



Finance and Democracy

Towards a Sustainable Financial System

Alessandro Vercelli

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*In grateful memory of Siro Lombardini, Norberto Bobbio, Sir John Hicks,
Richard Goodwin, and all my inspiring teachers.*

PREFACE

The main purpose of this book is to shed light on the co-evolution of the financial system and its regulation after the Great Financial Crisis of the 2007–2009 and the ensuing Great Recession. The need of more light is in this case a particularly appropriate metaphor. In fact, despite the amazing growth of power and importance acquired in the recent decades by the financial system, the latter managed to conceal many crucial aspects of its strategic behaviour in a thick fog that is very difficult to penetrate. This clever survival and thriving strategy is by no means restricted to the so-called shadow banking. Not by chance, financial experts and authorities have recently rechristened shadow banking as non-bank sector (industry) or market-based finance, namely, finance fully adapted to the ruling market-based economy without being encumbered by the regulation of the banking sector. Notwithstanding the misgivings expressed just after the crisis, after a few years most mainstream financiers, economists, politicians and regulators do not seem to see shadow banking as a dangerous deviation from the virtuous model of good finance. They present it now rather as the harbinger of the ongoing metamorphosis of the financial system from the chrysalis of boring and heavily repressed banking to the full-fledged butterfly of unfettered market-based finance. In fact, after the crisis, investment banking and speculative trading continued to migrate into the shadows, namely, where regulators and stakeholders cannot easily monitor financial decisions and cannot thus exert an effective pressure on decision-makers. In such a situation, the democratic control of financial behaviour is becoming increasingly problematic. As soon as a financial institution or practice succeeds to conceal itself within market shadows it

may decide to make visible to customers, stakeholders and regulators only what is in its interest to show. This shields the financial institutions from damaging censure by regulators and stakeholders, let alone public opinion, while their active participation in the powerful financial lobbying on policy makers and regulators becomes more likely to be successful.

To rebuild a badly needed democratic control on finance, we have to first direct the spotlight of scientific analysis, moral awareness and sheer good sense on the financial system to understand the inner determinants of its evolution as well as its consequences. Second, we have to consider the impact of regulation on the evolution of the financial system. To this end, this book discusses the regulation philosophy adopted since the late 1970s, focusing on its implementation after the Great Financial Crisis of 2007–2009. Since the early 1970s, mainstream regulation abandoned the philosophy underlying the “directive regulation” introduced in the United States by the Glass-Steagall Act (approved in 1933) and then agreed in the Peace Conference of Bretton Woods (1944). The new approach of policy makers and regulators towards the financial system embraced the justification, which was then becoming mainstream, that in absence of intrusive interventions of public authorities, markets are able to self-regulate themselves and obtain optimal results. The trouble is that market-based finance progressively empowered by systematic deregulation and swelling shadow banking has been a crucial source of serious financial distress culminating in runs that characterised the trough of the 2007–2009 financial crisis. The ensuing panic forced massive public bailouts of deeply stressed financial institutions despite the mainstream conviction of their counterproductive effects, because of the encouragement of moral hazard and the violation of market discipline. This disturbing contradiction between actions and beliefs is visible in the efforts of regulating finance after the Great Recession. Moreover, it provides a clue to explain why these efforts did not succeed to make the financial system more robust than before the crisis. The disquieting empirical evidence that has continued to accumulate on the persisting fragility of the financial system produces a pragmatic puzzle for policy makers, lawmakers and regulators. Should we deregulate further the financial system to implement a more consistent model of self-regulation? Alternatively, should we fix the failures of absent or weak regulation by re-regulating the financial system in a more systematic and coherent manner?

The recent crisis and its aftermath confirmed that a financial system could not operate without a minimal set of directives, constraints, and

regulatory institutions that guarantee the rule of law and other crucial conditions for its viability. What has actually happened in developed countries has been quite different from what pure theory prescribed and policy makers and regulators declared to pursue. The actual result was not the alleged self-regulation of financial markets but a different form of regulation that proved to be inefficient and misleading. In the meantime, an ideological smokescreen has blurred the understanding of its contradictory nature and dire implications. A process of systematic deregulation has really started since the 1970s deepening and broadening its reach in the following decades; however, deregulation was restricted to the directive regulation of the Bretton Woods era that exerted a strict control and supervision of the financial system in the conviction that its deep structural shortcomings would necessarily impair an effective self-regulation. However, this was only a part of the story, the most visible one because of being fully compatible with the ruling neoliberal paradigm. The other part of the same narrative is a parallel process of re-regulation following rules completely different from those of directive regulation and believed to be fully consistent with the neoliberal paradigm. In what follows, I will call “vicarious regulation” this approach to the regulation of the financial system because it does not aim to substitute the invisible hand or to influence its action, but only to surrogate or support it wherever it proves to be inadequate to guide the right choices. Unfortunately, this intrinsically contradictory compromise between the belief in the superiority of self-regulation and the necessity of regulation does not work in practice because it ignores or eludes a series of insurmountable obstacles. First, the superiority of self-regulation is arguable only in a perfect competition market. Second, in a real market self-regulation cannot exist because it requires a host of necessary institutional conditions often summarised with the expression “rule of law”. Finally, it is extremely difficult to specify all the relevant externalities and to find the way to internalise them. That is why, as we are going to argue in this book, the recent history of financial regulation is characterised by far-reaching shortcomings and actual blunders. In the absence of a radical redirection of financial regulation, we should expect that a worse financial crisis, possibly the “big one”, would soon materialise.

Hayek famously accused Socialism of “fatal conceit” for its belief in the superior efficiency of a centralised deliberate arrangement of the economic order. The same fundamental criticism was addressed by him and other pro-market economists to the interventionist policies of Keynesian

ascendance. This is perhaps arguable for a particular variety of mainstream Keynesianism of the 1960s that built large econometric models to fine-tuning the economy. However, the Keynesian economists who understood the crucial role played by radical uncertainty in the works of the Master have always been fully aware of the deep ignorance to which the economists themselves are condemned. Moreover, the accusation of fatal conceit may be retorted against pro-market economists who are convinced to know perfectly well the properties of real markets, or at least enough to be sure that unfettered markets always obtain the best possible results. In this view, no one can beat the market. This mantra inspired not only mainstream finance and macroeconomics but also the action of most policy makers, regulators, and practitioners, especially after the 1970s. In this view, governments and regulatory authorities should abstain from any interference into financial markets. The point of view adopted in this book will avoid any form of conceit. I think that the economists know very little about the actual economies. This is particularly true of the financial system. A possible source of the widespread economic conceit is that the economists know a lot about the properties of abstract model economies that are quite different from the actual economies. Economists, mass media, policy makers and regulators often prefer to ignore or play down the gap between reality and models applying the latter directly to the empirical evidence without the necessary caution. What prompted me to write this book is not the conviction of knowing more about the financial system than the other researchers who investigate the same field, but the keen awareness of our ignorance and the conviction that what is at stake is grossly undervalued by the public opinion. It is time to engage all sections of society in a great debate on the evolution of the financial system and its implications for the wellbeing of all citizens to make it fully consistent with sustainable development. This book aims to be a contribution in this direction, playing the role of a disturbing, but hopefully constructive, gadfly.

London, UK
10 July 2019

Alessandro Vercelli

ABOUT THE BOOK

This book is an outgrowth of the book I published in 2017 with Palgrave Macmillan aiming at updating and extending the analysis there worked out. It is an updating, because the 2017 book focused on the long-run evolution of market economies that led to the 2007–2009 crisis, while this book focuses mainly on what happened in the subsequent period. In addition, it is an extension of the part on the financial system contained in my previous book (mainly Chap. 6 and the Appendixes) as it goes deeper into the methodological, theoretical, and normative foundations of finance and develops in a more systematic way the policy and regulation issues.

This book has three main purposes:

1. information on the most important financial issues discussed in recent years, also those considered by most readers as obscure if not esoteric, to make them accessible to a broad readership;
2. interpretation of the evolution of the financial system and of the co-evolution of its regulation after the crisis; and
3. suggestion of a direction of reform of the financial system different from that pursued after the crisis (“new directive regulation”).

I hope that this book may appeal to:

1. Academics, because it provides a suggested interpretation of the post crisis co-evolution of the financial system and its regulation. I hope that the contents of this book may stimulate a debate not only

with the economists (mainly financial economists and macroeconomists) but also with experts of law, social sciences and history.

2. Regulators, because it discusses issues that most of them discuss. Some of the best contributors on the issues discussed in this book are regulators themselves. To limit my example to British regulators after the crisis, I should mention a long list of excellent contributions including those of Mervyn King, Andrew Haldane, Paul Tucker, Adair Taylor, that are extensively quoted in my arguments.
3. Students, because the theoretical, methodological and historical background of the analysis is spelled out in simple and synthetic language that does not presuppose a high level of previous knowledge in the fields discussed.
4. Practitioners, because it aims to complement the micro and sectoral view, usually restricted within a short-term time horizon, with a broader system-wide and long-term view.
5. General public, because of its policy implications affecting the positive liberty and wellbeing of all citizens. In particular I argue that:
 - a. the financial system is increasingly jeopardising the positive liberty of individuals and the democratic foundations of our polities;
 - b. the regulation paradigm adopted in most countries after the 1970s proved unable to stop, let alone reverse, the growth of this democratic deficit and contributed to its consolidation and acceleration; and
 - c. if we care about the wellbeing of all citizens and the democratic foundations of our societies we have to implement as soon as possible a new regulation paradigm that succeeds to re-orientate these tendencies channelling the evolution of the financial system in a direction compatible with effective democracy and sustainable development.

The structure of the book is as follows. The first introductory chapter discusses the basic normative concepts underlying the hot debate on the regulation of the financial system after the Great Financial Crisis of 2007–2009: liberty, democracy, distributive justice, and finally the encompassing concept of comprehensive sustainability. The first part focuses on the co-evolution of the financial system (Chap. 2), Modern Financial Economics (Chap. 3) and Macroeconomics (Chap. 4) that produced a converging

view of the financial system that happened to be very influential on policy makers, regulators and practitioners. The second part focuses on the co-evolution of the financial system and its regulation. In particular, Chap. 5 discusses the explanations of the Great Financial Crisis of 2007–2009 that have been most influential on the post-crisis attempts of re-regulating the financial system, while Chap. 6 discusses the shortcomings of these attempts with the support of an Appendix written by Maria Carmen Siniscalchi on the post-crisis reforms of shadow banking. The third part outlines a different, much more radical, reform of the financial system in compliance with the principles of democracy and comprehensive sustainability. Chapter 7 selects a few radical reform proposals that may contribute to a more robust regulatory approach, and discusses their weak and strong points to improve their effectiveness and mutual compatibility. Chapter 8 combines the regulatory building blocks reviewed in the preceding chapter according to the principle of compartmentation of the financial system.

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ABBREVIATIONS

ABCP	asset-backed commercial paper
ABS	asset-backed security
ABX Index	represents 20 subprime residential mortgage-backed securities
AIF	alternative investment fund
AIFMD	alternative investment fund managers directives
ARM	adjustable rate mortgages
BCBS	Basel Committee on Banking Supervision
BHC	bank holding company
BHCA	Bank Holding Company Act
CAPM	capital asset pricing model
CCP	central counterparty
CCR	Clearing Counterparty Rating
CDO	collateralised debt obligation
CDS	credit default swaps
CEA	Commodity Exchange Act (1936)
CFMA	Commodities Futures Modernization Act (2000)
CFPB	Consumer Financial Protection Bureau
CFTC	Commodity Futures Trading Commission
CIS	collective investment scheme
CNAV	constant net asset value
CRD	capital requirement directive
CRR	capital requirement regulation
CSR	corporate social responsibility
EMH	efficient market hypothesis
EMIR	European Market Infrastructure Regulation
ESG	environmental, social and corporate governance
ESMA	European Securities and Markets Authority

FASB	Financial Accounting Standard Board
FCA	Financial Conduct Authority
FCIC	Financial Crisis Inquiry Commission
FDIC	Federal Deposit Insurance Corporation
FHC	financial holding company
FNAV	floating net asset value
FPC	Financial Policy Committee
FRB	Federal Reserve Board
FRBNY	Federal Reserve Bank of New York
FRC	Financial Regulatory Commission
FSA	Financial Services Authority
FSB	Financial Stability Board
FSF	Financial Stability Forum
FSOC	Financial Stability Oversight Council
FTT	financial transaction tax
G20	Group of Twenty: G8 + Argentina, Australia, Brazil, China, India, Indonesia, South Korea, Mexico, Saudi Arabia, South Africa, Turkey, the European Union (EU)
G8	Group of Eight: France, the Federal Republic of Germany, Italy, Japan, the United Kingdom, the United States, Canada, and Russia (suspended in 2014)
GDP	gross domestic product
GLBA	Gramm-Leach-Bliley Act
G-SIB	global systemically important banks
G-SIFI	Global Systemically Important Financial Institutions
ICAPM	intertemporal CAPM
ICT	information and communication technology
IMF	International Monetary Fund
IOSCO	International Organization of Security Commissions
IOU	“I owe you”
LIBOR	London Interbank Offered Rate
LTCM	Long Term Capital Management
LVNAV	low volatility net asset value
MBS	mortgage-based securities
MiFID	Markets in Financial Instruments Directive
MMF	money market fund
MMMMF	money-market mutual fund
MPT	modern portfolio theory
NAV	net asset value
NBFI	non-bank financial institution
NFB	narrow-funding bank
NGO	non-governmental organisation

OECD	The Organisation for Economic Co-operation and Development
OFI	other financial institution
OFR	Office of Financial Research
OTC	over the counter
PIC	Public Interest Council
PRA	Prudential Regulation Authority
QSPE	qualified special purpose entity
QTM	quantitative theory of money
REH	rational expectations hypothesis
REPO	sale-and-repurchase agreement
SEC	Securities and Exchange Commission
SFAS	statement of financial accounting standard
SFT	securities financing transaction
SFTR	securities financing transaction regulation
SIFI	systemically important financial institution
SIVs	structured investment vehicles
SPV	special purpose vehicle
SSB	standard setting bodies
SSPE	securitisation special purpose entity
STS	simple transparent standardised
T1	tier 1
T2	tier 2
TARP	Troubled Assets Relief Program
TINA	there is no alternative
UCITS	undertaking for collective investment in transferable securities
VNAV	variable net asset value
WCED	World Commission on Environment and Development
WTO	World Trade Organisation



CHAPTER 1

Normative Foundations

1.1 INTRODUCTION

This book focuses on how we should regulate the financial system after the recent devastating crisis. Any serious attempt to answer this and related questions raises normative issues of the utmost importance for individual and collective choices. The normative principles underlying financial regulation are rarely made explicit and almost never discussed in sufficient depth. The basic normative principles adopted in this book are the following: individual liberty, democracy, distributive justice, and finally what I call the criterion of “comprehensive sustainability” that encompasses the entire normative approach.¹ The relevant literature defines these normative principles in different ways; therefore, to make comprehensible the message contained in this book and endow it of sound normative foundations, I have to clarify the meaning I attach to each of them and the reasons for my choice.

An example may help the reader to reach an intuitive grasp of why the normative principles mentioned above are involved in any discussion and decision on the (de-)regulation of the financial system. Let us take the example of the central bank, which in most countries is the pivot of monetary and financial system.² The normative principles mentioned

¹References to these principles are not absent in mainstream analyses, policy proposals, and communiqués of financial institutions, policymakers, and regulators but their meaning remains often implicit or insufficiently specified.

²This crucial role has been recognised since long. For example, already in 1796, the eminent banker Francis Baring maintained that the Bank of England was the “pivot for the

above have significant implications for the choice of the central bank's regulation and supervision rules and their actual implementation. First, central banks have been often unable to prevent financial institutions from taking decisions that violate citizens' liberty.³ Second, the way in which central banks' independence has been conceived and practised in recent decades raises delicate issues of democracy because it shifted power from elected to unelected decision-makers without providing the necessary checks and balances (Tucker 2018). In particular, the desired independence from day-by-day politics to avoid undue pressures of specific interests has been often unduly extended to the ultimate control of the democratic institutions that represent citizens' general interest. Third, the key variables controlled by central banks, such as the rate of interest and the creation of liquidity, have a crucial impact on the distribution of income, wealth, and positive liberty raising crucial issues of distributive justice. Finally, central banks decisions focus on monetary and financial stability and on the delicate trade-off between present and future, and thus impinge on the sustainability of the economic and financial system.

As mentioned above, this chapter discusses four basic normative principles the last of which—comprehensive sustainability—embeds and extends the other three. The complex relationships among these principles confirm that significant conflicts and trade-offs can arise among normative values. Though we can find solutions aimed at minimising conflicts and dealing with trade-offs, we should remain aware that these solutions are contingent to the issue under examination and the specific context of its emergence and unfolding. In other words, we cannot dream of reconciling the most important normative values within a persistent unified perspective. The pluralist approach adopted in this book aims at keeping an alert awareness of the complex normative implications of alternative choices in the field investigated.

This chapter discusses the basic normative principles underlying this book in the following order: individual liberty (Sect. 1.2), democracy (Sect. 1.3), distributive justice (Sect. 1.4), and comprehensive sustainability (Sect. 1.5). Each of these sections provides a definition of the normative principle under scrutiny focusing on the issues that are particularly relevant for the following chapters. Among the main normative issues raised

purpose of enabling every part of the [monetary or credit] machine to move" (quoted in Tucker 2018, 391).

³See Chap. 5.

by the evolution of finance, the author discusses, in particular, the decline of the positive enforcement of individual liberty, the progressive systematic violation of distributive justice, the growing democratic deficit, and the inconsistency with sustainable development. The concluding section briefly discusses the interactions between the preceding concepts within the encompassing framework of comprehensive sustainability.

1.2 INDIVIDUAL LIBERTY AND THE DECLINE OF ITS POSITIVE ENFORCEMENT⁴

I start the discussion of the main normative principles underlying this book's analysis by focusing on individual liberty. An important reason for starting from this fundamental value lies in the deep-seated conviction that ethics is meaningless without personal liberty that has, thus, to be defended and enriched as much as possible as a prerequisite of sound normative behaviour. In addition, a wise and comprehensive approach to individual liberty irradiates far-reaching implications on the other main normative principles mentioned in this chapter. Unfortunately, while there is a wide agreement on the desirability of personal liberty, the meaning attached to it has always been extremely controversial. Therefore, I need to clarify in what sense I adopt the normative principle of "individual liberty" and which are its main general implications.

Much of the debate developed on the value of individual liberty after WWII has been influenced by the distinction between positive and negative liberty as worked out by Isaiah Berlin in a famous essay (Berlin 1969 [1958]). Berlin's treatment of this far-reaching distinction is brilliant and stimulating, but its meaning is far from univocal while the normative implications are questionable. For the purposes of this book, I discuss two of the meanings that the dichotomy between positive and negative liberty has assumed in the wider debate, both playing an important role in Berlin's essay: the descriptive meaning and its normative counterpart. In what follows, I rephrase the descriptive meaning and I build on it a normative approach that differs substantially from that of Berlin. The descriptive meaning of negative freedom denotes the liberty *from* any undue coercion that would limit the liberty of individuals to do, be, or become what they want. This definition begins to be operational only if we define in positive terms the space of liberties that the individual could actually enjoy under

⁴This section extends the discussion in Vercelli (2017, section 1.2).

given circumstances in the absence of any coercion. As human beings, we are unable to fly, but we cannot ascribe this lack of liberty to any sort of external coercion. On the contrary, since we are able to walk, the imposition by other people to stay within a narrow space against our will and without reason violates our negative liberty *from* undue interference, precisely because this is an unjustified limitation on our positive liberty. As this example suggests, any discourse on the personal liberty of a certain individual *i* requires a prior definition of the space of positive liberties actually available to *i*. When this space is reduced by an act of undue external coercion, we can say that the latter violates the negative liberty of *i*, exactly because it constrains the existing range of positive liberty of *i*. Therefore, from the descriptive point of view, the distinction between negative and positive liberty designates two different aspects of the same concept, rather than two different concepts. Berlin himself gets close to this assertion by recognising that the two (descriptive) senses of individual liberty indicate “no more than negative and positive ways of saying much the same thing” (Berlin 1969 [1958], 23). He is right, however, to observe that the emphasis on one or the other aspect of individual liberty correlates with diverging political perspectives, the definition of which is the ultimate purpose of Berlin’s essay. The advocates of positive liberty focus on the need to extend individual freedom, at least for particular categories of people. On the contrary, the advocates of negative liberty are mainly concerned with the definition and defence of individual liberty boundaries that no one, including the state itself, is authorised to breach. This different emphasis on the two aspects of liberty has often led to a sheer opposition of political paradigms. This happened mainly because Berlin, as many participants in the ensuing debate, focused almost exclusively on the State’s role in defending, promoting, or violating individual liberty. In Berlin’s view, the State should actively defend the negative liberty of citizens, avoiding any sort of undue coercion on them; conversely, the state should abstain from actively promoting the positive liberty of specific categories of citizens, because this would necessarily limit the negative liberty of other citizens. This point of view, which is expressed by Berlin in a cautious and nuanced way, has been advocated in a much more rigid and extreme form by the neoliberal paradigm that became dominant in politics and economic policy since the early 1980s. However, the exclusive focus on the state’s coercion as the only relevant threat to individual liberty is unjustified and misleading. This attitude reverses the influential argument by Thomas Hobbes who emphasised that the unfettered

interaction between people would jeopardise their liberty and security (Hobbes 1968 [1651]). With the exception of a small number of libertarian and anarchic exponents, most political philosophers accepted in some form this argument to justify the concentration of power (sovereignty) upon an entity (the State) capable to restrain the unwise use of individual liberty. As Berlin himself maintains, “[I]f individual liberty is an ultimate end for human beings, none should be deprived from it by others” (Berlin 1969 [1958], 18). A sovereign authority cannot, thus, abstain from limiting the free action of individuals to safeguard their basic positive liberties. The crucial questions are by what institution, to what extent, under what conditions individual liberties can be limited? The usual approach to individual liberty defines a specific endowment of inviolable liberties whose boundaries should be defended by any means from any sort of intrusion. However, the content and extension of this endowment is very controversial and raises crucial questions of distributive justice that are often ignored, or left implicit, in the debate.

Before proceeding to describe different areas of positive liberty, I clarify the terminology here adopted. I find useful to combine the language of liberty, typical of political philosophy, with the language of rights, typical of law scholarship. The two languages are substantially equivalent but have complementary advantages. The language of rights is on many circumstances more precise, especially when it focuses on ethical and political issues. In particular, the distinction between negative and positive rights contributes to clarify the normative implications of the distinction between negative and positive liberty specifying which duties are involved for whom. A negative right of the individual i implies that all other agents (whether individuals or institutions) have negative duties (avoidance of relevant interferences) towards i , while a positive right of i implies that other agents have positive duties (such as protection, empowerment, repair, and restoration of rights) towards i . Therefore, generally speaking, a right usually involves both negative and positive duties of a plurality of subjects. In the language of rights, as in the language of liberty, the distinction between positive and negative instances is a matter of emphasis rather than a choice between alternative types of rights.⁵ The

⁵The normative distinction between positive and negative rights plays a crucial role in economic and political theory. For example, the libertarians are eager to deny that the state may have positive duties to protect, empower, and repair the rights of citizens. On the contrary, the social liberalism inspired by Keynes and Beveridge focuses on these positive duties.

effective recognition of any right requires all sorts of useful actions contributing to its implementation: avoidance of acts that may jeopardise the right (negative duties), pro-active protection of the right, and its repair or restoration in case of violation (positive duties). For example, the right to health requires the avoidance of acts jeopardising health (such as pollution or contagion), but also the timely implementation of protection initiatives (such as prevention) and repair or restoration of health (through therapy and rehabilitation). On the contrary, the normative exclusion of positive duties ends up providing unjustifiable alibies for partial and selective implementation of duties according to self-serving criteria favouring the wealthiest and most powerful part of society. This view, often called neoliberal, is today quite fashionable but shows significant shortcomings also in the field of finance as this book will argue in the following chapters.

I proceed now to define three main areas of positive liberty (rights) of individuals. The first area comprises the inner core of personal liberties that define individual autonomy (civil rights). These core liberties express the natural or moral right of a person to be the exclusive controller of one's own body and life.⁶ The necessity of defending this area of positive liberty is accepted by almost all liberal streams, as well as by most libertarian and anarchist theories of individual liberty. It includes important liberties such as physical and mental integrity, safety, freedom of thought, speech, press, religion, privacy, and movement. In addition, civil liberties include protection from discrimination based on race, sexual orientation, gender, age, political affiliation, ethnicity, religion, and disability. The right to private property is often included as a crucial part, or extension, of individual autonomy (also called self-ownership or self-property).⁷

The second area of fundamental individual liberties is that of political rights that allow active participation of individuals in the polity's decisions

⁶Within the liberal tradition, the crucial role of this set of liberties has been clearly argued by Locke who maintained that "every man has a Property in his own Person", and thus "has a right to decide what would become of himself and what he would do, and as having a right to reap the benefits of what he did" (Locke, *Second Treatise*, chapter V). The libertarian approach reduces individual liberties to those guaranteeing "self-ownership" in a way more radical than classical liberalism does (Nozick 1974).

⁷A well-known exception is Oscar Wilde who asserted, "For the recognition of private property has really harmed Individualism, and obscured it, by confusing a man with what he possesses" (Wilde 1891).

avoiding any undue form of repression or discrimination.⁸ Political freedom includes not only the right to vote but also the freedom to associate and assemble, to promote the advocated political decisions, as well as the right to be adequately informed about the relevant activity of the people's representatives and their decisions. In addition, political rights include procedural fairness in law, including the right to a fair trial. We may well say that the higher is the effective participation of individuals to the political process, the deeper is their political liberty. Political liberties evolve with civil liberties and find widespread support from political doctrines and public opinion. However, some political theories justify the temporary suspension or weakening of political liberties, in particular, circumstances in the name of values considered superior, such as the security and wellbeing of citizens themselves. This issue is particularly important and controversial in economic emergencies such as those brought about by severe financial crises (see Tucker 2018, 503–525).

The third area of individual liberties encompasses the opportunity set that comprises all possible choices actually available to the individual i at time t beyond those guaranteed by civil and political rights. The extension of this set measures to what extent individuals are effectively free to realise their aspirations to do, be, and become what they want. A wider set of opportunities usually improves the wellbeing of individuals, as well as its subjective expression often called happiness.⁹ I include in this set all the choices that may be relevant for realising the aspirations of the individual i at time t . This would include not only economic liberties, but also the right to education, the right to health, and other rights that expand the effective opportunity set. In modern societies, these capabilities crucially depend on personal affluence, namely individual income, wealth, and command of resources. For the purposes of this book, I focus mainly on economic liberties; this is the area where the distinction between formal liberties guaranteed by law to all citizens and the effective liberties they actually enjoy plays a crucial role. If one could compare the extension of the liberties available to different individuals, it would emerge a huge gap between the actual choice set for

⁸A polity is any kind of political entity, namely a group of people united by one or more cohesive forces and organised by some form of institutional arrangement (see Ferguson and Mansbach 1996).

⁹We can interpret this choice set as a generalisation of the individual choice sets that play a crucial role in standard microeconomics.

rich and poor people. Should the state be concerned only with the formal liberty of its citizens? Alternatively, should it be also concerned with their effective liberty? The state should not ignore the effective liberty of citizens for at least three fundamental reasons. First, the actual distribution of liberty is a matter of distributive justice that far-sighted collective action cannot neglect. Second, the individuals who benefit from a larger scope of effective liberties often use them to restrict the effective liberties of other individuals. Third, a competitive market cannot work well if the effective economic liberty enjoyed by competitors is significantly unequal.¹⁰

In the light of this map of individual liberties and rights, I can now summarise the normative approach to liberty that underlies this book. As argued before, from the descriptive point of view, negative and positive liberty do not exclude each other but represent two complementary points of view of the specific liberty or right under scrutiny, like the convex and concave sides of a curved surface. Only by combining both viewpoints, we can obtain the required stereoscopic view of its concrete features; on the contrary, the exclusive focus on one of the two sides of individual liberty leads to misleading conclusions. The normative approach here advocated will take into account both aspects of individual liberty and their mutual interaction and joint implications. As for positive liberty, I will take into account the three areas of individual liberty examined so far: civil liberties, political liberties, and self-realisation rights.¹¹

As for negative liberty, we need to define clear boundaries to the minimal endowment of individual liberties beyond which we have to forbid any sort of coercion. The trouble is that in any society the unfettered interaction between individuals is bound to produce—consciously or unconsciously, willingly or unwillingly, directly or indirectly—systematic mutual coercions that severely impair all the forms of positive liberty reviewed above, in particular within the area of economic liberty. Any sort of coercion that breaches a given tolerance threshold should be prevented or repressed; on the other hand, this can be done only by limiting the negative liberty of the subjects who would otherwise exert those intolerable acts of coercion. This requires a sovereign authority to

¹⁰ I will discuss these three arguments in Sect. 1.4.

¹¹ In Sect. 1.5, I will add a further important area underlying the comprehensive sustainability of a community.

which the citizens delegate the enforcement of individual liberties and rights. According to the Contractualist theory (as developed by Hobbes, Locke and Rousseau), the state emerges and evolves in consequence of an implicit contractual agreement between the citizens who renounce some of their liberty and transfer it to the state in their own interest. However, individuals—often the same powerful individuals mentioned above or groups of them—can exert unacceptable forms of coercion also on the state and through the state. The state acts through individuals who may devise an instrumental use of public authority in their own interest. Powerful people may use all institutions, whether public or private, as instruments of indirect individual coercion. This is true also for markets, in particular, financial markets. The indirect coercion exerted by markets on individuals is not necessarily intentional but any coherent strategy of defence of individual liberty cannot ignore it. When the coercion of markets on individuals violates some of their basic rights, it is necessary to constrain market freedom, although not more than it is necessary.

The point of view briefly sketched above, which underlies the arguments developed in this book, is radically different from the normative approach to individual liberty ruling today. The progressive extension and deepening of free markets during the eighteenth century suggested a new approach to the exigence of preserving, expanding, and regulating economic liberties believed by liberals to obtain better results than those obtainable through the instruments managed by the state. Adam Smith (1776) provided the most compelling early justification of the growing confidence in free markets. In particular, as is well known, he argued that the invisible hand of unfettered market guarantees their self-regulation leading to the maximisation of citizens' wellbeing. However, following Smith, classical liberalism did not deny that in some fields free markets show clear limits that justify the intervention of the state. On the contrary, according to the neoliberal point of view ruling today, in the field of individual liberties the state is not the solution but the problem. I discussed elsewhere three variants of this point of view (Vercelli 2017, section 2.4). In the following chapters, I will extend my critique of the neoliberal approach to the field of financial regulation.

1.3 DEMOCRACY AND DEMOCRATIC DEFICIT

Democracy plays a crucial role in this book as a normative principle based upon substantive political values,¹² in particular liberty (in its pregnant meaning of self-determination)¹³ and equality of political agency. Insofar as citizens engage in political decision making or in public discourse about it, genuine democracies must regard all of them as autonomous and equal persons. The compliance with these values allows us to determine to what extent in specific circumstances particular decision-making procedures are actually consistent with sound democracy (Post 2005). As for liberty, “political freedom, that is, freedom under social order, is self-determination of the individual by participating in the creation of the social order” (Kelsen 1973 [1945], 284–286). As for equality, democracy requires equality of autonomous self-determination. The requisite of equality is very demanding and rarely realised, but democracy would be tenuous and formal unless it is rooted on robust forms of substantive equality consistent with distributive justice.¹⁴ The implementation of substantive egalitarian principles would significantly re-inforce effective democracy and its sustainability. However, egalitarian policies can jeopardise the autonomy of individuals that is necessary for a genuine practice of self-government. Therefore, democracy and equality are mutually reinforcing and mutually antagonistic.¹⁵ That is why in the next section we introduce distributive justice as an independent normative principle, notwithstanding it shares with democracy a common reference to equality. We have to find a way of balancing these two fundamental values in such a way to assure the sustainability of society and its progressive development in its most comprehensive meaning (Sect. 1.5).

¹²While concepts such as majoritarianism are descriptive concepts that refer to particular decision-making procedures, we should conceive the concept of democracy as a normative concept based on substantive values, namely deontological values that no one should violate in any circumstances.

¹³As Norberto Bobbio lucidly asserted, “Democratic forms of government are those in which the laws are made by the same people to whom they apply (and for that reason they are autonomous norms), while in autocratic forms of government the law-makers are different from those to whom the laws are addressed (and are therefore heteronomous norms)” (Bobbio 1989, 137). Post (2005) has assumed this point of view as the “unobjectionable premise” of his own influential analysis.

¹⁴See Post (2005).

¹⁵Ibidem.

In particular, to advocate a specific democratic rule, we have to define the nature of required equality and the context of its application. In what follows, I will distinguish between formal democracy at one extreme and substantive democracy at the other extreme. Formal democracy requires that the institutional arrangements of a certain polity give the same weight to the vote of each of its members, for example, by adopting the “one-person one-vote” criterion in elections where there is competition among candidates. Substantive democracy requires in addition the attribution of the same—at least in principle—weight to each participant in the process of deliberation and coalition formation. Between these two extremes, democracy may exhibit different degrees of effectiveness. Formal democracy relying on voting is not enough: “when citizens feel alienated...from the process by which the general will is created, voting on issues is merely a [decision-making] mechanism...that can easily turn oppressive and undemocratic” (Post 2005). Substantive democracy implies the effective freedom of everyone to participate in the political dialogue contributing to the formation of public opinion. This implies not only freedom of opinion but also of its expression (as guaranteed, e.g. by the first amendment to the American Constitution). This implies also an active defence of the crucial democratic role of pluralism not only in the sense of allowing political parties’ plurality but also an unrestricted plurality of opinions in all the fields affecting political decision-making. Any assertion pretending that in one or more issues “There Is No Alternative” (TINA), is inconsistent not only with the historical experience, with the dictates of epistemology, and with sheer good sense, but also with the deepest principles of democracy. When there is no choice, there is no democracy.

To advocate, or stigmatise, a specific democratic rule in a given deliberative context, one can rely on two different categories of normative judgement: consequentialist arguments based on the expected effects deriving from the adoption of a certain democratic rule (as compared to those deriving from alternative rules), or deontological principles to be respected whatever are the consequences of their compliance. John Stuart Mill summarised some of the most compelling consequentialist arguments in favour of a democratic method (Mill 1991 [1861], chapter 3). First, democracy incentivises decision-makers to take into account the interests, rights, and opinions of other people, including the least advantaged.¹⁶

¹⁶ Amartya Sen provides a compelling example of this argument maintaining that “no substantial famine has ever occurred in any independent country with a democratic form of government and a relatively free press” (Sen 1999, 152).

Second, the democratic method helps decision-makers to make the right choices by encouraging the gathering, processing, and diffusion of information as well as by stimulating a variety of interpretations of the empirical evidence from different points of view. Third, democracy tends to encourage the autonomy, rationality, and responsibility of individuals. However, a consequentialist point of view may easily find negative effects generated from the concrete implementation of democracy in given circumstances. For example, Plato (*Republic*, Book VI) maintained that democracy crowds out the expertise necessary to wisely rule society, while according to Hobbes (1968 [1651], chapter XIX) democracy encourages a process of destabilising dissension. Nowadays, the most influential criticisms of democracy stigmatise the alleged obstacles raised by popular sovereignty against the working of free markets. According to the invisible hand argument, as recast in the mainstream version ruling in recent decades, collective deliberation cannot beat the market but only fetter and distort its providential action. In this view, the political process cannot improve the welfare of people but only jeopardise it unless it puts itself at the service of the market. I do not intend to repeat the critique to this immensely influential, but utterly misleading, argument.¹⁷ I just observe here that the consequentialist point of view is unable to provide robust foundations to democracy because, by pursuing this approach, one is easily stuck in a largely arbitrary accounting of costs and benefits. The conclusions deriving from this approach depend on a host of factors on which there is no agreement, such as the metric chosen, the time horizon, the degree of disaggregation, the procedures of aggregation, and the specific circumstances to which they are applied. Moreover, the results obtained from any sort of consequentialist accounting are typically quite divergent for different sections of society. We have to conclude that this approach is altogether inadequate to deal with the deepest value of democracy, namely that of a great ideal for which many individuals have been, and are, ready to sacrifice even their own life. This noble way of looking at the value of democracy can only find adequate foundations within a deontological point of view. The consequentialist point of view keeps an important role but mainly to choose, monitor, and update the best democratic institutions and deliberative methods given the specific circumstances.

¹⁷I expressed my views on this subject in my recent book (Vercelli 2017).

I believe that the most robust deontological foundations for the adoption of a democratic method should be ultimately based upon the right to individual liberty (as discussed in the preceding section) coupled with an agreed criterion of distributive justice (that I will discuss in the next section).¹⁸ In this view, democracy is nothing but the natural projection of individual liberty in the domain of collective deliberation within a polity. The respect of individual liberty for the members of a polity requires that none of its members be excluded from collective decision-making. The latter, of course, often leads to limitations of liberty for individuals who would otherwise exert an excessive influence on collective deliberations. This does not contradict the suggested foundations in terms of liberty rights if each individual keeps the same right of others to improve the status quo.

A particularly important issue for this book is the gap between individual rule-takers and transnational rule-makers often called “global democratic deficit”.¹⁹ In consequence of the process of globalisation and financialisation, transnational decision-making has become increasingly important excluding most individuals from significant participation in it. Although the state is an active participant in the process of globalisation and financialisation, the growing importance of international markets and transnational relations undermines the effectiveness of the democratic method within nations.²⁰ According to Colin Crouch (2004, 2016), we are moving fast towards a post-democratic society that continues to use the institutions of democracy that are increasingly downgraded to a mere formal shell. The strategic decisions and significant innovation are shifting from the democratic arena into small circles of the politico-economic elite. The global democratic deficit raises issues of formal procedure and substantive scope of political decisions:

First is an issue of procedure: international bodies often operate with unaccountable and non-transparent processes. This makes it difficult to identify

¹⁸As for the decision rule, we adopt here the usual majority rule providing the necessary safeguards for minorities. A discussion of the strength and shortcomings of the majority rule is beyond the boundaries of this book. The pluralist point of view advocated in this book implies effective protection of the minorities’ rights.

