startup organisations are pushed to finance themselves through equity. In this type of transaction, they grant not only dividends but also voting rights to investors, making the investors shareholders. Having voting rights and being able to trade shares in secondary markets offers significant advantages to financiers. These markets and investment structures were historically developed to attract investors when capital was scarce, with the Dutch East India Company being the first shareholder company.[186] Right now, this form of ownership structure and related corporate governance is dominant across industries.

Purely shareholder focused organisations narrow the purpose of enterprise down to maximising financial returns for investors.[187] Share price has become

EXPLAINED: Why frontrunners should focus on transformative impact potential
Transformative impact evaluation is rooted in systems thinking. Understanding transformative impact potential requires that we understand the system of an investee or client, both in the now and in the desired future, linking the two together with a theory of change. Financial institutions wanting to finance change should take a nuanced and holistic approach to the impact of their financing, with a particular emphasis on their transformative potential. There are multiple ways of evaluating non-financial impact, and they can all serve a role. But for financial institutions wanting to use finance for change, it is especially important to focus on forward-looking impact. Beyond the direct, often measurable impacts that financing activities might generate in the present – such as jobs created or trees planted, and carbon emitted or square metres deforested – financial institutions should evaluate how an organisation can contribute to sustainability transitions. As the future is fundamentally uncertain, so are future impacts. The best approach is to evaluate the *potential* of an investment to have transformative impact.

For more information about transformative impact potential, see our Changemaking white paper.

[185] Mazzucato, M., & Rodrik, D. (2023). Industrial Policy With Conditionalities: A Taxonomy and Sample Cases. *UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2023-07).* Available at: https://www.ucl.ac.uk/bartlett/public-purpose/wp2023-07
[186] Petram, L. O. (2011). *The World's First Stock Exchange: How the Amsterdam Market for Dutch East India Company Shares Became a Modern Securities Market, 1602-1700* (Doctoral dissertation, Universiteit van Amsterdam).
[187] Lazonick, W., & O'Sullivan, M. (2000). Maximizing Shareholder Value: A New Ideology for Corporate Governance. *Economy and Society,* 29(1), 13-35.

the yardstick of performance, eclipsing long-term value creation for employees, communities or the environment. This orientation is reinforced by the legal architecture of capitalism itself. As Katharina Pistor shows, corporate and financial power is "coded in law".[188] The corporation's legal privileges – especially limited liability and the separability of the corporate entity from its owners – shield shareholders from the social and ecological consequences of their decisions. When profits are privatised and losses socialised, incentives naturally tilt toward short-term extraction. Inside companies, executive incentives amplify the bias. Managers are rewarded through stock-based pay and pressured to meet quarterly targets. Share buy-backs and dividend payouts take precedence over productive reinvestment, while investments in employees, innovation or sustainability are treated as costs rather than assets. Financial markets reward these behaviours: companies that prioritise long-term purpose are often penalised with lower valuations or higher capital costs.

Alternative ownership structures such as worker cooperatives and steward-owned organisations often prioritise long-term goals over short-term profit or forego profit altogether. Due to this prioritisation of long-term goals, these alternatives are sometimes described as sustainable by design.[189] This clashes with equity financing which often incentivises short-term performance over long-term value creation. Yet, these alternative ownership and governance structures remain marginal and obtaining financing for them is cumbersome. The lack of alternative mechanisms is partly a result of the influence of current habits and practices. Many European countries lack legal forms for alternatives like steward-ownership and types of commons ownership.[190] The same applies to financing. Financing instruments are little known, due in part to a lack of willingness from investors. This means that sustainable by design organisations often struggle to find early-stage financing in the current system. Some investors already use their power in the interest of longer-term value and others genuinely care about the mission and impact of the company they finance and act in alignment with those values. However, structurally, the system is biased towards short-term financial return rather than long-term value creation.

Example
Private equity investment funds have provided some of the worst examples of how the bias towards short-term financial returns can come at the expense of long-term value creation. Books like Barbarians at the Gate, Our Lives in their Portfolio and in the Netherlands Gekaapt door het Kapitaal (Captured by Capital) document these excesses well. The clash between short-term financial interest and long-term value is often particularly visible in semi-public and public services, like healthcare, water supply and housing. In textbooks, private equity investments should lead to increased investments in real assets, which in turn could generate increased income and hence dividends for the private equity owner. In practice, things often look very different. From Chicago's parking concession to Thames Water, public utilities have deteriorated in quality while generating large dividends for their owners and often loading up large amounts of debt after they were acquired by private equity funds. Of course, these investments provide the worst examples; the bad apples in the industry. There are also private equity investors that really bring in a holistic perspective, trying to make impact with their investment. Yet, the bad examples are not just bad apples: they are also symptomatic of the financial incentives inherent in this ownership structure.

Shareholders can win much more than they can lose
This is reinforced by the fact that equity structurally offers an asymmetric risk-reward profile. Investors are not personally liable for the companies they own shares in: a principle known as limited liability.[191] They can lose the entire value of their shares if a company goes bankrupt, but their personal wealth will not be used to cover any of the company's liabilities. This limits the potential losses for an equity investor to the value of their initial investment. The upside, however, is literally unlimited. As long as the company exists, which can be legally infinite, shareholders are entitled to vote and receive dividends. Therefore, investors are currently overcompensated for the risks they incur, at the expense of companies in the real economy, their clients and wider society.

[188] Pistor, K. (2019). Capital's Global Rule. Constellations: *An International Journal of Critical & Democratic Theory,* 26, 430-441.
[189] Bartl, M., Kauffmann, M., González-Ricoy, I., Herzog, L., Lafuente, S., Sluijs, J. P.,... & Feldthusen, R. K. (2024). Whitepaper: Sustainable by Design-Industrial Policy for Long-Term Competitiveness in the EU.
[190] Bartl, M., Kauffmann, M., González-Ricoy, I., Herzog, L., Lafuente, S., Sluijs, J. P.,... & Feldthusen, R. K. (2024). Whitepaper: Sustainable by Design-Industrial Policy for Long-Term Competitiveness in the EU.
[191] Pistor, K. (2019). Capital's Global Rule. *Constellations: An International Journal of Critical & Democratic Theory, 26,* 430-441.

EXPLAINED: Equity share's disbalance in risk and return

Let's consider some old stocks to understand the flaws of unlimited upsides. If your grandparents or great grandparents happened to be alive in New York in 1919 with 40 dollars to spare, they could have bought one share in Coca Cola on its initial public offering. Admittedly, 40 dollars was serious money for most people: about 3% of the average annual male wage (Douglas, 2021). At the time, this might have been seen as a risky move. But the upside was unlimited. By now, you would own over 9,000 shares due to stock splits, worth over USD 500,000 if you wanted to sell them.

In the meantime, you would have received dividends in most of the 105 years since 1919. In 2024, you would have received about USD 9,000 dollars in dividends, which is just over 13% of the 2024 average wage (Bureau of Labour Statistics, 2024). You can keep reaping dividends for as long as Coca Cola continues to yield them. This upside is clearly disproportional to the initial USD 40 put at risk. It is highly likely that the shares have changed hands many times since 1919. These secondary market transactions are not immediately relevant to the financing of the real economy in our view. The one moment where Coca-Cola raised capital for this share was 1919, with dividends flowing back to the investor since. All secondary trading of the share in between 1919 and now are unproductive transactions, based on the expected stream of future dividends from the share.