¹⁹Global democracy is concerned with how transnational decision-making can be justified and who should be entitled to participate in the formation of global rules, laws, and regulations (Kuyper 2016).

²⁰See, for example Sassen (2003).

the steps in a causal chain that links transnational rule-makers with rule-takers. The second factor is scope: current arrangements of transnational institutions seem incapable of tackling the most pressing issues of a globalizing world—climate change, spread of infectious diseases, volatile financial markets, enormous poverty rates. (Kuyper 2016)

This mainly depends on a deficit of democratic participation of people to the complex and indirect deliberative procedures of international markets and transnational institutions. We may react to this deficit by implementing two fundamental criteria of democratic participation inspired by a “stakeholder model” of global democracy (see e.g. Archibugi et al. 2012). First, all individuals subjected to rules should participate, directly or indirectly, in their promulgation and enforcement. Second, all individuals significantly affected by a process of decision-making should have an equal say on what decisions should be taken and how should be implemented.²¹ In particular, this calls for increasing accountability and participation to transnational decision-making, such as WTO (World Trade Organization) negotiations, IMF (International Monetary Fund) loan deals, and regional treaty agreements. For example, Karin Bäckstrand (2006) suggests that we should democratise global climate governance through a stakeholder approach that blends deliberation, participation, and accountability. In a similar vein, Jonathan Kuyper (2014) argues that we should democratise different areas of world politics by pursuing values of equal participation and accountability. We should, thus, pursue a progressive reduction of the global democratic deficit through a process of democratisation that progressively implements its underlying values. Such values should include inclusiveness, equality, popular control, transparency, accountability, while the rigid adhesion to any specified “ideal” model of democracy would be misleading (Sen 2006).

In principle, an effective global democracy would require the equal inclusion of all individuals in transnational decision-making processes. To this end, we should never forget that, notwithstanding all their shortcomings, the sovereign states are the key players in world politics, and individuals could have a saying mainly through their national political system. Transnational activities would be democratically legitimate from the perspective of citizens as long as each nation-state maintains an effective autonomy and sovereignty in global affairs. Only in this case, the citizens

²¹ See in particular Goodin (2007) and Macdonald (2008).

of member-states might effectively monitor and control the conduct of supranational bureaucracies and institutions (Zürn 2000). The larger is the territorial scope of democracy, the weaker is likely to become the effectiveness of a merely formal democracy. In particular, as is widely recognised, a world government—in which each citizen would have one vote within a constituency of many billion people—would not by itself enable individuals to participate meaningfully in their collective governance. Kant himself argued that a hypothetical world government would become a “soulless despotism” since the power of global leaders would not be restrained by appropriate checks and balances (Kant 1991 [1795]).

As a result of the process of globalisation and financialisation that occurred in recent decades, the democratic participation of individuals in collective decision-making continued to decline in effectiveness. Even in those parts of the world where it looked more robust, small circles of business lobbyists and politico-economic elites managed to capture the core of politics. The global financial crisis, the consequent Eurocrisis, international commercial agreements, and growing evidence of the political power of giant international institutions including not only big banks and manufacturing firms but also mass media corporations and transnational lobbies suggest that the dominant forces in today’s politics are not those of democratic will. Since the days of universal citizenship, new classes developing in post-industrial society did not have to struggle for inclusion leading to the paradoxical result that they did not need to develop a distinctive political awareness of their identity. The big exception to this was the global class of shareholders, business executives, and supranational bureaucrats who did not lack self-awareness of their powerful role, were inspired by a common hegemonic ideology (neoliberalism), and managed to exercise increasing political influence on national democracies.²² Our dependence on these institutions and a few giant firms has become so overwhelming that they are becoming largely independent of the rules of a competitive market economy, as well as the directives and constraints of a democratic polity. This leaves the field vulnerable to manipulation and regulatory capture by powerful interests.²³ Their advocated form of democracy seeks to engage people to vote on a mass of minor questions,

²² See Crouch (2016).

²³ Particularly important is the way in which some economies have become dependent on what has been called “privatised Keynesianism” (Crouch 2004), namely on growing personal debts in order to sustain living standards at a time of stagnant real incomes.

or to defend “cosmetic” rather than deep-seated values and rights, distracting from the major issues over who is really gaining from the way the system is operating. In this perspective, the de-politicisation of big issues and the politicisation of a host of little, often technical, issues play a crucial misleading role.

1.4 DISTRIBUTIVE JUSTICE AND FAIRNESS

The first question, which political and moral philosophers tried to answer, is “what is justice?”²⁴ In most contemporary political theories, justice remains the most important issue. John Rawls, for example, asserts that justice is the first virtue of social institutions, as truth is of thought systems.²⁵ This is true also of financial institutions, since also these institutions should not escape a severe assessment of their performance from the point of view of justice. In this book, I will focus mainly on distributive justice taking into account that, as argued in the following chapter, the financial system is a formidable machine for redistributing purchasing power. This function may have a great value for the beneficiaries of such redistribution, but its implementation has been often deeply questionable from the point of view of distributive justice. This is an issue of the utmost importance because the financial system affects all areas of economic liberties and rights, and in particular the effective opportunities of people. The extension of the opportunity set of individuals depends on determinants of different nature—including environmental, sociological, and economic factors—and evolves with the personal history of each individual. The changing combination of all these determinants tends to produce huge inequalities between the opportunity sets of different individuals. These inequalities have massive consequences on the wellbeing and happiness of individuals but also on the efficient performance of social and political institutions including the state and the markets. The usual normative principle of negative liberty is by itself inadequate to deal with these issues, not only because it ignores the distribution of effective opportunities among individuals, but also because the ongoing expansion of negative liberty promoted by ruling neoliberalism redistributes the effective opportunities in favour of the top layers of society restricting them further for the lower layers. To tackle this crucial ethical problem, we must recognise the

²⁴ Plato’s *Republic* is a conspicuous example of this approach.

²⁵ Rawls (1999, 3).

positive duties to defend, empower, repair, and restore the opportunities of disadvantaged individuals. Redistributive duties have taken different forms in history ranging from the:

1. alms prescribed to the faithful by many religions to the organised charity performed by ad hoc institutions²⁶
2. episodic sharing of commercial profits by philanthropists to the systematic initiatives inspired by corporate social responsibility (CSR) principles, and environmental, social and governance (ESG) criteria
3. occasional assistance of public bodies to the institutionalised transfers managed by the state

Libertarian and neoliberal thinkers have always questioned any form of systematic redistribution organised by the state. The main critical argument is that this sort of public intervention violates the principle of negative liberty, restricting it for affluent people. However, the issue of justice cannot remain outside the scope of collective action without delegitimising it. This book focuses mainly on one aspect of justice, distributive justice, which plays a crucial role in politics. Distributive justice has been defined in many divergent ways. I adopt in this book a definition in terms of equal effective opportunities, combining its formal and substantive versions, and applying it to all spheres of individual decision-making within a given polity. In particular, I apply this principle to each of the three areas of positive liberty and rights examined in Sect. 1.2. In what follows, I focus mainly on the third area of personal self-realisation that in modern market societies crucially depend on effective economic rights. In a pluralist normative approach such as the one here adopted, the advocated principle of equal opportunities may conflict with other fundamental normative principles. The relationship between normative principles varies in different concrete issues and is, thus, too complex to find a settlement in a simple general way.²⁷ It is, thus, preferable to examine the relevant feedbacks within the context of the issue under scrutiny.

²⁶ Most religions advocated this sort of assistance to the needy: Gospel and Koran are significant examples.

²⁷ For example, Rawls (1999) establishes a lexicographic order between civic and political liberties and the fair equal opportunity principle (second condition of the difference principle). This establishes a hierarchy between the two normative principles that is too rigid, as it does not take into account in the proper way the feedbacks of the second principle on the first.

The second reason to advocate an adequate interest of collective action in the effective liberty of all citizens is the deep link between the extension of formal negative liberty guaranteed to all citizens and the extension of effective positive liberty enjoyed by different categories of citizens. The individuals who may rely on larger effective positive liberties often use this advantage in their exclusive interest even when this restricts the effective economic liberties of other individuals. Unfettered monopolistic practices and unrestricted liberty of firing the employees are two significant examples of negative liberty for employers that affect the positive liberty, respectively, of competitors and workers. Since long, this trade-off between the scope of negative liberty and the fair distribution of effective opportunities has been the source of harsh intellectual and political conflict. The most powerful and wealthy layers of society tend to advocate the largest possible negative liberty for all citizens, knowing that this would go mainly to their own advantage. The weakest layers of society always tended to advocate adequate restrictions to negative liberty permitting the necessary repression of coercion and abuse of which they have always been the main victims, and to allow public transfers in their own interest. However, also the restrictions to negative liberty enforced by public authorities may become an alternative or additional source of coercion and abuse. Policy makers may find a satisfactory balance between contrasting interests only by taking into account the specific conditions and constraints that characterise a certain issue in a given polity at a given time. To do so, the concrete analysis of how effective positive liberties are distributed among the citizens has to play a crucial role, while the exclusive focus on negative liberty advocated by the ruling neoliberal approach is reductive and misleading. In addition, the viability of satisfactory solutions depends on the degree of effective democratic participation on the part of all citizens.

Third, the state cannot ignore the fact that a competitive market cannot work well if the distribution of effective economic opportunities is too unequal. As a few founding fathers of economic liberalism (such as Smith and Stuart Mill) made clear, the efficient functioning of competitive markets requires that all potential competitors may access the same relevant opportunities in each of the overlapping rounds of market competition. Otherwise, there would not be any sound reason to believe that the winners of the countless intertwined competitions constituting a free market are the best competitors. This is a fundamental, though often neglected, pre-requisite of a genuine competitive market. The requisite of equal substantive opportunities may seem a utopian requisite; however, what this

argument requires is not absolute equality of income, wealth, and command over resources, but just the effective potential access to the relevant economic opportunities. Only in this case, the competitors can play the game of market competition on a “level playing field”. The existing distribution of income is clearly inconsistent with the crucial requisite of equal access to the relevant substantive economic opportunities. This is the consequence of the progressive increase in income inequality since the late 1970s in most countries,²⁸ while the welfare state has gradually declined in consequence of the hostile policies inspired by neoliberal prescriptions. A related argument emphasises the negative impact of poverty on the social sustainability of a community. In the absence of adequate help from the community, a person born poor cannot access higher education and other opportunities affecting its self-realisation. The standard objection to this assertion has been that deserving people may easily change status in a free society without any need of redistributive measures that would reduce the negative liberty of affluent people.²⁹ However, recent empirical research has shown that the illusion of social mobility is becoming increasingly groundless in most countries: “as inequality has increased, evidence suggests that year-to-year or generation-to-generation economic mobility has decreased” (Krueger 2012, 3). Extensive empirical research confirmed the existence of this perverse relation in many countries. In the US, for example, intergenerational mobility increased from 1950 to 1980 and declined sharply since 1980 while inequality followed a similar pattern.³⁰ The celebrated “American dream” risks becoming a sheer American nightmare as international comparisons confirm. Particularly significant is a statistical curve put forward by Krueger in 2012 based on empirical work done by the labour economist Miles Corak.³¹ This statistical relation, dubbed with the fanciful name of “Great Gatsby curve”,³² shows that countries that have a high degree of income inequality across households also tend to have less economic mobility across generations. The original curve

²⁸ See, for example Piketty (2014).

²⁹ As Krueger maintains: “Higher income inequality would be less of a concern if low-income earners became high-income earners at some point in their career, or if children of low-income parents had a good chance of climbing up the income scales when they grow up” (Krueger 2012, 3).

³⁰ See Aaronson and Bhashkar (2008, 139).

³¹ See Corak (2013a, b).

³² As is well known, the Great Gatsby, the main character of the eponym novel by Scott Fitzgerald (1925), is an iconic example of social mobility.

referring to ten countries (Krueger 2012) has been extended to twenty-five countries by Corak (2013a and b), and then updated and further extended (see, in particular, the recent application to thirty-one European countries by Hufe and Peichl 2018). The empirical work has so far confirmed the qualitative characteristics of the curve feeding a lively debate on its interpretation and explanation. According to the prevailing interpretation, the Great Gatsby curve shows that disparities among individuals are due, at least in part, to factors independent of their will.³³ Recent research within the US corroborates this view: low-income children living in areas characterised by higher income inequality tend to have lower upward mobility that is, however, likely to increase if they move to areas characterised by higher upward mobility.³⁴ The empirical evidence shows that the latter have less residential segregation, better primary schools, greater social capital, and greater family stability confirming that the social environment affects the effective economic opportunities of individuals in a significant way.

1.5 COMPREHENSIVE SUSTAINABILITY AS ENCOMPASSING NORMATIVE PRINCIPLE

Proceeding through the three areas of positive liberties briefly discussed in Sect. 1.2, we may recognise a prevailing causal and historical order that, however, does not exclude causal feedbacks and historical overlapping. Political liberties can flourish only when the civic liberties are sufficiently established in a society, while a broad and fair diffusion of rights promoting the self-realisation of citizens presupposes a certain degree of development of both civic and political rights. In its turn, self-realisation rights may provide a crucial support to civic and political liberties, since more accomplished individuals are more likely to participate actively and constructively in the social and political life of the community. In the light of the prevailing historical order mentioned above, civic and political rights have been defined as first generation liberties; while self-realisation liberties have been called second-generation liberties.³⁵ To complete the framework of this book's normative standpoint, I introduce a further area of liberties that are sometimes called "third-generation" liberties (*ibidem*).

³³ See Roemer and Trannoy (2016).

³⁴ See Chetty et al. (2014).

³⁵ See, for example, Vasak (1977).

What is missing so far is the long-term time dimension, because I have dealt with liberties and rights related to individuals co-existing and interacting in the same polity. Shifting the focus to the long-term evolution of polities taking into account the interaction between humanity and biosphere, we have to introduce a new category of individuals, those who belong to future generations. We need to recognise crucial rights to them not only in their own interest but also in the interest of the survival and flourishing of life on this planet. These rights impose important duties on current generations notwithstanding the obvious inability of the unborn beneficiaries to defend their own interests. This third area of liberties is still very controversial, while public opinion and policy makers started to recognise its importance only following the publication of the Brundtland Report.³⁶ The concept of sustainable development there enunciated provides a clear definition of this new category of duties. In this view, development is sustainable only if current generations manage to preserve the effective liberty of future generations.³⁷ We may discuss whether we should instead act in such a way to expand the effective liberty of future generations by profiting of the ongoing technological progress and accumulation of capital and wealth. In any case, a forced and persistent reduction of their prospective liberty would certainly violate the normative principles enunciated in this book.

The recognition of rights to future generations and the correlative duties of current generations in their regard is a very controversial issue. Between current and future generations, there are strong asymmetries that may jeopardise the legitimacy of the extension to future generations of the rights recognised for individuals belonging to co-existing generations. A common objection asserts that, since by definition future generations do not exist now, they cannot be legitimate subject of rights.³⁸ We find in the literature many convincing counter-arguments to that objection.³⁹ I add here a further argument that refers to the relationship between individuals belonging to the current generations and unborn individuals of future generations. The above objection overlooks the reality that in each moment, including the present one, living individuals belong to different

³⁶ See WCED (1987).

³⁷ As is well known, according to the much-quoted definition of the Brundtland Commission, development is sustainable only if “meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987, 44).

³⁸ See, for example De George (1981, 161).

³⁹ See Meyer (2016) for a concise survey.

overlapping generations for which is certainly imperative, not only legitimate, to adopt the same normative rules. By adopting an obvious chain rule from a generation to the following, one may overcome the objection reported above. This makes applicable the same normative principles to an unbounded hypothetical sequence of overlapping generations. This is true, in particular, for the principle of equal opportunities that plays a crucial role in the normative approach of this book. To clarify this concept, we assume that individuals generate their sons at the beginning of their adult life and that the parents coexist with their sons at least part of their adult life. The principle of equal opportunities applies to both co-existing generations. We can say that children have a right to enjoy a set of opportunities equal to that of their parents, and the latter have a duty to transmit to their children an equal amount of opportunities. If this is true for generations A and B, this must be true also for generations B and C, and so on without limit for an unbounded long period. If we think that this evolutionary perspective is unpalatable for its stationary nature, we can easily introduce the possibility of progress by assuming that each generation has the right to enjoy a set of opportunities not inferior to that of their parents.⁴⁰

1.6 CONCLUDING REMARKS

I can now summarise the normative approach adopted in this book. The normative perspective that inspires this work lies upon four fundamental principles: individual liberty, democracy, distributive justice, and sustainability. The versions of these principles that I have here advocated are combined in a normative perspective that aims to implement a comprehensive model of sustainable development. Let us start from a definition of development as a process of progressive expansion and deepening of individual and collective freedom (Sen 1999). This process is not easily measurable as it has many dimensions. A greater availability of capital, goods, services, and natural resources increases freedom of choice relaxing the existing constraints on the access to basic goods (food, health, and

⁴⁰We may further refine this approach by taking into account the long waves of history that may force a restriction of the effective opportunities during the downturns, a restriction that we have to minimize according to fair criteria. However, I am here concerned only with the possible extension of the normative approach argued in the preceding sections for coexisting individuals to overlapping generations that may not coexist.

home). Once the basic needs are satisfied, much more important becomes the freedom of self-realisation that depends on the social and natural environment and, in particular, on a fair distribution of substantive opportunities.⁴¹ The modifier “sustainable” added to the word development extends the principle also to future generations and incorporates the normative principle of equal opportunities for everyone. This principle aims to take into account the crucial requisite of equal formal and substantive liberty, as well as of distributive justice, for all individuals and groups of them. The concept of comprehensive sustainability here suggested incorporates as crucial normative requirement also political and corporate democracy. Political democracy imposes a model of popular sovereignty according to which the people are the supreme authority in a polity. This implies the citizens’ right in a certain polity to determine its constitution and the modalities of its amendments and repeal. Popular sovereignty in a certain state can be limited by transnational or local constraints, provided that these limitations are in vigour only as far as they are approved by the citizens, until they are modified or repealed by them according to clear and feasible procedures. Democratic Constitutions usually articulate decision power according to a hierarchy of layered sovereignty. This view is open to the possibility of transnational, even cosmopolitan, constraints to national sovereignty approved by the state’s citizens. It is also open to local sub-national constraints to valorise in the best possible way the instances of local (sub-national) democracy. However, the pivot of democratic power is firmly centred at the national level of sovereignty. Finally, credible democracy requires also a well-established corporate democracy to avoid the dictatorship of shareholders and top managers that would hollow out political democracy itself. Sustainable corporations should, thus, aim to create value for all the stakeholders in a long-run perspective.

To understand the evolution of the financial system and appraise its policy implications, we need a normative criterion. The principle of “comprehensive sustainable development” adopted in this book offers a criterion that goes beyond the limits and distortions of the usual indexes of well-being (growth of GDP and other quantitative indexes based on the utilitarian approach). In addition, this approach invites us to take into account the increasingly complex and tight interactions between the economic, financial, social, and environmental aspects of comprehensive sustainability.

⁴¹ See Borghesi and Vercelli (2008).

In this chapter, I pointed out the main current worries about each of the main normative principles discussed. I want to show in my concluding remarks that these worries are strictly intertwined and that they strongly motivate the investigation carried on in the following chapters. I started by the basic value of individual liberty showing that the current reductive approach that excludes positive liberty from analysis and policy is deeply misleading. From the point of view of analysis, this approach distracts from a thorough analysis of the nature of individual liberties that we have to consider inviolable. From the point of view of policy, it leads to unbalanced protection of the liberty of the rich and powerful while ignoring the huge implications of the unequal distribution of income, wealth, and effective opportunities. The ultimate justification for this biased view of individual liberty is the belief, which often assumes the adamant strength of faith, in the “magic” virtues of free markets. In this view, the invisible hand of unfettered markets plays a providential role that succeeds to reconcile in the best possible way the interests and goals of all citizens. The respect of the individual liberty of all citizens projects at the social level on the normative requisite of democracy that demands their active participation in the political life of the country. The worries raised by a growing democratic deficit observed in many countries in recent years derive—even in this case—from excessive reliance on free markets. In the mainstream view, globalised markets determine a very narrow corridor within which democratic deliberation is strictly confined. In the extreme, but frequent, case of TINA prescriptions, there is no room for genuine democratic choice for the simple reason that there is no alternative to the prescriptions imposed by—or attributed to—the markets. In particular, the overwhelming domain of international markets on political and policy choices erodes the sovereignty of single countries. The inner logic of unfettered international markets contributes to increase progressively the inequality in the distribution of income, wealth, and command of resources among countries and people. The devastating effects of the ongoing violations of distributive justice are concealed by the irrational disregard of positive liberties and are misleadingly justified by the assumption that the winners of market competition always deserve their prizes.

The normative shift in favour of the liberty of markets rather than that of persons reached its acme in the case of globalised financial markets. The ensuing growing short-termism jeopardises the sustainability of development that would require far-sighted choices in the long-run interest also of future generations. The retrenchment of the time horizon of decision-making within the short period jeopardises the investment that

would be necessary to enlarge the real opportunities of the lower layers of society and to accelerate the transition to a green economy. In what follows, we will see why and how the liberty of financial markets has to be restrained to safeguard the liberty of people.

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PART I

Financial Economics and
Macroeconomics After WWII



CHAPTER 2

The Second Financialisation

2.1 INTRODUCTION

This chapter extends the contents of chapters 4 and 6 of Vercelli (2017) to analyse a few features of the recent process of financialisation started in the 1970s (often called Second Financialisation) that are particularly relevant for their policy and regulatory implications. We may interpret the process of financialisation as a long-run tendency that co-evolved with market economies. The tendency towards growing financialisation has been quite irregular and diversified through time and space because financialisation is affected by material, cultural, and political conditions which vary in different times and areas. Religious, political, and ethical reasons contributed to contain, even repress, the spontaneous process with a degree of intensity that varied in different historical periods. This explains the long-run fluctuations of the process. The tendency towards financialisation decelerated, sometimes even declined, when the repression became tougher as, for example, in the Bretton Woods period (1944–1971), while it accelerated when financial repression relented (e.g. in the neoliberal era from 1980 up to now). The main driver of this evolutionary process has been, and is, financial innovation that typically aims at increasing the range of available options between which the innovator can choose. The ensuing enhanced decision flexibility increases in principle the liberty of choice of decision makers. In addition, a larger option set correlates with higher expected returns because one or more of the new options may dominate the expected returns of pre-existing options. The empirical evidence confirmed

the existence of a positive short-run correlation between decision flexibility and expected returns.¹

A significant early example of flexibility-enhancing innovation was the introduction of money as general means of exchange. The adoption of an exchange medium accepted by all would-be traders in a certain geographic area overcame the strictures of “double coincidence of wants” that were severely limiting the range of possible exchanges based upon barter (Jevons 1866). Further monetary innovations aimed to facilitate the convertibility with currencies accepted in other areas increasing further exchange flexibility. The main virtue of money as medium of exchange is its liquidity, namely the broader extension of the set of possible exchange options. We may distinguish a static dimension of liquidity depending on the range of exchange options that money allows in a certain moment, and an intertemporal dimension related to the range of exchange options that it allows in the future. Most financial innovations aim to create liquidity or to transform its time profile. Money has the advantage of superior liquidity but does not earn a rate of interest differently from other financial assets that earn returns originated in the commercial, industrial, and financial accumulation of exchange value to which they have contributed. A first category of financial innovations aimed to anticipate the purchasing power required by commercial and industrial entrepreneurs to start and sustain their businesses. This credit function originated specific financial institutions, commercial banks, that managed deposits of money given by savers and created liquidity for the investors. These financial innovations increased the option set of investors allowing the immediate implementation of their planned investments, as well as the option set of savers transforming their barren liquidity in interest-earning saving deposits. In particular, as emphasised by Schumpeter (1934), the credit to innovators endowed the economy of the necessary structural flexibility that makes possible the process of economic development. As is well known, the capital assets necessary for a commercial and industrial activity are strongly illiquid limiting innovation and structural change in the real economy. An epoch-making financial innovation removed this obstacle by introducing the joint-stock company based on the fragmentation of the ownership of the company’s real capital in a number of shares that are marketable, and thus much more liquid than the real capital represented. Since the 1870s, this technique of “securitisation” of the real capital systematically extended its reach to any

¹ See Vercelli (2017) and the literature there cited.

sort of real assets, increasing further their liquidity and the structural flexibility of the economic system. Since the 1970s, the process of securitisation in its usual sense transformed any sort of financial assets in liquid securities increasing the structural flexibility of the financial system. This process soon became a crucial component of the exponential growth of shadow banking as a way to increase the liquidity and flexibility of large operators contributing to increase further the structural flexibility of financialised capitalism.

To go deeper into these questions, the following sections reconstruct how the process of financialisation changed the behaviour of the financial system. The second section considers this issue in the long period. The third section focuses on one of the most far-reaching new features acquired recently by the financial system: the progressive convergence between the process of production of material goods and the process of production of financial assets. The fourth section deals with one important aspect of this convergence: the process of financialisation of non-financial firms. The fifth section aims to clarify the crucial role of the state in the financial system by adopting the analogy of franchising to financial production and trade. The focus of the analysis then shifts on a fundamental feature of finance that the mainstream approach often neglects or plays down, namely the fact that the financial system is a huge and increasingly sophisticated device for the redistribution of purchasing power. The seventh section sketches the evolution of central banking introducing the crucial but controversial issue of its independence.² Finally, the eighth section provides a tentative bridge with the rest of the book.

2.2 THE LONG-RUN EVOLUTION OF THE FINANCIAL SYSTEM

A good starting point to understand the process of financialisation and its implications is the distinction between co-operative (or barter) economy, and entrepreneur (or money) economy. In the preparatory works of the *General Theory*, Keynes clarifies the rationale of this distinction that he borrows from “a pregnant observation made by Karl Marx” (Keynes 1979, 81). Marx introduced this distinction in *The Capital* as a crucial stage of the genesis of capitalism (Marx 1867). In the *General Theory*,

²I will discuss at more length the issue of central bank’s independence in the subsequent Sects. 5.8, 6.3, and 8.4.

Keynes introduced his own version of this dichotomy to argue that mainstream economics may work fairly well for a barter economy but not for a money economy. This terminology, however, confused many readers of the *General Theory* since mainstream economics used the same dichotomy in a different sense, to show that an apt monetary policy may induce a monetary economy to behave as a barter economy (neutral economy). On the contrary, Keynes used this dichotomy to sketch a far-reaching analysis of the emergent features of financialised capitalism requiring a different economic theory. Although Keynes did not use the word “financialisation”, he showed a lucid and prescient understanding of the evolution of financialised capitalism and its policy implications.

In his preparatory writings of the *General Theory*, Keynes borrowed from Marx also the symbolic representation of the dichotomy based upon the emblematic transaction that characterises the two horns of the dichotomy. As a propaedeutic step, we can represent an emblematic barter transaction in the following way:

$$C_i - C_j \tag{2.1}$$

where C_i stands for a commodity belonging to i and C_j for another commodity belonging to j . The barter occurs only if the two traders have symmetric preferences, namely if the trader i prefers the commodity belonging to j and vice versa.³ For this reason, barter transactions can be only limited and occasional and cannot provide foundations for systematic exchange within an entire economy. The full-fledged deployment of a so-called barter economy requires the generalised acceptance of money as an exchange medium:

$$C_i - M - C_j \tag{2.2}$$

where C_i stands for a commodity belonging to i , C_j stands for a different commodity belonging to j , and M for the flow of money that makes possible the exchange between them. The subject i sells the commodity C_i to any trader interested and with the money M obtained purchases the commodity C_j from j . The use of money enhances the choice flexibility of traders and realises the separation of use value from exchange value. However, in the emblematic transaction (2.2), the exchange is motivated by the increase of use value. The transaction occurs only if the trader i

³Jevons (1866) called this condition “double coincidence of wants”.

believes that C_j has a higher use value than the good C_i . A crucial structural change in the economic system occurred when a growing number of transactions aimed at increasing not the use value but the exchange value:

$$M_i - C_j - M_i' \quad (2.3)$$

According to Marx, this emblematic transaction represents an early stage of the genesis of capitalism in its simplest form of commercial capitalism, and represents according to Keynes the simplest form of what he calls a money (or entrepreneur) economy. The emblematic transactions (2.2) and (2.3) have different motivations and causal determinants. The basic motivation of transactions in a barter economy is to increase the use value of goods possessed by traders, while in a monetary economy it is the increase in exchange value of money balances of traders ($M_i' > M_i$). According to Keynes, this basic difference clarifies why we need a radically different approach to the explanation of economic events. In a barter economy, it is reasonable to assume, as general equilibrium models do, that the use value of commodities and their price depend on the tastes of agents, their endowments, and the existing technology. On the contrary, in a money economy decision makers aim to maximise the exchange value of their own portfolio of assets.

The emblematic formula of the money economy can represent fairly well the basic features of the early stages of merchant capitalism but does not capture the specific aspects of industrial capitalism and financialised capitalism. To understand industrial capitalism, we have to introduce the process of production of commodities [PC]. The latter starts with the purchase of productive factors and other inputs I to produce commodities to be sold with a profit. The simplest sequence of transactions that represents the circulation of the industrial capital is, thus, as follows:

$$M - I \dots [PC] \dots C - M', \quad (2.4)$$

where [PC] represents the productive process with inputs I and output C. From the point of view of capital circulation, the production of commodities is meaningful to the extent it produces surplus value that is effectively realised. In industrial capitalism, the process of production of use value is, thus, shaped and constrained by the process of circulation of capital.

To understand financialised capitalism, we have to introduce a further crucial novelty that has been often neglected. After the industrial revolution, the financial system also acquired a crucial role of “production” of financial assets F:

$$M-I\dots[PF]\dots F. \quad (2.5)$$

This peculiar process of production [PF] aims to increase the value of the financial portfolio contributing to the accumulation of financial capital. This view deviates from a long tradition that has seen finance just as a part of circulation of capital.⁴ While use value disappears after consumption from the economic circuit, the exchange value persists after any exchange and circulates to make possible a sequence of transactions in an ordered and consistent manner. The broad scope of circulation of money in the economy was first emphasised by the Physiocrats who built their insights on the analogy between circulation of money in the economy and circulation of blood in the human body.⁵ Marx clarified that the circulation of money is just one aspect of the more comprehensive and complex process of capital circulation. The point of view of circulation is important to understand the evolution of the financial system and its current role. However, to restrict the analysis of the financial system to this aspect is reductive and potentially misleading. This view underlies the obsolete, but still influential, view that the crucial purpose of the financial system is the intermediation between saving and investment. The weak point of the standard approach is that it focuses on the flows of magnitudes (money and saving) assumed to be exogenous to the financial system (base money supplied by the central bank, and income saved by consumers). On the contrary, Keynes (1936) and Kalecki (1939) emphasised that saving is endogenous being a consequence, not a premise, of investment. Post-Keynesian economists emphasised the endogeneity of money creation stressing the crucial role played by the credit money granted by commercial banks.⁶ These contributions clarified that the financial system also plays the role of systematic production of credit money and other financial assets, and that this role is becoming increasingly crucial not only within the financial system but in the economy at large.

⁴ See, for example Lapavistas (2013, 4).

⁵ See Meek (1962).

⁶ See, for example Lavoie (2003), Graziani (2003), and McLeay et al. (2014).

A radiography of the market would show complex intertwined sequences of the “emblematic transactions” mentioned by Keynes and Marx. A particularly simple sequence combining the four paradigmatic transactions examined above could be the following one:

$$C - M - C' - M' - I \dots [PC] \dots C'' - M'' - I \dots [PF] \dots F, \quad (2.6)$$

where F stands for financial instruments (different from money). A closer inspection of (2.6) suggests that one cannot separate the elements of the sequence without altering the properties of the whole sequence. Therefore, one cannot understand a financialised economy by systematically separating circulation, real production, and finance (especially financial production). Of course, this and other simplifications can be introduced temporarily for the sake of analysis, provided that we keep the necessary awareness that the results so obtained are only provisional and should never be directly applied to the real economy before having recomposed the fragments of analysis within a broader and more realistic framework.⁷

Summing up, one cannot separate the real economy from the monetary and financial economies without distorting reality. Nevertheless, the economic literature is full of models of the real economy that neglect the financial element. It is as if one rewrites the sequence (2.6) neglecting the monetary and financial transactions and transformations (in round brackets):

$$C - (M) - C' - (M') - I \dots [PC] \dots C'' - (M'') (-I \dots [PF] \dots F), \quad (2.7)$$

obtaining the over-simplified representation:

$$C - C' - I \dots [PC] \dots C''. \quad (2.8)$$

What one sees as a result is a mere process of production of use values by means of use values losing sight of the crucial mediating monetary and financial factors that are more and more important from the causal point

⁷Analogously, in organic chemistry, by separating the atoms of a molecule or modifying the structure of their links, we alter the properties and behaviour of the molecule (the smallest particle of a substance that retains all its properties). In organic chemistry the carbon atom C plays the crucial role in determining the properties of a molecule. In financialised capitalism, the financial element F plays more and more a similar crucial role.

of view. One could proceed in the opposite direction building models of pure finance:

$$(C) - M - (C') - M' (-I \dots [PC] \dots C') - M'' (-I) \dots [PF] \dots F, \quad (2.9)$$

obtaining:

$$M - M' - M'' \dots [PF] \dots F. \quad (2.10)$$

In this simple representation of the economic circuit, we would see only the accumulation of money and financial instruments losing sight of the use values underlying the wellbeing of people, and thus also of the implications for the rights of labour and the ecological equilibria of the biosphere. This may well be an increasingly realistic picture but is clearly unacceptable from the normative point of view. Very few economists tried to explore the properties of a pure financial economy as a useful stage of their analysis. Significant exceptions are Wicksell's analysis of a "pure credit economy" (Wicksell 1898), Keynes's sketch of a "monetary theory of production" and Minsky's arguments based on the assumption that any economic unit behaves as a bank (Minsky 1986). This sort of approach would be revealing, as we have to keep in mind that in the real world money and finance are not a mere veil or superstructure but play a growing substantial role. They play a crucial role in economics like carbon in organic chemistry.⁸

2.3 THE INCREASING INSEPARABILITY OF FINANCE FROM THE REAL ECONOMY

The First Financialisation was characterised by an epoch-making process of "securitisation" of the real capital. This process subdivides the value of the real capital of a firm (namely its net worth) in a number of shares that

⁸In the standard representation of the structure of an organic molecule, the straight lines represent the chemical valence of elements. Carl Schorlemmer (1874, 329) explains that: "such formulae are intended to give an idea of the manner in which the attractive forces of the atoms, forming the molecule, are distributed". Carl Schorlemmer (1834–1892) was one of the founders of organic chemistry and was a close friend of Marx and Engels who asked his advice on scientific questions. We can see an influence of organic chemistry in Marx's representations of the economic circuit that was later borrowed by Keynes within a different theoretical framework. In the light of the link emphasised in this paper between finance and structural flexibility, it is suggestive to observe that the carbon atom is endowed of an amazing structural flexibility as it forms a vast number of compounds, more than ten million, by far exceeding any other element.

are easily tradeable in the stock market. In this way, securitisation mobilises the fixed capital of firms and removes a crucial obstacle to its accumulation, concentration, and centralisation. The legal side of this process was the transformation of the most important firms in joint-stock companies. The UK that was at the forefront of this epoch-making transformation fixed its institutional conditions in a law of 1856. The same law granted also a broad freedom to incorporate a company granting limited liability to shareholders, an innovation that greatly enhanced the appeal of shares for investors. France, the US, and then most advanced countries of Continental Europe soon followed the lead of the UK. The contemporaneous spreading of liberal ideas and the growing need of huge amounts of capital to invest in railways building favoured a rapid diffusion of limited liabilities corporations. The ongoing process of globalisation also required huge amounts of investment on the part of multinational corporations and national states engaged in colonial enterprises. The new institutional context had a series of consequences. First, it greatly enhanced the importance of the stock exchange market that was trading a growing number and variety of shares. Second, joint-stock companies implemented a huge concentration of capital that led to the emergence of big oligopolistic corporations both in the financial and non-financial sector. The relationship between big banks, non-financial oligopolies, and markets became the pivotal articulation of market economies. In particular, big banks assumed the crucial role of financing the colonial and imperial strategies of great powers. During the First Financialisation, especially in Continental Europe, the big banks played a crucial role of coordination and orientation of investment decisions.⁹

The Second Financialisation greatly enhanced the crucial role of the production of financial assets. First, in consequence of the demise of the Bretton Woods monetary system, commercial banks greatly expanded their pivot role in the endogenous creation of credit money.¹⁰ This role was not a novelty, but the breakdown of any link with gold removed the previous constraints that moderated its expansion. Starting from the early 1980s, widespread reforms enhanced in many countries the “independence” of the central bank from treasury departments, sweeping away the constraints introduced to support public expenditure limiting public debt. In addition, while expanding the role of securitisation of non-financial capi-

⁹ Hilferding (1910) emphasised this point.

¹⁰ See, for example Lapavistas (2013, 69).

tal, the financial system extended its reach to a systematic securitisation of financial capital. While the production of non-financial goods is a process of material transformation of inputs into outputs, the production of assets is a (largely immaterial) transformation of pre-existing assets into assets having different characteristics of liquidity, maturity, returns profile, and safety. More recently, the financial system built up an alternative process of money creation, tailored principally for big operators, by the systematic use of repo contracts guaranteed by collaterals.¹¹

During the Second Financialisation, the dimension and influence of financial markets increased to an unprecedented level. This process was characterised by an increasing production and trading of derivatives, such as asset-backed securities (ABS), collateralised debt obligations (CDO), and credit default swaps (CDS), the emergence of new financial institutions (such as hedging funds, money market funds, and special-purpose vehicles), and the systematic involvement of new subjects (non-financial firms and households) in financial transactions and transformation processes. In this period, the banks underwent a progressive erosion of their traditional role of intermediation between savers and investors but managed to acquire a crucial role in creating credit money and financial assets, as well as in managing financial markets. In particular, they originated the amazing growth of over-the-counter (OTC) derivatives from irrelevance in the 1980s to a value of about 700 trillion US dollars in 2011, and succeeded to keep control of their trading at the global level.¹²

The power exerted by megabanks on financial markets has become so deep and ubiquitous that they did not hesitate to manipulate for their own advantage crucial variables such as the London Interbank Offered Rate (LIBOR), namely the interest rate at which derivatives are valued and traded. The manipulation of ratings by crony agencies and the systematic use of “creative accounting” are further significant examples of deliberate distortion of the market mechanisms on which market efficiency is supposed to rely. Finally, big banks influenced financial markets indirectly through regulatory capture.¹³ The crucial novelty is that during the Second Financialisation big banks exerted their power in a more indirect and opaque way, making much more arduous their regulation and supervision.

¹¹ See, for example Gorton (2012).

¹² See, for example Lapavistas (2013, 8).

¹³ See Sect. 5.8 for a few examples.

2.4 THE PROCESS OF FINANCIALISATION OF NON-FINANCIAL FIRMS

During the Second Financialisation, finance extended its cogent influence to the choices of non-financial firms and households increasingly affecting their goals and contents. The process of financialisation of non-financial firms transformed most of them in institutions whose unique goal was the short-term maximisation of profits on behalf of shareholders. This process was theorised, advocated, and promoted by the “agency theory of the firm”.¹⁴ In this view, the shareholders are the legitimate owners of the firm also in the case of public corporations where the property of shares is divided among a high number of subjects. In quality of principals, the shareholders delegate the effective management of the corporation to the top managers that act as their agents. To align the choices of top managers to the interests of shareholders (assumed to seek exclusively the short-term maximisation of corporate profits),¹⁵ the corporation adopts a system of incentives related to the short-term performance of the firm as represented by the current value of share prices (stock options).¹⁶ The compliance with this role incentivised the management to operate massive buybacks of the company’s shares to inflate their market price. This permitted to increase at the same time the retribution of top managers and the dividends distributed to shareholders consolidating their alliance at the expense of the other stakeholders, including workers and taxpayers. The old model of management permitted many different stakeholders to gain:

“Workers could get paid higher wages and have better employment stability and working conditions; suppliers and distributors could make more profits, some of which could potentially be passed on to their work-

¹⁴The seminal contribution came from Jensen and Meckling (1976).

¹⁵In the real world, this is not necessarily true. Shareholders may keep into account in their choices also different values such as the social and environmental responsibility of the company. The agency theory completely ignores the normative complexity and heterogeneity of shareholders.

¹⁶As Lazonick (2017) argues, since late 1980s, the major US corporations embraced the principle of maximisation of shareholders value that “prevailed, virtually unchallenged, in corporate boardrooms and business schools favouring the legalized looting of the U.S. business corporation”. The process of transition was rapid: “In 2000, the mean total remuneration of the 500 highest-paid U.S. executives was \$32.3 million, of which about 80 percent was realized gains from exercising stock options and another five percent was from the estimated value of stock awards” (ibidem).

ers; consumers could get lower prices on the goods that they purchased” (Lazonick and O’Sullivan 2002, 25).

After the adoption of the new model of management only shareholders benefited from higher profits, all the other stakeholders suffered, in particular workers: “Between 1983 and 1987, 4.6 million workers lost their jobs, of which 40 percent were from the manufacturing sector” (ibidem, 17). This trend continued in the following years increasing job insecurity, extending the periods of unemployment, lowering real wages, shortening job tenures, and enhancing precariousness for displaced workers when re-employed. In addition, the unholy alliance between top corporate managers and shareholders produced a swift and far-reaching structural change in the non-financial corporate sector. The prevailing managerial strategy shifted from the traditional “retain and reinvest” strategy to a new strategy that has been dubbed “downsize and distribute” (Lazonick and O’Sullivan 2002). The traditional strategy used to retain within the company both the employees and the profits earned that they reinvested in physical capital and additional human resources. The new management strategy submitted instead corporate choices to the short-term logic of portfolio selection, getting rid of labour and physical capital to push up the market value of the company’s stock and maximise value creation for shareholders.¹⁷ This new strategy reacted to the overextension of many corporations in the 1950s and 1960s and to the merger mania of the 1970s, but completely ignored the negative effects of downsizing on the strategic resources of the firm and, thus, on its longer-run performance. The typical shareholder is not interested in the growth, performance, and survival of the firm, if not to the extent that the current financial health of the firm may affect the market price of shares within a short-term horizon. The logic behind this behaviour is merely financial, not industrial. This process of financialisation of the non-financial sector started in the late 1970s as a reaction to stagflation and gathered momentum in the 1980s in a context characterised by the systematic deregulation of the financial sector and the emerging role of the institutional investors as holders of corporate stock.¹⁸ During the

¹⁷ According to Lazonick and O’Sullivan (2002, 17) “The ‘boom’ years of the mid-1980s saw hundreds of major plant closings. Between 1983 and 1987, 4.6 million workers lost their jobs, of which 40 percent were from the manufacturing sector.”

¹⁸ The sustained and rapid rate of increase in stock prices was the result of a massive flow of funds into the stock market through equity-based mutual funds. From 1982 to 1994, pension and mutual funds alone accounted for about 67% of the net growth of the total financial assets of households (Edwards 1996, 16–27).

Internet boom of 1997–2000, the application of agency theory and the “roaring” prosperity of the US economy contributed to accelerate the transition to the new model of management. When in 2001–2002 the boom of the new economy turned to bust, agency theorists suggested that, notwithstanding the recent shareholder-friendly changes in managerial strategy, corporate executives retained too much power for their own sake. Following their misleading advice, the most influential decision makers did not understand that the dotcom crisis was a consequence of the new model of management. In particular, the insufficient investment in research and development as well as in shop-floor skills had weakened the US corporations in international competition (*ibidem*, 30). Therefore, the process of transition towards the new model of management was further accelerated paving the road towards the Great Recession.¹⁹

As foreshadowed by Keynes in chapter 17 of the *General Theory*, the logic of decision-making in any field of economics and management has become more and more influenced by the financial paradigm of portfolio selection within a time horizon as short as that typical of financial decisions. Because of this widespread tendency, the more profitable alternatives in the short period increasingly crowded out the choices consistent with social and environmental sustainability, because the latter typically bring about significant benefits only in a relatively distant future.

The consequences of the convergence between financial and non-financial enterprises are far-reaching and have been so far insufficiently analysed. One of them is the growing difficulty to regulate the financial system. Both financial and non-financial firms have increasingly diversified returns from different sources: profits from production, commercial surpluses from trade, interests from loans, and fees from services. Though the structure of their incomes is still quite different, it is gradually converging towards a more similar configuration.²⁰ Gone are the times when the economists could frame the relation between the financial and non-financial sectors in terms of the fundamental relation between the rate of profit, characteristic of the production of goods, and rate of interest, characteristic of the financial system.²¹ Keynes himself believed that, given the

¹⁹ See Sect. 5.9.

²⁰ We can start to detect the preliminary steps of a process of convergence also in the case of households' incomes.

²¹ A classical statement of this view is contained in Wicksell (1898).

curve of marginal efficiency of capital, a reduction in the money rate of interest would increase the amount of investment in the real economy. However, in financialised capitalism, the reduction of the rate of interest alters the structure of incomes in both the financial and real sectors. The final effect on the direction of investment is, thus, becoming much more uncertain as it depends on specific circumstances that may vary with time and space.²²

2.5 FRANCHISING IN FINANCIAL “PRODUCTION”

In the preceding sections, I used the metaphor of production to describe and understand the working of the financial system and its evolution. This is not new. Many scholars speak of money production (see e.g. Pettifor 2018), production (even manufacturing) of derivatives, and so on. However, I was not able to find a systematic account of the role of the financial system seen as a process of production. This is a pity because, by ignoring or downplaying financial production, it becomes more difficult to understand the growing intermingling of financial and manufacturing production with all its important implications. A possible explanation is that the iconic process of production—manufacturing—produces material goods having use value and exchange value; the financial system produces exchange value for the agents producing them (not necessarily for society), while the use value of a financial product—it is often said—lies in its exchange value. However, this traditional view is not altogether correct as the exchange value of a financial product depends on qualities—such as liquidity, safety, risk, flexibility—that depend on the tastes and endowments of traders in given circumstances, similarly to the case of consumption goods. This is implicitly recognised by the familiar expression ‘financial services’ often used to denote the entire activity of the financial system. The increasing popularity of this euphemism is probably because it suggests the misleading idea that what the financial system does is entirely, or principally, at the service of the clients. Another possible explanation is that the production of financial objects, in particular fiat money, is often represented as ‘creation’ (“out of the blue” or “from thin air”) as if it did not require any sort of input. This is again not literally true (not only in the traditional, now obsolete, case of money printing) because financial production requires a financial institution with all its expenses of

²² See Chap. 7.

labour, capital, and other productive inputs (such as electricity, paper, and software) so that the marginal cost of production is near zero, while its average cost is low but not negligible. What is true is that in the financial industry the economies of scale are much higher than in manufacturing almost decoupling its quantitative indexes from employment, a feature that worries whoever is concerned with full employment.²³ Finally, a further reason to avoid the metaphor of production may derive from a critical attitude towards the financial system and the consequent desire to avoid confusion between genuinely productive activities providing food, cloths, houses, and other necessary goods, and financial activity that may look as substantially “unproductive”, at least for most people. This objection, however, is unconvincing because a serious critical attitude towards the financial system should distinguish the features of different kinds of financial production, and assess their positive and negative consequences for different categories of subjects in different circumstances.

The defence of a more extensive use of the metaphor of production in finance should not obscure its limits that have led me to dub this approach as a mere metaphor, though a revealing one. In this section, I want to discuss what appears to me the main potential shortcoming of the approach sketched in Sect. 2.3 that did not distinguish explicitly between different categories of agents. This direction of analysis should be pursued in future research. However, there is a basic distinction that I have to introduce now because plays a crucial role in the financial system, its evolution, and its regulation: the distinction between a special agent, the state, and private agents. To do so, I borrow in a simplified, and somewhat modified, way a suggestive approach recently put forward by Hockett and Omarova (2016). They outline a new view on the modern financial system that is interpreted as a public-private partnership “that is most accurately, if unavoidably metaphorically, interpreted as a franchise arrangement” (Hockett and Omarova 2016, 5). This approach may be usefully applied to the vision of the financial system as a system of production, allocation, and distribution of purchasing power as sketched in the preceding section. In this view, the ultimate raw material of all processes of the financial system is “full faith and credit” public debt, the repayment of which is fully

²³ Keynes maintained that this is a crucial explanation of structural unemployment: “there is no remedy but to persuade the public that green cheese is practically the same thing [of money] and to have a green cheese factory (i.e. a central bank) under public control” (Keynes 1936, 235).

guaranteed by the state.²⁴ Public instrumentalities (treasuries, central banks, and other authorised agencies) contribute to supply public debt on behalf of the franchisor to private financial institutions. The latter act as franchisees and transform, allocate, extend, and multiply credit money by means of a wide and growing variety of processes. Whenever the production and allocation of assets and liabilities is, so-to-say, “outsourced” to private institutions, the franchisor has to approve the quality of the process and of its resulting obligations to assimilate them to its own good faith and credit obligations. The franchisor approves the products so obtained by accommodating and monetising them. Accommodation occurs when a public authority—typically the central bank—takes on a privately issued debt liability as a liability of its own. Monetisation occurs when the ultimate beneficiary of the accommodation process is authorised to spend the ensuing proceeds as if they were currency. The rationale underlying this public-private joint venture is that the state regulates the aggregate quantity of guaranteed debt by exploiting its unique overall view, while the private franchisees allocate it to the economy by exploiting their micro-informational advantage.

This re-conceptualisation of modern finance as a franchise system has far-reaching analytic and normative implications. First, it shows that “it is the sovereign public that ultimately generates and underwrites capital flows in a modern financial system” (*ibidem*, 6). The great financial crisis made evident that “the current financial system is inherently dependent on the state” (Wolf 2014, 5).²⁵ Second, it clarifies in what sense “credit is endogenous rather than subject to exogenously given, pre-accumulated funds” (*ibidem*, 10). The creation of credit money by private banks presupposes a franchising agreement with the state. Third, “[l]arge sovereign debt markets are effectively prerequisites to the emergence and sustenance of large private debt and equity markets” (*ibidem*, 21). Not by chance, the growing practice of collateralised debt, characterising, for example, the growing role of repo markets, needs an adequate availability of safe assets (treasuries).

²⁴The expression “full faith and credit” indicates a situation in which a government agrees to repay a debt no matter what. For example, if a bond is backed by the full faith and credit of the US, the government must find some way to repay the bond.

²⁵Wolf rightly emphasises that after the post-Lehman shock “[w]e were forcibly reminded of the dependence of the financial system on the unique capacity of the state to create the money that people want when they trust nothing else” (Wolf, 2014).

2.6 FINANCE, SPECULATION, AND THE DISTRIBUTION OF PURCHASING POWER BETWEEN ECONOMIC AGENTS

It is impossible to assess the evolution of the financial system and its regulation, as well as their joint implications for the wellbeing of people, without understanding its increasingly broad and far-reaching consequences for the distribution of income, wealth, and command over resources. This section argues that the financial system is in its essence a formidable machine that transfers purchasing power in space, time, and between people. The way in which this happens is bound to have huge consequences for the distribution of income and wealth. The evolution of money and finance has progressively increased the depth and scope of the redistributive consequences of the financial system within the economy. As we have seen in Sect. 2.2, the adoption of money as means of exchange started this evolutionary process by severing a barter transaction $C_i - C_j$ in two parts: the sale $C_i - M$ of one good C_i to get the money M to buy the good C_j through the purchase $M - C_j$. The new form of complete transaction, the monetary exchange $C_i - M - C_j$, is an epoch-making innovation that breaks the unity of time and space of transactions and expands the set of potential buyers or sellers. This allows a much larger set of exchange options (trade flexibility) because it relaxes the binding constraint of the “double coincidence of wants” typical of barter, and because the second part of the transaction can occur elsewhere and in another time. Money itself preserves purchasing power through time and space playing the role of value reserve. The introduction of more sophisticated financial instruments progressively refined and extended in increasingly complex forms the redistributive function of money and financial assets. For example, the letters of credit were systematically in use already in the medieval Champagne fairs to make easier the transfer of purchasing power in time and space. Bills of exchange and promissory notes expanded in the Middle Ages their tradability that made more effective their role of transferring purchasing power between economic agents through time and space. According to the historical record, futures contracts were already largely in use during the height of the Dutch tulip mania in the early seventeenth century to transfer purchasing power through time more efficiently. Examples of this kind abound and mark the evolution of finance. However, to understand the expanded redistributive role of modern finance, we have to focus mainly on two of its crucial features: the concession of credit to entrepreneurs, and the production and trading of derivatives. In the three

decades after the end of WWII, the financial markets thrived profiting of the unprecedented growth rates that characterised industrial economies. For example,

when the Investment Company Act of 1940 was passed, in the wake of all the other Depression-era financial reforms, mutual funds were a relatively unimportant part of the investment scene, with only 300,000 shareholders and \$450 million in assets under management. By 1967, there were 3.5 million shareholders and \$40 billion in assets. (Mehrling 2005, 60)

This growth inevitably raised problems. The directive form of regulation ruling in the Bretton Woods Era reacted by updating regulation through the Investment Company Amendments Act of 1967. As occurs in all kinds of market transactions, financial transactions are voluntary and occur only when all counterparts expect to improve their wellbeing by implementing them. The iconic case of financial transaction is the concession of credit to a borrower. The latter aims to obtain an amount of purchasing power to buy without delay, for example, consumer goods (consumers), a house (families), a commercial estate, or plants and machinery (entrepreneurs). The creditor acts to obtain a sequence of cash flows (interest and principal payments). In the actual financial process, the transfer of purchasing power through time and space can be very complex depending on the network of nominal credit relations and on the variability of their value through time. To clarify this issue, it is useful to start the analysis from a glimpse of the far-reaching, if somewhat simplistic, insights of Schumpeter (1934 [1911]). As is well known, the great Austrian economist distinguished in a capitalist economy the circular flow that reproduces an unchanged structure in equilibrium, from development that is propped by the real investments of innovating entrepreneurs. In his opinion, the mainstream model of general equilibrium adequately describes the circular flow of the system, but is unable to account for its development. Money and finance play a crucial but different role in each of these processes by promoting the efficiency of the circular flow and by making possible the process of development. According to Schumpeter, the redistributive role of finance is essential to transcend the intrinsic stationarity of the circular flow implementing structural change and development. This is because, in a general equilibrium model, all markets clear and fully employ all available resources so that there are no resources available for the entrepreneurs who intend to introduce significant innovations. Finance solves

the problem by creating purchasing power for the innovators who use it to mobilise the resources required to implement the planned innovations. Whenever these innovations are successful, they change the nature of the circular flow, improve the efficiency of the system, and increase per capita income. In this emblematic case, the redistribution of purchasing power finds a robust justification because the implemented innovations increase not only the profits of the innovators but also the income of the other agents. In the case of full employment, the credit to entrepreneurs provides the purchasing power necessary to finance investment by shifting in their favour the control of productive factors and other inputs necessary to implement the investment. This line of reasoning is particularly pregnant in the case of innovative investment that Schumpeter considers as the ultimate mainspring of economic development. In the case of persistent structural unemployment, the distributive consequences of credit to entrepreneurs are more complex. Up to a point, idle resources can be mobilised without dislocating their current use and without generating bottlenecks and inflationary pressures. Moreover, according to Keynes (1936), the additional investment made possible by further credit to entrepreneurs increases per capita income through the multiplier. Keynes, however, stressed a compelling counter-example. Let us suppose that the extra purchasing power is used to speculate. Speculation is an engine of redistribution of income, as any lottery is. All participants pay one or more tickets to participate, but only few of them win. Therefore, successful speculators increase their income but the other subjects do not draw direct benefits unless some sort of trickle-down process may benefit them indirectly. Unfortunately, according to the empirical evidence, the trickle-down mechanism is very weak.²⁶ In addition, this unbalanced increase of purchasing power often triggers a vicious circle. The subjects who benefit of the creation of purchasing power can use the enhanced market power to improve it further, progressively deviating from the conditions of perfect competition. In addition, they could have the temptation of using this advantage to manipulate the markets and/or to influence the decision of policy makers, regulators, and supervisors. In this case, speculation becomes an unfair lottery where the probabilities of victory are strongly biased in favour of a particular category of subjects.

In contemporary finance, however, it is the huge process of manufacturing and trading of derivatives that generates the most important redis-

²⁶ See, for example, Stiglitz (2010, 2015).

tributive effects. As Stout maintains, “A derivative is nothing more, or less, than a bet: a promise to pay money determined by the occurrence or non-occurrence of some future event” (Stout 2011, 3). A financial bet is in its essence a device to redistribute purchasing power among people, a device that may have different purposes and consequences. As for the purposes, we distinguish two of them—insurance and speculation—that play a crucial role in finance and command a different normative judgement. Insurance redistributes income from all the underwriters to some of them that have been the victims of the negative event insured. This offsets the risk of a loss for the policy underwriters qualifying as a beneficial economic instrument for all of them.

The case of speculation is much more controversial. Like insurance, speculation is a device for redistributing income between people, but its modalities and consequences are questionable from the point of view of distributive justice. Let us take the simplest possible case: a game of chance such as the roulette. In this case, we have a redistribution of income from losers to winners that is difficult to justify for its social merit. In addition, there is a transfer of income from bettors to the subject that organises the game. This is true also for the investment banks that organise the huge business of speculation. This sort of redistribution is particularly questionable when the organiser of the lottery manipulates the results for its own sake. Investment banks are not immune to this accusation. Derivative trading involves bets that can be closer to insurance (hedging) or to speculation (gambling). From the point of view of normative judgement and regulation, it is important to understand to what extent derivative trading is interpretable as hedging or gambling. In the case of gambling, we find different points of view in economic and finance theory. The most influential in mainstream economics and finance are the risk hedging theory and the information arbitrage theory. The risk-hedging theory views speculative trading as the result of traders’ different attitudes toward risk. The more risk-averse traders accept a price that is lower than that accepted by less risk-averse traders. The ensuing trades redistribute risk according to the risk propensity of traders improving the well-being of all of them. This sort of speculative trading is, thus, believed to be beneficial to society. However, this is not granted because the dispersion of risk aversion among speculators could be calibrated around an unrealistic value. During a financial boom, for example, the average perception of risk is typically too optimistic as the irrational exuberance of markets affects its appraisal. Should we believe that less risk-averse traders

are better to manage risks on behalf of society? Should we redistribute risks to gamblers?

A different point of view on speculation is suggested by the information arbitrage model that explains speculative trading as the result of the different willingness of traders to invest in information.²⁷ The trade is in this case a zero-sum game where the arbitrageur's profits come at the liquidity trader's expense. The supporters of this model claim that this sort of trade is beneficial for society for two basic reasons. First, information arbitrageurs add allegedly useful liquidity to the market; second, they identify mispriced assets and correct market prices. These arguments greatly contributed to put speculators in a good light with economists, policy makers, and regulators. However, these arguments are not as robust as they seem at first sight. Liquidity is certainly a good thing for single decision-makers but the consequences for society depend on its aggregate supply and on how the liquidity is used. In recent time, the banks that benefitted from the additional liquidity injected by quantitative easing used it mainly to increase speculation rather than real investment. As for price discovery, an extensive literature has shown that successful learning within a strongly uncertain milieu requires a host of conditions that are often counterfactual.²⁸

We have to consider now a third approach to speculation that is more general and captures much better the core of its contents. In all markets, trade requires a relevant difference between the evaluations of traders. The actual exchange occurs when would-be traders agree on an equilibrium price that arbitrates their different evaluations. This is true also in financial markets. The most popular theories of speculative trading single out a particular category of relevant differences among traders that allow a positive normative assessment of its social consequences. As we have seen, this is the case with risk hedging and information arbitrage. However, as soon as we take a more general point of view, the reasons in favour of speculation lose much of their weight. A far-reaching theory that goes in this direction explains speculative trading as the outcome of "heterogeneous expectations" or subjective disagreement about the future.²⁹ It is possible to show that in this case, at least in principle, speculative trading increases risk for traders without obtaining offsetting social benefits. In particular,

²⁷ See Grossman and Stiglitz (1980).

²⁸ See, for example, Evans and Honkapohja (2001).

²⁹ See Hirshleifer (1977), and Stout (1995, 1997).

speculation does not add liquidity for other traders and does not improve the accuracy of asset prices.³⁰ Contrary to good sense and a long tradition in economics and finance that has been influential before the neoliberal revolution started in the late 1970s, speculation based on disagreement between would-be traders is altogether neglected, or bluntly played down, by mainstream theory. The no-trade theorem gives a clue for this surprising attitude by asserting that differences of opinion between rational traders could not be a sufficient reason to implement a trade.³¹ This so-called theorem that looks rather as a sheer tautology depends on a series of counterfactual assumptions: all traders are rational and entertain homogeneous expectations,³² markets are in a state of efficient equilibrium, and there is common knowledge about the structure of markets. Therefore, the only difference of opinion between rational traders allowed by the model is the possibility that some traders may have private information. Under the assumptions summarised above, if one or more traders make an offer, none of the other traders would accept it because only missing private information not in their possess could motivate such an offer, while its acceptance would make them losers.³³ No wonder that in the arguments of ruling economics and finance theory there is no room for disagreement speculation and its dire implications. The mainstream approach excludes by definition the relevance of disagreement speculation for economic analysis without seeking the support of either robust arguments based on realistic assumptions or a rigorous interpretation of the empirical evidence. We may now understand better why mainstream economics was unable to forecast the role of unbridled speculation in the building up of the Great Financial Crisis, and proved then unable to manage its consequences and to take the necessary measures to avoid its repetition.

This brief critical survey of the main theories of speculation has a lot to do with the issue of redistribution of income discussed in this section. Mainstream theories of speculation tend to argue that the winners of speculation lotteries deserve the prize (and thus the redistribution in their favour) because their speculative activity benefits society, while the more realistic theory based on the disagreement between bettors deprives of any

³⁰ See Stout (2011, 9).

³¹ See Milgrom and Stokey (1982).

³² Therefore, the assumptions of the model exclude the presence of noise traders.

³³ The assumptions of this theorem are the usual assumptions of mainstream theory since the inception of the New Classical Economics revolution (Lucas 1981; see Vercelli 1991 for a comprehensive critique of this approach).

social justification, the huge and persistent redistribution of income that occurred in the last decades. Though correlation does not imply causation, in the following chapters, this book will spell out a few arguments that corroborate this hypothesis. In particular, Chap. 5 will mention recent empirical support for this thesis, while Chaps. 7 and 8 will discuss the implications of this point of view for the regulation of the financial system.

2.7 THE NEW ROLE OF CENTRAL BANKS: THE ASYMMETRIC SIGHT OF JANUS

During the last three centuries, central banks have progressively evolved as the main interface between the financial system and the government. It is, so to say, the Janus Bifrons of a market economy, the mediator and gate-keeper between finance and the sovereign ruler.³⁴ This role became so important during the Second Financialisation (started in the late 1970s) that the central bank turned into the crucial, though controversial, pivot of the regulatory apparatus, monetary and financial policy, and indirectly of the entire economic policy.

The genesis of central banking shows how the state tried to solve its pressing financial needs by soliciting the support of big private financial institutions, granting in exchange rents and privileges such as the right to issue money. The compromise between private and public finance has always been precarious and controversial, particularly in emergency periods when the government had to bear extraordinary expenses to finance a war or to overcome a financial crisis.³⁵ The dimensions of the financial problems of the Sovereign and their urgency suggested the establishment of a central institution playing the role of regulator of the complex and delicate relations between the state and private finance. As is well known, pioneers of central banking were the Bank of Amsterdam (Amsterdam Wisselbank), established in the Dutch Republic in 1609, and the Sveriges Riksbank

³⁴This metaphor is surprisingly appropriate to the case in point. In ancient Rome, Janus Bifrons was the god of change and transition, usually depicted as having two faces—a face that looks to the past and the other one to the future. As I argued in the preceding sections, the ultimate role of finance in a market economy is that of facilitating structural change, and this is often done by connecting present and future in new innovative ways. It is not surprising that, already in ancient Rome, Janus was believed to be the god of financial enterprises. In addition, according to a popular myth, Janus was the first to mint a coin (Macrobius 2011).

³⁵See Alessandri and Haldane (2009).

established in Sweden in 1668.³⁶ These early examples of progressive centralisation of banking activity still lacked many of the features that we attribute to full-fledged central banks.³⁷ The paradigmatic model of central bank emerged with the Bank of England established in 1694 by William III, ruler of Britain and the Netherlands—the countries where finance was more developed—to cope with the war against France. Most other advanced countries followed the evolution of the Bank of England. At the beginning, the central bank was a sort of “last-resort institution” whose existence was justified in emergency but not in tranquil times.³⁸ The rudimentary institutions established since the early seventeenth century to interface private finance and sovereign policy started to assume the physiognomy of a modern central bank only in the second half of the nineteenth century during the First Financialisation. In the UK, the Bank Charter Act of 1844 made a crucial step by restricting to the Bank of England the authorisation to issue new banknotes conditional to their being 100% backed by gold. The Act gave the Bank of England an effective monopoly on the printing of new notes and anchored its exercise to a strict gold-standard principle. In consequence of this Act, the Bank of England became the monetary authority regulating the supply of currency to guarantee monetary stability. A sequence of financial crises made soon evident that monetary stability did not guarantee financial stability, also because commercial banks had retained the power of creating credit money. Therefore, the Bank of England received the mandate of regulating also credit creation by controlling the rate of interest. However, even this extension of its powers was not sufficient to prevent financial crises.

³⁶ The bank was so renamed in 1867. A detailed account of the genesis of central banking may be found in Ugolini (2017).

³⁷ For example, the Sveriges Riksbank did not have a monopoly over issuing bank notes until 1904.

³⁸ In the US, for example, under the initiative of the Secretary of the Treasury Alexander Hamilton, the Congress chartered in 1791 the First Central Bank of the United States that lasted only twenty years. The Federal government chartered in 1816 the Second Central Bank of the United States but also in this case after twenty years its charter was not renewed. After these two false starts, diverse regimes of decentralised banking followed: first a period of free banking (1836–1862), and then a period of National Banks (1863–1913). The Federal Reserve was established only in 1913 after the financial panic of 1907. Its role was limited to money creation of last resort to prevent the disruptive debt deflation triggered by monetary panics. After WWI, its powers were enlarged, extending them also to money creation, but their questionable use contributed to the late-1920s stock market bubble and the ensuing Wall Street breakdown (Friedman and Schwartz 1963).

Some forward-looking scholars and high-level practitioners solicited the Bank of England to intervene to mitigate the financial crises by acting as “lender of last resort”. Henry Thornton (1939 [1802]) put forward the most robust early arguments in favour of this policy. In particular, he argued that the Bank of England, having the monopoly of money creation, had the responsibility—and the power—to prevent or mitigate a credit crunch by increasing the supply of credit. Thornton’s arguments took time to influence the policy pursued by the Bank of England, because they seemed *prima facie* inconsistent with the principles of *laissez-faire*. After the deep financial crisis of 1866, Walter Bagehot, who was then editor in chief of *The Economist*, resumed and updated Thornton’s arguments arguing that the Bank of England should officially become a lender of last resort during a credit crunch (Bagehot 1873).³⁹ The Bank eventually accepted to play—at least to some extent—this controversial role. The Bank of England, that was still a private bank, adopted this new role only since the 1870s after the widespread criticisms received for its inability to counteract the Overend Gurney financial crisis.⁴⁰ This change of attitude reflects the emerging awareness of economists, practitioners, and public opinion that monetary and financial stability are public goods that free banking is unable to evaluate and guarantee.⁴¹ Therefore, the central bank has been solicited to surrogate the market by internalising the external costs of instability and crises, in the conviction that this policy could improve the collective wellbeing.⁴² The disposition that the central bank should not earn profits on this sort of credit confirms that it has to provide this sort of credit to reach public targets within a public framework (*ibidem*).

In the following period until now, the powers of central banks continued to ebb and flow in consequence of the vagaries of monetary and financial stability. The general trend has seen a progressive extension and deepening of its powers and responsibilities that co-evolved with the pro-

³⁹ According to the famous Bagehot’s rule, the central bank should lend “at a very high rate of interest ... The rate should be raised early in the panic, so that the fine may be paid early... Secondly, that at this rate these advances should be made on all good banking securities, and as largely as the public ask for them...the majority to be protected, are the ‘sound’ people, the people who have good security to offer” (Bagehot 1873, 57–58).

⁴⁰ See Sowerbutts et al. (2016).

⁴¹ I use here a slightly anachronistic language borrowed from the theory of public goods that was going to be developed a few decades later following the path-breaking contribution of Pigou (1920).

⁴² See Bordo et al. (2016, 3).

cess of financialisation. In this section, the focus is limited to the crucial issue of the independence of the central bank that I will resume in more depth in Sect. 8.4. It is obvious that an institution that plays the role of referee in a strategic game involving contrasting interests must be independent of them to avoid distortions of the “level playing field”. However, this institution should not be independent of the strategic directives and rules of the game established by a democratic polity in the interest of all players (that is all citizens). In the following decades, the timid and discontinuous application of this doctrine improved to some extent the financial stability of the system and mitigated the consequences of financial crises but was insufficient to prevent the Great Depression of the 1930s. This deep and persistent crisis changed the role of central banks enhancing their responsibilities and operational effectiveness, though within a new paradigm in which their independence was explicitly constrained. The central bank became, so to say, the agent of the monetary and financial policy of the government. It applied it in the interest of the financial system but within guidelines that aimed to contribute to the public wellbeing. The issue of independence of central banks changed meaning and implications through time following the evolution of both the financial system and the state. In its turn, the way in which independence was conceptualised and implemented had an important impact on the evolution of the state, the financial system, and their mutual relationship. The proto central banks of the seventeenth and eighteenth century struggled to keep a certain degree of independence from the monarch mainly to defend the private creditors from abuse. In that period, the defence of the independence of the central bank from the monarch—together with the emerging role of the parliament—played the role of an important germ of democracy. In the emerging—though still partial—democracies of nineteenth century, where voting was limited to men of property, the issue of independence concerned mainly the conflict between diverging interests within the ruling class: financiers, rentiers, landowners, and entrepreneurs. In the democracies of twentieth century, where voting had become a right of all citizens, the conflict that a central bank had to mediate was between the interests of all citizens as represented by the democratic institutions (in particular parliament and government) and the interests of a part of them aligned with those of the financial system. In the period of Bretton Woods (1944–1972), the central banks retained a broad operational independence on monetary issues within the policy guidelines set by the government democratically elected. In the 1970s, there was a radical change of

perspective in reaction to the stagflation of the period attributed to the obnoxious influence exerted by governments on the monetary and financial policies implemented by central banks. The new view, advocated by New Classical Economics and neoliberal political thinking, sought a complete independence from the pressures of political parties and the constraints set by the government itself. This view became mainstream very rapidly and led to extensive reforms implemented since the early 1980s to guarantee this sort of independence. In what follows, I am going to call it “neoliberal independence” of central banks, to avoid confusion with alternative conceptions of their independence. This particular view relies on the strong assumption that there is just one correct, or “scientific”, view of economics and finance. Only in this case, the democratic institutions could legitimately delegate the control of the monetary and financial system to a fully independent agency in the conviction that this does not necessarily violate the basic rules of democracy. I argued elsewhere that the assertion that there is just one correct or “scientific” view of economics and finance is false and misleading (Vercelli 2017). Therefore, we have to safeguard the pluralism of theory, policies, and politics in agreement with the principles of democracy.⁴³

2.8 CONCLUDING REMARKS

This chapter has shown that the evolution of the financial system since the late 1970s has greatly increased the influence of finance upon the entire economy. In particular, this process has determined a growing impact of finance on the distribution of income, and a progressive convergence of the financial system and the real economy towards a similar model of business in which the financial targets are taking over the real ones. Both trends require a drastic structural correction of the financial system to comply with the normative principles of comprehensive sustainability discussed in the first chapter. The progressive disregard for use value, not only in the financial sector but also in the non-financial sector, is inconsistent with the necessary attention for the effective opportunities of people and their equitable distribution among them. Moreover, the short-period maximisation of value for the shareholders is inconsistent with corporate and political democracy as well as with the well-being of future generations. The neoliberal independence of the central bank implemented since

⁴³ I will resume and develop this point of view in the Sects. 5.8, 6.3, and 8.4.

the early 1980 greatly contributed to distort the economic system in the interest of the financial system disregarding the wellbeing of all citizens. The correction of these unsustainable features of financialised capitalism requires a radical change in the model of its regulation. This is a very difficult task, not only because the current model claims the alleged support of mainstream economics and finance, but also because the recent evolution of financialised capitalism continues to raise the bar for the required regulatory endeavour. Moreover, the convergence between financial and non-financial business weakens the mechanisms of check and balances between industrial and financial capitalism. In the early 1930s, the alliance between industrial capitalism and government promoted by Roosevelt made possible a radical change not only in the economic policy strategy (New Deal) but also in the model of regulation of the financial system (Bank Act of 1933). It is today much more difficult to contain the dominance of finance and resist its systematic lobbying and its attempts of regulatory capture because of the convergence of the real economy with the financial system. As for the inversion of the current devastating tendency towards growing inequality, we should analyse in depth causes and consequences of the huge impact exerted by finance on income distribution to succeed in taking the right countermeasures.

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The Emergence of Modern Financial Economics

3.1 INTRODUCTION

Since the 1970s, the evolution of financial economics (also called simply finance) has deeply influenced the evolution and performance of the financial system.¹ Since its birth, economics has encompassed a branch studying the financial system, namely financial firms (in particular banks), markets (in particular assets, credit, and currency markets), and institutions (in particular central banks). However, only after WWII this branch of economics has acquired the status of autonomous sub-discipline, often called Modern Financial Economics, with its own rigorous paradigmatic hallmarks. Until then, “finance was essentially a collection of anecdotes, rules of thumb, and manipulation of accounting data with an almost exclusive focus on corporate financial management” (Merton 2006, 12). In the following period, financial economists became progressively aware of the growing importance of this sub-discipline and proud of its crucial influence

¹In this book, I use both denominations for this discipline: “financial economics” or “finance”. The latter denomination, however, is intrinsically ambiguous as it may refer to the discipline or to its object. I will, thus, use it only when the context eliminates any ambiguity. In the case of economics, this ambiguity does not exist as the different word “economy” indicates its object. In 1992 was founded the International Association of Financial Engineers whose scope largely overlaps with financial economics, showing the growing importance of “quants” in the profession.

on both economics and the real world.² According to Eugene Fama, who is widely recognised as a particularly charismatic pioneer of Modern Financial Economics,

finance is the most successful branch of economics in terms of theory and empirical work, the interplay between the two, and the penetration of financial research into other areas of economics and real-world applications. (Fama 2011, 1)

Fama maintains that the Modern Portfolio Theory (MPT) worked out by Markowitz (1952, 1959), and the “capital structure irrelevance principle” put forward by Modigliani and Miller (1958) pioneered the new rigorous approach that transformed financial economics in a “serious scientific discipline” (*ibidem*). Other two pillars soon strengthened the foundations of the new scientific building: the Capital Asset Pricing Model (CAPM) suggested independently by Sharpe (1964) and Lintner (1965), and the model of option pricing suggested by Black and Scholes (1973) and independently by Merton (1973). The “Efficient Market Hypothesis” (EMH) worked out by Fama (1965a, b, 1970) provided the crucial keystone to complete the foundations of Modern Financial Economics giving apparent solidity and far-reaching appeal to the new building. On these foundations, financial economists progressively built new important additions. In this chapter, I need to mention only one of them, namely the theory of “shareholders primacy” introduced by Jensen and Meckling (1976). This theory has played a crucial role in the co-evolution of the financial theory and the financial system, and has contributed to give to modern financial economics the role of strategic headquarter of the Second Financialisation. The new view of finance provided a sanguine appraisal of financial firms, markets, and institutions that researchers appreciated for its analytical potential, policy makers for the alleged “scientific” support to the emerging neoliberal views, and practitioners for its rewarding operational approach that encouraged and justified the exponential growth of the financial sector. The growing interaction between financial economics and

²The ranking of most quoted authors in economics provides an eloquent sign of such deep and pervasive influence. In recent years, we find in top positions financial economists such as Michael Jensen, Eugene Fama, and Robert Merton. Another significant sign of the prestige reached by Modern Financial Economics is that all the main exponents of this sub-discipline received the Nobel Prize in economics, including Fama, Markowitz, Miller, Merton, Jensen, Sharpe, and Scholes.

the financial system produced a progressive alignment between the two. This feedback was a crucial mainspring of the Second Financialisation and gave it a strong momentum and a deep imprint. However, it produced also a vicious circle between the group thinking of policy makers, regulators and supervisors and the herd behaviour observed in financial markets, vicious circle that contributed to the instability of the system, its eventual breakdown during the Great Financial Crisis of 2007–2009, and the subsequent persistence of many pathological consequences. The alignment between group thinking and herd behaviour in the market makes extremely difficult to proceed toward a badly needed change of direction in the evolution of the financial system and its regulation.