Our solution for reforming equity shares

Equity shares should be replaced by instruments that limit returns and voting power for investors to prevent short termism and enhance fairness. Replacing equities would at once enable a more balanced governance for organisations and bring cumulative potential returns on investments down. This is important because we believe that returns should be proportional to the societally useful risk incurred in a financing transaction. By societally useful, we mean that a financing transaction should be mobilising capital towards the regenerative, real economy. Within the realm of such useful financing, riskier transactions justify a higher return. Funding a startup, which might never earn significant revenue to pay back a financier, is riskier than providing debt to a well-established organisation and can therefore justify a higher return. Yet unless risks are infinite, potential returns should be finite.

Practically, we see a couple of mutually compatible ways to replace equity shares as the dominant form of financing.

1. **Use open-ended profit loans as a financial instrument.** These are loans with an open-end date and are paid back at a given multiplier of the original sum. Redemptions can either come from profits or be left completely to the discretion of the borrowing company. Temporary voting rights for the creditor might be part of such an agreement. These kinds of instruments need to be standardised and mainstreamed in order to enable the development of more *sustainable by design* organisations.

2. **Catalyse forms of not-for-profit organisations.** The standard model for organisations in most countries is that of a profit-oriented company. To catalyse organisations that are not-for-profit or less profit-oriented, governments could create and promote legal structures and a supportive regime for these types of organisations. For example, in the UK, community interest companies have specific guidelines where a maximum of 35% of the profits can be paid out as dividends and the assets of the company can only be valorised for the benefit of the community.[192] In France, similarly, the ESS legal framework creates preferential treatment for companies that prioritise a social mission related to human health or the environment, and imposes a limit on profits.[193]

Even if these alternative forms of organisation are catalysed, this leaves existing equity shares with a disbalance in potential risk and returns. A direction of reform could be to introduce absolute caps to the cumulative returns that equity shares can earn. Until equity shares are reformed, a higher tax on their value appreciation can serve as a second-best solution.

Problem 4: The dominant market structure in finance has become oligopoly

The private financial sector is hardly competitive in many segments. Instead, various oligopolies have developed. This situation is harmful because of the typical costs of oligopoly and lack of market

[192] GOV UK. (2025). Community Interest Companies Guidance

[193] Magnier, V. (2024). French Economie Sociale et Solidaire in the Middle of the Ford. In *The Law of Third Sector Organizations in Europe: Foundations, Trends and Prospects* (pp. 57-72). Cham: Springer Nature Switzerland.

discipline, such as supranormal prices and excessive profits for the companies involved, as well as lower consumer surpluses and a decreasing labour share of output.[194, 195] We have already discussed the payment services providers in the previous chapter. In mobilising capital, asset management and banking stand out as oligopolistic markets.[196]

Asset management is effectively a global industry, where the biggest three global asset managers manage just over 20% of the total assets under management worldwide and the 20 biggest institutions manage 45% of global assets.[197] Zooming in on specific types of asset management, such as real asset management, a similarly oligopolistic structure emerges.[198]

Asset management oligopolies are problematic for some specific reasons in addition to the general costs of oligopoly mentioned below:

1. The largest asset managers have become universal owners, distorting their strategy compared to theoretical models. Instead of financing specific assets that they believe will hold commercial potential, their best strategy for ensuring returns becomes raising the total value of assets under management.[199]
2. The large companies beget significant political power through their size. The rise of passive investing has aided the conglomeration of these asset managers. By definition, this disregards impact in allocation decisions. To our mind, passive investing in a large number of companies doesn't fit the responsibility that should come with being the co-owner of a company.

Banking, too, has become oligopolistic and monolithic in most countries. Banks are heavily concentrated in some main countries as Figure 4 shows. On average, the five largest credit institutions in the EU own 68% of assets, increasing from about 60% at the turn of the century.[200] Figures differ markedly per country. This concentration implies that there are often just a few banks available to finance organisations or projects. This lack of competition is problematic because capital is directed predominantly towards a specific type of client, at unnecessarily high rates. Figure 5 shows that the country with least concentration in banking (Germany) also offers the highest interest rates on overnight deposits from households.[201] More competition between banks would be beneficial for the interest rates offered to deposit holders.[202]

The regulatory framework, mode of supervision and technology-related scale benefits all contribute to an oligopolistic structure. There are multiple causes for these structures:

1. **Technology:** This is seen as exhibiting economies of scale, pushing banks to consolidate.[203] Empirical evidence supports this hypothesis. Large banks benefit more from investing in technology because their profits increase more significantly after investing in technology compared to smaller

[194] Posner, R. A. (2017). Oligopoly and the Antitrust Laws: A Suggested Approach. In *Dominance and Monopolization* (pp. 197-242). Routledge.
[195] Ganapati, S. (2021). Growing Oligopolies, Prices, Output, and Productivity. *American Economic Journal: Microeconomics,* 13(3), 309-327.
[196] Ancillary services in the financial system, such as credit ratings and index provision, are similarly dominated by only a few institutions.
[197] Thinking Ahead Institute. (2024). The World's Largest 500 Asset Managers.
[198] Christophers, B. (2024). *Our Lives in Their Portfolios: Why Asset Managers Own the World*. Verso Books.
[199] Braun, B. (2021). Asset Manager Capitalism as a Corporate Governance Regime. Chapter in: Hacker, J. S., Hertel-Fernandez, A., Pierson, P., & Thelen, K. (Eds.). (2021). *The American political economy: Politics, markets, and power.* Cambridge University Press.
[200] ECB. (2025). EU Structural Financial Indicators: End of 2024
[201] Spanish rates were higher than Dutch deposit rates as we'd expected based on the lower concentration, but this was reversed after the GFC. The timing offers the explanation: Spanish banks were reeling from credit losses due to a deflating real estate bubble, more so than Dutch banks, which led to less competitive rates. Meanwhile Dutch banks keep rates low, partly explained by low competition.
[202] Less concentrated banking sectors pass through increases in the policy rate more quickly and decreases more slowly. Based on: Kho, S. (2025). Deposit Market Concentration and Monetary Transmission: Evidence From the Euro Area. *European Economic Review*, 173, 104933. In addition, a negative correlation between banking concentration as defined by the share of assets held by the five largest institutions and the rates offered to deposit holders in eurozone countries can be observed across time from ECB data on structural banking statistics. Concentration significantly and negatively predicts deposit interest rates in a simple linear regression with year as the other independent variable (Search Results | ECB Data Portal).
[203] Boot, A. W. (2003). Consolidation and Strategic Positioning in Banking With Implications for Europe. *Brookings-Wharton Papers on Financial Services*, 2003(1), 37-83.

banks.[204] The need to invest in technology – both to satisfy customer preferences and regulatory requirements – are also one of the driving factors behind the recent waves of community bank consolidation in the US.[205]

2. **Regulation, taxation and supervision:** These all bring further biases towards scale in the banking system. Neither micro and macroprudential regulation, nor taxation, promotes diversity, even though diversity can reduce systemic risk.[206] There is a one-size-fits-all approach to supervision, with slightly higher ratios for systemically important banks. All banks face similar regulatory and supervisory incentives.