This chapter discusses first the genesis of Modern Financial Economics (Sect. 3.2) and then its founding pillars: Markowitz portfolio theory (Sect. 3.3), the Modigliani-Miller theorem (Sect. 3.4), the Capital Asset Pricing Model (Sect. 3.5), and the Black-Scholes-Merton (BSM) model of option pricing (Sect. 3.6). Section 3.7 discusses the Efficient Market Hypothesis that provides the keystone that keeps together the fundamental pillars of modern financial economics. Finally, Sect. 3.8 critically examines the primacy of shareholders, one of the most important early additions to the alluring building of financial economics. Section 3.9 points out the fragility of the glittering building of Modern Financial Economics. Its predictions played the role of self-fulfilling prophecies that originate their own success in the short period but are destined to fail in the longer period.

3.2 THE GENESIS OF MODERN FINANCIAL ECONOMICS

Any mainstream usually originates from the confluence of two or more tributary streams. In the case of finance, we may easily sort out the principal ones. The most important early source of Modern Financial Economics can be located at Massachusetts Institute of Technology (MIT), where Samuelson contributed to its birth in many decisive ways. First, he provided modern foundations for the equilibrium method that characterises Modern Financial Economics (Samuelson 1947). This method relies on the conflation of optimisation and equilibrium in microeconomics that he extended to the economic and financial system as a whole.³ Second, since

³Later on, New Classical Economics worked out an extreme version of this approach based on axiomatic foundations rather than on dynamic foundations and extended its application to macroeconomics itself (see in particular Lucas 1981, and the critical comments in Vercelli

the early 1950s, Samuelson systematically promoted research in the financial field by utilising up-to-date mathematical methods often borrowed from physics. No wonder his mentees contributed in a crucial way to the development of modern finance.⁴ Third, more specifically, he contributed to clarify what kind of mathematical approach could foster the equilibrium approach in financial economics. In particular, in his proof that “properly anticipated prices fluctuate randomly”, Samuelson (1965) profited of its excellent background in thermodynamics⁵ and of his first-hand perusal of the path-breaking PhD thesis by Bachelier (1900),⁶ to interpret the updated empirical evidence on the behaviour of asset prices in terms of Brownian motion (or random walk).⁷ With this and following papers, Samuelson intended to clarify why, and in what sense, financial markets are micro efficient but not macro efficient. Samuelson is clear on this point: “what makes macro efficiency impossible is the hard fact that economic history [...] obeys no stationary probabilities. No means none at all. At best, the keenest trader is faced only with quasi-stationary approximations” (Samuelson 2009, 26 and 29).⁸ That is why in his opinion we cannot rely on market self-regulation: “free markets do not stabilize themselves. Zero regulating is vastly suboptimal to rational regulating” (Samuelson 2009, 34).

The second main tributary stream of modern financial economics sprang within the Graduate School of Industrial Administration at Carnegie Mellon. In the late 1950s and early 1960s, the active interaction

1991). Samuelson never accepted this extreme version of the equilibrium approach and its implications for macroeconomic policy and the regulation of the financial system (see Chap. 4).

⁴A particularly eminent example is Robert C. Merton, the son of the famous sociologist Robert K. Merton, who obtained the Nobel Prize in economics in 1997. After the PhD in Applied Mathematics, he wanted to apply his skills in the emerging field of finance but all the most prestigious universities rejected his applications until he found the full support of Samuelson at MIT.

⁵Samuelson absorbed this knowledge from his Harvard teacher Edwin Bidwell Wilson who was “the last student of J. Willard Gibbs’ at Yale...[and]...had worked creatively in many fields of mathematics and physics lectures on thermodynamics” (Samuelson 1970, 68).

⁶As is well known, Samuelson played a crucial role in the rediscovery of Bachelier’s seminal thesis.

⁷Samuelson shows in his writings on financial issues a keen critical awareness that many financial economists progressively lost in consequence of the amazing practical success of this sub-discipline (see e.g. Samuelson 1965).

⁸On this point, it is evident the direct influence exerted by Schumpeter who was Samuelson’s teacher in Harvard.

that developed there between great economists such as Modigliani, Miller, Simon, and Muth⁹ had a great impact on the birth and early life of modern financial economics and its subsequent split in two main alternative research programmes: the mainstream equilibrium approach and the alternative behavioural approach (see Sect. 4.6). In the period of steady growth after the end of WWII, all these researchers were seeking operational maximisation rules fit to exploit the buoyant conditions of markets.¹⁰ A particularly important early boost to modern financial economics came from the epoch-making contribution to the field of corporate finance by Modigliani and Miller (1958). The “capital structure irrelevance principle” enunciated in this paper argued the counter-intuitive thesis that—in the absence of taxes, bankruptcy costs, agency costs, and asymmetric information—the value of a firm in an efficient market is not affected by how that firm is financed. This paper became soon an influential early example of the equilibrium approach in micro finance based on the rationality of the agents and the no-arbitrage assumption. A few years later, the equilibrium approach received a formidable impulse in the same university from the path-breaking contribution of John Muth on rational expectations (Muth 1961).¹¹ Muth focused on the lack of rationality characterising the existing models of expectations formation. To clarify this issue, he worked out a formal concept of expectations formation fully complying with economic rationality. He assumed that since expectations are informed predictions of future events, they are essentially the same as the predictions of the relevant economic theory (Muth 1961).

In 1962, Modigliani moved to MIT and strengthened significantly the local stream of financial economics, while in 1961 Miller moved to Chicago contributing to invigorate the equilibrium approach to financial economics in this University where it was going to thrive also in macroeconomics.¹² This approach was not a novelty in Chicago as Markowitz had already adopted an early version of it in his PhD dissertation on Modern Portfolio Theory (1951), a contribution that would soon become

⁹All of them obtained subsequently the Nobel Prize in economics.

¹⁰A case in point was the search for simple operational rules that could improve the production and inventory management of a firm (see e.g. Holt et al. 1960).

¹¹Shiller (1978) credited Grunberg and Modigliani (1954) as the earliest post-war anticipation of the Rational Expectations Hypothesis (REH). Modigliani, however, never agreed with the subsequent use of this hypothesis in macroeconomics.

¹²This occurred also because Franco Modigliani often visited him keeping alive a fecund collaboration.

one of the main pillars of Modern Financial Economics. However, Milton Friedman, who was a member of the thesis committee, maintained that the object of the thesis “was not economics” (Markowitz 1991). This objection did not impede the attribution of the title but betrayed a widespread scepticism, shared in that period by many Chicago economists, on the equilibrium approach as pioneered by Markowitz.¹³ The arrival of Miller signalled a change of attitude and greatly contributed to a rapid catching-up. This spurred the collaboration with other colleagues interested in finance such as Harry Roberts, a shrewd statistician interested in finance, and Benoit Mandelbrot, an innovative mathematician who was an occasional but inspiring visitor. Their lively interaction soon had a significant impact on a new generation of researchers such as Jack Treynor, Eugene Fama, Fischer Black, and Michael Jensen. Though the stream of modern finance materialised in the University of Chicago with some delay, this University soon became a powerful stronghold of the equilibrium approach to modern financial economics and macroeconomics.

By the early 1970s, financial economics had reached the status of a mature scientific discipline built upon four pillars believed to be rigorous and empirically robust:

1. the Modern Portfolio Theory (MPT worked out by Markowitz 1952, 1959)
2. the “irrelevance of financial structure theorem” (argued by Modigliani and Miller 1958)
3. the Capital Asset Pricing Model (CAPM) suggested by Sharpe (1964) and Lintner (1965)
4. the Black-Scholes-Merton (BSM) model of option prices proposed independently by Black and Scholes (1973) and Merton (1973)

The Efficient Market Hypothesis (EMH), as first enunciated by Fama (1965b, 1970), played the role of keystone that crowned the foundations of the building and provided it with a captivating facade. Modern Financial Economics had a great impact on the history of economic analysis and its coevolution with financialised capitalism. The Nobel Prize committee itself emphasised in 1997 that the methodology of financial economics, as exemplified by the Black-Scholes model, “has paved the

¹³We may speculate that this attitude slowed down for a decade or so the development of modern finance in this University.

way to economic valuation in many areas. It has also generated new types of financial instruments and facilitated more efficient risk management in society” (quoted in Mehrling 2005, 3). In the same year, the downfall of the huge hedge fund Long Term Capital Management (LTCM) graphically evidenced the big risks brought about by this process of co-evolution.¹⁴

3.3 MARKOWITZ MODERN PORTFOLIO THEORY (MPT)

Markowitz financial microeconomics innovated standard microeconomics by focusing on optimising investors acting under uncertainty rather than on firms and consumers acting under certainty as it was usual before.¹⁵ What was lacking prior to 1952 was “an adequate theory of investment that covered the effects of diversification when risks are correlated, distinguished between efficient and inefficient portfolios, and analysed risk–return trade-offs on the portfolio as a whole” (Markowitz 1999, 5). Uncertainty compels a rational investor to think in terms of an asset portfolio because in this case diversification reduces risk. However, the risk of a diversified portfolio is less than the risk of holding any single stock on condition that the risks of the stocks included in the portfolio are not correlated. Modern Portfolio Theory asserts that individual stock returns have two risk components: (i) systematic risk (deriving from factors such as policy measures, economic fluctuations, and wars) that the agent cannot diversify away, and (ii) unsystematic (or specific) risk that the agent can diversify by increasing the number of uncorrelated stocks in the portfolio. The risk of each stock contributes little to a well-diversified portfolio risk. It is the covariance between individual stocks’ risks that determines the overall portfolio risk.

Markowitz (1952) analyses portfolio selection as a two-stage decision process. In the first stage, the decision maker determines a set of efficient portfolios. A Markowitz-efficient portfolio is one where the investor cannot lower the portfolio’s risk by increasing its diversification for given returns expectations; analogously, the investor cannot increase the expected returns of the efficient portfolio without increasing its risk. The

¹⁴The LTCM’s board of directors included the Nobel Laureates Myron S. Scholes and Robert C. Merton who inspired the investment strategies pursued before its collapse.

¹⁵Andrew D. Roy independently elaborated a similar theory of portfolio selection (Roy 1952).

Markowitz Efficient Frontier is the set of portfolios that give the highest expected returns for each level of risk. In the second stage, the decision maker selects the best portfolio out of the efficient set according to individual risk preferences. The investor may further enhance returns by combining an efficient portfolio with a risk-free asset¹⁶ funding its purchase by borrowing. The return from a portfolio is the risk-free rate plus risk premium, namely the product of the market price of risk and the quantity of risk. The model of Markowitz, as any model, relies on idiosyncratic assumptions some of which are particularly questionable. In particular, it assumes that the investor is rational and risk averse. The model defines risk as standard deviation from the mean of expected returns. Finally, the model assumes that given certain expected returns, investors prefer lower risk to higher risk.¹⁷

The original version of the model has been criticised in the light of the empirical evidence for a host of reasons. In particular, while the model presupposes that returns are normally distributed, Mandelbrot (1963) found that price changes in financial markets do not follow a Gaussian distribution but rather a Pareto (or Lévy) stable distribution having infinite variance. He found, for example, that cotton prices followed a Lévy stable distribution with parameter α equal to 1.7 rather than 2 as in a Gaussian distribution.¹⁸ Another shortcoming of the model depends on the fact that the returns of highly leveraged portfolios are highly sensitive to small changes in the returns of one or more component assets. This depends on the mean-variance optimisation adopted by the model. Scherer defined this sort of optimisation as an “error maximisation” device: “an algorithm that takes point estimates (of returns and covariances) as inputs and treats them as if they were known with certainty will react to tiny return differences that are well within measurement error” (Scherer 2002, 98). In addition, the amount of information required to compute a

¹⁶A risk-free asset has certain future returns. Risk-free assets do not literally exist but some assets may have a very low risk. Cases in point are government-backed bonds that are usually assumed free of default risk, although expectations of inflation and interest rate changes are likely to affect their value and risk.

¹⁷The model does not contemplate the case of shareholders who accept lower returns for higher risk, although it is well known that some subjects (such as [Casino gamblers](#) and [Ponzi traders](#)) behave as risk lovers.

¹⁸“Stable” distributions have the property that the sum of many instances of a random variable follows the same distribution but with a larger scale parameter.

mean-variance optimal portfolio, for example about the covariance matrix, is often intractable.¹⁹

3.4 THE MODIGLIANI-MILLER THEOREM

In their seminal contribution, Modigliani and Miller (1958) extended the analytical method of microeconomics, as applied in Markowitz's portfolio theory, to the field of corporate finance that since long had been a crucial topic of financial theory. The basic idea is that in financial markets the economic agents maximise their objective function, while the assumption of no arbitrage plays a crucial role in the definition of market equilibrium. As is well known, arbitrage is the simultaneous purchase and sale of an asset to profit from a difference in the price of identical or similar financial instruments on different markets or under different conditions. In a perfect-competition model that implies the law of one price, arbitrage may exist only in disequilibrium because of market inefficiencies. We have arbitrage equilibrium when market prices do not allow for profitable arbitrage. Arbitrage equilibrium is a necessary, though not sufficient, condition for equilibrium in a market, and thus also for a general economic equilibrium in all markets. This equilibrium approach, subsequently extended in different directions, plays a crucial role in modern finance on a variety of issues. In arbitrage equilibrium, and under a host of counterfactual assumptions (in particular no taxes, no transaction and bankruptcy costs, information symmetry), Modigliani and Miller (1958) demonstrate the irrelevance of the capital structure of a firm. The so-called Modigliani-Miller theorem provides early examples of the incautious use of Modern Financial Economics. Also, people trained in financial economics often misunderstand its meaning and misapply its implications to the real world, as if the value of a firm were actually unaffected by how it is financed. As Samuelson asserted:

Top MIT graduate students would too often write exam passages like the following: Modigliani-Miller have proved that any and every corporation can indifferently employ much or little positive leverage and much or lit-

¹⁹ Some limitations of the first version of the model have been relaxed by subsequent contributions. For example, the original model is based on a single period investment. This restriction was subsequently relaxed (Merton 2013).

tle negative leverage... This is quite wrong. What Modigliani-Miller asserted boils down to is only a weak tautology: under idealized conditions where everyone can borrow or lend at the same interest rate, whenever I am interested in a particular corporate activity, no matter what degree of (algebraic) leveraging it has chosen, I can, by my own borrowing or lending, offset exactly whatever I don't like about its choices. (Samuelson 2009, 28)

However, in the real world, the way in which risk is split is by no means irrelevant for the performance of one firm, sector or the entire economy. This theorem should be instead understood as a benchmark to evaluate the consequences of more realistic assumptions. Some of them have been analysed by Modigliani and Miller themselves in their seminal paper and in subsequent papers. For example, under the assumption of taxes deducting the cost of interest, the optimal capital structure would be all debt. However, in the real world, the higher is the debt ratio the higher is the risk of bankruptcy, and this limits the share of debt. On the other hand, the costs of asymmetric information increase as more equity is used instead of debt, explaining why financial corporations prefer to raise capital in other ways. As Lazonick argued:

The Modigliani-Miller theorem makes no sense from the perspective of strategic control over the allocation of resources and the need for financial commitment to implement an innovative investment strategy. (Lazonick 2017, 22)

The use of debt exposes the firm to financial fragility and even bankruptcy, while the use of equity does not. Those who exercise strategic control over the allocation of corporate resources need to pay close attention to the company's capital structure and its relation to corporate cash flow (*ibidem*). Summing up, since the financial system does not conform to the assumptions of the theorem, in principle, the capital structure of the firm matters. The theorem is highly misleading whenever the gap between the assumptions of the theorem and the actual financial system is ignored or unduly played down. However, the theorem may help us to understand why, how, and to what extent the actual behaviour of the system does not conform to the theorem.

3.5 THE CAPITAL ASSET PRICING MODEL (CAPM)

The Capital Asset Pricing Model (CAPM), independently worked out by William Sharpe (1964) and John Lintner (1965),²⁰ describes the relationship between systematic risk, expected returns of assets, and their prices. The main implication of the model is that, given the expected returns of an asset, its price is obtained by discounting all the sequence of its expected returns. The expected returns of a risky security (or portfolio) are given by the sum of the returns on a risk-free security (expressing the time value of money) plus a risk premium for the additional risk involved by the specific investment. The time value of money is the risk-free rate that compensates the investors for parting from liquidity over a period of time (customarily the yield on government bonds). The risk premium beta (β) of a certain asset, which measures its non-diversifiable risk, depends on the volatility of both the asset and the market, as well as on the correlation between the two.

The CAPM has been, and still is, widely used in finance for the evaluation of the expected returns of risky securities, their pricing, and the estimation of capital costs. The success of this model has been boosted by its extreme simplicity and intuitive appeal, as well as by its far-reaching practical implications. The revolutionary idea of finance epitomised by this model is about how and when to avoid, or bear, risk (Mehrling 2005, 10). Following the CAPM, an investor learns how to improve the expected return of his portfolio of risky stocks without increasing the exposure to risk by diversifying it and by using leverage to adjust the overall risk exposure. For many researchers and practitioners, the CAPM has been not only an analytical model but also the emblematic expression of a new vision of finance attuned with the emerging attitude of the new generations growing adult in the 1960s and early 1970s. Fischer Black, for example, considered this model a source of inspiration during all his life (Mehrling 2005).²¹ The longer became the distance since the Great Depression and WWII, the lower became risk aversion, also because the 1950s and 1960s were

²⁰ Sharpe worked out the model as extension of the portfolio model by Markowitz (1952, 1959) and Tobin (1958), while Lintner aimed to overcome the shortcomings of the Modigliani-Miller theorem (1958). The two points of view eventually merged into a common model. Mossin worked out independently a version of the model (Mossin 1966). Jack Treynor had previously elaborated a similar model in two earlier papers (1961, 1962) that remained unpublished (Treynor 1961, 1962). His priority is today generally recognised.

²¹ Black had learned the model in the early 1960s from Treynor when both were working as junior analysts in the same office.

periods characterised by unprecedented financial stability.²² The CAPM played the topical role of rationalising and guiding this new attitude by assuming that risk is the cost of reward. Risk was, thus, seen as something that does not need to be necessarily avoided but rather managed in a rational way. The microeconomic assumptions of the model are about the same as those of the Markowitz portfolio model and are subject to the same criticisms. In particular, the investors interacting in financial markets comply with the usual assumptions of perfect competition models: they are, thus, price takers and trade without transaction or taxation costs. In addition, they have immediate access to the same information, and agree about the risk and expected return of all assets (homogeneous expectations assumption). Moreover, their subjective probability distribution of returns matches the objective distribution of returns.²³

Notwithstanding its persisting popularity with practitioners, none of the subsequent versions of the CAPM succeeded to explain in a satisfactory way the variations in stock returns and, thus, which should be the correct pricing of assets.²⁴ An early challenge, often called “Roll’s critique”, emphasised that the market portfolio of the model should comprehend not only financial assets but also all types of assets (including, e.g. works of art, real estate, human capital). Since the general market portfolio so defined is unobservable, in principle, the CAPM is not empirically testable (Roll 1977). This early objection did not discourage extensive research aimed to test the hypothesis. The results showed a host of systematic anomalies. The empirical evidence, for example, suggested that stocks characterised by low beta might exhibit higher returns than the model would predict.²⁵

A more general problem is that the empirical validity of the CAPM cannot be probed independently of the EMH and the other way round. The hypothesis is, thus, not unambiguously falsifiable because the empirical

²²This observation plays a crucial role in the Financial Instability Hypothesis (Minsky 1986).

²³The original version of the CAPM makes further restrictive assumptions that have been subsequently relaxed. For example, the original version of the model is uniperiodal, so that there is no opportunity to consume and rebalance portfolios repeatedly over time. This shortcoming has been overcome by the intertemporal CAPM (ICAPM) of Robert Merton (1973).

²⁴The CAPM assumes that investors optimise the expected returns of a unique general-purpose portfolio. However, investors often have fragmented portfolios, one for each goal.

²⁵See Black et al. (1972).

falsification of the joint hypothesis may be interpreted in different ways.²⁶ Some researchers, including Fisher Black, preferred to blame the EMH for the observed anomalies in finance defending as much as possible the CAPM; others, including Fama, preferred to blame the CAPM and tried to defend as much as possible the EMH. A third possibility, which I will discuss in the concluding section, is that both conjectures are weak and should be rejected. This impasse, however, stimulated extensive research trying to improve both theoretical constructs. One reaction to this stand-still has been the elaboration of more sophisticated models of asset pricing aiming at obtaining a better empirical fit. We mention here only one significant example. Fama and French worked out a model in which they add to β other two explanatory factors: firm size and book to market ratios. This model, often called “3 factors CAPM”, has a better empirical fit and may contribute to explain two crucial anomalies: the higher average returns of small-firms stocks and of securities characterised by high book-to-market ratios. The authors themselves, however, recognise that the addition of these two extra factors lacks sound theoretical foundations and fails to corroborate the model in a substantial way (Fama and French 2004). The same authors “warn students that despite its seductive simplicity the CAPM’s empirical problems probably invalidate its use in application” (ibidem, 44).²⁷ The widespread neglect of this and other similar warnings greatly contributed to the extensive misuse of the model contributing to the severity of the subsequent financial crises (see Sect. 3.9).

3.6 THE BLACK-SCHOLES-MERTON (BSM) MODEL OF OPTION PRICING

As is widely recognised, the Black-Scholes-Merton (BSM) model of option pricing has had a great impact not only on the subsequent development of Modern Financial Economics but also on the co-evolution of the financial system. The model originated from the contemporaneous publication of two papers having different inspiration and analytical set-

²⁶This is a well-known problem discussed in philosophy of science under the label of “joint hypothesis problem” (see e.g. Lakatos 1970).

²⁷In their earlier comprehensive survey of 1992, the authors had already reached the same conclusions. They noticed that, in the light of the empirical problems of the CAPM, it was then “generally recognised that the CAPM has potentially fatal problems” (Fama and French 2004, 36).

ting but leading to converging results: Black and Scholes (1973), and Merton (1973). In both cases, the assumptions largely overlap with those of the CAPM. Black and Scholes provide a valuation of a European call option, namely the simplest kind of option that gives the right to buy a stock or an index at a given price on a specified future date. They derive the valuation formula, either directly or indirectly, from the CAPM. In the introduction to their famous paper, Black and Scholes (1973, 641) show that in equilibrium “it is possible to create a hedged position, consisting of a long position in the stock and a short position in the option, whose value will not depend on the price of the stock, but will depend only on time and the value of known constants”.²⁸ An alternative derivation “shows how one can discount the value of an option to the present by using a discount rate that depends on both time and the price of the stock” (ibidem, 645). They also argued that the valuation formula and the underlying analysis are applicable not only to complex options, but also—more in general—to corporate liabilities, such as common stock, corporate bonds, and warrants. The empirical tests published in a companion paper (Black and Scholes 1972) show that actual option prices deviate systematically from the values predicted by the formula because, in their opinion, “there are large transaction costs in the option market, all of which are effectively paid by option buyers” (ibidem 653). Merton applied instead his continuous-time portfolio theory to show that the results obtained by Black and Scholes hold up under more robust assumptions. To this end, Merton derived his own version of the model from the CAPM by using the so-called replication strategy.²⁹ He proved that by going to shorter and shorter trading intervals, an investor might eliminate all the risk by creating “a portfolio that produced exactly the same payoff as the option” (Merton 2013). This approach leads to a no-arbitrage equilibrium because if the option price differs from the price of the replicating portfolio there were opportunities of profitable arbitrage. Merton’s ingenious approach played a crucial role in the subsequent development of financial models.

²⁸This is because the expected return on a hedged position, obtained by going long in one security and short in the other, must be equal to the return on a riskless asset.

²⁹The payoff of a derivative is a function of the underlying risky asset. Under the assumption of a replicating trading strategy to rule out arbitrage, the derivative is attainable and produces a unique value for the payoff of the derivative.

The success of the model was immediate. Notwithstanding extensive empirical anomalies such as the “option smile”,³⁰ subsequent tests seemed to confirm that the BSM prices are “fairly close” to the observed prices. Despite its shortcomings, the model contributed to trigger an exponential boom in options trading by providing a sort of scientific endorsement to the thriving activities of the Chicago Board Options Exchange and other options markets mushrooming in the 1970s around the world:

By 1975, every single person on the floor of the [Chicago Board Options] Exchange was using the Black-Scholes formula for pricing and determining the position mixes of options to hedge their risks. Texas Instruments created a specialized hand-held calculator. It had the formula, the hedge ratios, everything, in it. In no time at all, Black-Scholes went from theoretical to something that everyone used ... In terms of speed of adoption and depth of adoption, I don't think there's anything quite comparable. (Merton 2013)

The fortune of the model was boosted by the troubled conditions of the 1970s. The period following the breakdown of the Bretton Woods International system and by the two devastating oil shocks (in 1973 and 1979) was characterised by persisting stagflation, namely two-digit inflation rates coupled with high level of unemployment. Inevitably, also the financial system came under deep stress:

The stock market fell by 50 percent in real terms between mid-1973 and the end of 1974. Treasury interest rates were in double digits, peaking at over 20 percent in 1981. There was an explosion of new risks flowing throughout the system from everywhere... The response to that ... was an explosion of financial innovation ... for efficient transfer and reallocation of the wide array of risks. In particular, the Chicago Board Options Exchange opened its doors in April of 1973, about the same time that our papers were finally published. The money market fund was invented and interest-bearing checking accounts came into being. (Merton 2013)

The BSM model is still widely used, although often with adjustments and corrections, by options market traders. This model provides an example of the interaction between groupthink and herd behaviour in financial

³⁰For a given expiration, options whose strike price differs substantially from the underlying asset's price command higher prices than those suggested by standard option pricing models.

markets. This feedback proved to be fairly successful in the short period but contributed to subsequent financial instability under less favourable conditions (see Sect. 3.9).

3.7 THE EFFICIENT MARKET HYPOTHESIS (EMH)

The Efficient Market Hypothesis (EMH) is the keystone that crowns the fundamental pillars of modern financial economics and provides at the same time an appealing look to its basic messages. According to the EMH, financial markets are efficient in the sense that current asset prices incorporate all relevant information for rational decision-making.³¹ So far, we have briefly probed meaning, implications, and robustness of each of the four pillars following the order of their original construction. Their joint implications have now to be assessed in the light of the origin and evolution of the EMH that provides a common encompassing perspective. As is well known, the hypothesis that a competitive market exploits the economic resources in an efficient way has a long pedigree. Smith’s “invisible hand” metaphor inaugurates the modern evolution of this hypothesis, while the two fundamental theorems of welfare economics provide an updated benchmark.³² The EMH refers to financial markets focusing on the efficiency of a specific, though particularly important, resource there employed: information. Economists, policy-makers, practitioners, and mass media have often incautiously extended the meaning of the EMH to the efficiency of financial markets in its broadest sense. This suggestive but misleading understanding of the hypothesis greatly contributed to its influence and to its widespread instrumental misuse.

The genesis of the EMH goes back to the literature on the “random walk hypothesis” assuming that the dynamics of stock prices follows a random walk. The first contribution came from Bachelier (1900) who, in his doctoral thesis supervised by the great mathematician Poincaré, asserted that the expected returns of French stocks follow a random walk. Later studies by Working (1934) showed that also the US stock prices share these characteristics. Drawing on previous empirical work, the eminent Chicago statistician Harry Roberts (1959) argued that a time series generated from a sequence of random numbers was indistinguishable

³¹ As is well known, the relevant information may be defined in different ways that specify different degrees of efficiency (Fama 1970).

³² See, for example, Stiglitz (2000) and Vercelli (2017).

from a record of US stock prices. Kendall (1953) found similar results for the British stock market indices and spot commodity prices. The empirical research focused mainly on two different aspects of financial data: the independence of successive price changes and the probability distributions of price changes at a point of time. The results obtained on these two crucial issues were suggestive but puzzling, if not contradictory. On the independence issue, the results confirmed the earlier evidence on randomness with unusual uniformity; these outcomes seemed to corroborate the idea that the microeconomic optimality characterising the early models of Modern Financial Economics could be extended to the financial market as a whole. On the statistical distribution issue, however, the empirical evidence proved to be largely inconsistent with the statistical and financial models that in their early versions had assumed normal distributions. As we mentioned before, Mandelbrot (1963) argued that the empirical distributions of financial returns and security prices are examples of non-normal “stable Paretian” distributions that are typically skewed and fat-tailed.³³ In his opinion, this fact required a radical redirection of modern financial economics jeopardising its equilibrium approach. Arbitrage can eliminate serial dependence only up to a limit: “for Mandelbrot, inefficient markets and Paretian distributions go together ... as a matter of theoretical logic, just as efficient markets and Gaussian distributions do” (Mehrling 2005, 90). In the early 1960s, Eugene Fama devised a way out from this impasse that became soon not only the defining feature of the Chicago Finance Program but also the mainstream research programme in Modern Financial Economics. In his opinion, the ubiquitous existence of fat tails that he himself had confirmed in his PhD thesis³⁴ does not imply the inefficiency of markets but only minor deviations

³³The stable Paretian family of statistical distributions allows for fat tails, volatility clustering, and other statistical anomalies observed in the empirical evidence, while including as a particular case normal distributions. However, as Mittnik et al. (1999, 276) maintain, “A crucial drawback of the stable Paretian distribution is that—with the exception of a few special cases—its density and distribution functions do not have closed-form expressions. Moreover, numerical approximation or direct numerical integration are nontrivial and burdensome from a computational viewpoint.” Recent empirical evidence shows that financial variables exhibit peculiar features not always consistent with stable distributions.

³⁴As Fama himself maintained, his own PhD thesis corroborated Mandelbrot’s hypothesis showing “(in nauseating detail) that distributions of stock returns are fat-tailed: there are far more outliers than would be expected from normal distributions” (Fama 2011, 2). However, “the proposition that prices fully reflect available information implies only that prices are sub-martingales. Formally, the deviations of price changes or returns from the values required

from it (Fama 1965a).³⁵ At this stage of the debate, Fama coined the fortunate expression “efficient market” defined as “a market in which prices always ‘fully reflect’ available information” (1965b). The value added of the Efficient Market Hypothesis (EMH) is an interpretation of the behaviour of stock prices conditional to different definitions of the available evidence. This approach had far-reaching implications for understanding better the behaviour of financial markets and its policy implications stimulating a number of empirical studies directed to test the hypothesis. In particular, Fama examined the distribution and serial dependence of stock market returns and concluded that “it seems safe to say that this paper has presented strong and voluminous evidence in favor of the random-walk hypothesis” (Fama 1965b, 59).³⁶ Fama (1970) assembled a comprehensive review of the literature on market efficiency and proposed three nested definitions of efficiency—*weak form*, *semi-strong form*, and *strong form* market efficiency—conditional to three nested definitions of “available information.” Since then, these three categories have become the standard way to describe and test market efficiency.

The *weak form* of the EMH claims that prices fully reflect the relevant information implicit in the time series of past prices; the *semi-strong form* asserts that prices reflect all relevant information that is publicly available, while the *strong form* asserts that prices reflect all relevant information that any agent knows, including non-public information. The empirical literature testing weak-form efficiency took two main approaches. On one side, some researchers examined the statistical properties of securities prices movements. On the other side, some researchers attempted to develop profitable trading rules that specify when to buy and sell securities based on past patterns of price movements. The evidence that past security price movements help predicting future price movements would imply a

to compensate investors for time and risk-bearing have expected value equal to zero conditional on past information” (Fama 2011, 3).

³⁵ Samuelson (1965) was the first who introduced, albeit not explicitly, the concept of financial market efficiency linking it to equilibrium: “in competitive markets there is a buyer for every seller. If one could be sure that a price would rise, it would have already risen” (Samuelson 1965, 41). However, Samuelson was careful to avoid rushed conclusions from his own theorem: “One should not read too much into the established theorem. It does not prove that actual competitive markets work well. It does not say that speculation is a good thing or that randomness of price changes would be a good thing” (Samuelson 1965, 48). He maintained this wise critical attitude until his last publication (Samuelson 2009).

³⁶ Later on, Fama assumed a more cautious attitude on this point.

non-random behaviour and thereby would invalidate the EMH, even in its weak form. The empirical results showed that, although small trends in price movements indicate the possibility of profitable trading rules, often a realistic estimate of transactions costs and risk of securities trading might eliminate the expected profitability of any trading rule.

Semi-strong-form tests focused on what information prices react to, and how rapidly. One type of test measures the speed with which security prices react to the public release of new information, using the so-called event study methodology.³⁷ Fama et al. (1969) used a test of this kind to study the reaction of stock prices in the months surrounding stock splits. The empirical evidence showed that security prices reflected most of the information contained in earnings announcements by the date of the announcement, starting to adjust to the information significantly before the formal announcement date. A second type of tests investigated to what extent the market adjusts to information that is not made public by formal disclosure. The empirical evidence suggested that the market properly adjusts to changes in the firm's future real earnings prospects.

Tests of the strong form examine whether any investors have access to information that enables them to earn above average returns by trading the right securities at the right moment. Most studies found systematic deviations from strong-form efficiency and guessed that certain categories of investors have often access to private information. For example, European institutional portfolios are often managed by banks that have privileged access to information about companies through their banking relationships with clients.

Summing up, the empirical research on EMH has progressively highlighted the presence of systematic anomalies inconsistent with the hypothesis. In particular, portfolios constructed from "value" stocks appeared to produce superior returns over long-run horizons.³⁸ The higher returns earned by value portfolios did not appear to be due to a higher level of risk, while stocks with low price-earnings ratios outperformed the market (Fama and French 1992). In addition, stocks with poor past returns produced higher returns than the market over subsequent periods. Small

³⁷These tests usually study an event window of three or five days around news announcements regarding certain stocks. If news announcements convey new information to the market or if they remove uncertainty regarding rumours in circulation prior to the announcement, shares of the company affected by the news will exhibit abnormal returns.

³⁸Value stocks are those with high earnings, cash flows, or tangible assets relative to the current share price.

stocks exhibited higher average returns, although this could be referred to a distressed-firm effect (Chan and Chen 1991).³⁹ The available evidence suggests, thus, that financial market returns are partly predictable, a result that conflicts with the EMH.⁴⁰

The testing of the EMH is a tricky enterprise. As Lo (2007) maintains, The EMH is not a well-defined and empirically refutable hypothesis and to make it operational it is necessary to specify additional structure, such as investors' preferences or information structure. In particular, a crucial difficulty comes from the fact that, as we have seen in Sect. 3.5, "the hypothesis that prices properly reflect available information must be tested in the context of a model of expected returns like the CAPM" (Fama and French 2004, 40). According to Fama (1970), the crucial conditions for the market to be efficient are the absence of transaction costs, all available information freely available to all agents and homogeneous expectations (which means that all agents agree on the implications of available information for current and future stock prices). It is easily arguable that these conditions are definitely counterfactual. In addition, a few critiques go deeper into the equilibrium foundations of EMH highlighting specific behavioural biases linked to decision making under uncertainty, such as overconfidence, overreaction, loss aversion, and herding. The need of more realistic assumptions in building financial theories has, therefore, led to several new approaches in the literature, including the psychological, behavioural and experimental approaches to risk-taking behaviour, evolutionary game theory, agent-based modelling of financial markets, which have questioned the traditional interpretations of the EMH (Farmer and Lo 1999).

We can conclude that, given the theoretical and empirical evidence for and against EMH, there is still no consensus among economists on its correct interpretation and degree of realism. Therefore, what explains its persisting success and far-reaching influence not only in financial thinking and practice but also in financial and macroeconomic policy? At the beginning, the EMH hypothesis could appear as an obvious implication of the

³⁹ Since small firms include a high number of companies in financial distress, the higher expected returns experienced by small stocks might be a compensation for exposure to the risks associated with distressed firms.

⁴⁰ There have been several responses to this evidence. Many anomalies are sensitive to the research methodology used and disappear when reasonable changes in empirical methods are applied. Nevertheless, other stock market anomalies—for example, post-earnings-announcement drift—are quite robust to changes in the statistical methodology.

empirical evidence on the random walk behaviour of financial variables. This evidence seemed to imply that no one could beat the market because we cannot find in past data reliable systematic patterns. These alleged implications appealed neoliberal economists, regulators, and policy makers because it seemed to confirm the self-regulation virtues of unfettered financial markets, and the distortionary effects of any attempt of regulating them. The financial industry used this argument for lifting the existing regulation dubbed as “financial repression”. Many practitioners, however, believed that the standard interpretation of the EMH jeopardised their traditional role of cherry-picking securities expected to outperform the market. The earlier academic literature on “security analysis” supported this traditional expertise (an example was the popular textbook by Graham and Dodd 1934). This technique could improve the portfolio performance only if markets are not efficient. The early simplistic version of the EMH seemed to exclude that any form of active portfolio management could beat a passive portfolio management. This crucial issue originated a sort of “religion war” between academic researchers and practitioners based on the misleading dichotomy between efficient equilibrium and inefficient disequilibrium and its alleged implications, respectively, beatable or unbeatable market. However, we should keep in mind that an efficient equilibrium is not necessarily optimal and therefore, at least in principle, the agents could exploit not only disequilibrium but also equilibrium inefficiencies to improve their expected returns.

3.8 THE PRIMACY OF SHAREHOLDERS

Modern Financial Economics provided fertile foundations for a host of important subsequent contributions. For the purposes of this book, I have to mention just one of them because it had a particularly deep impact not only on the subsequent evolution of financial economics but also on the co-evolution of the financial system and its regulation. I am referring to the “agency theory of the firm” that preached the primacy of shareholders in corporate decision-making (Jensen and Meckling 1976). To understand the sweeping success of this theory and its broad impact on the financial system, it is useful to start the analysis from two celebrated articles that made explicit in the 1930s the limits of mainstream economic and financial theories based on the assumption of perfect-competition applied to the behaviour of firms. In 1933, Berle and Means

pointed out the implications of the separation of property and control in big public corporations. This separation, they observed, was becoming increasingly deep as the ownership of a typical corporation was spreading over a growing number of shareholders, while the actual control was progressively concentrating in the hands of managers who owned at best a very little amount of equity. This process “has destroyed the unity that we commonly call property—has divided ownership into nominal ownership and the power formerly joined to it” (Berle and Means 1967 [1933]). A few years later, Coase clarified that the growing separation of property and control in public corporations depends on the fact that the allocation of resources within a firm applies principles that are radically different from those of market allocation: “Within a firm ... market transactions are eliminated and [are] substituted [by] the entrepreneur ... who directs production” (Coase 1937, 7). In his view, the distinguishing mark of a firm’s organisation is the supersession of the price mechanism because it would bring about high transaction costs within the firm. The entrepreneur, thus, governs the allocation of resources within the firm according to a hierarchical model of organisation that resembles more the state bureaucracy than the market. In the view of Berle and Means, in big corporations the role of entrepreneur is actually played not by the shareholders but by the top managers who are tempted to exploit their power to pursue self-serving goals. According to the managerial theory of the firm that emerged in subsequent years, the goals pursued by top managers are likely to be different from the maximisation of profits prescribed by market theory (see e.g. Marris 1964). The actual behaviour of top managers ends up by affecting the efficiency of allocation of resources not only within the firm but also for the entire economic system.

By adopting the radical point of view of the equilibrium approach worked out in the early 1970s in financial economics and macroeconomics, Jensen and Meckling (1976) aimed to solve the problems emphasised by Berle and Means (1967 [1933]) and Coase (1937). To this end, they suggested a new view that soon became very influential in analysis and policy. First, they claimed that the shareholders are the legal owners of a firm, also in the case of a big public corporation.⁴¹ In the latter, public

⁴¹ According to the terminology routinely used in the US, a “public corporation” is a private company whose shares are traded in the stock exchange and are usually held by a large number of shareholders. The usual British terminology is instead “public limited company”.

shareholders as “principals” have to rely on corporate executives as “agents” to allocate and manage corporate resources; this explains why the approach of Jensen and Meckling is often dubbed agency theory of the firm. However, in this view, the formal ownership of shareholders may become effective only by aligning the interests of the managers with those of the shareholders. In their opinion, this can be done by linking the remuneration of managers to the financial performance of the firm, for example, by adopting stock-options schemes. In this view, the only legitimate goal of a firm is the maximisation of value creation for the shareholders (namely, the maximisation of profits). The implementation of this goal would also align the interests of the firm with market equilibrium and, thus, with the maximisation of wellbeing for the whole economy. This new approach to the positive and normative theory of the firm was immediately very successful because it was in tune with the surging faith in the providential role of free markets and with the powerful interests sponsoring this view. This approach promised to align the behaviour of the firms, including big public firms, to the point of view of free markets solving the dualism emphasised by Coase. Policymakers and regulators soon adjusted their interventions to the prescriptions of this theory. In the US, for example, the agency approach produced considerable shifts in corporate law: “Executive compensation rules, governance practices, and federal securities laws, have all been ‘reformed’ to give shareholders more influence over boards and to make managers more attentive to share price” (Stout 2013).

However, the basic assumptions of the agency theory of the firm are deeply flawed. First, the assumption that shareholders own the firm is a legal fiction cherished by financial lobbies but not by most legal experts, and not even by the legal system itself in most countries. In the US, for example, the law sees corporations as legal entities that own themselves, just as it assumes that the human persons own themselves (see Sect. 1.2). Shareholders have limited legal rights and stand on equal footing with the other stakeholders of the firm, such as “corporation’s bondholders, suppliers, and employees, all of whom also enter contracts with the firm that give them limited legal rights” (Stout 2013). Analogously, also in the UK, shareholders are not owners of the firm according to the law. The Court of Appeal declared in 1948, “Shareholders are not, in the eyes of the law,

In both cases, this use of the modifier “public” for a private company may ingenerate confusion with a company owned by the government or another public body.

part owners of the company”. In 2003, the House of Lords reaffirmed that ruling, in unequivocal terms (Kay 2015).⁴²

A more sophisticated but equally mistaken legal claim is the residual claimants argument according to which shareholders are legally entitled to all corporate profits after the fixed contractual claims of creditors, employees, suppliers, and so on, have been paid. If true, this would imply that maximising the value of the shareholders’ residual interest in the company is the same thing as maximising the value of the company itself: “However, shareholders are residual claimants only when failed companies are being liquidated in bankruptcy” (see Stout 2013). From the legal point of view, whenever a company is in good financial health, it is its own residual claimant, and is thus entitled to keep its profits and to use them according to the decisions of directors: “The board may choose to distribute some profits as dividends to shareholders. But it can also choose instead to raise employee salaries; invest in marketing or research and development; or make charitable contributions” (ibidem).

Finally, even the assumption that gives the name to the influential “agency theory” of the firm is untenable, since in public companies shareholders lack the legal authority to control directors or executives. Their rights are limited to vote the members of the board of directors, and to sue them for breach of fiduciary duty. However, the key legal doctrine called the “business judgment rule” protects directors from liability in the exercise of their discretionary powers:

The business judgment rule ensures that, contrary to popular belief, the managers of public companies have no enforceable legal duty to maximize shareholder value...they can also choose to pursue any other objective that is not unlawful, including taking care of employees and suppliers, pleasing customers, benefiting the community and the broader society, and preserving and protecting the corporate entity itself. Shareholder primacy is a managerial choice—not a legal requirement. (Stout 2013, 4)

The economic arguments put forward in support of the agency theory of firm are themselves unconvincing. According to Stout (2013), in one

⁴²The concept of property is a very complex concept. The classical analysis by Honoré (Regius Professor of Civil Law and Fellow of All Souls College in Oxford) distinguishes within the concept of property 11 features. The relationship between a company and its shareholders satisfies only two of them, while three are only partially satisfied, and six are not met at all (see Kay 2015, who quotes and comments on Honoré 1961).

version of the argument, shareholder returns are regarded as incentives for risk bearing; in another version, as rewards for monitoring managers. None of these justifications fits the case of public companies, the most important category of modern firms. Shareholders typically buy the share of a certain corporation within the frame of a portfolio selection strategy that has nothing to do with purposeful risk bearing or constructive monitoring of managers. The typical shareholders keep the shares and bear the ensuing risk only until they find alternative shares that fit better their portfolio strategy. The economic argument for making distributions to shareholders is an argument concerning the efficiency of the replacement of corporate control over the allocation of resources and returns with market control.

According to a growing number of critics, the ultimate effects of the systematic adoption of the shareholder value ideology have been deeply disruptive and contributed to the depth and scope of the subsequent financial crises including the recent one leading to the Great Recession. According to Stout, the shareholders' value strategy has eventually backfired against public companies and their shareholders:

Shareholders are suffering their worst investment returns since the Great Depression; the population of publicly-listed companies has declined by 40%; and the life expectancy of Fortune 500 firms has plunged from 75 years in the early twentieth century to only 15 years today. (Stout 2013)

Only recently, mainly because of the crisis, a reaction against this approach started to mount and spread (see Sect. 5.8). It is time to abandon the idea that a firm should only be concerned with maximising the short-term value for its shareholders, and to embrace the idea that it should instead create long-run value for all the stakeholders.

3.9 CONCLUDING REMARKS

In the 1960s, the Efficient Market Hypothesis (EMH) was still misaligned with the mainstream policy and regulatory view of Keynesian ascendancy that unregulated markets, in particular financial markets, are subject to sizable failures. By formulating the EMH, Fama sharply deviated from this view. At the beginning, however, he avoided a too high profile by assessing market efficiency conditional to nested definitions of the information set and making the defensive claim that the hypothesis was about information

not equilibrium (Fama 1965a, b, 1970).⁴³ However, even the weak definition of efficiency proved to be quite demanding as it implies that a complete knowledge of the relevant past does not allow an investor to beat the market. In addition, market efficiency as defined by Fama implies a particular kind of equilibrium, which we may call “epistemic equilibrium”, in the sense that about market prices there is nothing left that rational agents could profitably learn but did not learn. In this view, rational agents promptly (indeed instantaneously if one interprets literally the model) learn all systematic factors so that the residual uncertainty is restricted to stochastic factors that, by definition, cannot be learned. An epistemic equilibrium implies that decision makers manage to avoid systematic errors. This is a necessary, though not sufficient, condition of economic optimality because an epistemic equilibrium is not necessarily a Pareto optimum, namely the most comprehensive notion of economic optimum according to neoclassical economics, for a host of reasons. First, information efficiency does not imply the efficient use of the other resources employed in the financial system (labour, capital, and natural resources). Second, the efficiency of financial markets does not imply the general efficiency of all markets. Third, the hypothesis does not exclude the existence of market imperfections, such as those deriving by transaction costs and market externalities. Summing up, the epistemic equilibrium in the financial sector does not imply a full general equilibrium and this jeopardises not only the robustness of the foundations of financial economics but also the reliability of its four founding pillars. These pillars are strictly interconnected so that they are likely to stand or fall together determining the fate of the mainstream paradigm of Modern Financial Economics. The pricing models (CAPM and BSM) are concerned with market equilibrium under the assumption that investors optimise in compliance with the Modern Portfolio Theory,⁴⁴ and firms optimise according to the Modigliani-Miller theorem.⁴⁵ In addition, the assumptions underlying the four pillars are largely overlapping. We have already mentioned a few specific shortcomings of each of these pillars. We mention here a few common deficiencies that jeopardise the robustness not only of each pillar and their common keystone (namely the EMH) but also of the entire building of Modern Financial Economics.

⁴³ See Mehrling (2005, 61).

⁴⁴ Markowitz (1952, 1959).

⁴⁵ Modigliani and Miller (1958).

The main general problem is the tacit, but decisive, assumption of stationarity underlying the crucial assumptions of Modern Financial Economics. In particular, Markowitz's portfolio selection is based upon the covariance between individual stocks the estimation of which is based on the past empirical record. This procedure may work fairly well in periods of steady growth and financial tranquillity but becomes highly misleading in periods of accelerated structural change and financial turmoil. Moreover, the model assumes that the investor can choose stocks whose performance is uncorrelated with that of the other stocks in the portfolio. Unfortunately, the empirical evidence shows that in times of financial stress, stocks believed to be uncorrelated (e.g. the price of housing in different US states) exhibit a surprisingly strong correlation. Analogously, the CAPM is based on the assumption that the expectations of returns are homogeneous and correct. Lucas recognised that these and other assumptions underlying the Rational Expectations Hypothesis, which has a very close kinship with the EMH, make really sense only in a stationary environment (Lucas 1981, 158).⁴⁶ As for the BSM model, its results depend on one crucial parameter that we cannot directly observe in the market: the average future volatility of the underlying asset. The estimation of this parameter is based on the average of its past values, a procedure that is reliable only in periods of financial tranquillity when the time series exhibit a significant degree of stationarity. The alignment between buoyant expectations and favourable ex post results props up the recovery and sustains the ensuing boom until the optimist alignment suddenly breaks down triggering a process of debt deflation inducing a pessimist alignment that progressively deepens and spreads the financial distress. Modern financial economics has strengthened the mechanism underling the alignment between expectations and ex post performance as the equilibrium assumption precludes by definition the understanding of endogenous change. For example, it is interesting to observe that the discrepancies between the BSM model and the empirical evidence were initially large, but many practitioners soon adopted the model aligning the behaviour of markets to the predictions of the model. This is a case of self-fulfilling prophecy,⁴⁷ a phenomenon made famous and studied extensively by the eminent sociologist

⁴⁶ I discussed this point in some detail in Vercelli (1991, chap. 8).

⁴⁷ To use an analogy drawn from physics, the BSM model played a role analogous to that of a magnet located under a sheet containing scattered, originally misaligned, pieces of iron filings.

Robert K. Merton, the father of Robert C. Merton co-author of the BSM model and leading exponent of Modern Financial Economics:

The self-fulfilling prophecy is, in the beginning, a false definition of the situation evoking a new behaviour which makes the original false conception come true. This specious validity of the self-fulfilling prophecy perpetuates a reign of error. For the prophet will cite the actual course of events as proof that he was right from the very beginning. (Robert K. Merton 1948, 195)

The applicability of this concept, as defined by Robert K. Merton, to the financial models worked out by his son confirms the wide scope of its validity. This is a key to understand the alternation of “irrational exuberance” of decision makers in good times, and the not less irrational gloom, let alone panic, spreading in bad times that increases the strength and rapidity of financial distress and its propagation.

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Finance and Macroeconomics

4.1 INTRODUCTION

From the policy point of view, the relationship between finance and macroeconomics plays a crucial role. It is unfortunate that this issue has been rarely analysed in general terms. What follows aims to build a tentative unpretentious bridge between macroeconomics and finance in the hope that future research will systematically study this crucial issue in more depth. In the period following WWII, the relationship between the evolution of Modern Financial Economics and mainstream macroeconomics has been complex and somewhat puzzling. As we have seen in Chap. 3, leading Keynesian macroeconomists (such as Samuelson, Modigliani, and Tobin) actively promoted in the 1950s and 1960s the emergence and early development of Modern Financial Economics, while in the 1970s and 1980s the latter contributed to the anti-Keynesian revolution in macroeconomics led by New Classical Economists (Lucas, Sargent, Barro, and many others). The impact of Modern Financial Theory on macroeconomics was mainly methodological and rarely affected its contents. A more constructive cross-fertilisation started to develop only with the emergence in the 1980s of New Keynesian Economics, the new version of mainstream Keynesianism that reacted to the widespread success of New Classical Economics. The tentative bridge between Modern Financial Economics and macroeconomics built in this chapter aims to improve our insights into the issues discussed in this book.

I restrict the analysis to what I suggest to call tongue-in-cheek “respectable macroeconomics”, namely the (narrow) range of approaches recognised as scientifically sound by the mainstream views entertained by academia, governments, and mass media. The reason for introducing this unusual category is to understand the policies and regulatory implications of the approaches that in the period under investigation turned out to be most influential. It is thus a broader category than the usual one of mainstream macroeconomics as it includes the most influential contenders to the hegemonic role in research and policy.¹ In the period considered in this chapter (1980–2018), the respectable streams in macroeconomics were included between the radical equilibrium approach introduced by New Classical Economics (Sect. 4.3) and the approach of behavioural economics (Sect. 4.6), finding in an intermediate position New Keynesian Economics and the New Classical Synthesis (Sect. 4.3). In finance, the respectable views were included between the stream of Modern Financial Economics relying on the Efficient Market Hypothesis (EMH) discussed in Chap. 3 and the stream of behavioural finance (discussed in Sect. 4.6), comprising hybrid approaches such as the asymmetric information approach (discussed in Sect. 4.5). To understand the evolving dialectics between these approaches, Sect. 4.4 examines the shortcomings and paradoxes of the equilibrium approach. Finally, I dedicate a section to the more heterodox stream of post-Keynesian economics not only for its valuable insights that inspire many of my arguments but also because, during the acme of the crisis (2007–2009), this school of thought obtained a certain degree of ephemeral respectability, although—with hindsight—mainly for instrumental reasons (Sect. 4.7).

4.2 THE GENESIS OF CONTEMPORARY MACROECONOMICS: NEOCLASSICAL SYNTHESIS VERSUS MONETARISM

The idea that free markets self-regulate themselves and that their regulation by policy authorities cannot improve their performance emerged in the eighteenth century based on analogies borrowed from natural sciences. The Physiocrats had in mind the self-healing ability of the human body that manages to maintain or recover health in a wide range of

¹A good sign of respectability of a certain school of thought is the number of Nobel memorial prizes awarded to its exponents.

circumstances, while Adam Smith took inspiration from Newton's theory of universal gravitation explaining the stability of the solar system. The second analogy prevailed in economics also because it promised to transfer into this discipline the rigour of physics, widely believed after Newton to be the queen of sciences. In this view, the argument for self-regulation rests on two simple but far-reaching propositions according to which unfettered markets (1) have an equilibrium position that maximises the well-being of people and (2) are characterised by spontaneous gravitation forces that tend to restore equilibrium whenever exogenous shocks displace the economic system from it. These two propositions provided the foundations for the liberal policies that aim to emancipate the economy from the damaging interferences of the state.

Classical economists were not particularly interested in finance. They believed that money and finance were not much more than veils blurring the vision of the fundamental causal factors acting in the real economy. However, according to the long-standing tradition of the Quantitative Theory of Money (QTM), they also believed that the money supply matters mainly because it determines the rate of inflation that may affect the real economy in a significant way. Many classical economists admitted also that an increase in money supply might stimulate the real income in the short period but maintained that this beneficial effect is only temporary as argued—among others—by Hume, Fisher, and Friedman.

Adam Smith and his early followers were fully aware that in certain fields the intervention of the state is supported by good arguments but maintained that we have to justify the exceptions to *laissez faire* case by case. A general microeconomic foundation of these exceptions was suggested by Pigou (1920) who—building on ideas put forward by his academic mentor Marshall—linked them to the existence of “external” costs and benefits (also called “externalities”) that unfettered markets are unable to take into account requiring the intervention of the state to internalise them. A field where this approach found application was that of financial markets that are liable to crisis and instability in the absence of apt financial regulation meant to prevent them. In consequence of the Great Depression, Keynes shifted the focus from the microeconomic externalities addressed by Pigou to a huge macroeconomic externality: the inability of unfettered markets to keep full employment and to recover it promptly when displaced from it by internal forces, policy mistakes, or external shocks. In the case of macroeconomic externalities, the internalisation strategy advocated by Pigou does not work and requires an

alternative approach based on apt macroeconomic policies. Keynes's followers split on the correct interpretation to give to the master's theory and its policy implications. The mainstream consensus after WWII coalesced on a synthesis with the neoclassical approach that aimed at providing justifications to systematic countercyclical policies meant to keep full employment. The foundations of the so-called neoclassical synthesis relied on a representation of full employment equilibrium in terms of general equilibrium theory focusing on the shortcomings of the gravitation process that called for the systematic intervention of the state (Samuelson 1947). In this way, Samuelson outlined a brilliant, though questionable, reconciliation between Smith and Keynes. The compromise advocated by the neoclassical synthesis relied on the fact that Keynes did not deny the existence of full employment equilibrium but focused on the shortcomings of the gravitation process, while Smith never pretended too much about the efficiency and rapidity of the gravitation process in unfettered markets. The most sophisticated version of this approach did not deny the stability of full employment equilibrium but argued that the spontaneous process of convergence towards it after a shock is too slow and requires thus the support of apt public policies (Patinkin 1965).

The exponents of the "Neoclassical Synthesis" accepted the neoclassical approach in microeconomics but deviated from it in the field of macroeconomics. In extreme synthesis, mainstream Keynesians believed that the maximising equilibrium approach of Classical Economics is fit to describe, explain, and forecast individual behaviour, but not the behaviour of aggregate variables in a situation characterised by involuntary unemployment. In consequence of the "fallacy of composition" emphasised by Keynes, macroeconomic equilibrium is not necessarily characterised by full employment and maximisation of welfare even if all individuals maximise their objective function. This argument provided the rationale for establishing macroeconomics as an autonomous sub-discipline of economics.

The Keynesian economists have always been interested in finance because they learned from Keynes that finance matters in a deep sense. In Keynes's view, the development of finance has changed the way capitalism works both at the micro and macro level. According to the Classical Synthesis, however, the neoclassical approach to microeconomics is substantially correct and should only be adapted to the new constraints of financialised capitalism. It was thus natural for them to extend the equilibrium approach of microeconomics to financial issues. In particular, the crucial role of portfolio decisions in financialised capitalism had been

emphasised by Keynes (1936, in particular in chapter 17). Moreover, we may interpret the theory of liquidity preference as a simplified version of portfolio decision theory restricted to the most significant monetary assets: money and bonds. The trouble with Keynes's own approach for the economists of the 1950s is a view of uncertainty that seemed then unsuitable for a rigorous formalisation. Tobin was the first to formalise liquidity preference theory by defining uncertainty as mere risk. Like Markowitz, he had in mind microeconomic foundations in terms of decision theory under risk (as formalised by Savage 1954).² Markowitz considered this contribution by Tobin as a significant breakthrough in the evolution of portfolio theory (especially for his seminal Separation Theorem) and to the genesis of the Capital Asset Pricing Model (CAPM) (Markowitz 1999, 10). Tobin, however, openly vindicated his own different aims: "Markowitz's main interest is prescription of rules of rational behaviour for investors; the main concern of this paper is the implications for economic theory, mainly comparative statics that can be derived from assuming that investors do in fact follow such rules" (Tobin 1958, 85 n.1). This distinction continued to mark a difference between finance and macroeconomics also when their exponents focused on similar issues.

In the 1950s and 1960s, the main opponents of the mainstream Keynesian school resumed and updated the tradition of QTM to criticise it. The monetarists were particularly interested in money for its potential disruptiveness shown during the Great Depression. They adapted the QTM to a period characterised by a growing role of the central bank. According to Friedman (1968), the monetary base is created by the central bank and multiplied by commercial banks in proportion to their reserves according to a money multiplier. In this view, money matters, but mainly as exogenous impulse managed by the monetary policy of central banks. Therefore, finance matters, but mainly because it affects the transmission mechanism of monetary impulses and only as far as the reserve ratios of commercial banks are concerned.³

As we have seen in the preceding chapter, at the beginning of its ascent, Modern Financial Economics was conceived as an extension of neoclassical microeconomics to financial issues. In the first three decades after WWII, this extension was mainly promoted by some of the main exponents

²This point is explicitly mentioned by Tobin (1958, 74 n.1) and Markowitz (1991, 470).

³This may explain Friedman's idea that the PhD thesis of Markowitz on portfolio selection was not relevant for economics (see Sect. 2.4).

of mainstream Keynesian macroeconomics, such as Samuelson, Modigliani, Patinkin, and Tobin. Ironically, though Modern Financial Economics had been incubated by Keynesian economists, it soon became a crucial support of the anti-Keynesian revolution. When Modern Financial Economics felt sufficiently established, its main exponents contributed to extend the equilibrium approach from microeconomics to macroeconomics adopting a macroeconomic policy perspective radically different from the Keynesian one. This move had a deep impact also on Classical Economics contributing to transform its paradigm by adopting the more radical equilibrium approach pioneered in finance.

4.3 NEW CLASSICAL ECONOMICS, NEW KEYNESIAN ECONOMICS, AND MACROECONOMIC CONSENSUS

Some leading figures in the emerging field of Modern Financial Economics had a deep interest in macroeconomics and believed that the application of the efficient equilibrium approach, already successfully applied in finance to the whole economic system, could significantly advance the field of macroeconomics. The most significant early example was Fischer Black who decided to enter the academia in 1971 precisely to extend to macroeconomics the uncompromising equilibrium method he was advocating in finance. He was critical of both mainstreams in macroeconomics. He disliked the Keynesian approach for conceiving the macroeconomic market equilibrium as non-optimal and insufficiently stable. Nevertheless, he was also critical of Friedman's monetarism for the exogenous view of money, the emphasis on short-run disequilibrium dynamics, and the disregard of finance (Mehrling 2005). In the same years, Lucas was leading an epoch-making revolution in macroeconomics shifting the latter in a direction similar to that advocated by Fischer Black. The adoption of the Rational Expectations Hypothesis assumed that agents are rational and markets are so efficient in elaborating and spreading information to all agents to assure them complete knowledge of all the systematic factors impinging upon equilibrium. Under this hypothesis, the only admissible prediction errors are those dependent on unpredictable stochastic factors. After a brief infatuation for the Lucas's approach, Fischer Black considered it insufficiently radical because, as he rightly pointed out, the so-called equilibrium business cycles as conceived by Lucas required hidden disequilibrium assumptions without which the model would be unable to

explain the wavelike economic fluctuations exhibited by the empirical evidence.⁴ In addition, he disliked the monetarist view (that Lucas borrowed from Friedman) looking at the money supply as the ultimate cause of business cycles because he emphasised the endogenous nature of credit money. In the early 1980s, a new version of the New Classical Economics paradigm became hegemonic: the Real Business Cycle approach advocated by Kydland and Prescott (1982). This approach accepted Lucas's equilibrium paradigm but reversed the causal relation between real economy and money by ascribing business cycle fluctuations to exogenous technological shocks. This change of perspective did not favour a more constructive dialogue between macroeconomics and financial economics. The Real Business Cycle models did not have great appeal for Fischer Black (and financial economists in general) as they ignored the crucial causal role of money and finance and pursued an overly aggregative approach.⁵

To go deeper into the relation between macroeconomics and financial economics, we have to understand the profound link that connects the Rational Expectations Hypothesis (REH), crucial assumption of the equilibrium approach in macroeconomics, with the EMH, crucial assumption of the equilibrium approach in finance. Muth (1961) argued that the assumption of REH provided the foundations for a more coherent and systematic focus on economic fundamentals. The fundamentalist approach suggested by Muth provided the crucial cornerstone to a new view in mainstream economics that materialised in different variants of updated classical economics such as New Classical Economics, Monetary Equilibrium Business Cycle theory, Real Business Cycle theory, and Endogenous Growth Theory. The new approach also affected different variants of updated Keynesian economics such as the "New Keynesian Economics" and the "New Neoclassical Synthesis". For this to happen, the REH, which at the beginning applied exclusively to microeconomics and partial equilibrium, had to combine its insights with those of the EMH that directly referred to the general properties of free markets. In the early 1970s, Lucas was the first to combine the genes of the EMH and the REH starting a radical mutation of

⁴See Mehrling (2005, 213) and Vercelli (1991, section 9.4).

⁵A further crucial criticism of both the monetary and real equilibrium business cycle approaches was the adoption of calibration, a new method of empirical corroboration of the model. Fisher believed that "successful calibration does not imply that a model has correct structure any more than correlation implies causation" (quoted in Mehrling 2005, 213). The discussion of this important point goes beyond the boundaries of this book (however, see Vercelli 1991 for an early criticism).

macroeconomics in a fundamentalist direction.⁶ The EMH provided a new view of the self-regulating properties of markets promising to give a more rigorous and constructive view of the providential intervention of the “invisible hand” first suggested by Smith and then cherished and developed by neoclassical economists. The REH provided in its turn a powerful analytic bridge between this vision of markets and the Arrow-Debreu probabilistic version of general equilibrium theory. Muth’s applications of the concept, however, though quite detailed and rigorous, did not address the standard macroeconomic issues but remained restricted “in the context of an isolated market with a fixed production lag” (Muth 1961, 315).⁷ The so-called Rational Expectations revolution in macroeconomics started only in the early 1970s when a few economists began to explore the full potential and implications of the REH beyond the existing microeconomic applications in a direction similar to that already pursued by the EMH in Finance. While Muth’s REH argues that expectations are correct in competitive markets, Fama’s EMH (1970) argues that asset prices fully reflect relevant information in financial markets (see Chap. 3). The deep conceptual link between the two hypotheses is clearly revealed also by their formal assumptions and implications. In both cases, the agents acting in the market have a complete knowledge and understanding of all the systematic factors so that residual uncertainty is merely stochastic. The Rational Expectations revolution in macroeconomics started when Lucas (1972) and his strict collaborators and followers (in particular Sargent, Wallace, and then Kydland, Prescott, Barro, and others) realised that the REH is implicit in the Arrow-Debreu Stochastic General Equilibrium model and provided crucial insights aimed at making it much more operational than it had been in the past.⁸

⁶See Vercelli (1991) for a more detailed account of the genesis and the shortcomings of the New Classical paradigm.

⁷Although Muth’s paper was published in a leading journal such as *Econometrica*, for a decade or so, no one saw the full potential of the new concept. As Lucas confided, “Of course we knew about [rational expectations]. Muth was a colleague of ours [in the early 1960s]. We just didn’t think it was important. The hypothesis was more or less buried during the ’60s. Arrow used it in his paper on learning-by-doing in the ’60s. Prescott and I used it in that paper of ours on investment. People were aware of it, but I didn’t understand then how fundamental a difference it made econometrically” (Lucas in Klammer 1979).

⁸Walters (1971), the influential economic advisor of Mrs. Thatcher, is credited for having suggested the first application of Rational Expectations in macroeconomics. By using the REH he meant to reinforce the monetarist argument of Friedman showing that under “consistent expectations”, as he called his own version of RE, the impact of money supply on

New Keynesian Economics was the response of mainstream Keynesians to the criticisms of New Classical Economics that had conquered in the 1970s and early 1980s the majority of the profession. The New Keynesian Economists accepted the methodological requirement of micro-foundations in terms of the Arrow-Debreu's model of general equilibrium under uncertainty, as advocated by New Classical Economics. In particular, they adopted the REH abandoning the adaptive expectations hypothesis previously utilised by both the Neoclassical Synthesis and Monetarists. In addition, they took up the axiomatic foundations to equilibrium abandoning the dynamic foundations of equilibrium that had provided so far the ultimate justification of Keynesian policies (instability or weak stability of full employment equilibrium). However, they maintained a robust alternative argument to justify Keynesian policies and active regulation of the economy, claiming that it is sufficient to relax one of the assumptions of New Classical Economics to justify Keynesian policies. In this view, the equilibrium realised by unfettered markets is not optimal because it is constrained by market imperfections. These constraints can be relaxed through apt policies that resume and update those suggested by Keynes. The list of market imperfections considered by New Keynesian Economics is very long.⁹ A weakness of this approach is that the New Keynesian models analyse the consequences of one of these imperfections that may have a disparate impact in different countries and historical periods. Models that consider more than one imperfection show that their coexistence and possible interactions make a significant difference in analysis and policymaking that become both much more complex and context-dependent. Though the methodological approach of New Keynesian Economics is similar to that of New Classical Economics, the policy implications are quite different. The basic idea is that it is possible to improve the welfare of citizens by eliminating

prices would be much more rapid than with the adaptive expectations hypothesis then adopted by both Monetarists and mainstream Keynesians. This approach became influential when Lucas provided more persuasive equilibrium foundations to it.

⁹The early contributions focused on price rigidity as, for example, in the case of staggered contracts (Fischer 1977), and wage rigidity as in the case of staggered wage setting (Taylor 1979). In the 1980s, the New Keynesians modelled further kinds of market imperfections, such as staggered prices (Calvo 1983), efficiency wages (Shapiro and Stiglitz 1984), menu costs (Mankiw 1985), bounded rationality (Akerlof and Yellen 1985), monopolistic competition (Blanchard and Kiyotaki 1987), coordination failures (Cooper and John 1988), and so on.

or at least mitigating the market imperfections or counteracting their negative consequences. While the New Classical Economists assumed that prices and wages flexibility succeed to maintain full employment equilibrium also within a short-term time horizon, the New Keynesians assume that we may reach the optimal equilibrium only through policies that manage to counteract market imperfections. For example, in the case of nominal wages stickiness, fiscal and monetary policies may aim to affect price inflation to implement real wages consistent with full employment.

In the 1990s, a few leading macroeconomists started to combine the dynamic approach of Real Business Cycle models based on intertemporal optimisation with market imperfections as analysed by New Keynesian models based, in particular, on nominal rigidities and imperfect competition. The resulting fusion between the two main streams of macroeconomics, dubbed New Neoclassical Synthesis, provided the theoretical foundations for much of contemporary macroeconomic analysis and policy (Woodford 2003, 2009). The approach of the new synthesis adopts methodological foundations in terms of intertemporal stochastic general equilibrium as first advocated by the New Classical economists (Lucas 1981); however, its policy implications crucially depend on the market imperfections emphasised by the New Keynesian economists. In particular, it adopts the Keynesian distinction between short and long run because market imperfections have different consequences according to the time horizon. This implies that the pillars of classical monetary economy, namely the classical dichotomy and money neutrality, hold only in the long run. Therefore, this approach recovers a role for monetary policy though limited to the short period. Business cycles do not depend only on money shocks as in the monetarist approach of Friedman and Lucas but also on other kinds of shocks including the technological shocks emphasised by the exponents of Real Business Cycle (RBC) and output gaps.¹⁰

¹⁰Output gaps, measured as the difference between the actual output and the trend of output capacity, played a crucial role in traditional Keynesian models and in fine tuning countercyclical policies (see e.g. Okun 1966). RBC models rejected any form of disequilibrium including output gaps and focused on the fluctuations of efficient output caused by technological shocks to explain business cycles. The new synthesis model reintroduces in the model a significant role for output gaps.

4.4 PARADOXES OF THE EQUILIBRIUM APPROACH IN FINANCE AND MACROECONOMICS

The equilibrium models in finance and macroeconomics assume that all the agents have complete, and thus symmetric, information. This is implied by the REH in macroeconomics and the EMH in financial economics. Before examining in some detail the implications of asymmetric information and other market imperfections in finance, we have to understand why these assumptions play a crucial role in equilibrium models. We can understand the epistemic roots of market imperfections and their implications by examining the so-called Grossman-Stiglitz paradox (Grossman and Stiglitz 1980). If the acquisition of information about securities is costly (because of the time, money, and effort involved), then prices can perfectly reflect the available information only by a fluke, because no one has any incentive to learn the correct values, unless these costs are inferior to the increased returns. This syllogism proves the impossibility, or at least the unrealism, of informationally efficient markets. A similar paradox proves also the impossibility of agents' unbounded rationality presupposed by the REH (Vercelli 1991). This paradox is an example of the "fallacy of misplaced concreteness", since long stigmatised in natural science and philosophy (see in particular the critical comments by the well-known philosopher, Whitehead 1997).¹¹ This fallacy occurs when one misinterprets the empirical attribute of a model for a "concrete" reality. Many would agree that the economic agents are rational if they are able to learn by eliminating, or at least reducing, their systematic mistakes. It is the process of learning that explains the convergence towards information efficiency in financial markets, and towards a RE equilibrium in macroeconomics. This process of convergence requires time-consuming and costly learning that is thus almost never capable to reach its goal, also because the evolution of markets continuously displaces equilibrium from its previous position. The New Keynesian approach in terms of market imperfections seems at first sight a clever escape from the Grossman-Stiglitz paradox because it allows some sort of learning about the existence, magnitude, and implications of market imperfections promoting a process of transition to a Pareto improving equilibrium. Unfortunately, this alternative approach reproduces the paradox in a different form. The assumption of Rational Expectations is inconsistent with the existence of

¹¹ Philosophers call this sort of fallacy also with the name of reification or hypostasis.

market imperfections. While the REH implies the absence of systematic deviations from the optimal market equilibrium, the existence of market imperfections implies that decision makers cannot avoid making systematic mistakes that keep them away from the Pareto-optimum equilibrium. This is what justifies in this sort of models the adoption of active financial and monetary policies of Keynesian ascendancy aimed to shift the system closer to the optimal equilibrium. With the help of these policies, the agents can learn how to reach the optimal equilibrium by reducing progressively their mistakes. The usual defence from this sort of criticism is the definition of rational expectations as model-consistent expectations that guarantee the internal coherence of the model. However, this defence is nothing but an evasion from the underlying problem emphasised above. There are two alternatives. We might assume that a certain New Keynesian model is true so that the rational expectations of agents exclude by definition systematic mistakes in the model's descriptions or predictions; however, on the contrary, the market imperfections that characterise the model would imply systematic deviations from the optimal equilibrium. Otherwise, we assume that the model is not literally true; however, in this case, it is inconsistent by definition with the REH. We have thus to reject the equilibrium approach either in the New Classical version because of the Grossman-Stiglitz paradox or in the New Keynesian version because of the modified paradox. This reflection is propaedeutic to the following sections.

4.5 ASYMMETRIC INFORMATION AND FINANCE¹²

The market imperfections analysed by New Keynesians and New Consensus economists are significant also for financial markets. In particular, imperfect competition is relevant for contemporary financial markets that are dominated by a few multinational banks (and non-bank financial institutions) too big and too interconnected to fail. There is overwhelming evidence that these financial institutions systematically manipulate the markets in their own interest (see Sect. 5.8). Another significant example is that of coordination failures. The role of centralised coordination pursued by central banks is particularly important in financial markets, while the IMF, the World Bank, the Bank for International Settlements, and the

¹²This section borrows heavily from section 6.2 of Vercelli (2017).

other Regulatory Institutions recently established may play a similar role at the international level.¹³

Both mainstream economics and orthodox finance theory explain economic and financial behaviour as a rational response to market signals. In this view, it is therefore natural to look at finance in terms of information and incentives. However, if we look at the economic system in this way, namely from the point of view of classical decision theory, the supply of funds is assumed to match the demand of credit guaranteeing the smooth and efficient working of the system. Therefore, to explain the anomalies of financial behaviour, this approach has to focus on some significant deviation from the assumption that financial markets are efficient and perfectly competitive. In the last decades (since the early 1970s), the crucial deviation from the general equilibrium model introduced to analyse the role of finance in the economy is the acknowledgement of the ubiquitous impact of asymmetric information in financial markets. Mainstream economists and experts of finance used this assumption to explain many stylised facts observed in financial markets such as banking panics, financial crises, and their propagation mechanisms.¹⁴ The hypothesis of asymmetric information is arguably the minimal deviation from the assumptions of the mainstream models of finance and macroeconomics that may significantly reduce the gap between them and the empirical evidence. This hypothesis is particularly important in finance where the amount of information of agents and their differential information play a crucial role in determining the systematic gains and losses of decision makers. The asymmetric information approach recognises the significant impact of the financial side of a given economy on the dynamic behaviour of the economic system (denied by traditional general equilibrium theory) by focusing on the different quantity and quality of information available to parties in financial contracts. In particular, this approach assumes that borrowers have better information than lenders about their genuine financial position and their own investment projects. This structural information asymmetry is likely

¹³ See the second part of the book.