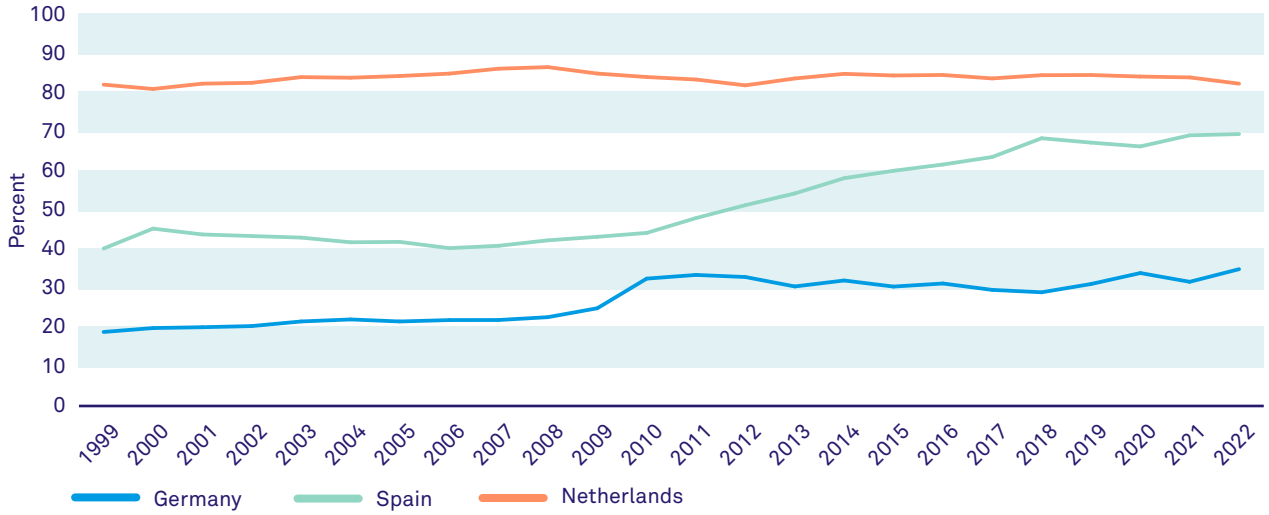
3. **Internal ratings:** Large banks are allowed to deviate from standard supervisory risk models used to determine capital ratios through the internal ratings-based approach. This approach allows banks to estimate the parameters used for determining risk-weighted assets (RWAs), which can shave up to 28.5% off a bank's RWAs.[207, 208] In practice, this means that larger banks use internal risk models to determine the appropriate level of capital buffers needed to take on greater leverage, whereas smaller banks use the generic and apparently inferior standard risk model.

Another harmful consequence of oligopoly is a lack of diversity. Diversity encompasses multiple attributes of a financial institution, from how they generate revenue, how they fund themselves and how they are governed to the product/market combinations they offer. Diversity between institutions increases the chance that some institutions can withstand systemic shocks, which leaves system functions more intact.[209] Research shows that more diverse financial systems are linked to greater financial stability, including more stable economic cycles, lower risk of asset bubbles and even faster growth.[210, 211] Diversity in revenue sources increases the resilience of the financial system as a whole, at least with market-based systems.[212]

This might sound counterintuitive. Individual banks are less likely to fail if they earn revenue from many different product-market combinations – a strategy widely pursued by many European banking groups. This means being present in multiple countries, providing loans or other financial products to multiple target groups. Micro prudential supervision also encourages diversification. Yet, on the system level, this means many similar banking groups emerge. So, the diversification that makes individual banks more stable, can increase the likelihood that many of these banks will face trouble at the same time. Consequently, the current lack of diversity is problematic.

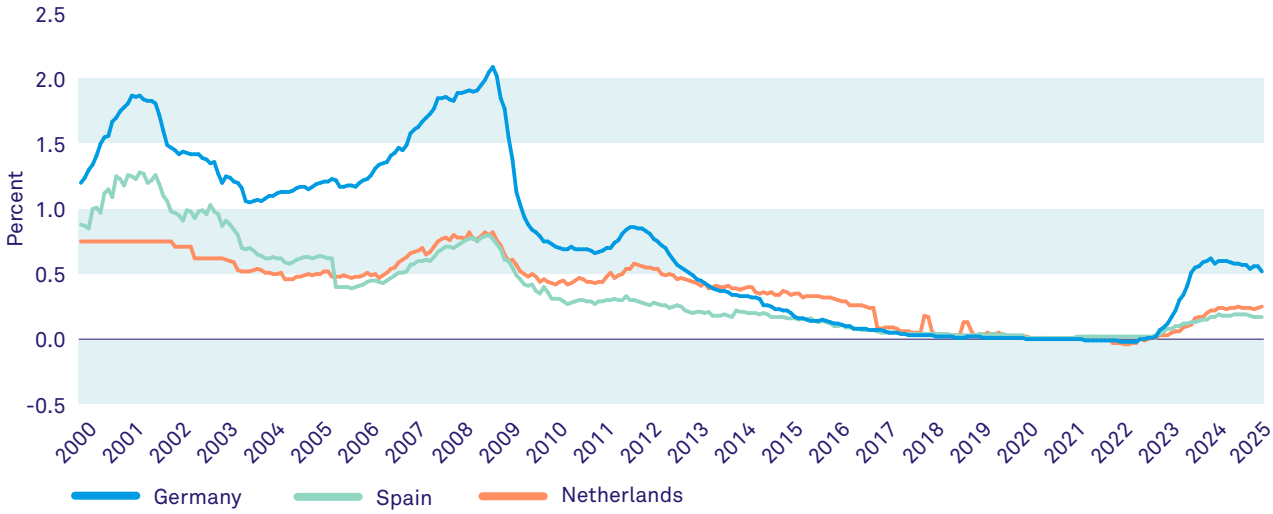
[204] Chhaidar, A., Abdelhedi, M., & Abdelkafi, I. (2023). The Effect of Financial Technology Investment Level on European Banks' Profitability. *Journal of the Knowledge Economy,* 14(3), 2959-2981.
[205] Jiang, C., Scott, J., & Zhang, Z. (2025). Community bank consolidation and the role of technology investment. *Financial Review*, 60(4), 1161-1189.
[206] Butzbach, O. (2016). Systemic Risk, Macro-Prudential Regulation and Organizational Diversity in Banking. *Policy and Society*, 35(3), 239-251.
[207] Torstensson, P. (2024). ECB.
Basel III Finalisation in the EU: The Key Elements and How They Make the EU Banking System More Resilient
[208] We appreciate the 72.5% floor for an internal ratings-based capital ratio compared to the standardized approach but believe it should be increased to 100%.
[209] Wagner, W. (2011). Systemic Liquidation Risk and the Diversity–Diversification Trade-Off. *The Journal of Finance*, 66(4), 1141-1175.
[210] Pisicoli, B. (2023). Financial Development, Diversity, and Economic Stability: Micro and Systemic Evidence. *International Economics*, 175, 187-200.
[211] Weller, C. E., & Zulfiqar, G. (2013). Financial Market Diversity and Macroeconomic Stability. *Working Papers 332, Political Economy Research Institute, University of Massachusetts at Amherst.*
[212] Marques, B. P., & Alves, C. F. (2021). Business Model Diversity and Banking Sector Resilience. *FEP Working Papers.*