¹⁴ As is well known, the hypothesis of asymmetric information implies that one counterpart is characterised by incomplete information and thus by bounded rationality. Although this assumption may seem at first sight a tiny deviation from the standard assumptions of the equilibrium approach, it has considerable implications for economic analysis and policy. Akerlof (1970) wrote a seminal paper that clarified this point arguing that this assumption casts light on significant market inefficiencies. This approach was subsequently applied in finance, where proved to have particularly far-reaching consequences.

to produce significant deviations from optimal equilibrium.¹⁵ This depends, first, on adverse selection as asymmetric information provides a relative advantage to bad quality borrowers (often called “lemons”) over good quality borrowers.¹⁶ Since lenders in these circumstances are unable to discriminate correctly between bad and good borrowers, they charge an average rate of interest that, taking account of the effective risk, is too high for good borrowers and too low for bad borrowers. The ensuing distortions of investment imply more systemic risk for the economy as a whole, less aggregate investment, and thus more financial instability and less growth. Lenders react by further increasing the average rate of interest to cover the higher risk; the latter, however, results in greater adverse selection as well as in credit rationing.¹⁷ In addition, the higher interest rate does not equilibrate the market even in the case of an excess demand for loans but, on the contrary, further increases disequilibrium. This cumulative out-of-equilibrium process may easily lead to a credit crunch and possibly to a collapse of financial markets.¹⁸ The exponents of the asymmetric information approach claim that this cumulative process contributes to explain the recurrence of financial fluctuations and their occasional degeneration in episodes of severe financial crisis.¹⁹ Moreover, the additional moral hazard brought about by an increment of asymmetric information is likely to reinforce the distortional impact of adverse selection. Since lenders cannot easily appraise the projects of borrowers, the latter have incentives to engage in projects which increase the expected profits but also the risk of default.

The asymmetric information approach provides an influential explanation of the prominent role of banks in financial markets. According to this view, their main role lies in their ability to reduce asymmetric information succeeding in this way to mitigate the problems raised by adverse selection and moral hazard. In particular, according to the traditional model of banking, often called “originate-to-hold”, banks have an expertise in collecting information about the reliability of borrowers. They exploit their lower cost of monitoring the quality of borrowers (as compared to the costs that individuals should bear for analogous results) and their more

¹⁵ See for example Mishkin (1991, 70–71).

¹⁶ See Akerlof (1970).

¹⁷ See Stiglitz and Weiss (1981).

¹⁸ Mankiw (1986).

¹⁹ See for example Mishkin (1991, 71).

efficient enforcement of restrictive covenants.²⁰ Many experts and practitioners observed that a long-term customer relationship such as that entertained by local commercial banks with their clients enhances this advantage. The advocates of this approach recognise that market mechanisms cannot easily solve the problems produced by asymmetric information. In this view, the main market remedy for the lender relies in the request that the borrower provides adequate collateral for the loan to cover its value in case of default. This solution, however, requires that the value of the collateral be information-insensitive so that it retains its value also in case of unexpected developments of the financial conditions of the borrower or the economy at large. This requires the intervention of specific institutions able to create information-insensitive debt.²¹ The private institutions that play this crucial role are commercial banks that play also an active role in the endogenous process of money creation providing liquidity to the system whenever it is needed. Unfortunately, banks play fairly well this role only when the markets are healthy and not when some sort of pathology develops.

The causal mechanisms, briefly reviewed above, are liable to trigger cumulative processes bringing about recurring fluctuations and, under particular circumstances, financial collapse. In particular, a stock market crash lowers the value of collaterals enhancing adverse selection and moral hazard and is thus likely to lead to financial disruption.²² Any reduction in the net worth of borrowers may induce serious financial distress because they have less to lose by engaging in moral hazard activities to defend the declining net worth.²³ An autonomous increase in asymmetric information or a negative shift of expectations may induce and reinforce a financial vicious circle that leads to a reduction of investment transmitting the crisis to the real economy.

4.6 BEHAVIOURAL FINANCE

Behavioural finance emerged as a constructive reaction to the shortcomings of the equilibrium approach. It focuses on the financial behaviour of economic agents without assuming that they are fully rational and that the

²⁰ See Diamond (1984).

²¹ See Gorton (2010).

²² See in particular Calomiris and Hubbard (1990) and Greenwald and Stiglitz (1988).

²³ See Bernanke and Gertler (1989).

economy is in a state of efficient equilibrium, looking for the description and explanation of empirical regularities observed in the empirical evidence. These regularities may be anomalies (or biases) from the point of view of the equilibrium approach as they define deviations from its implications. Examples of biases are overconfidence, representativeness, conservatism, framing, and regret aversion. We can trace the genesis of this approach at the Carnegie Mellon in the 1950s. While Modigliani, Muth, and then Lucas were perfecting the equilibrium method of macroeconomics and mainstream finance, in the same years their brilliant colleague Herbert Simon started to explore a divergent research path. He reacted to the excessive reliance on the rationality of agents in economics starting a far-reaching research programme on bounded rationality that eventually had a significant impact on economics and financial economics providing early foundations to behavioural economics and finance (Simon 1957). Herbert Simon advocated a behavioural approach committed to the observation of actual economic behaviour without too strict a priori axioms and too narrow disciplinary boundaries. This approach relied on a systematic interaction between economists, psychologists, and other social scientists giving birth to the interdisciplinary sub-disciplines of “behavioural economics” and “behavioural finance”.

Both branches of “respectable” economics have subsequently flourished in the academia and in the research offices of international institutions, central banks, and governments, inspiring the decision strategies of big private operators and the policy rules of policymakers. Behavioural economics and finance have been particularly popular with practitioners while many policymakers were keen to adopt fundamentalist economics and finance to exploit their sharper implications in favour of *laissez faire*. The exponents of the equilibrium approach reacted to the challenge of behavioural finance with sharp criticisms.²⁴ A typical criticism emphasised the fragmentation of behavioural finance focusing separately on single biases without a common framework of explanation. This fragmentation is in part unavoidable as the assumption of efficient equilibrium greatly simplifies the analysis while disequilibrium dynamics may have a much more extended plurality of relevant causes and consequences. In addition, this criticism does not take into account a wealth of contributions based on alternative decision theories that undermine the soundness of the classical decision theory (frequentist or Bayesian) underlying the equilibrium

²⁴ See for example Fama (1998).

approach. Cases in point are the prospect theory (Kahneman and Tversky 1979), Choquet theory (Schmeidler 1989), and the fuzzy set theory (Zadeh 1965). These and other alternative decision theories are not less rigorous than the classical theories also from the formal point of view and succeed to explain many of the biases emphasised by the behavioural approach. Another typical criticism contends that the individual biases are small and cancel out at the aggregate level as some of them induce an overreaction while others induce an under-reaction. The empirical evidence shows, however, that some of the biases are sizable and persistent and do not cancel out. On the contrary, in finance, recent research “has emphasized that, even though the aggregate stock market appears to be wildly inefficient, individual stock prices do show some correspondence to efficient markets theory” (Shiller 2003, 89). This seems to confirm Samuelson’s conjecture that the stock market is “micro efficient but macro inefficient” (see Sect. 3.2). Finally, a crucial criticism maintains that the explanations of the biases lack rigorous foundations and may be better explained by future advances of equilibrium theory. This may be true in some cases. Some of the anomalies, however, go to the heart of the equilibrium approach undermining the validity of its fundamental axioms. This is the case, in particular, of two crucial anomalies. The first falsifies the belief that arbitrage is always able to guarantee efficient equilibrium, as the empirical evidence shows that it is risky and costly so that arbitrageurs stop their activity before the convergence to equilibrium is completed. Therefore, the “no-arbitrage” assumption does not imply efficient equilibrium, as is usually maintained by financial economics.²⁵ Analogously, the excess volatility of stock prices observed in financial markets violates the crucial principle of the EMH that market price equals the optimal forecast of it.²⁶

Behavioural finance started to have a significant influence since the early 1990s when the initial enthusiasm for the equilibrium approach that mounted in the late 1970s and in the 1980s started to wane in consequence of the growing evidence of significant anomalies and the increasing manifestations of financial instability. The influence on policy of behavioural finance, however, has been significant mainly as a counterweight to the EMH providing empirically based justifications for a more active regulation of financial markets. Nevertheless, most policy rules and

²⁵ See in particular Shleifer and Vishny (1997), and Barberis and Thaler (2003).

²⁶ See Shiller (2003).

interventions were dictated by the equilibrium approach or by theories that do not deviate much from it, such as the asymmetric information approach.

4.7 POST-KEYNESIAN ECONOMICS

We can find the origin of post-Keynesian Economics in the writing of the “apostles” of Keynes (best collaborators and pupils in Cambridge, such as Joan Robinson, Kahn, Kaldor, and Kalecki) after his death. They tried to extend Keynes’s theory to new fields (such as growth theory) and to defend the genuine interpretation of the master’s theory from hostile interpretations by neoclassical economists and “revisionist” interpretations by the exponents of the neoclassical synthesis.²⁷ This Cambridge tradition interacted with the Neoricardian School pioneered by another eminent collaborator of Keynes (Piero Sraffa) and catalysed other streams from the UK (Chick and Thirlwall), the US (Weintraub, Davidson, and Minsky), from Italy (Pasinetti, Garegnani, and Graziani), from Austria (Josef Steindl and Kurt Rothschild), and many more. The common radical criticisms against the neoclassical approach and the neoclassical synthesis produced a growing convergence that gave birth in the 1970s to an autonomous school of thought. This school managed to exert some influence among academic economists and practitioners but did not succeed to exert a continuous and systematic influence on the policy strategy adopted by most The Organisation for Economic Co-operation and Development (OECD) governments and regulatory agencies. We briefly mention this school here because it is highly significant for our subsequent analysis, and because immediately after the Subprime Financial Crisis it was temporarily considered respectable by mass media and policymakers. In a few significant instances, the change of mind was genuine and persisted afterwards; however, in most cases it was mainly instrumental to justify the adoption of policies blatantly inconsistent with the previous prescriptions of mainstream macroeconomics. The classical school in all its variants has always extolled the unfettered discipline of free markets and could not support the bailout of too-big-to fail banks advocated by financial lobbies and scary politicians in 2008 and 2009. The revival of Keynesian economics and Minsky’s financial instability hypothesis aimed to offer some justification for the bailout of the financial system and the massive support of

²⁷As is well known, Joan Robinson defined the Neoclassical Synthesis as “bastard Keynesianism”.

aggregate demand.²⁸ By the early 2010, after the first signs of recovery, the policymakers believed that they did not need further expansive policies and wished to return to financial orthodoxy. Therefore, the instrumental use of Keynes and Minsky was suddenly forsaken and post-Keynesian economics lost again in many mainstream quarters its patent of respectability. However, the dialogue with New Keynesian economics and Behavioural economics remained more active and constructive than before the crisis.

The post-Keynesian school, as all the other schools mentioned before, articulates in many streams. Let us mention first the main common points.²⁹ The macroeconomic equilibrium implemented by unfettered markets is not optimal as it is characterised by a certain degree of involuntary unemployment. What causes this suboptimal state is deficient effective demand that depends on the product market and the financial system rather than on the market for labour. In this view, contrary to the mainstream opinion, the causation goes from investment to saving and not vice versa. This implies that the crucial physiological role of the financial system is not the intermediation between saving and investment but the financing of real investment (see Sect. 2.2). According to post-Keynesians, a monetary economy is quite different from a barter economy. In particular, the classical dichotomy between the real and monetary sides of the economy does not hold, money is not neutral, and finance plays a crucial role. This implies a rejection of the Quantity Theory of Money for three basic reasons:

1. the creation of money is mainly endogenous so that causation goes from income to money,
2. the velocity of circulation is endogenous and thus highly variable as it depends on money demand and liquidity preference,
3. inflation is affected also by the cost-push determined in particular by increases in wages or in the price of primary products.

All post-Keynesians share these points but combine and articulate them in different ways and with different weight. King (2013) distinguishes three principal streams: the fundamentalist Keynesian approach led by Paul Davidson, the Kaleckian variant represented by Eckhard Hein, and

²⁸ More details on the return of the Master in the aftermath of the crisis may be found in Skidelsky (2010).

²⁹ See for example Thirlwall (2015).

Hyman Minsky's financial instability hypothesis. In this section and in the rest of the book I will focus mainly on the third stream because it is particularly relevant for the purposes of this book. According to the financial instability hypothesis, capitalism is intrinsically unstable for financial reasons.³⁰ Therefore, the process of financialisation tends to increase instability. The main reason is that a sophisticated financial system is characterised by strong or radical uncertainty, while the equilibrium approach crucially depends on the assumption of weak uncertainty. Minsky argued that capitalism without (strong or radical) uncertainty is like Hamlet without the Prince (Minsky 1975).³¹ Even if we assume that the economy is in a state of equilibrium, financial tranquillity cannot persist for a long period because the growing confidence in the stability of the system nurtured by equilibrium induces the economic units to increase their indebtedness starting a sequence of financial fluctuations that eventually degenerate in a great crisis. According to this view, in the Bretton Woods period, financial stability has been granted by the growing public expenditure financing countercyclical policies and a swelling welfare state.

4.8 CONCLUDING REMARKS

Since the 1970s, mainstream financial economics and macroeconomics have been characterised by a similar equilibrium approach. The most striking implications of these schools of thought on the rationality, efficiency, and optimality of an unfettered competitive market strictly depend on the alleged properties of such equilibrium method. However, no one succeeded so far to implement successfully a pure equilibrium method, at least in its extreme form, as advocated (but not practised) by Lucas (1981) in macroeconomics and Fisher Black in financial economics.³² A pure equilibrium method is inconsistent with the empirical evidence on business cycles and is subject to paradoxes that no one has been able to circumvent.³³ The actual equilibrium method, implemented in macroeconomics by Lucas based on the REH and in finance by Fama

³⁰This does not exclude other reasons rooted in the real economy that have been analysed since long.

³¹This point of view is thoroughly discussed by Victoria Chick (1983).

³²These issues are discussed at more length by Vercelli (1991) in reference to Lucas and New Classical Economics and by Mehrling (2005) in reference to Fisher Black and Modern Financial Economics.

³³See Sect. 4.4.

based on the EMH, is subject to similar criticisms. In particular, contrary to the equilibrium approach, the process of propagation of exogenous shocks to explain the actual business cycles cannot avoid focusing on the endogenous dynamics of the system under conditions of disequilibrium. Moreover, the internal logical consistency of New Keynesian Economics and the New Classical Consensus models is questionable also for another reason. The hypothesis of rational expectations is inconsistent with the existence of market imperfections, because the latter imply the inevitability of systematic errors while the REH excludes by assumption that the economic agents make systematic errors. To understand better the common limitations of these kindred approaches, we can resort to the well-known analogy between economic equilibrium implying absence of disequilibrium in the economic system, and health implying absence of illnesses in the human body. We cannot understand the genesis, persistence, and robustness of health without studying the causes and consequences of the different forms of illness that jeopardise it. To understand the causes and consequences of the latter, we cannot simply rely on the self-healing properties of human beings, but we have to focus also on their pathologies. In most cases, we can restore health only, or more quickly, by adopting a therapy based on external interventions such as the assumption of medicines or the implementation of a surgical operation. It is true that, in some cases, the therapies adopted are unsuccessful or even counterproductive. However, to choose the right therapy or remedying the wrong one we need to investigate in depth the pathologies of the human body. The equilibrium approach managed to develop a sophisticated physiology of an ideal economic system emphasising its self-healing properties rather than its pathologies. We cannot thus be surprised that the mainstream approach proved unable to predict the Great Recession, to understand the persistence and depth of its effects, and to act effectively to mitigate them. The heterodox approach in its most insightful versions focused instead on the pathologies of the economic system by studying the instability of equilibrium, the disequilibrium processes, their persistence, and the ensuing contagion. This suggests that the targeted adoption of active therapies to improve the convergence to health may be justified. Any therapy, however, can have side effects, sometimes worse than the illness itself, and can depress the self-healing properties of the system. We should try hard to avoid any side effect of therapies and stimulate immunity response and self-regulation whenever this is possible. However, this is not a good reason to close the hospitals or the faculties of medicine. Neither is it justified

the ongoing systematic expulsion of heterodox economics from the Economics Departments. We should rather invest more resources in the study of the most important pathologies and the most efficient therapies taking into account all their side effects.

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PART II

The Regulation of the Financial
System After the Crisis



The Great Financial Crisis and Its Main Determinants

5.1 INTRODUCTION

This chapter is a critical survey of a few selected explanations of the Great Financial Crisis (2007–2009) that have been particularly influential on subsequent regulation and policy-making. In particular, I review the main insights that inspired the reforms aiming at stabilising the financial system. Most accounts of this epoch-making crisis are disappointing for a host of reasons. First, they often “focus on the symptoms and not the underlying causes” (King 2017, 2). In addition, the few explanations that go deep enough to deal with the ultimate causes of the crisis often focus on a specific factor, or a limited number of factors, without sufficiently exploring the interaction between all the most significant determinants.

As often happened in the past after unexpected catastrophes, also in this case the first instinct of the ruling class has been that of deflecting the anger of people towards specific categories of “infectors”. The list was at the beginning unusually long and thus inefficient for assuaging the resentment of public opinion. In the first meeting after the trough of the crisis (in Washington on November 15, 2008), the leaders of the G20 group blamed a long catalogue of decision makers for the shortcomings of their behaviour. In particular, the final report blamed “market participants” including bankers, money managers, financial traders, investors, and speculators, because they “sought higher yields without an adequate appreciation of the risks and failed to exercise proper due diligence”. In particular, the final Statement of the meeting blamed bankers and finan-

ciers for their “weak underwriting standards, unsound risk management, increasingly complex and opaque financial products, and consequent excessive leverage” (G20 2018). In this view, these shortcomings “combined to create vulnerabilities in the system” (ibidem). The usual interpretation of these assertions drew the conclusion that the financial system was sufficiently reliable but an unusually large number of “rotten apples” had disrupted it. In this view, nothing structural prevents the existing financial system to work efficiently. There is thus no need to design and implement radical reforms to improve substantially the working of the financial system. We only need a well-balanced package of minor corrective measures. We find a similar misleading point of view in most subsequent official documents that seem to ignore that the individuals respond to the actual incentives and disincentives set by the financial system. We have thus to understand instead what requires a structural fixing in the system. To this end, in the following sections, I provide an extremely succinct critical review of some of the most significant explanations of the origins, propagation, and main consequences of the recent crisis. I distinguish between triggering factors (discussed in Sect. 5.2) and propagation factors (discussed in Sect. 5.3). I examine then the main financial factors focusing on the exponential growth of securitisation, the adoption of a new model of banking based on it, and the explosion of shadow banking (Sect. 5.4). These structural transformations of the financial system contributed to increase systemic risk favouring the progressive hypertrophy of speculation (Sect. 5.5). I extend then my critical appraisal to the main structural factors in the real economy, discussing the role played by global real imbalances (Sect. 5.6), income and wealth distribution (Sect. 5.7), and the deterioration of Corporate Social Responsibility (CSR) standards (Sect. 5.8). As for the shortcomings of regulators and supervisors, I will discuss some of them in the following chapters; however, in Sect. 5.9, I introduce a propaedeutic discussion of the shortcomings of central banks as far as the monetary policy is concerned. Each of these explanations captures something that played a significant role in the origin, propagation, and implications of the crisis. However, I argue in this chapter that the usual versions of these explanations are often shallow and misleading. A thorough understanding of their shortcomings contributes to explain why the regulatory response to the crisis has been so disappointing.¹

¹ See next chapter.

5.2 THE TRIGGERING FACTORS

Most economists and policymakers agree that the Great Financial Crisis originated in the United States in consequence of the so-called Subprime Mortgage Crisis triggered by the burst of a huge housing bubble. As is well known, from 1997 to 2006, the price of houses increased continuously in the United States and many other countries (including Ireland, Spain, and the United Kingdom) creating expectations of further increases. Euphoric expectations encouraged the diffusion of risky subprime and adjustable-rate mortgages (ARM). In the United States, from 2004 to 2006, the percentage of lower quality subprime mortgages originated in a given year rose from the previous long-term average of about 8% to approximately 20%. In addition, a high percentage of new mortgages (in 2006 more than 90% of subprime mortgages) were adjustable-rate mortgages (ARM). Often these mortgages had low interest at first, which would increase later. Moreover, a growing number of investors, in the United States and abroad, invested in derivatives based on subprime loans that promised higher returns. Rating agencies considered these derivatives substantially safe because, according to past evidence, local housing price levels looked largely uncorrelated even in the same country so that geographic diversification seemed sufficient to guarantee the aggregate value of the portfolio. However, in the period preceding the crisis, many homeowners accumulated further risk by refinancing their homes and taking another mortgage to finance private expenditure. The ratio of household debt to disposable personal income rose from 77% in 1990 to 127% by the end of 2007. Therefore, when the US home prices started to decline after mid-2006, it became more difficult for borrowers to refinance their loans. As adjustable-rate mortgages (ARM) began to require higher monthly payments because of a significant increase in market interest rates, mortgage delinquencies soared. Securities backed with mortgages lost most of their value. The price of many homes dropped below the value of the remaining mortgage debt, discouraging the owners to sell them. According to estimates, about 8.8 million homeowners in the United States had zero or negative equity by March 2008. This caused the number of homes' foreclosures to increase depressing further their market price. By the end of 2007, almost 1.3 million of US homes were foreclosed. Concerns about the soundness of US credit and financial markets led to tightening credit in the United States and around the world contributing to slow down economic growth in most countries. The sudden collapse of the housing

bubble caused the value of investments in the housing sector to plunge. According to estimates, the companies that had invested more in sub-prime loans (such as Citigroup and Merrill Lynch) lost a total of about \$512 billion in a few months.

Notwithstanding a wide agreement on the crucial role played by the US housing crisis and the permissive policy on mortgage concession, a thorough explanation of the triggering process of the financial crisis requires a few clarifications. In particular, we have to provide a convincing answer to three questions. First, still in the middle of 2007 most observers expected a soft landing of the house prices. For example, on June 5, 2007 Ben Bernanke maintained that “the troubles in the subprime sector seem unlikely to seriously spill over to the broader economy or the financial system”. The board of the Fed and most contemporary observers shared this sanguine attitude. This gives also a clue to understand that there is at least one crucial triggering factor missing in the standard explanation. In fact, while the speculative bubble of housing started to deflate in the United States, the oil price rapidly increased from less than \$50 per barrel in 2005 to a new peak of about \$150 per barrel in spring 2008. This provoked a rise in the production costs of all goods (particularly food). Though the inflationary surge was moderate and independent of excess aggregate demand, and despite the emerging financial crisis, central banks reacted according to the usual routine (often specified or rationalised in terms of the Taylor rule). In particular, the Fed increased the discount rate from 2% in May 2004 to 6.25% in August 2008. This augmented significantly also the mortgage rates pushing into insolvency most holders of subprime and ARM mortgages. The consequent collapse of the housing market sank the price of mortgage-based derivatives triggering a process of distressing contagion in the global system, especially in the Eurozone.

We observe in this period a growing interaction between financial, economic, and environmental problems (in particular, those related to the scarcity of land and fossil fuels), which made evident the unsustainability of the ruling paradigm of economic development.² The conflict between the almost unbounded supply elasticity of financial resources and the rigid supply of land, energy sources, and other environmental resources is becoming increasingly cumbersome.

Peter Wallison and Arthur Burns fellows of the American Enterprise Institute, a right-wing think tank, have advanced an alternative explanation

² See Vercelli (2017).

of the main triggering factor. In their comment dissenting from the majority report of the FCIC (2011), they maintained that the housing bubble and the ensuing crisis would never have occurred without the US government interventions to promote house ownership. This housing policy was implemented through the government-sponsored enterprises Fannie Mae and Freddie Mac, which led to the creation of 17 million subprime mortgages and other risky loans. However, Fannie Mae and Freddie Mac acted as followers, not leaders, of private credit institutions. In addition, an alleged mistaken intervention in housing policy could not have triggered the deepest and most persistent crisis after the Great Depression if it had not impinged on a financial system made very fragile by its intrinsic features.³ Notwithstanding the weakness of the argument, this point of view became the mantra of the believers in free market capitalism who were reluctant to ascribe the crisis to the shortcomings of the system. I believe on the contrary that we cannot understand the early deployment of the crisis and its degeneration in the Great Financial Crisis without focusing on the structural features of the financial system. In particular, we have to understand the relationship between securitisation and contagion in the shadow banking system.⁴ In the latter, the same sort of collaterals that had looked information-insensitive in periods of financial tranquillity abruptly revealed a high degree of sensitivity to information as soon as the crisis broke out. The progressive soaring of repo haircuts soon betrayed the sudden loss of confidence in the information-insensitiveness of collaterals.⁵ The haircut had been zero until early July 2007 showing a persisting widespread trust in the information-insensitiveness of collaterals in the US repo market; however, as soon as the housing prices started to affect the value of mortgage-related assets in the second half of 2007, the haircut started to increase. By the end of 2007, the average repo haircut on structured debt had reached in the United States the significant level of 9%. In 2008, it increased rapidly from 10% in January to 15% in June, reaching 24% in August, jumping up to an amazing 46% after the bankruptcy of Lehman

³ See Wolf (2015, 139–141).

⁴ See the contributions of Gary Gorton and collaborators, in particular: Gorton (2009, 2012) and Gorton and Metrick (2010).

⁵ The haircut or margin “is the percentage difference between the market value of the pledged collateral and the amount of funds lent. For example, a haircut of 5% means that a ‘bank’ can borrow \$95 for each \$100 in pledged collateral ... The size of the haircut reflects the credit risk of the borrower and the riskiness of the pledged collateral” (Gorton 2009, 30).

Brothers.⁶ We may interpret the increasing haircut as a progressive “withdrawal” of repo deposits from banks. Its continuous and rapid increase to unprecedented values thus appears as a bank run in the repo market. In this view, the run on repo was analogous to previous banking panics. While earlier bank runs happened because deposits were not insured, the recent run in the repo market happened when the depositors realised that the market value of collaterals covered only in part the value of their deposits. This transformed the repo market in a sort of “lemon market” in which everyone had to concoct reassuring information to implement the desired transactions.⁷ What is worse, much of the required information was not available; in particular, no one knew the actual amount and location of the exposures to the housing shock. The ensuing panic inevitably paralysed all the interbank market.

The triggering factors examined in this section, namely the subprime crisis, the run in the shadow banking, and the energy spike, do not exclude each other. On the contrary, their interaction provides valuable insights on the rapid propagation of the crisis to the entire financial system not only in the United States but also in other advanced countries strictly integrated with the United States. In the next section, we turn to this process of propagation.

5.3 THE PROPAGATION OF FINANCIAL DISTRESS

A thorough understanding of the triggering factors of the subprime financial crisis is insufficient to explain the depth and persistence of the ensuing Great Financial Crisis. If the subprime crisis was the early detonator of the financial implosion, the latter was so devastating only because of a previous massive accumulation of explosion-prone structural features ready to blow up. In other words, to understand this dire crisis, we have to discern its structural causes. The crucial issue we have to explain is why and how the US subprime crisis very rapidly morphed in a deep generalised financial crisis involving most OECD (Organisation for Economic Co-operation and Development) countries. In addition, we need a convincing explanation of the unprecedented rapidity of the international transmission of financial distress. The collapse in the price of housing and the value of mortgages was a relatively small disturbance as compared with the size of

⁶Gorton (2009, 33).

⁷See Gorton (2009, 37).

the financial system. The stock of the US subprime mortgage market was around \$1 trillion just before the crisis, a non-insignificant sum whose potential losses, however, were not large enough to trigger a systemic crisis in a large country such as the United States.⁸ The shock that triggered the crisis (the slowdown of housing prices at the turn of 2006, followed by their reduction in late 2007, at first mild and then precipitous) affected at first only the subprime assets classes whose value significantly declined. The ABX Index showed since early 2007 a steady deterioration of subprime fundamentals and a parallel progressive devaluation of subprime-related assets classes and firms.⁹ The systemic event reflected by the collapse of other asset classes normally unrelated with subprime assets, started only in August 2007 when average repo haircuts, which were still about zero until then, started to rise. The propagation of financial distress throughout the entire economy was so rapid and disruptive because the crisis caught many economic units, both private and public, in a situation of heavy indebtedness. According to an influential view, the fundamental structural problem underlying the financial crisis of 2007–2009 was that “modern financial systems left to themselves inevitably create debt in excessive quantities” (Turner 2016, 3). As for private debt, as Adair Turner argues, “The most important reason the 2008 crisis was followed by such a deep recession and weak recovery was excessive private credit creation in the preceding decades” (ibidem, 49). In particular, the run on repo triggered a process of propagation very similar to that experienced in preceding financial crises, at least the most serious ones: a variant of the Fisherian process of debt deflation as updated by Minsky.¹⁰ The main dealers of securitised products found increasingly difficult to refinance their positions and found themselves over-indebted; in order to reduce their indebtedness, they had to fire sell a growing share of their assets, even those that were originally unrelated to mortgage collateral. The market values of all these assets progressively declined compelling the main dealers of securitised products in the repo market to downsize their activity. This vicious

⁸ See for example Gorton (2009, 31) and King (2017, 35).

⁹ See Gorton (2009, 31). The ABX Index is an index that represents 20 subprime residential mortgage-backed securities. The Index provides a measure of the overall performance of the subprime residential mortgage market.

¹⁰ Fisher (1933) provided the original insights on the vicious circle between debt of the economic units and deflation in the economy. Minsky updated this analysis in 1982. Comments on the evolution of the debt-deflation theory of the crisis may be found in Tropeano and Vercelli (2017).

circle eventually propagated to all the economic units holding financial assets, while their herd behaviour produced a significant and generalised loss of value. This process of progressive build-up of bank panic emerged in August 2007 and became progressively more intense culminating in September 2008.

The excessive and distorted indebtedness played also a crucial role in propagating the crisis from the financial system to the real system. Indebtedness damages the real economy to the extent that “debt does not fund new capital investment but rather the purchase of already existing assets, above all real estate” (ibidem). This was no doubt a crucial component of a comprehensive structural explanation of the crisis. However, the growing demand of existing assets is not necessarily a problem. In the case of housing, for example, whenever an excess demand persists and feeds growing market prices, this may solicit an increased construction of new houses that would support real economy and employment. The trouble is when, as it happened before the crisis, an overgenerous and lax provision of mortgage contracts, triggers a bubble of real estate prices that eventually produces an excess supply of houses. This unbalance is bound to produce a sharp downfall of housing prices that disrupts the capacity of many mortgage holders to continue the payment of their contractual rates. Lord Adair Turner provides a particularly thoughtful explanation of the foundations of this crucial structural factor: “At the core of financial instability in modern economies ... lies the interaction between the infinite capacity of banks to create new credit, money, and purchasing power, and the scarce supply of irreproducible urban land” (ibidem). Nevertheless, even the scarcity of urban land may be to some extent relaxed by innovation (building e.g. higher houses, or apartments that are more rational). Nevertheless, Turner is right that the scarcity of urban land will eventually constrain housing supply. Urban land, however, is just an example of scarce environmental goods. Turner’s argument has to be generalised to encompass all irreproducible environmental goods. Fossil fuels and food are two significant examples of scarce natural resources that played a crucial role in triggering the crisis. The conflict is thus between the increasing, though not “infinite”, capacity of the modern financial system to produce purchasing power and the scarce supply of natural and environmental resources that can be relaxed only in part and with great effort.¹¹ This conflict is going to play a growingly crucial role in a long-run perspective.

¹¹ I developed this point at more length in Vercelli (2017).

5.4 SECURITISATION AND SHADOW BANKING¹²

As we have seen in the preceding section, the new structural characteristics of the financial system enkindled the rapid and viral propagation of financial distress. I consider in this section some of the most influential explanations of the crisis that have focused on structural financial factors influencing the process of regulatory reform of the financial system.

One of the early structural explanations focusing on the peculiarities of the modern financial system emphasised the transformation of the prevailing model of banking from the traditional one, often dubbed “originate and retain”, to a new one dubbed “originate and distribute”. This transformation of the financial system contributes to explain the widespread excessive risk taking before the crisis. The new model of banking is characterised by significant microeconomic advantages but generates negative externalities for the system as a whole. In fact, the originate and distribute model of banking produced

severe incentive problems, which are referred to as principal-agent problems or more simply as agency problems, in which the agent (the originator of the loans) did not have the incentives to act fully in the interest of the principal (the ultimate holder of the loan). Originators have every incentive to maintain origination volume, because that would allow them to earn substantial fees, but they had weak incentives to maintain loan quality. (Mishkin 2008)

The incentives of banks to assess the reliability of borrowers, the soundness of investment projects, and the risks involved in each specific transaction became thus significantly weaker. In this view, commercial banks progressively gave up their role of direct intermediation between lenders and borrowers while information tended to become increasingly asymmetric with all its well-known pathological implications.¹³ In particular, the balance sheets of banks adopting the new paradigm became less transparent since the process of securitisation on which it relies is largely based on off balance sheet transactions through specific institutions established ad hoc, such as special purpose vehicles (SPVs) or conduits. This contributed to feed asymmetric information in the market strengthening the vicious circle of its impact on financial decisions. Many policy authorities

¹²This section borrows heavily from the section 6.3 of Vercelli (2017).

¹³See Sect. 5.4.

and regulators adopted this view just after the inception of the crisis.¹⁴ In April 2008, the authoritative Joint Forum maintained that “under the ‘originate and distribute’ model, banks frequently no longer have significant retained exposures, nor have they necessarily retained the personnel specializing in workouts who can steer creditor negotiations”.¹⁵ Therefore, systemic risk and asymmetric information increase as risk spreads in an opaque way over much larger categories of subjects participating in the chain of loans securitisation. None of these subjects has sufficient incentives to assess thoroughly the risk of securitised loans but this is by itself insufficient to explain the banking panic triggered by the subprime crisis. The actual practice of securitisation shows that, contrary to the early “wishful thinking” of the banks that started to implement it, the transfer of risk from the banks originating loans to investors happened to be only partial.

According to an alternative point of view worked out by Gorton and co-authors, the main components of shadow banking—in particular the money-market mutual fund (MMMFs), the repo market, and securitisation—constitute a sort of parallel banking system that plays a crucial role in finance, especially for large institutions, and should thus be adequately controlled and regulated rather than repressed. The official point of view has rapidly shifted towards some variant of this sanguine view of shadow banking, rechristened with the more polite names of “non-bank industry” or “market-based finance” that are much more palatable to the banking lobbies.

Gorton’s view suggests a different understanding of the nature of both traditional banking and shadow banking. In his view, the essence of banking is not the intermediation between savers and investors, since their mutual relation—especially in financialised capitalism—progressively relies on financial markets. The specific role of banking is instead that of creating a special kind of debt immune to adverse selection by privately informed traders.¹⁶ This sort of “informationally insensitive” debt was originally limited to demand deposits. However, the latter are useless for large institutions (such as firms, banks, hedge funds, and corporate treasuries),

¹⁴In the immediate aftermath of the financial crisis, Gorton asserted that “all the major bank regulators and central bankers appear to subscribe to this view, though their views have differences and nuances” (Gorton 2010, 28).

¹⁵See the Joint Forum (2008 41). The Joint Forum includes the Basel Committee on Banking Supervision, the International Organization of Securities Commissions, and the International Association of Insurance Supervisors.

¹⁶See Gorton and Pennacchi (1990).

which need to deposit large amounts of money for a short period because of their low insurance cap (Gorton 2009, 3–4).¹⁷ That is why they “deposit” instead their short-term liquidity in the sale and repurchase (“repo”) market. These deposits are “insured” by collateral, including securitised products, in a growing percentage. The depositor may reuse the collateral by “rehypothecation” that plays a role similar to writing checks with analogous multiplicative effects. For large financial institutions, this sort of collateral plays the role of a “currency” that creates “deposits” of money on call (mostly overnight) and may “circulate”. The progressive growth of repo market stimulated the parallel growth of wholesale securitisation to satisfy its growing need of collateral. In tranquil financial times, this kind of debt is substantially insensitive to new information and has thus an advantage over corporate debt since the latter is subject to ubiquitous speculation on information about the corporation performance.

It is interesting to observe that the information sensitiveness, emphasised by Gorton and his collaborators, is a concept akin to that of financial fragility emphasised by Minsky (1984): in both cases, beyond a given threshold, a small perturbation could be sufficient to change the behaviour of a financial entity.¹⁸ Gorton refers information sensitivity to specific assets and liabilities (in particular debt) of economic units, while Minsky refers this concept to the economic units or to the economic system as a whole. The financial fragility of a unit depends on the degree of shock-sensitiveness of its balance sheet, while the financial fragility of the system depends on that of the single units and the degree of their interconnectedness. The approach of Minsky is thus more general, but the contributions of Gorton and co-authors clarify the specific role of different kinds of liabilities in the origination and dynamics of financial instability. The concept that banking is in its essence creation of information-insensitive debt, contributes to the understanding of recent banking practices but the concept is too narrow. We may agree that a crucial role of banking has been that of creating secure debt in the broad sense of shock-insensitive debt; however, the meaning and implications of banking should be analysed in all its dimensions. Although new information

¹⁷As is well known, in the United States the Federal Deposit Insurance Corporation (FDIC) insurance covers all bank deposits up to \$250,000 (since 2010). In the UE, the deposit insurance currently covers up to 100,000 Euro.