Figure 4: Share of largest five credit institutions in total assets over time, various countries



Source: ECB

Figure 5: Rates on overnight deposits from households



Source: Deposits | ECB Data Portal

The eurozone lacks full financial integration, both for banks and investment funds, hampering capital mobilisation within the region and keeping national oligopolies in place. Currently, investing in the real economy remains fragmented by member states. Even within the euro area and despite deposit guarantee schemes (DGS), banks continue to primarily operate within national jurisdictions to attract deposit holders and provide loans. This helps to explain why the banking sector is oligopolistic in many eurozone countries despite a large number of banks (Figure 4). Cross-border bank lending retrenched considerably following the financial crisis.[213] For asset management, participating in listed investment funds is possible across borders for retail investors, but for any private market funds (regulated under the alternative investment fund managers or AIFMD regulation in the EU) requirements for marketing such funds differ

[213] Emter, L., Schmitz, M., & Tirpák, M. (2019). Cross-Border Banking in the EU Since the Crisis: What is Driving the Great Retrenchment? *Review of World Economics, 155(2),* 287-326.

per country.[214] In some countries, retail investors aren't able to invest in private market funds. This heterogeneity across countries hampers the scale and feasibility of operating private market funds for retail investors and prevents capital from flowing liberally across borders.

Our solutions to make the financial sector more competitive and diverse

Levelling the playing field for size
For the banking sector, this starts with dismantling institutionalised scale benefits. The whole sector should have access to the same risk parameters, adjusted to meet regional specifications. If big banks can genuinely estimate risk parameters better than public authorities, then these parameters could be made available to the wider financial sector. Instead, allowing institutions to develop their own risk model without sharing it with other financial actors incentivises financial institutions to build a model with the lowest possible risk parameters while still meeting the supervisors' approval. It also contains a bias to scale. Since oligopolies are a problem in the sector, we think this bias should be taken away.

Promoting diversity instead
A diverse banking sector should be an explicit goal of supervisors, which multiple regulatory regimes could enable. Regulators and supervisors could promote diversity by developing bespoke regulatory regimes for specific types of banks to promote a diverse financial structure.[215] Such a financial structure could include for example niche banks that focus on only a few product-market combinations. These banks can build a deep expertise of their product-market combinations (e.g. renewable energy business loans) without becoming too big to fail. At the same time, they differ from other banks, in ways that can enhance the resilience of the banking system. Developing a bespoke regulatory regime tailored to such banks could help them flourish, for example by waiving concentration limits in specific cases.

Breaking up what's too big and enabling European competition
Policies to reduce concentration in banking, such as outright concentration limits or taxes that increase with the relative size of a bank in its market, could help strengthen stability too. Asset management companies should similarly be limited in total size to limit oligopoly. Imposing concentration limits on for example the total amount of investments in a given jurisdiction managed by such companies would be a logical step.[216] The solutions proposed in response to problem 2 and 3, to guide where money flows and improve the balance in shareholder models, would also help mitigate some of the negative consequences of the asset management oligopoly. Taking away barriers to cross-border competition in Europe would also help in both asset management and banking. In asset management, this would start with harmonising regulation on (retail) alternative investment funds, enabling retail investors to invest across European borders in short intermediation chains. In banking, facilitating a level playing field and competition across borders would help, for example by exploring the feasibility of European IBAN portability.[217]

Problem 5: Useless and misused instruments
From the principle that the financial system exists to serve the real economy, not every profitable financial instrument is necessarily desirable. Instruments should be critically evaluated for whether they serve the real economy at all, and any unnecessary complexity should be regulated against. The financial system has largely developed organically in response to the laws enabling its existence, with private initiatives driving innovation.[218] Therefore, it is likely that the system has now evolved to maximise profitability for investors but fails to mobilise capital in the most straightforward or resilient way.

Public actors need to guard societal usefulness
We believe that democratic governance should have a steering role in where credit flows as we explained in response to problem 2. But in addition to evaluating the direction of money, public actors should also reevaluate whether the institutions and instruments mobilising capital are fit for purpose. In our view, there are a significant number of products whose usefulness

[214] European Securities and Markets Authority. (2019). Retail AIFs – Heterogeneity Across the EU. *ESMA Report on Trends, Risks and Vulnerabilities*. trv_2019_1-retail_aifs_heterogeneity_across_the_eu.pdf
[215] Butzbach, O. (2016). Systemic Risk, Macro-Prudential Regulation and Organizational Diversity in Banking. *Policy and Society*, 35(3), 239-251.
[216] Steele, G. (2020). The New Money Trust: How Large Money Managers Control Our Economy and What We Can Do About It. *Working Paper. American Economic Liberties Project.*
[217] Autoriteit Consument & Markt (ACM). (2016). Account Number Portability
[218] Pistor, K. (2013). A Legal Theory of Finance. *Journal of Comparative Economics,* 41(2), 315-330.

is debatable. The criteria for determining whether a financial instrument or product is allowed should become more stringent. We need to ask whether a financial instrument genuinely adds societal value at least most of the time it is used, and if this value is enough to justify the work needed for it in the financial sector. This is a nuanced discussion, considering trade-offs, which would need to be applied to every instrument.

To do this effectively, we must understand the impact (if any) of the product on the real economy and evaluate whether there are any alternatives available. We prefer simpler and more transparent instruments because we know that complex financial products like securitisation and credit derivatives make exposure between various agents in the financial system more difficult to assess and monitor, increasing opacity and supervisory costs.[219] Simplicity is indispensable to limit the size of the financial sector, and it will likely make risks more visible too.

Some instruments are never useful
We believe there are some instruments that are always useless. Two examples are credit default and synthetic exchange-traded funds. While their use as money is negligible, cryptocurrencies are similarly useless from our point of view.

While some are useful only to specific buyers
There is a second category of finance products that can serve a useful purpose in supporting financial activities, but that can also be used for speculative purposes. Global derivatives markets provide an example where only a part of these gigantic markets is used for hedging genuine economic risks.[220] Take currency hedges as an example. When a financial institution takes money from investors in one currency and invests it in a country with a different currency, there is a genuine currency risk. Even if the investee performs well and repays their loan or pays dividends, fluctuations in the value of the currency can still erode the value in the investors' currency.

EXPLAINED
Synthetic exchange-traded funds (ETFs) are useless in our view. A synthetic ETF uses derivatives to replicate how a fund with such holdings would behave. This adds an unnecessary layer of complexity compared to a fund that actually holds the securities it aims to track. Furthermore, it doesn't channel capital to the companies whose shares it tracks. We believe these types of products should be regulated against. Naked credit default swaps (CDS) are another example, where buyers could effectively insure themselves against the default of a financial product they did not possess. This is similar to taking out fire insurance on somebody else's house. In specific cases, financial institutions bought CDS on products they had just sold to clients. They first profited from the sale and then made money of the default that they had apparently anticipated. It is a positive development in our view that these specific products are no longer available on the European markets.