¹⁸See Vercelli (2011) for an interpretation of financial instability along similar lines.

is an important category of potential shocks, other important shocks have a different nature. In particular, those triggered by the interaction between the balance sheets of economic units are not only the consequence of information shocks but also of market interactions directly reflected by accounting figures.¹⁹

Summing up, each of the two main branches of the asymmetric information approach to banking, as exemplified in this section by Mishkin and Gorton, captures some significant features of the recent evolution of the banking system and in particular, of the 2007–2009 crisis. However, both branches suffer from the limitations of the common trunk, the asymmetric information approach from which they bifurcate. The financial crises depend not only on asymmetric information but more in general on the nature and degree of systemic uncertainty, whether the information is asymmetric or not. Asymmetric information is a significant and ubiquitous source and consequence of uncertainty but it is not the only one. The spreading of risk across a plurality of unknown and unknowable subjects emphasised by both branches of asymmetric information theory implies that uncertainty over the value and risk of securitised assets is strong (not representable through additive probability distributions) or radical (we just do not know).²⁰ This is a common shortcoming of all branches of the asymmetric information approach. The crisis became systemic because no one knew where the increased risk originated by different mortgage asset classes was located. When most economic agents started to believe that this risk had breached the safety threshold, the consequent panic spread to the banking system as a whole. Therefore, the problem is not only asymmetric information but also a widespread lack of relevant information suffered by all decision makers. The ultimate causes of the crisis are rooted into the strong or radical uncertainty affecting financial choices, while asymmetric information is only an aspect of it.

5.5 SYSTEMIC RISK AND SPECULATION

A crucial financial factor that explains the origin of the crisis, as well as its depth and persistence, was the unprecedented accumulation of systemic risk in the financial markets caused by the growing leverage of financial

¹⁹ See for example Koo (2011).

²⁰ On the distinction between strong and radical uncertainty as here adopted, see Vercelli (1991).

institutions and by their increasingly complex financial interactions. A crucial source of this process was a change of attitude by financial economists and regulators towards financial speculation. The traditional point of view distinguished between justified and unjustified speculation and tried to repress the second. If we take the emblematic evolution of the US regulation, we see that at the end of nineteenth century “the common law drew a careful distinction between a derivatives contract in which at least one party was truly hedging a pre-existing commercial risk (deemed legally enforceable), and a purely speculative derivatives bet ... (deemed unenforceable...)” (Stout 2011, 3). This sharp distinction was rooted in the conviction that derivative contracts, unlike genuine hedging that reduces risk or transfers it to a party that can bear it more cheaply, are a sort of gambling that increases risk for the parties and society. The common law did not prohibit speculative contracts but discouraged them by refusing to give derivatives speculators access to public courts to enforce their wagers. At the turn of nineteenth century started a process of codification at the state level that declared off-exchange futures and options contracts not performed by actual physical delivery to be not only unenforceable but also illegal. The federal government adopted a similar approach with the Future Trading Act of 1921 and the Commodity Exchange Act of 1936 (CEA), which made illegal under federal law off-exchange trading in futures and options on a wide list of commodities. This process of codification culminated with the creation in 1974 of the Commodity Futures Trading Commission (CFTC) and with the extension of the CEA regime beyond the list of commodities previously specified to “all other goods and articles”. The process of financial deregulation, gathering momentum in the 1980s and 1990s, triggered the explosive growth of financial derivatives on which the CFTC was unable to keep its power of control. The lobbying of Wall Street led to the approval of the Commodities Futures Modernization Act of 2000 (CFMA) that reversed the traditional common-law rule by declaring off-exchange derivatives trades by financial institutions to be legally enforceable, including purely speculative trades between two parties who each lacked an insurable interest. Not surprisingly, the legalisation of purely speculative over-the-counter (OTC) derivatives trading

produced an immediate and explosive growth in the size of the OTC derivatives market. (If we legalized burglary or murder for hire, those markets would likely grow, too). ... By the end of 1999, the total notional value of

OTC derivatives outstanding was approximately \$88 trillion. ... By 2008, the OTC market had grown ... to almost \$600 trillion. ... This figure amounted to about \$100,000 in notional derivatives bets for each man, woman, child and infant living on the planet. (Stout 2011, 6)

Such a boom of OTC derivatives speculation greatly enhanced the risks for derivatives investors. Huge trade losses made soon visible its obnoxious consequences leading to the bankruptcy of prestigious financial institutions such as Orange County, California's pension fund, the British bank Barings PLC, and the hedge fund Long Term Capital Management (LTCM).²¹ The ensuing rapid growth of the OTC credit default swap market did not succeed to reduce systemic risk and eventually caused the 2008 collapses of Bear Stearns, Lehman Brothers, and AIG. The process of liberalisation of speculation was promoted by a systematic lobbying of the increasingly powerful financial industry and by the evolving view on speculation worked out by financial economics.²²

As we will see in the next chapter, the insightful analysis that I summarised in this section affected only marginally the regulatory reforms implemented after the crisis. Notwithstanding the overwhelming empirical evidence produced by the crisis and its aftermath, mainstream economists and regulators kept repeating that speculation is too important for the system to justify any form of significant repression.

5.6 THE IMPACT OF GLOBAL REAL IMBALANCES

The dramatic economic turmoil started in 2007 triggered a sequence of manifestations that have been mainly financial before gradually percolating in the real system and eventually translating in what came to be called "Great Recession". This does not imply that we have to find the ultimate causes of the crisis in the financial system. On the contrary, in the light of the organic link between the financial and real economy emphasised in Chap. 2, we would expect that an in-depth causal analysis should bring to the fore the crucial role played by the real system and its interaction with the financial system. However, the widespread conviction that finance is just a veil blurring the ultimate causes operating in the real economy inhibited the necessary systematic analysis of the causal interaction between

²¹ See Sect. 3.2.

²² See Sect. 2.6.

finance and the real economy. Notwithstanding the abundant counterexamples provided by the crisis, this traditional shallow view does not easily surrender to a deeper and more comprehensive view of the crisis and finance itself. This section briefly reviews the principal mainstream explanation that focuses on real factors: the accumulation and persistence of global real imbalances. Immediately before the crisis, a few mainstream economists had singled out this factor as a likely source of an impending economic and financial turmoil, although none of them expected the depth and persistence actually manifested by the crisis. Actually, the global real imbalances were not the main determinant of the crisis but played a significant role in the origin and evolution of the Great Recession and contributed to make the recovery particularly slow and uneven. Persistent current-account imbalances are not a novelty in the recent history of the world economy. After WWII, they had a dire surge in the 1970s because of the two oil shocks (1973 and 1979) contributing to the appalling Great Stagflation of the period. On this occasion, the financial system managed to recycle the swelling current account surpluses of oil-producing countries through the Eurodollar market but a significant diminution of the global imbalances required the progressive cutback of the oil price that occurred in the 1980s and 1990s. As we have seen in Sect. 5.2, the sudden spike of oil price in the period 2005–2008 produced the resurgence of a similar sort of imbalances. The ensuing bout of cost inflation produced by the spike of oil and food price coupled with the increase of interest rates engineered by central banks contributed to trigger the crisis. However, most mainstream economists focused on a different kind of real factors. In their view, the fast development of Asian countries, based on the adoption of a successful export-led growth model, introduced a new source of current-account imbalances. First Japan (after WWII until the early 1990s), then Asian “tigers” (Hong Kong, Singapore, South Korea, and Taiwan, since the early 1960s), and finally China (since the 1980s) started to accumulate large trade surpluses. In the decade preceding the crisis, large current-account imbalances increased at the world level from 0.5% to 2% of global GDP.²³ The unexpected persistence of current-account imbalances depended on many factors. First, the exporting countries managed the rigidity of the currency exchange rates in such a way to protect their exports and accumulate reserve currencies (mainly dollars) to maximise market and political power and the capacity to withstand future

²³ See Turner (2016, 180).

shocks. This is the case of Asian countries after the crisis of 1997, in particular of China that preferred to buy, mainly by creating fiat money, huge quantities of bonds rather than allowing a revaluation of the yuan or a congruous increase of internal demand.²⁴ On this occasion, the financial system managed to finance the deficits by recycling the surpluses. This example confirms that a function, or rather dysfunction, of the financial system is that of making possible the persistence of economic and financial imbalances.

On the link between global imbalances and the crisis, there are many views. Just before the breakdown of the crisis, Ben Bernanke (2005) put forward the most influential explanation. In his opinion, the policies pursued by surplus countries nurtured an excess supply of savings—graphically dubbed as “savings glut”—that made equilibrium unreachable in the capital market. The savings glut pushed down the long-term rate of interest but not enough to reach the equilibrium value that the crisis had displaced in the negative quadrant. In this view, current account surpluses in several emerging economies (first and foremost China) nurtured the credit booms in advanced deficit countries (including the United States) by putting significant downward pressure on long-run world interest rates. In addition, the reduction in interest rates determined a fall in risk premiums, rising asset prices and deteriorating credit quality. This sowed the seeds of the subsequent crisis. Bernanke (2005) argued that a confluence of factors led to the emergence of a “global saving glut”. These include policy interventions to boost exports (Asia), higher oil prices (Middle East), a dearth of investment opportunities, and an ageing population in advanced industrial countries. This point of view was eager to discharge the financial system of any responsibility for structural disequilibria. On the contrary, some researchers connected structural imbalances to the insufficient financialisation of some world areas. For example, Mendoza et al. (2007) attributed high savings in emerging market countries to relatively low levels of financial development that generated greater precautionary saving. Since ex-ante saving and investment are not observable, it is hard to identify them. In the saving glut view, the fall in long-term interest rates is taken as evidence of a global excess of ex-ante saving over investment,

²⁴ Most economists maintained that the Chinese currency has been undervalued by about 15–40% for many years. However, the International Monetary Fund (IMF) stated in the summer of 2015 that the recent appreciation of the Chinese currency has substantially reabsorbed its undervaluation against the dollar.

given the observed configuration of current account balances.²⁵ However, the global savings glut approach is not convincing for a host of reasons. First, as Borio and Disyatat maintain,

current accounts and net capital flows reveal little about financing. They capture changes in net claims on a country arising from trade in real goods and services and hence net resource flows. But they exclude the underlying changes in gross flows and their contributions to existing stocks, including all the transactions involving only trade in financial assets, which make up the bulk of cross-border financial activity. (Borio and Disyatat 2011, 1)

Transnational gross-capital flows (the sum of outflows and inflows of direct, portfolio and other investments) vastly exceeded the net flows “rising from about 10 per cent of world GDP in 2002, to over 30 per cent of world GDP in 2007” (Wolf 2015, 170). In recent years, transnational gross-capital flows have been mainly financial in high-income countries where the main financial institutions operate. Moreover, a thorough assessment of global financing patterns requires the consolidation of individual firms operations across borders overcoming the residency principle that underlies the balance-of-payments statistics. By adopting this approach, Borio and Disyatat showed that “financial vulnerabilities were largely unrelated to global current account imbalances” (Borio and Disyatat *ibidem*). Second, the link between current account balances and long-term interest rates emphasised by the savings glut approach is slim. Since current account balances add up to zero for the world as a whole, their existence cannot by itself explain the shifts in global ex-ante saving and investment.²⁶ Third, credit booms have not been a prerogative of deficit countries. As highlighted by Hume and Sentence (2009), countries with large current account surpluses also had credit booms, including China from 1997 to 2000 and more recently, India from 2001 to 2004, and Brazil from 2003 to 2007.

²⁵ See Bernanke (2005).

²⁶ For example, as emphasised by Borio and Disyatat, in the United States the long-term interest rates increased between 2005 and 2007 with no apparent reduction in either the US current account deficit or the net capital outflows from surplus countries. In addition, “the sharp fall in US long-term interest rates since 2007 has taken place against a backdrop of improvements in the US current account deficit...” (Borio and Disyatat 2011, 4). Finally, since 2003, the world economy “experienced a string of years of record growth. This is hard to reconcile with an increase in ex ante global saving, which, assuming nominal rigidities, should depress aggregate demand” (*ibidem*).

Summing up, the mainstream approach underlying the savings glut thesis relies on the questionable assumption that money and credit are veils of little consequence for economic activity, but this view makes impossible a thorough analysis of the impact of global finance, market interest rates, and financial instability on the real economy. Different interpretations of the global imbalances are possible and lead to diverging policy implications. In particular, the well-known identities implicit in balance of payments accounting may suggest alternative explanations.²⁷ An excess of saving is identically equal to a deficit of investment in the real system and both have a financial counterpart in the excessive production of assets and liabilities: a “global banking glut”, namely the hypertrophic increase in cross-border lending and borrowing, as suggested by Shin (2011). Because saving and investment are the mirror accounting image of each other, it is misleading to say that saving is needed to finance investment. In ex-post aggregate terms, being simply the outcome of various forms of expenditure, saving is not the constraint on how much agents are able to spend. The true constraint on expenditures is not saving, but financing. In a monetary economy, all financing takes the form of exchange of goods and services for money (settlement medium) or credit (IOUs). When, in a given period, incoming cash flows fall short of planned expenditures, agents have to draw down on their holdings of money or borrow. A sound interpretation of the empirical evidence should focus on the ex-ante determinants of actual decisions and their motivations. For each decision maker, ex-ante savings decisions are not about the size of a generic part of income not to be consumed, but about which assets, and how much of them, to buy instead of consumption goods. These decisions crucially depend on expected returns, liquidity, and safety of assets as compared to price and utility of consumption goods. Only some of these assets will actually finance investment. For example, the IMF stressed the crucial role of low investment rates, rather than of an increase in savings, as triggering factor of the Asian crisis. Caballero et al. (2008) emphasise the lack of investment opportunities as triggering factor of the Great Recession. Turner stressed that great part of financial flows focused on the purchase

²⁷These well-known accounting identities can be summarised as follows:

Current account = change in resident holdings of foreign assets (gross outflow) – change in resident liabilities to non-residents (gross inflow) = net capital outflow = saving – investment.

of existing assets that did not contribute to sustain effective demand. In this view, endorsed by many knowledgeable writers, only the creation of new assets or the direct funding of consumption may directly contribute to aggregate real demand.²⁸ I argued in Sect. 5.2 that the purchase of existing assets is not necessarily a serious problem to the extent that it also stimulates the construction of new houses contributing to higher demand and employment. The deep trouble is that, in the decades preceding the crisis, finance facilitated in too high proportion the purchase of financial assets the production of which requires a very small amount of productive factors and inputs.

5.7 INCOME AND WEALTH INEQUALITY

The most important of the real factors that played a crucial role in the genesis, outbreak, and propagation of the financial crisis has been the progressive increase of income and wealth inequality started in most advanced countries since the late 1970s.²⁹ While most commentators overemphasised the role of real imbalances in a misleading manner, they ignored or played down the crucial role of distributive factors on the crisis.³⁰ The basic fact from which the analysis of this causal channel should start is that since the late 1970s in most developed countries the growth of the financial sector and the increasing inequality of income distribution have gone together. Of course, this correlation does not imply causation. The existence of a genuine causal nexus and its direction depend on the definition of financialisation adopted, and on the time and place of observations. Mainstream economists maintain that, in principle, we should find a negative relation between financialisation and inequality because a minimum level of financial development is a necessary condition for achieving a reduction in income inequality. The main argument supporting the alleged positive effect of financialisation on income distribution is that “an improvement in financial development expands economic opportunities, particularly for those whose opportunities had previously been tightly curtailed” (see e.g. Kim and Lin 2011, 47). In Chap. 2, however, I have

²⁸ See for example Wolf (2015, 170).

²⁹ See for example Piketty (2014).

³⁰ The publication in English of the important book by Piketty (2014) had the great merit of reviving the attention for the distribution of income and wealth, but the ensuing lively debate did not clarify sufficiently the nexus between the long-run trend of financialisation, distribution, and the Great Recession.

argued that financial development expands economic opportunities mainly for the upper layers of society, contributing to increasing the inequality in income distribution. Recent empirical research corroborates this assertion detecting in the last five decades a positive relationship between financial development and income inequality within countries.³¹

A possible way to reconcile these contradictory theses is to hypothesise a sort of “financial Kuznets curve”³² according to which initially financialisation may favour the wealthier but then spreads its benefits to the less well-off (Nikoloski 2013). However, what we observe in OECD countries since the Great Depression is rather an inverted Kuznets curve with inequality declining until the stagflation of the 1970s and then progressively increasing up to now.³³ If we substitute development with financial development in a Kuznets diagram, we obtain a substantially positive correlation between financialisation and inequality throughout all the period since inequality decreased in the period of financial repression (often interpreted as a period of de-financialisation) until the early 1970s and increased in the subsequent period characterised by the Second Financialisation.³⁴ As I argued in Sect. 2.6 of this book, this correlation is not spurious: the evolution of the financial system transfers purchasing power from the real economy to the financial system and in both sectors shifts it from low and medium-income people to high-income people. The post-crisis regulatory reforms, implemented so far, did not tackle this problem and contributed to aggravate it in a non-sustainable direction.

5.8 THE DETERIORATION OF CSR STANDARDS

As I recalled in the introduction to this chapter, the usual condemnation of rotten apples that routinely follows the collapse of any institution, also occurred this time. The episodes of unethical behaviour mentioned by

³¹ See for example Jauch and Watzka (2016).

³² The Kuznets curve (Kuznets 1955) is an inverse U-shaped long-run empirical regularity that connects income inequality and per-capita income. This regularity seems to work since the beginning of the nineteenth century until the Great Stagflation of the 1970 but breaks down afterwards (the issue is discussed in Borghesi and Vercelli 2008).

³³ See for example Vercelli (2017).

³⁴ In the 1950s and 1960s, the financial system participated in the general growth of the economy notwithstanding the ruling regime of financial repression. However, generally speaking, its rate of growth did not exceed that of the real system.

mass media were countless and often particularly appalling revealing the wide spreading of a cynical and greedy culture. For the purposes of this book, it is enough to recall the case of “Bernie” Madoff, the American financier who implemented the largest Ponzi scheme in history, defrauding thousands of investors tens of billions of dollars over the course of at least seventeen years. However, if an inspection finds many rotten apples in the same barrel (a given financial institution), it should inspect the barrel; and if the inspection finds many barrels full of rotten apples, it should extend the inspection to the whole container (the financial system). This sort of investigation would eventually show that, at each level of decision-making, the degree of effective autonomy (or positive liberty) of financial actors is today greatly limited.³⁵ From a strictly ethical point of view, this is not a valid excuse for decision makers but only a mitigating circumstance. However, for the sake of understanding the shortcomings of the financial system and of reforming it, this widespread ethical failure points to structural explanatory factors at the institutional level. We have to understand them to remove, or at least mitigate, their effects. Single individuals going against the stream for ethical reasons may save their soul but not their active role within the institutions to which they belong, since their bosses would soon demote or sack them, entrusting their roles to individuals that are more docile. It is interesting to observe that Bernie Madoff himself explained his own behaviour to the journalist Fishman in terms of herd behaviour: “Everybody was greedy, everybody wanted to go on and I just went along with it” (Sturges 2018).³⁶ To underline this perceived lack of microeconomic autonomy, many commentators have quoted Charles Prince who in 2007, when he was Citigroup’s CEO, famously compared the pre-crisis build-up of unsustainable financial risk to the game of musical chairs “[A]s long as the music is playing, you’ve got to

³⁵ Professor Saule Omarova has used the graphic analogy of a matryoshka doll to express this situation of nested constraints and responsibilities of financial decision makers (Omarova 2018, 814).

³⁶ Bernie Madoff managed for at least seventeen years a Ponzi scheme defrauding his clients, including many charities and foundations, of almost \$65 billion. In 2009, he was found guilty of eleven charges including fraud, money laundering, perjury, and theft and was sentenced to 150 years in prison and obliged to retribute \$170 billion to his clients. This case is particularly disquieting because Madoff was a respected insider who held many prestigious appointments serving also as chair of the Nasdaq stock exchange for three one-year terms in the 1990s. He entertained systematic relations with powerful businesspersons and politicians. The regulators, including the SEC, did not stop his activity notwithstanding a number of red flags and whistle-blowers had repeatedly alerted them.

get up and dance. We are still dancing.”³⁷ In other words, in the pre-crisis context, no single financial firm could “stop dancing” until the game came to the last stop in the fall of 2008. Keynes used the musical chairs analogy long ago in the *General Theory* (1936). He wanted to underline that although economic agents may be aware of the high risk attached to a fashionable financial strategy, they go on because otherwise they would be certain to lose the game or to be ousted from it. Therefore, to reduce the systemic risk in a situation of this kind, we cannot rely on mere appeals to enhanced individual morality, but we have to change the rules of the game. The decline in Corporate Social Responsibility (CSR) observed in recent decades is an important case in point that according to many observers contributed to the depth and persistence of the crisis. A crucial cause of this decline was the dramatic change in the normative theory of the firm that occurred since the early 1980s. Until the late 1970s “directors viewed themselves not as shareholders’ servants, but as trustees for great institutions that should serve not only shareholders but other corporate stakeholders as well, including customers, creditors, employees, and the community” (Stout 2013, 3). The reaction of rampant free-market economists against this open-minded and far-sighted view that recognised the rights of all stakeholders started from a famous, short but highly visible and influential, article by Milton Friedman published in 1970 on the New York Times Magazine. He argued that the only proper goal of business is the maximisation of profits for the company’s owners, whom Friedman uncritically assumed to be the company’s shareholders. Although Friedman was wrong in assuming that the shareholders own the corporation,³⁸ his thesis appealed to the supporters of free markets. They were glad to find a suitable argument to flatten the complexity of the firms in terms of simple contractual interactions between agents, a vision that could easily fit within the standard models of mainstream economics. We have seen in Sect. 3.8 that this thesis received full-fledged, though questionable, foundations a few years later in the seminal paper by Jensen and Meckling (1976). This new approach preaching the primacy of shareholders had a tremendous impact on the subsequent evolution not only of firm theory and its regulation but also of the entire economy. In particular, the idea of shareholders primacy contributed to pave the way to the subsequent financial crises culminating in the Great Recession. As we have seen

³⁷ See Nakamoto and Wighton (2007).

³⁸ See Sect. 3.8.

in Sect. 3.8, the purpose of the agency approach was that of aligning the control exerted by top managers and directors with the interests of shareholders, conceived as the legitimate owners of the firm. If we compare this view of the firm with that ruling until the 1970s, we immediately see that the alignment of the interests of management with those of the shareholders is in fact a sort of alliance between two of the stakeholders to exclude de facto all the other stakeholders from the objective function. Senior executives and activist shareholders found common cause in short-run value extraction. Several studies found evidence that managers whose compensation is more directly tied to share prices are more likely to manipulate earnings to their own advantage. The economic argument underlying the shareholders primacy theory is the wrong conviction that it is only “shareholders who make risky investments in the corporation’s productive assets, and hence that it is only shareholders who have a claim on the corporation’s profits, if and when they occur” (Lazonick 2017a, 3). However, shareholders buy shares to maximise the return on their portfolio of assets and keep these shares only until they find a more rewarding investment. On the contrary, “both workers and taxpayers take risks in making investments in the productive capabilities of the innovative business enterprise” (ibidem). Lazonick argues that agency theory, with its “Maximisation of Shareholder Value” ideology, and the neoclassical theory of the market economy that underpins it, “bear prime responsibility for legitimizing processes of predatory value extraction that, since the 1970s, have concentrated income among the richest households in the United States while leaving most Americans worse off” (ibidem, 6). For about three decades after WWII, the United States consolidated its position as the world’s leading economic power, driven by business enterprises that engaged in “retain-and-reinvest”. During these decades, the distribution of income became more equal and a middle class of both high-school-educated blue-collar and college-educated white-collar workers thrived. Over the past four decades, in contrast, the United States has experienced a progressive concentration of income among the richest households and the erosion of middle-class employment opportunities for the vast majority of the population. These two economic problems are mutually related, as, under the influence of the mantra that companies should be run to “maximize shareholder value”, the resource-allocation regimes of business corporations have shifted from retain-and-reinvest to downsize-and-distribute. The same tendencies soon spread from the United States to all

other developed countries because of the growing impact of real and financial multinational corporations.

5.9 INADEQUACIES OF REGULATORS AND SUPERVISORS: CENTRAL BANKS AND MONETARY POLICY

Commentators divide between those who consider the Great Financial Crisis and the ensuing Great Recession as the consequence of the spontaneous evolution of markets and those who consider it as the consequence of questionable interventions of policymakers, regulators, and supervisors.³⁹ I argued my point of view on markets and policymakers in my previous book while further considerations are scattered throughout the chapters of this book. As for regulators and supervisors, in the previous sections of this chapter I have briefly reviewed some of the structural causes of the crisis hinting at the perverse interaction between evolving regulation and supervision. In this section, I shift my focus on the harsh criticisms levelled against regulators and supervisors in the aftermath of the financial crisis, when opinion makers, politicians, and analysts often accused them of past and current omission and commission errors. For example, the Final Report of the FCIC maintained that the

widespread failures in financial regulation and supervision proved devastating to the stability of the nation's financial markets. The sentries were not at their posts, in no small part due to the widely accepted faith in the self-correcting nature of the markets and the ability of financial institutions to effectively police themselves. [...] Too often, they lacked the political will—in a political and ideological environment that constrained it—as well as the fortitude to critically challenge the institutions and the entire system they were entrusted to oversee. (FCIC 2011, xviii)

This section addresses only the shortcomings of central banks focusing mainly on the evolution of their monetary policy as an intermediate step for the arguments developed in the next two chapters. In the Bretton Wood period, central banks complied with the rules introduced during the Great Depression to avoid its repetition and to align the financial system towards the needs of all citizens. The serious stagflation that followed the

³⁹ I recall here that my suggested explanation coordinates both categories of causal factors stressing the vicious circle between them (see Vercelli 2017).

breakdown of the Bretton Woods system (1973–1979) weakened this vision of central banking that we may define—broadly speaking—Keynesian and brought about a widespread shift towards monetarist ideas (see Chap. 4). Paul Volcker, Chairman of the Federal Reserve from 1979 to 1987, was the first to update the practice of central banking taking into account the new emerging orthodoxy of monetarism, adopting a daringly restrictive monetary policy to curb the double-digit inflation of late 1970s.⁴⁰ The so-called Volcker shock produced the fierce recession of 1981–1982 that increased unemployment to the double-digit peak rate of 10.8% in December 1982. In the same period, mainstream empirical research started to question the causal role of money supply as figured out by monetarist theories.⁴¹ These findings encouraged the adoption of a new version of the equilibrium business cycle that retained the methodological approach suggested by Lucas but reversed the causal order between money and the real economy.⁴² The new approach dubbed “Real (Equilibrium) Business Cycle” (RBC) reflected the fact that most of the money in circulation is credit money created endogenously by private commercial banks. Therefore, in this view, the monetary policy had to focus mainly on the real rate of interest rather than on the creation of money base to regulate the creation of credit money by private banks.⁴³ Central banks adopted the approach advocated by mainstream economists and neoliberal policymakers in the conviction that a focus on stable moderate inflation coupled with microeconomic supervision would have delivered both monetary and financial stability. The period dubbed Great Moderation (1987–2007)

⁴⁰ In March 1980, Volcker raised the Fed funds rate from 10.25% to 20% and kept it above 16% until May 1981. This intervention produced a sudden and prolonged increase in the market rates of interest. Volcker’s monetarism raised the criticism of monetarist academic economists (including Milton Friedman), mainly because he did not follow predetermined rules.

⁴¹ Sims (1980) found that, contrary to the results of his previous empirical research, when the interest rate is included in a VAR new classical model, monetary policy has only a minor role on output fluctuations.

⁴² See in particular Kydland and Prescott (1982).

⁴³ Many mainstream economists maintained that, by following a simple rule, the central bank could assure at the same time monetary and financial stability. The simplest and most popular of these rules, the “Taylor rule” prescribes that the central bank should increase the interest rate whenever inflation is above the target and/or the output is above its trend level and should reduce it when the converse is true (see e.g. King 2017, 168). The empirical evidence shows that central banks never followed a simple rule of this kind. The Fed, for instance, followed it only very loosely until 2008 but disregarded it afterwards. The case for discretion in central banking is thoroughly spelled out by Ciocca (2016, 56–59).

seemed to corroborate this conviction (Bernanke 2004).⁴⁴ In his address to the American Economic Association in 2003, Bob Lucas, one of the chief architects of the neoliberal policy strategy, proudly asserted that “the central problem of depression-prevention [has] been solved, for all practical purposes, and has in fact been solved for many decades” (Lucas 2003, 1). The timing of this sanguine claim proved to be rather unfortunate, as it turned out egregiously wrong just four years later. This suggests that, contrary to the opinion of Lucas, we have to reassess the monetary policy pursued by central banks in the recent decades.

After the anti-Keynesian counter-revolution of the 1970s, the main dogma of the mainstream doctrine of central banking was that, by coupling price targeting and microeconomic supervision, the central bank might assure not only monetary stability but also financial and economic stability.⁴⁵ Greenspan pursued this strategy but adopted also a second pragmatic rule often called “Greenspan put”. According to this rule, whenever the price of assets showed a significant tendency to diminish, the Fed routinely intervened to sustain their price by reducing the rate of interest.⁴⁶ The Fed inaugurated this policy after the stock market crash of 1987 and reiterated it during the following crises.⁴⁷ Greenspan’s succes-

⁴⁴The expression “Great Moderation” was coined by James Stock and Mark Watson (2002) to describe the reduction in business cycle volatility observed in the United States and in many other advanced economies pursuing similar policies.

⁴⁵The “purist” neoliberal theory of money and finance advocates free banking, a regime of complete self-regulation that excludes the necessity of a central bank (see Hayek 1976). The version that prevailed in practice was a more pragmatic hybrid stance influenced by the Real Business Cycle model (Kydland and Prescott 1982) and the Washington Consensus. In this view, the central bank should not interfere with market self-regulation but help it to perform its role whenever market frictions risk perturbing it. The most influential interpreter of this pragmatic neoliberal view was Greenspan who during his long term of office played a role of leadership also on most other central banks.

⁴⁶Greenspan always denied that the Fed willingly adopted the policy often dubbed as “Greenspan put”, at least in its usual understanding. In his explanation to lawmakers of the Fed role in preventing the implosion of Long-Term Capital Management in 1998, Greenspan said, “irrational panics prompted by fire sales presented a threat and cost to the economy. ... We do not, and have not, been targeting the stock market for purposes of endeavouring to stabilise this economy.” The crucial point, however, is that the Fed always reacted promptly and vigorously to any hint of inflation in the real economy and not in the case of financial inflation.

⁴⁷In particular, this was true in the following financial crises: “savings and loan crisis”, the Gulf War (1990–1991), the Mexican crisis (1994–1995), the Asian financial crisis (1997), the Long Term Capital Management (LTCM) crisis and the Russian financial crisis (1998),

sors Bernanke (2006–2014), Yellen (2014–2018), and the current Fed chair Powell continued a similar policy adapting it to the Great Financial Crisis (2007–2009) and its aftermath until the present.⁴⁸ Most other central banks followed the lead of the Fed along the same period. The central bank’s “put policy” was often criticised because of the traditional monetarist argument that an exogenous increase of money supply inevitably produces inflationary consequences, at least in the longer period.⁴⁹ However, the critics used this argument in a rather contradictory way. Friedman blamed the Fed for the excessively restrictive policy during the Great Depression that contributed to increase its depth and persistence.⁵⁰ Other scholars, including many neo-Austrians exponents, blamed the Fed for chronic inflation and fluctuations:

There is only one way to eliminate chronic inflation, as well as the booms and busts brought by that system of inflationary credit: and that is to eliminate the counterfeiting that constitutes and creates that inflation. And the only way to do that is to abolish legalized counterfeiting: that is, to abolish the Federal Reserve System, and return to the gold standard. (Rothbard 2007, 146)

This and other similar recent criticisms of central banks’ monetary policy ignore the turnaround of mainstream economics after Kydland and Prescott (1982). As most academic economists and practitioners nowadays recognise, great part of money supply is created endogenously by the credit money produced by commercial banks.⁵¹ The crucial variable at the disposal of central banks to control the money in circulation is thus the rate of interest. However, in the Greenspan era (1997–2006), this policy

and the alleged Millennium (or Y2K) Bug, the burst of the dotcom bubble followed by the 9/11 attacks (2000–2002).

⁴⁸Financial traders described the substantial continuation of this financial regulation rule as “Bernanke put”, “Yellen put”, and then “Powell put”.

⁴⁹According to Taylor (2010), a tighter monetary policy between 2001 and early 2005 would have prevented the boom and bust in housing starts (Wolf 2015, 174). Wolf comments “the argument that what was needed was a tighter monetary policy does not get us far” (ibidem, 176). Wolf is right because the relationship between monetary policies and business cycles is variable according to the circumstances (as recently confirmed among others by Koo 2011), while the causal nexus between money and real economy should be reversed, as recognised by the RBC approach.

⁵⁰See in particular Friedman and Schwartz (2008).

⁵¹See Chap. 4.

was effective in the short and medium period because it succeeded to shorten and mitigate the downturn of financial cycles without increasing consumer price inflation. That is why many contemporary observers greeted Greenspan as “Maestro” of monetary policy. However, this policy produced also a persistent financial inflation that lasted until the beginning of the subprime crisis.⁵² In this period, secondary-market asset price inflation acted as the mainspring of the US economic boom through an effective, though rather weak, wealth effect mechanism (Omarova 2017).⁵³ The trouble is that in the meantime this sort of persisting financial inflation paved the way towards the Great Financial Crisis for reasons that only few commentators fathomed in real time. The problem with the put policy is not rooted in the monetarist argument of excessive money creation because during the Great Moderation the moderate increase in the rate of inflation observed (in particular in the 2003–2007 period) did not depend on excessive aggregate demand but on cost inflation induced by the increasing price of oil and food. The most serious problem with this policy lies in the distortion of relative prices and the consequent expectations on the comparative profitability of investment in the financial system and in the real system. The implicit costless insurance provided by the Fed on financial investment in consequence of the “put” policy distorted investment choices away from the real sector. This sustained an unhealthy process of financialisation and brought about a chronic underinvestment in the real economy. As I argued elsewhere, this deep distortion of decentralised private investment decisions played a crucial role in slowing down the rate of growth of GDP while deteriorating its sustainability (see Sect. 2.4 of this book and Vercelli 2017). In particular, this basic distortion of the investment process shifted the creation of purchasing power in favour of a restricted global elite that could benefit from financial inflation at the expense of the great majority of society whose income and wellbeing depend mainly on the investment in the real sector.

The monetarist criticism was resumed with some more plausible reason after the crisis, when the Fed started the policy of Quantitative Easing (QE), also known as “large-scale asset purchases”.⁵⁴ In this case, the cen-

⁵² See Despeignes (2000) and Toporowski (2009).

⁵³ This trend is particularly visible in the period after the enactment of the Gramm–Leach–Bliley Act of 1999 (Omarova 2017).

⁵⁴ As is well known, a central bank adopts the unconventional policy of QE in a severe contraction as a last-resort expansionary policy when it cannot pursue further the conventional monetary policy based on an induced reduction of the interest rate because the rate of

tral bank injected directly in the economy additional liquidity in the hope that this might stabilise the balance sheets of commercial banks and encourage them to resume the creation of credit money to the real economy.⁵⁵ This policy has been criticised from a monetarist point of view in the belief that it would have created dangerous inflation. This did not happen and allowed the central banks to justify QE as an attempt to avoid an even more dangerous deflation instead. According to some critics, however, inflation might occur in a second time when improved conditions would mobilise the excess reserves of banks (see e.g. Taylor 2010). Central banks replied that in that case it would be easy to drain the excess liquidity by stopping QE and resorting to conventional policies. I think that the most serious criticism to QE is not the monetarist one but the concern for its distributive features and implications. The liquidity created by the central banks went directly to banks that used it mainly to increase their speculative activity as well as the dividends and the bonuses of top management. Contrary to the alleged expectations of central banks, only a minimal part of the extra liquidity percolated to households and firms and this not through a revival of credit to the real economy but through a weak wealth effect of the increased income of shareholders and managers of banks and other financial institutions. Therefore, QE further augmented income and wealth inequality contributing very little to the recovery of the real economy. Many economists advocated in different forms the idea of “QE for the people”, that is, the distribution of the additional liquidity directly to people. This would translate immediately in additional aggregate demand that would revive growth and non-speculative banking.

However, in my opinion, the main criticism against the monetary policy pursued by the Fed and most other central banks before and after the crisis is that these institutions have been active, and sometimes even proactive, in promoting the transformation of the financial system in a questionable direction without the explicit approval of the democratically elected legislature. For example, the Fed and other central banks explicitly supported the systematic defence of market self-regulation, the de-compartmentalisation of institutions, and the superior efficiency of universal banks exerting a determinant influence on the evolution of the financial system. For example, according to the FCIC,

interest is too close to zero. In this case, the central bank increases the liquidity in the system buying massive predetermined amounts of financial assets from commercial banks.

⁵⁵ The first central bank that adopted a policy of QE was the Bank of Japan since 2001 to fight the chronic deflation of the economy.

Fed Chairman Greenspan and many other regulators and legislators supported and encouraged this shift toward deregulated financial markets. They argued that financial institutions had strong incentives to protect their shareholders and would therefore regulate themselves through improved risk management. Likewise, financial markets would exert strong and effective discipline through analysts, credit rating agencies, and investors. Greenspan argued that the urgent question about government regulation was whether it strengthened or weakened private regulation. (FCIC 2011, 35)

Testifying before the Congress in 1997, Greenspan asserted that “financial ‘modernization’ was needed to ‘remove outdated restrictions that serve no useful purpose’ because these restrictions decrease economic efficiency, and ... limit choices and options for the consumer of financial services.” Removing the barriers “would permit banking organizations to compete more effectively in their natural markets. The result would be a more efficient financial system providing better services to the public” (*ibidem*). This attitude of central banks actively promoted the process of neoliberal financialisation, the triumph of universal banking, the permissive regulatory and supervisory attitude towards shadow banking, and other structural changes in the financial system that contributed to trigger the Great Financial Crisis. This proactive structural policy affected the evolution of the financial system making it less sustainable. The final chapter of this book will argue that to build a sustainable financial system, we have to channel the direction of its structural change in a radically different direction.