In our view, hedging this risk is legitimate. Yet, there are also hedge funds that use currency hedges to speculate against a government's ability to keep up their currency peg.[221] The most notable example in this regard was Long-Term Capital Management which used very high leverage and then came crashing down spectacularly, eventually warranting a bail-out.[222] Just to be clear, there was no useful financial transaction being hedged in this case, the only goal was financial gain for the hedge fund. Some might argue that such speculative buyers are a necessary component of any market, enabling price formation in the process.[223] We acknowledge that occasionally parties might engage in transactions such as a hedge in response to beneficial pricing without an immediate need on their end, and that there is a speculative element to such a transaction. Yet, in our view, that doesn't justify actors that are in the market for purely and exclusively speculative reasons. In fact, speculative buying can

[219] Anand, K., Gai, P., Kapadia, S., Brennan, S., & Willison, M. (2013). A Network Model of Financial System Resilience. *Journal of Economic Behavior & Organization, 85*, 219-235.
[220] The exact size of the derivatives market is not so easy to judge. It matters if it is expressed in terms of notional value or the gross market value. However, according to the BIS, the over-the-counter foreign exchange market reached USD 9.6 trillion per day (BIS,2025). OTC foreign exchange turnover in April 2025
[221] Speck, D. (2013). The Crises of the 1990s. In *The Gold Cartel: Government Intervention in Gold, the Mega-Bubble in Paper, and What This Means for Your Future* (pp. 5-7). London: Palgrave Macmillan UK.
[222] Prabhu, S., & Durham, N. C. (2001). Long-Term Capital Management: The Dangers of Leverage. D*uke Journal of Economics, 4*, 24-41.
[223] Kaldor, N. (2020 / 1985). *Economics Without Equilibrium.* Routledge.

have harmful spillover effects, such as when excessive trading in commodity derivatives contributed to volatile food prices.[224]

Our solutions to prevent useless financial activity

Ban the useless
For the category of products that is always used for speculative purposes, we believe the right approach to such products is simple: they should be banned. This goes for synthetic ETFs. Within this line of reasoning, we also believe that leverage needs to be taken out of derivatives altogether. We see no good reason from a real economy perspective for leveraging a derivative: this is always done for speculative purpose.

Regulate who can buy the misused
For the category of products that can be used for genuine and for speculative purposes, we believe that financial products should only ever be available for purchase by those with a legitimate real economic interest in holding such a product. This could be operationalised through buyer requirements. The already implemented ban on naked credit default swaps is an example. This could be extended to selling currency hedges only to those with a demonstrable currency risk in the real economy, such as companies with international financing transactions or companies that sell their products in different currencies than they pay their workers in.

Introduce transaction taxes to foster long-term thinking
Lastly, we think financial transaction taxes could help reduce the amount of speculative financial activity. Financial transaction taxes have been seen as an instrument that could decrease speculative trading and lengthen investors horizons for a long time.[225] They could discourage high-frequency speculative trading, which would also bring down the volume of financial activity and potentially reduce volatility. Furthermore, they could raise substantial revenues. It is relatively untargeted and therefore some may prefer other measures.[226] To our mind, however, a blunt instrument to reduce the size of financial transactions could be implemented alongside more targeted interventions.

[224] Bartram, S. M. (2019). Corporate Hedging and Speculation With Derivatives. *Journal of Corporate Finance, 57,* 9-34.
[225] Summers, L. H., & Summers, V. P. (1989). When Financial Markets Work too Well: A Cautious Case for a Securities Transactions Tax. *Journal of Financial Services Research,* 3, 261-286.
[226] Anthony, J., Bijlsma, M., Elbourne, A., Lever, M., & Zwart, G. (2012). Financial Transaction Tax: Review and Assessment. *CPB Netherlands Bureau For Economic Policy Analysis. CPB Discussion Paper, 3.*

5 Managing ecological risks

We do not elaborate the function enabling risk management to the same extent as we did for mobilising capital. We, for example, stop short of a full analysis of risk management practices within banks and asset managers, or a detailed analysis of the insurance industry. Instead, we focus on the most pressing problems in risk management and insurance: those related to ecological crises.

Introduction

Well-functioning risk management is essential for enabling the entire financial system, and by extension, for modern economic life. Without fire or storm insurance, for example, owning a home would be far less attractive. And if investors could not find any parties to hedge currency risks, cross-border investments in countries with relatively volatile currency values would shrink further. In complex, interconnected economies, effective risk management is critical not only for individual stability but also for systemic resilience and long-term societal progress.

Many of the fundamental mechanisms in mobilising capital also enable risk management and have therefore been discussed implicitly before.[227] Banks, for example, operate on the principle of risk-sharing, with multiple depositors pooling money to be loaned to multiple debtors. Diversifying an investment portfolio across various equities similarly aims to manage the risk of individual companies' shares losing value abruptly. Various financial techniques such as currency hedges can also be used to move certain risks between people. In short, the ways in which society enables people to share and manage risks provide a bedrock of stability and security on which economic life as we know it functions.

In this chapter, we will not discuss the full range of risk management principles underlying the financial system. Instead, we will focus on where both risk management in general and insurance specifically fall short. We look at how private insurance works well for some risks but is unfit to deal with systemic risks and uncertainties.

EXPLAINED

Insurance encompasses a broad range of institutions, signifying the many risks that can be insured. The institutions that provide insurance range from private companies offering cover against accidental death or civil liability, to national social security programmes. Risks need to meet some criteria to be insurable:[228, 229]

- **Calculable** means that the probability of an individual encountering an adverse event can be determined.
- **Collective** means that in a group, a risk becomes no longer a probability, but an expected total number of occurrences, also known as the law of large numbers. This also requires risk are clearly distinguishable between individuals, with low correlation.
- **Capital** means that the insurance pays out money. You can insure yourself against accidental death, but that just means the insurance pays out money if you die in an accident. You will still have died in an accident. State institutions generally intervene to prevent the undesirable exclusion of 'bad risks', but they can still be overwhelmed by financial damage. Healthcare and social security provisions in many countries are fully or partly insured by the state. The reason these provisions are managed or run by the state is that equal access to insurance is considered desirable. Even if an individual has a higher probability of falling ill, we deem it morally desirable for them to pay the same premium. In some cases, states intervene in insurance markets to prevent high-risk individuals from being completely excluded from insurance. Even for states, costs need to be paid, and escalating value can become harder to insure.

Even when risks are insurable, prevention is generally a better option. Insurance pays out for a risk that materialises. Often, prevention is better option on an aggregate level because it costs less or because insurance premiums can't make up for what was lost. However, insurance can sometimes lead to fewer individual risk-reducing measures. This issue is commonly referred to as moral hazard.In some cases, the insurance may have to pay out more than would be necessary if there were no insurance.

[227] Levine, R. (2005). "Finance and Growth: Theory and Evidence." *In Handbook of Economic Growth*, edited by Philippe Aghion and Steven N. Durlauf, vol. 1A, 865–934. Amsterdam: Elsevier.
[228] Ewold, F. (1991). Insurance and Risk. *The Foucault Effect: Studies in Governmentality, 197210,* 201-202.
[229] Ehrlich, I., & Becker, G. S. (1972). Market Insurance, Self-Insurance, and Self-Protection. *Journal of Political Economy, 80(4)*, 623-648.

For sustainability risks, the upshot is that in addition to trying to manage climate risks prudently, we should recognise that we probably can't manage these risks and should instead do everything in our power to stop aggravating them through a precautionary approach. Such an approach can best be implemented through a credit and investment guidance regime as discussed in Chapter 4 on mobilising capital.

5.1 Problems in bringing sustainability risks into insurance and risk management

Risk management doesn't take sustainability risks into account adequately
Traditional risk management relies on previously observed data related to credit and market losses as well as volatility to estimate future risks and their impact on asset values.[230] These estimates, in turn, have influenced how assets are valued today. Risk logic is deeply embedded in the current financial system and is reinforced by regulatory and supervisory frameworks, such as the BCBS capital requirements, which financial institutions and central banks all apply since 1988.

Financial regulation and supervision mostly rely on traditional risk management approaches to address sustainability risks. Sustainability risks have little or no historic precedent, so estimating them with past data is impossible. These risks are deeply uncertain, non-linear and endogenous.[231] Their complexity makes them hard to quantify, and data availability remains scarce.[232] Together, these factors make a traditional risk management approach unfit to deal with sustainability risks.

Although central banks and supervisors acknowledged the inadequacy of traditional risk management for sustainability risks years ago, progress has been limited.[233] The European Central Bank and the Bank of England have started setting expectations for financial institutions to integrate these risks into their own management practices.[234] Yet, many institutions still overlook relevant exposures in their portfolio.[235] Supervisors are hesitant to enforce stricter climate risk management, for example by leaving climate stress test results out of banks' Pillar 2 capital requirements. This means sustainability risks are still hardly reflected in banks' capital requirements.[236] This falls short of estimated capital required to shoulder potential losses from transition risks materialising even in the short-term, which would be almost 1% of risk-weighted assets on average and 5% of risk-weighted assets for the institutions with the highest transition risk.[237]

And insurance struggles to incorporate them
Some sustainability risks are uninsurable while others are becoming prohibitively expensive, which can destabilise the entire financial sector. This is because it is very hard or impossible to infer the individual probability of sustainability risks materialising, meaning we do not have a good estimate of the total damage at group-level. These are the main factors that make sustainability risks very hard to insure:[238]

- There is a deep uncertainty to what exactly the damages of a changing climate will be. We know they will be large but not exactly how large and where, for a given temperature.
- Some climate risks are not well distributed, instead affecting huge numbers of people in a short time.[239]
- Climate risks materialising will escalate with further climate change, leading to further climate risks materialising, driving up insurance premiums in a vicious circle. Sustainability risks such as climate change and biodiversity loss are furthermore characterised by tipping points, implying these vicious circle can escalate rapidly.

These challenges are not hypothetical as the consequences are being felt in the real world right

[230] Prudential Regulation Authority (2021). Climate-Related Financial Risk Management and the Role of Capital Requirements. *Climate Change Adaptation Report 2021.* Bank of England.
[231] Battiston, S., Mandel, A., & Monasterolo, I. (2019). CLIMAFIN Handbook: Pricing Forward-Looking Climate Risks Under Uncertainty. *Available at SSRN 3476586*.
[232] Giglio, S., Kuchler, T., Stroebel, J., & Zeng, X. (2023). Biodiversity Risk. *Working Paper (No. w31137)*. National Bureau of Economic Research.
[233] NGFS. (2018). NGFS First Progress Report. 818366-ngfs-first-progress-report-20181011.pdf
[234] ECB. (2020). Guide on climate-related and environmental risks.
[235] ECB. (2025). Supervisory priorities 2025-27
[236] Auzepy, A., & Bannier, C. E. (2025). *Integrating Climate Risks in Bank Risk Management and Capital Requirements.* Springer Nature.
[237] Alessi, L., Di Girolamo, E. F., Pagano, A., & Giudici, M. P. (2024). Accounting for Climate Transition Risk in Banks' Capital Requirements. *Journal of Financial Stability, 73,* 101269, 1-12.
[238] Charpentier, A. (2008). Insurability of Climate Risks. *The Geneva Papers on Risk and Insurance-Issues and Practice, 33(1)*, 91-109.
[239] Charpentier, A. (2008). Insurability of Climate Risks. *The Geneva Papers on Risk and Insurance-Issues and Practice, 33(1)*, 91-109.

now. Insurance is more expensive and harder to find privately in disaster-prone areas, leaving financially vulnerable households exposed to these risks.[240] Insurers are retreating from some regions altogether.[241] This is how sustainability risks are starting to rock the insurance industry. However, we can expect knock-on effects on other parts of the financial system. Banks and investors often require insurance before granting a mortgage or making an investment. Uninsurability could therefore trigger plummeting asset prices. These would lead to large losses for the owner and might even trigger financial instability.

5.2 Our solutions to improve insurance and risk management

Our collective priority must be to mitigate further risks through a precautionary approach

The scale and nature of climate and biodiversity risks might trigger the collapse of society as we know it, including a functioning financial system altogether. The relative priority given to short-term economic activity compared to preventing further ecological damages grossly underestimates the risks involved in pushing the earth beyond planetary boundaries.[242] This threatens human and non-human life. Increasingly, people from within the risk management industry are speaking out about the urgent need for strong action to prevent further damage. As well as to the suffering caused by this damage, these systemic risks have the potential to unravel much financial activity. There is only one way out: preventing further damages as much as possible through a precautionary approach.[243] A component of this collective action could be credit and investment guidance policies, steering capital towards desirable forms of economic activity, as discussed in Chapter 4.

Financial regulators and supervisors must enforce prudent and forward-looking risk management for sustainability risks.

Future sustainability risks will be unlike anything we have seen before. Backward-looking data can't capture sustainability risks, so forward-looking risk management techniques are essential. Risk management should rely on scenarios for sustainability risks, with numeric values based on academic research. We believe regulators and supervisors should be careful when calibrating these values. Sustainability risks involve uncertainty, so relying on known risks likely underestimates the actual potential damage we are exposed to.[244] Since sustainability crises are characterised by interrelated tipping points, damage materialising is likely to trigger further damages.[245] Relying on best estimate values for known risk is likely to leave us exposed to more damages than desired. A margin of error should be based on the highest plausible damage estimates to calibrate risk management.[246] We therefore urge financial regulators and supervisors to enforce this type of prudential, forward-looking risk management throughout the financial system. Credit rating agencies, too, should adopt such forward-looking risk management for sustainability risks in their assessments. This requires going well beyond current initiatives for financial institutions to integrate climate risks into their risk management.

Example

The ECB will introduce a climate factor to their collateral framework. This climate factor will rely on forward-looking transition risk assessments based on sector, company and asset. Those assets with greater risks of losing value in the event of a climate transition will receive a greater haircut. While the direct effect on financing costs for companies with high transition risks will likely be small, this is an example of the direction risk management should take.

[240] Sastry, P., Sen, I., Tenekedjieva, A. M., & Scharlemann, T. C. (2024). Climate Risk and the US Insurance Gap: Measurement, Drivers and Implications. *Drivers and Implications* (May 31, 2024).

[241] Nevitt, M., & Pappas, M. (2023). Climate Risk, Insurance Retreat, and State Response. *Geogia Law Review, 58*, No.4 Article 4.

[242] Trust, S., Saye, L., Bettis, O., Bedenham, G., Hampshire, O., Lenton, T. M., & Abrams, J. F. (2025, January). *Planetary Solvency–Finding Our Balance With Nature*.

[243] Chenet, H., Ryan-Collins, J., & Van Lerven, F. (2019). Climate-Related Financial Policy in a World of Radical Uncertainty: Towards a Precautionary Approach. *UCL Institute for Innovation and Public Purpose Working Paper, 13*.

[244] Trust, S., Saye, L., Bettis, O., Bedenham, G., Hampshire, O., Lenton, T. M., & Abrams, J. F. (2025, January). *Planetary Solvency–Finding Our Balance With Nature.*

[245] Idem

[246] This risk management logic is different from the allocational logic underpinning credit guidance which we argued for in Chapter 4. Yet, both approaches strengthen each other. An earlier and more decisive implementation of credit guidance can help lower risks and, vice versa, adequate transition risk management can help decrease the amount and cost of capital allocated to ecologically harmful activities.

Polluters must bear climate and biodiversity risks, which requires public intervention on national and international levels.
Even if we take all the above measures, serious damage is coming. Climate and biodiversity risks are already escalating. They are expected to increase more in the future. This will cause serious harm to people's livelihoods. We think it's important to remember that these aren't disasters happening to us as a global society. These crises have been caused by collective overconsumption and disproportionately affect vulnerable groups. We therefore believe that public intervention would be fair. The principle should be that those most responsible for the damages, help pay to remedy them where they occur. We think this should happen both within countries, where some homeowners will be disproportionately affected by climate risks, and between countries, where developing countries are set to suffer the greatest impact of climate change and biodiversity loss.[247]

Insurance money must be directed towards mitigation and adaptation measures wherever possible.
In line with the precautionary approach described above, we believe insurance capital should be directed to mitigation and adaptation where possible. Rather than investing insurance premiums with the aim of earning sufficient returns to compensate damage, in some cases, premiums might be used to prevent damages altogether.[248] We see some initiative in this direction from within the industry. The Wyre NFM Project provides an example.

[247] Birkmann, J., E. Liwenga, R. Pandey, E. Boyd, R. Djalante, F. Gemenne, W. Leal Filho, P.F. Pinho, L. Stringer, and D. Wrathall (2022). Poverty, Livelihoods and Sustainable Development. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability.* Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 1171–1274, doi:10.1017/9781009325844.010.

[248] Surminski, S. (2022). The Role of Insurance in Integrated Disaster Risk Management With a Focus on how Insurance Can Support Climate Adaptation and Disaster Resilience. In *Handbook on the Economics of Disasters* (pp. 294-318). Edward Elgar Publishing.

6 Levers for Change

In this paper, we have evaluated the three main functions of finance (facilitating payments, mobilising capital and enabling risk management), and we have found that a transformation of the financial system is needed in order for it to truly serve society. In this chapter, we will recap the key problems we identified and sum up the solutions or "levers for change" we propose.

Improving payments
Our analysis started by identifying problems in facilitating payments. We found that the increasing reliance on private money for payments, linked with banks' roles in payment facilitation, constitutes an implicit subsidy for banks and entails a benefit to scale. We also discussed how especially card payments are facilitated by a duopoly of payment service providers in Europe, driving up costs and introducing strategic vulnerabilities. We then discussed how international retail payments are still slow, expensive, and dominated by the interests of specific countries. We ended with a discussion of how KYC and CDD procedures bring a lot of pointlessly repetitive work and are both less effective and lead to less financial inclusion than is societally optimal. We then discussed why decentralised cryptocurrencies are not a full alternative payment system and why stablecoins do not solve the issues described above. Complementary currencies, while useful as experiments, cannot solve these issues either. We therefore propose the following solutions to improve the function of facilitating payments:

- **Introduce a public payments system:** Introduce a public payment system for all retail payments in the eurozone, controlled by the central bank or another public institution. This would prevent excessive fees, enhance European strategic autonomy, foster competition and promote financial inclusion.

- **Create a central bank digital currency (CBDC):** Introduce a CBDC that is issued and backed by the central bank, with a high holding limit and low or no interest rates. This would offer citizens a truly risk-free option for storing nominal wealth, address the privileged position of banks in payments and potentially in time eliminate the need for deposit guarantee schemes. CBDC could also enable separating banks from payments, leading to a more competitive and diverse banking sector.

- **Reform the institutions for international payments:** Place SWIFT under the supervision of a truly global institution and explore the establishment of a single international currency, possibly based on the IMF's special drawing rights (SDRs), supported by a global institution.

- **Centralise and publicly govern gatekeeping:** Centralise and bring KYC and CDD screening processes under public control to facilitate a competitive and diverse banking sector, avoid repetitive work and safeguard inclusion.

Improving capital mobilisation
We moved on to the way capital is mobilised or created by the financial system. We find that the rising share of unproductive financing has undesirable consequences and was partly facilitated by how banks are currently regulated. We then discussed how impact considerations remain a nice-to-have rather than a core consideration in the current financial system, to the detriment of our collective future. Next, we analysed how the primacy of shareholder-centred organisations disadvantages other stakeholders' interests. We moved on to discuss how oligopolistic market structures across both banking and asset management worsen the service levels and resilience of both industries. We then discussed how some financial instruments can be considered useless as they are not meaningfully supporting the real economy, and how some financial instruments are only useful to specific buyers. To improve capital mobilisation, we propose:

- **Enable banks to take useful risks:** Banks should prioritise lending to businesses, including SMEs, and take purposeful risks that generate value in the real economy. Combining this with stability requires higher generic capital ratios.

- **Shorten and regulate the full intermediation chains:** Strengthen the regulatory regime for banks' exposures to interconnected non-bank financial institutions exposures to shorten credit intermediation chains. Shorter chains promote relationship-based lending, improve social relationships, reduce interconnectedness, and increase transparency.

- **Limit securitisation:** Securitisation should be used sparingly, particularly when it involves transferring a significant portion of credit risk, as this breaks the direct lender-borrower relationship. Strengthening liquidity requirements and introducing a simple, standardised system for asset valuation can reduce the need for securitisation for short-term borrowing.

- **Guide capital flows:** Finance should become regenerative, meaning that ecological and social impacts are integral to decision-making. The most effective way to achieve this is through democratically guided direction of financial flows, grounded in institutional innovation and inspired by examples from the past. This can be achieved through various policy instruments such as sectoral credit ceilings and quotas, adjusting capital requirements based on sector desirability, green targeted longer-term refinancing operations, and adjusting central bank collateral requirements. Both positive (promotional) and negative (punitive) measures are necessary. Relatedly, blended finance mechanisms should be used more strategically, and balance risk and rewards between public and private actors better. Such a guidance regime would not dictate every investment but instead embed democratic priorities at a higher level.

- **Expand disclosures and centralise impact data:** While transparency about impact by itself is insufficient to make impact matter, it is necessary. Disclosure requirements should be required for both sustainable and unsustainable economic activities, so as to combat both greenwashing and financing destruction. Centralising impact data collection for a basic set of metrics would help, too.

- **Reform equity shares:** Finance holds power over how most companies operate because ownership and governance are dominated by shareholders. To re-balance this, we need to mainstream alternative ownership models – such as steward-owned or employee-owned companies – and create financial instruments that align with their missions. Legal innovation in corporate forms and the promotion of long-term, capped-return instruments could enable companies to pursue their missions without being bound to short-term shareholder value.

- **Level the playing field in banking:** Dismantle institutionalised scale benefits in the banking sector by ensuring all banks have access to the same risk parameters, preferably through a standard model.

- **Promote diversity in banking:** Supervisors should explicitly aim for a diverse banking sector, implementing tailored and proportional regulatory regimes for specific bank types, including niche banks.

- **Break-up overgrown institutions:** Implement policies to reduce concentration in the banking sector (e.g. concentration limits or size-dependent taxes) and of asset management industry.

- **Ban useless financial instruments:** Financial products used solely for speculative purposes or unnecessarily complex instruments (e.g. synthetic ETFs, leverage in derivatives) should be banned.

- **Regulate buyers for misused instruments:** Financial products that can be used for both legitimate and speculative purposes (e.g. currency derivatives) should only be available to parties with a legitimate interest in the real economy.

- **Levy transaction taxes:** Implement financial transaction taxes to reduce speculative trading, lengthen investors' horizons, and generate substantial revenues.

Improving risk management

We focused our analysis only on the part of risk management and insurance that falls short drastically: dealing with sustainability risks. We analysed how traditional risk management techniques grossly underestimate sustainability risks, partly because historic data doesn't provide accurate estimates and partly because tipping points lead conventional risk management techniques to accepting high risks. We then moved to insurance, where we analysed how sustainability risks defy the characteristics of privately insurable goods, being hardly calculable and poorly distributed. The consequences can already be seen, with private insurers retreating from disaster-prone areas.

- **Prevent further damage through precaution:** The highest priority must be preventing further ecological damage through strong collective action, as climate and biodiversity risks threaten society and the financial system as a whole. A well-calibrated capital guidance regime can be one of the tools in such a precautionary approach.

- **Implement forward-looking sustainability risk management:** Financial regulators and supervisors must enforce prudent and forward-looking risk management to adequately address sustainability-related risks. This includes using scenarios and numerical values based on the highest plausible damage estimates due to the deep uncertainty and non-linear nature of these risks. Sustainability risks must be incorporated into banks' capital requirements and the supervisory frameworks of

other financial institutions. Credit rating agencies, too, should employ these techniques.

- **Make polluters pay:** As sustainability risks increasingly materialise, costs must be shared fairly. The guiding principle should be that polluters pay, both within and between countries. Those most responsible for resource depletion and emissions should bear the costs of the damage they have caused. This includes compensating communities left exposed by insurance retreat, who face not only environmental harm but also financial loss.

- **Direct insurance funds to mitigation and adaptation:** Mechanisms that channel insurance premiums directly towards preventing damages (mitigation and adaptation measures) are more desirable than investing them for returns only.

Altogether, we believe these changes would amount to the overhaul finance needs. The result would be a financial system that truly serves society.

7 Action perspectives per actor

We have approached both the problems and solutions from a systems lens. Transitions are complex and rarely depend on a single action; creating systemic change requires coordinated pressure from multiple actors. In this chapter, we outline how the main actors within the financial system could contribute to key levers for change and how their combined efforts can help steer the system towards serving the public good.

Many of the levers for change ultimately require public actors to act at the system level. We distinguish three types of interventions. First some levers require direct public action: substantial new legislation, institutional reforms, or other structural changes that only public authorities can **initiate**. Second, there are areas where private initiatives already exist but would benefit from clearer or firmer public direction or support; here public actors should enable and **facilitate change**. Finally, some levers can be advanced through **adjustments to existing rules and supervisory frameworks**, where the main task is to update and refine what is already in place.

While we see a large role for public actors, transitions never emerge from a vacuum. Financial institutions themselves can play a critical role in catalysing change. They understand how the financial system works in practice, which enables them to advocate changes credibly. Their own experiences can also demonstrate both the potential benefits and obstacles of change, especially when they are willing to push the boundaries of current practice. For many levers, financial institutions can therefore **advocate & demonstrate**. Even when demonstration is not feasible, they can still **advocate & cooperate** to gain momentum. And in some cases, financial institutions can go further and **initiate** change directly, particularly by working together with other financial institutions.

Most fundamentally, the direction of the financial system should be shaped by citizens, who are, by large majority, also clients of financial institutions. Citizens can influence transitions when they **advocate** change, and this can take many forms across all levers for change. Voting in elections is a first important step. More direct forms of political engagement, such as becoming active in in politics or joining advocacy groups, can strengthen influence. Civil society organisations can be critical vessels for citizen advocacy and can be supported through membership or donations. Finally, as clients, citizens can "vote with their feet" by **moving their money** in line with their values.

The tables below indicate the role every actor group can play for each of our levers for change.

Facilitating payments

Levers for change	**Public actors, incl. regulators & supervisors**	**Financial institutions**	**Clients & citizens**
Introduce public payments system	Initiate	Advocate & cooperate	Advocate
Create central bank digital currency	Initiate	Advocate & cooperate	Advocate & move your money
Reform international payments	Initiate	Advocate & cooperate	Advocate
Centralise KYC/CDD	Facilitate	Initiate	Advocate

Mobilising capital

Levers for change	**Public actors, incl. regulators & supervisors**	**Financial institutions**	**Clients & citizens**
Make banks take useful risks	Adapt regulation and supervision	Demonstrate & advocate	Advocate & move your money
Shorten intermediation chains	Adapt regulation and supervision	Demonstrate & advocate	Advocate & move your money
Limit securitisation	Adapt regulation and supervision	Demonstrate & advocate	Advocate & move your money
Guide capital flows	Initiate	Demonstrate & advocate	Advocate & move your money
Expand and centralise impact data	Facilitate	Initiate	Advocate
Reform equity shares	Initiate	Demonstrate & advocate	Advocate & move your money
Level the playing field for banks	Initiate	Demonstrate & Advocate	Advocate
Promote diversity for banks	Initiate	Demonstrate & advocate	Advocate & move your money
Reduce industry concentration	Initiate	Advocate & cooperate	Advocate
Ban useless instruments	Adapt regulation and supervision	Demonstrate & advocate	Advocate & move your money
Regulate buyers for misused instruments	Adapt regulation and supervision	Demonstrate & advocate	Advocate & move your money
Levy transaction taxes	Initiate	Advocate & cooperate	Advocate

Enabling risk management

Levers for change	**Public actors, incl. regulators & supervisors**	**Financial institutions**	**Clients & citizens**
Precautionary approach	Initiate	Demonstrate & advocate	Advocate
Forward-looking risk management	Adapt regulation and supervision	Demonstrate & advocate	Advocate
Make polluters pay	Adapt regulation and supervision	Advocate & cooperate	Advocate
Insurance premiums used for mitigation	Facilitate	Demonstrate & advocate	Advocate

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