5.10 CONCLUDING REMARKS

By critically reviewing in this chapter some of the most influential explanations of the Great Financial Crisis, I aimed to identify the crucial issues addressed by the post-crisis reforms of financial regulation. The next chapter is going to discuss to what extent the ongoing reforms succeeded to implement reasonable solutions to the serious problems revealed by the crisis. The discussion of the triggering factors here reported emphasised the crucial contradiction between the boundless elasticity of the financial system and the rigid constraints posed by the scarcity and fragile quality of natural goods. Post-crisis reforms ignored almost completely this crucial issue that seriously undermines the sustainability of development. The discussion of the propagation factors focused on the increasing rapidity and

contagiousness of financial distress owing to the growing indebtedness and interrelation between financial institutions and their impact on the financial conditions of non-financial firms, households, and public institutions. The ensuing serious problems raised by increasingly powerful financial institutions believed to be too big and interconnected to fail could not be ignored by regulatory reforms but the alleged remedies implemented so far did not succeed to stop, let alone reverse, a further intensification of the problem. We had thus to consider the impact of structural change in the financial system in recent decades, focusing in particular on the exponential growth of securitisation, the adoption of a new model of banking based on it, and the explosion of shadow banking that had become before the crisis a sort of effective parallel banking sector for big clients. While there is a wide consensus that the core of the financial crisis was a sequence of runs in shadow banking that froze credit flows, the opinions differ on the specific causes of these runs and thus on the reforms required to stabilise this financial compartment rechristened with the more polite and appealing name of non-bank industry and “market-based finance”. The highbrow debate on this crucial issue referred mainly to different variants of the asymmetric information approach that, however, captures only in part the impact of strong or radical uncertainty on financial choices. The structural transformations of the financial system contributed to increase systemic risk favouring the progressive hypertrophy of speculation. In addition, in the recent decades, the structural financial factors have interacted with the real structural factors reflecting the rapid evolution of financialised capitalism and the growing intermingling and convergence of interests between finance and the real economy. Turning the attention to the main structural real factors impinging on the crisis and its aftermath, I examined first the impact of the growing real imbalances critically reviewing their main explanations including the far-fetched “savings glut” evoked by Bernanke as crucial cause of the crisis. We have seen that this approach reverses the causal relation observed in this period between stagnating investment in the real economy, insufficient aggregate demand, and ensuing saving glut. The attention turned then to another real factor that played a fundamental role in the genesis, outbreak, and propagation of the crisis: the progressive increase of income and wealth inequality started in most advanced countries since the late 1970s. Most commentators noticed this tendency with different emphasis, but only few of them showed a full understanding of its vast implications and the urgency of countervailing measures meant to redistribute income and wealth in a more equitable

manner. Many commentators stressed also the importance of the increase in systemic risk and the strength and rapidity of financial contagion originated by the structural changes reviewed above. Only few of them related these recent tendencies to a different attitude towards speculation and its ensuing progressive hypertrophic increase. Very few emphasised the distortions produced by this tendency. Analogously, in the decades immediately preceding the crisis, many observers noticed a progressive deterioration of CSR standards but only some of them emphasised its deep links with the new shareholder primacy view that changed the behaviour of most corporations in the interest of shareholders and top managers at the expense of the other stakeholders. The ensuing growing short-termism, coupled with a significant deflection of investment from the real sector to the financial sector, deepened the process of financialisation jeopardising the sustainability of development. Regulators and supervisors favoured the transformation of the financial system occurred in recent decades and proved unwilling or unable to redirect the process of structural change in a more sustainable direction. A wrong diagnosis leads to a wrong therapy. In the light of this short critical survey of the main explanations of the crisis, the next chapter will focus on the shortcomings of the ongoing process of regulatory reforms to understand why it did not succeed to transform the financial system in a sustainable direction.

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Responses to the Crisis: The Evolution of the Financial System and Its Regulation

6.1 INTRODUCTION

Since late 1970s, mainstream economics and finance based their research efforts on the bold assumptions of rational expectations, market equilibrium, and efficient allocation of resources asserting that the financial system obtains optimal results by autonomously regulating itself. This conviction led to the progressive relaxation, or “deregulation”, of the existing restrictive rules that the financial industry had dubbed “financial repression”. However, the financial market cannot survive and thrive without a robust and continuous regulation and support by public institutions.¹ During the Second Financialisation, policymakers and regulators constantly payed lip service to the efficiency of unfettered financial markets but could not ignore their shortcomings made evident by financial crises of increasing frequency and depth.² This led to the introduction of a growing number of specific rules to mend the emerging flaws of the financial system. These rules coalesced into an alternative system of regulation that we may call “vicarious” regulation, or “assisted” self-regulation, as it allegedly aims to support, complement, and enforce spontaneous regulation

This chapter comprises an Appendix on “The Regulation of Shadow Banking After the Crisis” written by Maria Carmen Siniscalchi.

¹ See Sect. 2.5.

² See e.g. Kaminsky and Reinhart (1999).

without adding new distortions in the market. The measures approved and implemented after the crisis to reform the financial system remained within the scope of market-based regulation, or “vicarious regulation”. Their rationale was the idea that supervisory authorities and policymakers should continuously update the benign support given to financial self-regulation to empower it and cope with its evolution. However, the foundations of these reforms proved to be fragile and their implementation ineffective. In consequence of the different interests conflicting within the financial system, the most significant measures were discarded at an early stage of their elaboration, weakened before their approval, or paralysed by the delay of required application rules. This process of intentional “creative destruction” of any serious attempt at re-regulating the financial system confirmed that its effective regulation requires a resolute independence of regulators and supervisors not only from the day-by-day pressures of short-term politics but also from the powerful pressure of financial lobbies.³ However, within the normative approach adopted in this book, it is unacceptable that the regulation of the financial system be independent of the directives expressed by the democratically elected representatives of the citizens. Notwithstanding the persisting alleged efforts of the G20 to implementing a more effective coordinated regulation of the financial system, the main problems are still unsolved, and sometimes aggravated, by the reforms implemented so far.⁴ The inertia exhibited by the financial system and the philosophy of its regulation raises interpretive and policy questions to which we have to respond as soon as possible to prevent new disasters in the near future, disasters that could be much more disruptive than the recent ones. In the light of the historical record, this inertia is utterly surprising. The great financial crises of the past have typically solicited major structural changes in the financial system and its regulation rules. This is evident in the case of the two preceding great crises. After less than four years since the Wall Street collapse in 1929, the US Parliament approved the Glass-Steagall Act (1933) that introduced a radical reform of the financial system and its regulation. The new policy regime, centred on the separation between commercial and investment banks and on the insurance of deposits, succeeded to stabilise the financial system for a few decades. Analogously, the reaction to the breakdown of the international monetary

³Since the approach to regulation actually pursued was by definition not hostile to the regulated subjects, its advocates claimed that, to be justified and effective, any new measure requires a broad consensus agreed with the financial system itself.

⁴See Sect. 6.3.

system in 1971 and the ensuing stagflation spanning much of the 1970s triggered a radical reorientation of its structural evolution, in a direction that is still substantially unvaried, notwithstanding the recent crisis and more than ten years of financial turmoil.

In the immediate aftermath of the crisis, not only the public opinion but also most experts advocated a comprehensive reform of finance by designing policies capable to rein in systemic risk-taking (see e.g. Mishkin 2010, 25).⁵ On the same critical mood, the G20 leaders in 2009 asked regulators to eliminate all dark corners in the financial sector and extend regulation and oversight to all systemically important financial institutions, instruments, and markets (see Sect. 6.2 and Appendix). The Action Plan promoted by the G20 and coordinated by the Financial Stability Board (FSB) has been largely ineffective (see Sect. 6.3). Governments and international institutions worked out many reform proposals but, so far, they have implemented only part of them. The US Congress approved in 2010 the Dodd-Frank Act, the first, and so far most ambitious, reform of the financial system but did not succeed to change significantly its direction of evolution (see Sect. 6.4). Notwithstanding its substantial ambiguity and ineffectiveness, the law has been constantly under attack, progressively watered down, and eventually partially repealed (see Appendix section “[The Post-crisis Regulation of Shadow Banking in the United States](#)”). Analogously, in the EU the most significant proposals (such as the introduction of the financial transaction tax drafted by the European Commission in 2011) have been progressively diluted and

⁵The first reaction to the recent crisis could not avoid putting the blame of the crisis on the financial system. As Paul Krugman summarised:

Americans are angry at Wall Street, and rightly so. First, the financial industry plunged us into economic crisis, then it was bailed out at taxpayer expense. And now, with the economy still deeply depressed, the industry is paying itself gigantic bonuses. If you aren't outraged, you haven't been paying attention. (Krugman 2009)

The educated public opinion clearly perceived the crucial link between the rapid propagation of the crisis and the new features of the financial system, such as the systematic securitisation of financial assets, the progressive hypertrophy of OTC derivatives, and the unchallenged surge of shadow banking. In the Congressional hearing of October 2008, even Greenspan—the most influential protagonist of monetary and financial policy in the 20 years preceding the crisis—admitted that he had put too much faith in the self-correcting power of free markets in finance. In particular he admitted that “the immense and largely unregulated business of spreading financial risk widely through the use of exotic financial instruments called derivatives, had gotten out of control and had added to the havoc of the crisis” (Andrews 2008).

repeatedly delayed. In such a situation of indecision paralyzing the democratic institutions, willingly or unwillingly the central banks acquired a progressive power (Sect. 6.5). In the absence of clear directives by G20 and national democratic institutions, central banks had to act by creatively updating their traditional practice. The policymakers and regulators tried hard to justify their interventions to re-regulate the financial system in terms of the traditional principles of mainstream economics and finance. In the meantime, the financial industry deployed a systematic lobbying strategy to prevent or undo the most significant regulatory reforms claiming that they were unduly repressive and dirigiste. The principal pretext for this campaign against the core measures of post-crisis financial re-regulation is that they impose on financial institutions significant additional costs to comply with the new norms. Section 6.6 argues that the theses supported by the financial lobbies amount to assert that “what is good for finance is good for the nation” but this self-serving assertion does not take into account the huge negative externalities of unfettered private finance. In the United States, the contradictory requests of a re-regulation of the financial system by Main Street and of respect of neoliberal *laissez faire* by Wall Street produced a financial regulation system that may be dubbed as “regulation of self-regulation” to emphasise its contradictions and ineffectiveness (Sect. 6.7). The concluding remarks in Sect. 6.8 aim to assess the results of the preceding analysis from the point of view of comprehensive sustainability.

Since the early 2010s, policymakers, regulators, and mass media progressively discharged the financial system from many of its responsibilities, while the focus of research shifted towards other issues (such as sovereign debt, inequality, stagnation, and migration flows) as if these issues were unrelated, or only weakly related, to the financial system. The self-criticism of mainstream economics and finance left the floor to repeated reassertions of their validity. For example, Mishkin was keen to reassert that: “None of the lessons from the financial crisis in any way undermines or invalidates the [...] basic principles of the science of monetary policy developed before the crisis” (Mishkin 2011, 91). In spring 2010, the G20 meeting advocated a rapid return to the traditional prescriptions of mainstream economics and finance. This amounted to stopping financial stimulus measures to avoid an alleged risk of inflation while retaining a permissive monetary policy in favour of the financial system. Can we agree with this retreat? If not, why? How can we react in analysis and policy?

6.2 REGULATION VERSUS SELF-REGULATION: A MISLEADING DICHOTOMY

The ongoing hot debate on the regulation of the financial system is usually framed in terms of a simple dichotomy between regulation and self-regulation conceived as if they were opposite principles excluding each other. This approach is deeply misleading at each of the analysis levels pursued in this book: agents, sectors, markets, and system. The relationship between self-regulation and regulation is similar to that between positive and negative liberty discussed in the first chapter of this book. In the case of single agents, this analogy is obvious. The area of self-regulation defines the range of autonomy of financial agents, namely the area within which they can take decisions without external constraints.⁶ A polity should grant to each agent an area of self-regulation as wide as possible according to the principles of negative liberty. However, the polity cannot leave free from any constraint the area of potential liberty of financial agents because this attitude would jeopardise the required minimal area of effective autonomy for all its members. Shifting the attention from individual financial agents to an aggregation of them (such as the financial industry, or market), we have to distinguish at least two levels of self-regulation: that of single agents and that of rules agreed and enforced by an aggregation of agents by and within themselves. The meta-level of collective self-regulation has a long history, going back to religious fraternities and medieval—merchant and trade—guilds.⁷ In contemporary societies, we find significant examples of voluntary schemes of self-regulation in different fields such as professions (e.g. in law and medicine) and product-certification. Examples in finance are CSR or ESG self-regulation schemes voluntarily agreed and enforced by a group of agents.⁸ Sometimes, an entire industry agrees to establish an ambitious program of self-regulation. This occurs when, in consequence of a grave emergency or disaster affecting them all, the firms belonging to a certain industry recognise that they are part of a “community of fate” and have to agree on rules

⁶A cursory examination of some of the synonyms confirms this interpretation. “Self-regulation” is often used interchangeably with analogous terms such as self-governance, autonomy, private regulation, and soft law (see e.g. Omarova 2011, 424).

⁷See Omarova (2011).

⁸This distinction is not new in the financial literature. For example, Gunningham and Rees (1997, 364–365) clearly discriminate between rulemaking within an individual firm and across an industry.

able to defend their reputation and survival.⁹ Significant recent examples in the United States are the nuclear industry after the disaster of Three Mile End (1979) and the chemical Industry after the Bhopal disaster in India (1984).

As we have seen, the dichotomy between regulation and self-regulation is misleading, since the two polarities must coexist. We have to find the correct balance between regulation and deregulation of private financial agents within institutions and markets. The experience accumulated in the last century suggests that we can embed the areas of self-regulation within an encompassing framework of collective regulation, or the other way round. In what follows, I will call the first model “directive regulation” and the second “market-based regulation”. The model of directive regulation aims to channel finance towards the achievement of democratically agreed targets. To this end, it guarantees self-regulation to financial decision makers unless there are specific reasons to constrain them, namely a conflict between individual and public interest. In other words, in this model self-regulation is not “repressed” by public regulation, as is often claimed by financial lobbies, but is embedded within a public regulatory framework in the interest of all citizens.¹⁰ The model of market-based regulation, instead, in principle admits of public regulation only to the extent it supports the functioning of free competitive markets and liberates them of any obstacle to their self-regulation. This orientation does not necessarily imply that the area of public regulation must be exceedingly narrow but rather that public regulation should aim at supporting the market to implementing the maximum possible convergence towards competitive equilibrium. These two polar models of regulation are based on a completely different vision of the properties and limits of free markets in finance. Directive regulation derives from the conviction that free markets in finance are systematically subject to failures (instability, bubbles, and crises) that impair the well-being of the citizens. In this view, we may obtain a recomposition of the interests of finance with those of the citizens only by embedding self-regulation within a framework of public regulation aimed to targets democratically agreed by all citizens. This point of view emerged in reaction to the Great Depression, was then agreed by the Bretton Woods Conference, and was systematically adopted after WWII until the 1970s. Market-based regulation in finance derives from the

⁹ See Baehr (2005) and Omarova (2011).

¹⁰ I borrow the terminology “embedded self-regulation” from Omarova (2011).

conviction that free markets are efficient and optimise the well-being of citizens. This view emerged in the 1970s in reaction to the Great Stagflation and ruled in most countries until the Great Financial crisis of 2007–2009. After the crisis, we had a sort of strange hybrid that I called vicarious regulation as it attempts to combine what cannot be combined: the faith in the superiority of free markets and the necessity of regulating them in a systematic way. As for deregulation, the usual definition conceives it as a process of convergence to self-regulation shifting decision power from the state to the autonomous initiative of financial agents. In fact, the effective process of deregulation has always targeted specific rules or practices of the existing model to implement a new regulation model.

6.3 FIXING THE FAULT LINES OF THE GLOBAL FINANCIAL SYSTEM

The Great Financial Crisis of 2007–2009 has deeply affected the global financial system and thus all the economies that are increasingly intertwining with it. It was immediately clear to policymakers and regulators that the fixing of the dire fault lines of the financial system was an urgent priority and required a strict coordination at the global level. In the immediate aftermath of the 2008 crisis, the G20 countries agreed on the urgency of a common set of principles to reform the regulation rules of the financial sector. In the official documents of G20, we find an alleged consensus on what triggered off the financial crisis. The Washington Declaration, issued just after the climax of the crisis (November 15, 2008),¹¹ blamed the widespread pursuit by market participants of higher yields without adequate appreciation of risks and proper due diligence.¹² The G20 leaders also pointed out that insufficiently coordinated macroeconomic policies as well as inadequate structural reforms were major factors that contributed to unsustainable global macroeconomic outcomes. Therefore, they agreed to implement in a coordinate way reforms that would strengthen regulatory regimes and financial markets to avoid future crises. In particular, they endorsed an action plan for the re-regulation of the international financial system. This plan aimed to strengthen the transparency and accountability of financial institutions and markets, enhancing sound regulation,

¹¹ This was the first G20 Leaders' Summit (i.e. a meeting of government leaders or heads of state and central bank governors).

¹² See Sect. 5.1.

promoting integrity, reinforcing international cooperation, and reforming international financial institutions (see Appendix to this chapter).

In 2017, ten years after the beginning of the crisis, the same authorities claimed that the re-regulation of the global financial system had been almost completed and that it had succeeded in transforming it in a “safer, simpler, and fairer financial system that can support open markets and inclusive growth” (Carney 2017, 13). Unfortunately, these and similar sanguine claims that are often reasserted in official documents are groundless. Before submitting them to a critical appraisal, I summarise in this section the main strategies pursued in these ten years and the achievements obtained. The FSB that promoted and coordinated the reforms of the financial system at the international level based them on four pillars:

making financial institutions more resilient; ending the problem of financial institutions being too-big-to-fail; making over-the-counter (OTC) derivatives markets safer; and transforming shadow banking into resilient market-based finance. (Ibidem)

As for the first pillar, the Basel Committee on Banking Supervision soon after the crisis produced a new version of the Basel accord (Basel III) to enhance the resilience of financial institutions. The Basel III package established higher capital and liquidity requirements:

to address the inadequate pre-crisis minimum capital standards, to ensure that there is sufficient high quality bank capital to absorb losses, as well as to increase the stability of banks’ funding and ensure they can withstand periods of stress. (Carney 2017, 15)

Basel III strengthens the Basel II framework focusing on the liability side of the balance sheet.¹³ In particular, the new framework:

1. imposes higher capital ratios, including a new ratio focusing on common equity,
2. increases capital charges for many activities, particularly involving counterparty risk,
3. narrows the scope of what constitutes Tier 1 (T1) and Tier 2 (T2) capital.

¹³See BCBS (2010a, b).

As for the second pillar, the most significant novelty was the establishment of higher requirements for global megabanks (G-SIFIs). In particular, “the common equity the world’s largest banks are required to maintain in normal times, is now ten times higher than the pre-crisis standard” (ibidem). Lawmakers and regulators expect that higher requirements for institutions too-big-to-fail may disincentivise the excessive dimensional extension of financial institutions and build a more robust protective belt around them. A further novelty promoted by the FSB is the establishment of requirements to implement in national law the Key Attributes of Effective Resolution Regimes for Financial Institutions. The FSB solicited the owners and creditors of financial institutions to meet the costs of a financial institution’s failure according to the new principle of bail-in introduced to avoid, or at least to restrain, future bailouts on the part of taxpayers.¹⁴

As for the third pillar, already in the Pittsburgh meeting of 2009 the G20 leaders committed to reforming the OTC derivatives markets to reduce systemic risk, increase transparency, and curb market abuse. This request soon translated in a series of new rules mandating:

trade reporting of all OTC derivatives; central clearing of standardised OTC derivatives; higher capital and minimum margin requirements for non-centrally cleared derivatives trades; and exchange or electronic platform trading of standardised OTC derivatives. (Ibidem)

The basic idea was that the compulsory central clearing of standardised OTC derivatives could significantly reduce the risk for traders. The intermediation of a central counterparty clearinghouse (CCP) shields the traders’ identities while guaranteeing the terms of trade even if one party defaults on the agreement. In this case, the CCP covers the potential losses by completing the exchange at the current market price. According to the advocates of this reform, the mandatory intermediation of a CCP reduces not only the counterparty risk but also the operational, settlement, market, legal, and default risks for traders.

The fourth pillar regards the particularly controversial issue of shadow banking that played a crucial role in the financial crisis of 2007–2009, as recognised by the FSB itself:

¹⁴As is well known, the bail-in of a bank in distress requires the cancellation of some of its debts owed to creditors and depositors as part of a plan to rescue it from failure.

Off-balance-sheet vehicles allowed enormous leverage to be masked, mono-line insurers supported a system of unsustainable debts and banks became overly reliant on fragile short term funding from money market funds. As the complex chains in shadow banking unravelled, a spiral of asset fire sales and liquidity strikes followed, threatening the entire financial system and withdrawing access to credit from millions of households and businesses. (Ibidem)

To avoid a repetition of these dire events, in 2011 the FSB set out a comprehensive framework—the Shadow Banking Roadmap—to strengthen oversight and regulation of shadow banking (see Appendix).

The FSB's latest assessment claims that the comprehensive policy measures implemented under its coordination is moving non-bank activities out of the shadows into the light of resilient market-based finance. The toxic forms of shadow banking at the heart of the crisis—with their large funding mismatches, high leverage, and opaque off-balance-sheet arrangements—have declined to a point where they no longer represent a global stability risk (Carney 2017, 18). Shadow banking shifted towards “collective investment vehicles”, which now account for almost two-thirds of identified shadow banking, while it was less than one-third before the crisis. The importance of asset management has grown rapidly. In 2015, asset managers held \$77 trillion of assets under management,¹⁵ making up 40% of global financial system assets. According to Carney (ibidem), this trend creates new sources of funding and investment, promotes international capital flows, reduces reliance on bank funding, and brings welcome diversity to the financial system. At the same time, however, asset management's vastly increased importance reinforces the need to minimise the risk of sudden stops in times of stress. In January 2017, the FSB finalised its recommendations to address structural vulnerabilities and reduce liquidity mismatches associated with asset management. IOSCO is due to make operational these recommendations by focusing on liquidity mismatches in securities financing transactions (see Appendix to this chapter).

During the decade following the financial crisis, in most countries policymakers and regulators have been implementing legislative reforms based on the principles set by the G20 under the coordination of the FSB in conjunction with international standard setters. In each jurisdiction, the

¹⁵This shows a significant increase—notwithstanding the Great Financial Crisis—from \$54 trillion of assets under management in 2005.

process of re-regulation proceeded with difficulty and did not obtain so far satisfactory results (see Appendix where the case study of the United States and the EU are briefly considered).

6.4 REFORMING THE GLOBAL FINANCIAL SYSTEM: SISYPHUS' LABOURS

The ongoing reforms of the financial system are generating a host of new national and international agencies with ambiguous legal status, monitoring and supervising the financial system, setting standards, and producing an unending sequence of recommendations to be translated in binding directives and laws. Notwithstanding all these undeniable efforts, the results are deeply disappointing. The process of reform implemented so far did not succeed to mend any of the fault lines tackled, while it did not even address some of the most important ones. This is not to deny that some of the measures advocated go in a potentially useful direction. The main novelty of post-crisis regulation and supervision is the attempt of integrating the traditional microeconomic approach—that remains largely dominant—with a macro prudential concern that explicitly targets the systemic effects of risk-taking by individual market actors.¹⁶ In addition, there has been some commendable effort to increase the transparency of some financial processes, in particular within the field of shadow banking (see Appendix to this chapter). However, the steps undertaken have been too timid and fragmented and have introduced too many exceptions. The process of reform did not contemplate in a systematic way the more radical structural reforms required to improve the institutional features of the financial industry. According to Jaime Caruana, formerly general manager of Bank for International Settlements (BIS), the required structural reforms should adopt a different “method of addressing systemic risk by limiting the range of permissible transactions or organizational affiliations among different types of financial firms” (Caruana 2010). In other words, we need radical structural reforms that aim “to alter the fundamental pattern of interconnectedness in the financial system, in order to block certain channels through which risk is transmitted and shocks are amplified” (ibidem). An effective reform of the

¹⁶The pre-crisis paradigm of financial regulation and supervision was predominantly micro-prudential and focused mainly on the financial stability of individual firms in the erroneous conviction that this would have guaranteed also systemic stability (see e.g. Borio 2012; IMF 2012; BoE 2011).

financial industry structure should not merely supplement the traditional microeconomic approach with macro prudential measures but should “operate as a more blunt, deeper—indeed, foundational—form of macro prudential regulation” (Omarova 2018, 1). The agenda for international regulatory reform under the aegis of the G20 and the coordination of the FSB did not take into consideration the opportunity of radical structural reforms of the financial system. Nevertheless, in the aftermath of the crisis, a few countries—including the United States, the United Kingdom, Germany, France, and Belgium—started a path that did not exclude more radical reforms. However, so far political indecision coupled with the pressure of powerful financial lobbies succeeded to stop, postpone, or slow down any more radical reform process.

The claim of governments and financial institutions that people’s representatives have dictated the post-crisis evolution of financial regulation according to a sound democratic method crucially depends on the belief that the G20 countries agreed and then implemented its guidelines. The reforms of the global financial system struggled to respect the principles of formal democracy by adopting a sort of international majoritarian rule taking into account that the G20 countries together comprise about the 80% of the world population. According to the same narrative, the G20 countries created the FSB to coordinate, on behalf of the elected governments of its member countries, the process of reform focusing on global financial stability. In addition, each jurisdiction has to approve transnational directives, standards, and recommendations before transforming them in binding laws. Therefore, in this view, any jurisdiction retains its sovereignty from the point of view of formal democracy. However, from the point of view of substantial democracy, the situation is radically different. First, we have to consider that international markets would sanction severely a failure to apply promptly the required standards and rules. Second, it is *prima facie* evident that the long and indirect decision process of global reform eludes any form of effective information, participation, and control by most people. When the directives of FSB reach the parliament of single jurisdictions, it may be too late to make substantial modifications.

Apart from the dubious democratic legitimacy of such an indirect and remote decision process, which are the results obtained so far by the reforming process at the global level? The authorities in charge of the reform process do not hesitate to provide optimistic assessments. This is understandable also because financial institutions and regulators are always

keen to reassure the markets and the public opinion as much as is in their power. However, an accurate appraisal of the results obtained so far leads to radically different conclusions: none of the four pillars restored under the supervision of FSB is significantly more robust than before, and the probability of a new great financial crisis, possibly the “big one”, has not diminished.

As for the first pillar, notwithstanding the massive injections of liquidity by quantitative easing (QE) schemes, the empirical evidence does not confirm an improvement in the robustness of financial institutions. In particular, the “measures of volatility and risk premiums today are no lower and perhaps somewhat higher than they were prior to the financial crisis” (Sarin and Summers 2016, 57). The implementation of the measures advocated by Basel III in 2010 has been problematic. The pressure of financial lobbies succeeded to modify and postpone their enactment many times. A recent report of FSB provides an official update on the implementation of Basel III:

In December 2017, the Group of Central Bank Governors and Heads of Supervision, which is the Basel Committee’s oversight body, endorsed the finalisation of Basel III reforms that will take effect from 1 January 2022 and will be phased in over five years. (FSB 2019)

As for the second pillar, even mainstream researchers recognised after the crisis that

Too-big-to-fail is now a larger problem than before, in part because banks have merged in a way that creates even larger banking institutions, and because with the Fed bailout of Bear Stearns in March 2008, and then the financial assistance to AIG by the Fed and the U.S. Treasury in September of 2008, it has become clear that a much wider range of financial firms are likely to be considered to be too-big-to-fail in the future. (Mishkin 2010, 23)

What occurred afterward does not authorise so far a more optimistic assessment. The FSB itself recently admitted that the new measures adopted did not solve the too-big-to-fail problem:

The largest G-SIBs today are far larger than Lehman Brothers was in 2007, and provide a greater number of critical economic functions—such as retail deposits and payment services. (Carney 2017, 21)

This disappointing trend is a serious problem for supporters of self-regulation also because their arguments assume, explicitly or implicitly, a market of perfect competition where no companies are big enough to manipulate markets and must thus behave as price takers.

As for the third pillar, the crucial reform establishing the mandatory central clearing of standardised OTC derivatives shifted the risk from traders towards the Central Counterparty Clearing Houses (CCPs). In its Clearing Counterparty Rating report, Moody evaluates to what extent a CCP is likely to meet its clearing and settlement obligations. In a situation of severe financial distress, CCPs would betray their nature of financial institutions too big to fail. Their contribution to financial stability is thus severely limited.¹⁷

As for the fourth pillar, the FSB stresses that traditional shadow banking has significantly shrunk and has thus reduced the risks of its activity. However, nothing precludes that in a different situation these activities might grow again. The revamping of this process could be very fast since the substitution between different financial instruments is a process that can be extremely rapid and prone to herd behaviour. In any case, as the FSB itself recognised, the risk of shadow banking did not disappear but shifted towards collective investment vehicles.¹⁸

Summing up, the crucial contradiction of the ongoing reforming process is that the process of re-regulation of the global financial system did not question the mainstream free-market ideology that—if taken seriously—prescribes the superiority of market self-regulation over any form of regulation. This contradiction is evident in the documents of G20 that advocate the fixing of the fault lines of the global financial system without impairing the principles of free global markets in the financial system. The FSB and the other global regulating agencies worked hard to fix the faults

¹⁷ See the Appendix for more details.

¹⁸ According to the British Financial Conduct Authority (FCA), “A collective investment scheme (CIS), which is sometimes referred to as a ‘pooled investment’, is a fund that several people contribute to. A fund manager will invest the pooled money in one or more types of asset, such as stocks, bonds or property” (FCA 2017). The FCA warns the investors that some complicated and unregulated investment opportunities (UCIS) are being unlawfully promoted and sold to members of the general public: “Unregulated collective investment schemes can be based outside the UK and dedicate money to a range of different enterprises, including less common investment products and activities like film production, forest plantations and foreign property” (*ibidem*).

without questioning this mandate. The results are very disappointing but it could not be different under these contradictory assumptions.

6.5 THE ASCENT OF CENTRAL BANKS

Since the late 1980s, under the leadership of the Fed guided by Greenspan, central banks started to adopt a policy strategy broadly consistent with the new neoliberal dogmas of macroeconomics and finance.¹⁹ They facilitated, and implicitly promoted, the process of deregulation, privatisation, and globalisation of financial markets while encouraging de facto the financialisation of the entire economy.²⁰ As for the management of monetary policy, they adopted an approach of soft regulation through the combination of inflation targeting and microeconomic supervision. The Great Recession forced central banks to revise their policy strategy by extending both the dimensions of interventions and their reach. In the aftermath of the crisis, they further consolidated and enlarged the scope of their interventions. Central bankers justified themselves by arguing that they were just adapting the received rules of “lender of last resort” to the new circumstances. Ben Bernanke, the most influential central banker of the period,²¹ argued that the interventions of the Federal Reserve during the crisis were “very much in keeping with the historical role of central banks, which is to provide lender-of-last-resort facilities in order to calm a panic” (Bernanke 2012b, lecture 4.1). In his opinion, what was different about this crisis was the institutional structure of the financial system that required an unavoidable adaptation to the changed environment: “It wasn’t banks and depositors. It was broker-dealer and repo market. It was money market funds and commercial paper...” (ibidem, 1–2). Notwithstanding the higher scale of interventions and the differences in their concrete implementation, Bernanke was keen to argue that the Fed acted according to the traditional rules specified long ago by Bagehot (1873) and metabolised by much of the subsequent theory and practice of central banking as acceptable remedy against financial panics.²² We should

¹⁹ See Sect. 5.8.

²⁰ This role played de facto by the central banks of most countries after WWII, especially after the Great Stagflation of the 1970s, cannot be easily reconciled with the principles of democracy. On this point, see Sects. 5.9 and 8.4.

²¹ As is well known, Ben Bernanke was chair of the Fed from 2006 to 2014.

²² Bernanke maintains that “...the basic idea of providing short-term liquidity in order to stem a panic was very much what Bagehot envisioned when he wrote *Lombard Street* in 1873” (ibidem, 1–2).

recognise that Bernanke “had the courage to act” even when this induced him to violate the received interpretation of the principles of mainstream economics and finance, or the tradition itself of central banking. Moreover, there are reasons to believe that without his strong leadership the crisis could have been deeper and more persistent.²³ However, Bernanke’s interpretation of Bagehot’s was definitely questionable. According to Bagehot, the central bank should respond to an incipient panic (i) without delay, (ii) lending freely, that is without limit, to all solvent economic units, (iii) having good collaterals, (iv) at a penalty (higher interest rates). During the Great Recession and its aftermath, the Fed did not respect any of these rules. First, the response to the panic came too late and was thus unable to prevent the failure of the Lehman Brothers, the event that according to many commentators morphed a particularly severe cyclical downturn in a Great Recession. With some good reasons, Bernanke justified the Fed for its delay because the central bank did not have the legal right to bail out Lehman Brothers without an official decision of the government (Bernanke 2015). In this view, only the dire consequences of the crux experiment of letting Lehman Brothers fail permitted to tame the opposition against the bailout of all the other virtually insolvent big banks.²⁴ However, the Fed was directly responsible for having played down the risks of a severe financial crisis in 2007 and still in the first half of 2008.²⁵ In addition, the Fed could not easily transfer to other subjects the responsibility for having systematically violated the other principles dictated by Bagehot. As for the second precept, the credit went mainly to virtually insolvent banks too big to fail. Bagehot on the contrary recommended restricting lending only to solvent units. In addition, the decision of channelling the emergency liquidity mainly towards banks,²⁶ often megabanks, contributed to make

²³The decoupling since spring 2010 between the policy pursued by the Fed and the European Central Bank and its dramatic implications corroborates this opinion. The hurried return to monetary orthodoxy by the ECB had dire consequences on growth and employment in the Euro zone that constrained its economic evolution on a much more deflationary trajectory than that made possible by the Fed.

²⁴As is well known, the government had to overcome a formidable resistance deeply rooted in the neoliberal orthodoxy that persisted in light-heartedly relying on the so-called market discipline to get out of the crisis.

²⁵See Sect. 5.2.

²⁶The only significant exception was the bailout of AIG, the huge multinational insurance company considered too big and too interconnected with the financial system to be allowed to fail.

the distribution of income more unequal and the recession more persistent because the banks that benefitted of this huge emergency liquidity predictably used the extra funds to speculate in secondary markets rather than to revive the lending to the real economy. Moreover, contrary to Bagehot's third precept, the Fed provided huge amounts of emergency liquidity by buying collaterals of any kind, including a great quantity of toxic assets. Finally, contrary to Bagehot's forth precept, the authorisation of bailouts without any sort of penalty or restrictive conditions of any kind—at least for the top management of bailed out banks—greatly reinforced the pre-existing moral hazard bias that distorted the post-crisis evolution of the financial system.

In the aftermath of the crisis, the Fed extended further its powers without correcting the criteria of their use. In particular, it provided quantitative easing in massive quantity only to a limited number of subjects, mainly big banks in financial distress for excessive risk-taking that used the extra liquidity to increase speculation in secondary markets. The Fed did not limit itself to buy good quality assets and did so without significant penalties. In particular, it did not increase the rate of interest but it lowered it to zero. The main excuse central banks can advance for this significant extension of their power without an explicit mandate of the legislature was that policymakers were prone to shift their decisional responsibilities to unelected technocrats that could be criticised *ex post* for their mistakes. In such a situation, central bankers had to find the “courage to act” (Bernanke 2015). This *de facto* delegation of fundamental decision powers from the Parliament to central banks shows the existence of a huge democratic deficit in the crucial field of finance that deeply shapes the features and evolution of society (Tucker 2018).²⁷

As for their direct responsibility not explicitly delegated following sound democratic procedures, I can mention a host of unconventional monetary measures such as the lowering of interest rates to negative levels, quantitative easing, credit easing, “forward guidance”.²⁸ In consequence of these unprecedented measures, central banks expanded their balance sheets as never before. In addition, central banks added to their traditional micro-prudential regulation also new rules of macro prudential regulation

²⁷ Central banks considerably increased their power also in a more opaque way. They started to exert it not only directly but also through an alphabet soup of regulating and standard-setting institutions in which they play *de facto* a role of ultimate power.

²⁸ See Bordo et al. (2016, 4–5).

that “operates through enhanced capital standards, liquidity requirements, regular ‘stress test’ exercises, and other methods designed to reduce systemic risk” (Yellen 2015). Finally, central banks did not hesitate to act as market makers of last resort in some assets to secure market liquidity.²⁹ These measures have been criticised mainly for their inflationary potential. However, notwithstanding all these measures, central banks did not succeed to reach the inflationary target of 2%. Criticisms should rather address the distributive implications of these measures in favour of a small minority of bankers and rich people having interest strictly correlated with that of private finance. This explains also the failure of these measures to sustain the real economy and employment confirming the weakness of trickle-down strategies for the economy as a whole.

6.6 THE FINANCIAL LOBBY’S OFFENSIVE

As we have hinted at before, the financial industry deployed a pressing lobbying strategy to prevent or undo the most significant regulatory reforms claiming that they were unduly repressive and dirigiste. The principal pretext for this campaign against the core measures of post-crisis financial re-regulation is that they imposed on financial institutions significant additional compliance costs. Under the leadership of megabanks, the financial industry claimed that these extra costs were bound to reduce profits and jobs of financial firms jeopardising their capability of supporting the real economy without improving their financial stability.³⁰ In the light of the huge profits earned after the crisis, this argument looks *prima facie* ad hoc and self-serving but received, and continues to receive, some alleged plausibility by the neoliberal view of free markets upholding the myth of financial self-regulation. Therefore, we have to consider the main arguments put forward by the financial lobby in some detail to appraise their soundness.

In the United States, the banking lobby voiced aggressively their disagreement with the mild re-regulation pursued by the Dodd-Frank Act, by claiming that its mandatory compliance costs would have seriously

²⁹ See Mehrling (2005).

³⁰ The lobbying activism of megabanks and large BHCs takes advantage of the fact that many smaller regional lenders without significant speculative trading operations rightly voiced their own concerns about the consequences of applying the new SIFI regulation to their more traditional business models. A wise regulation of the financial industry should facilitate the availability of affordable local financing to small businesses in rural and small-town areas.

undermined their own profits and thus their effective contribution to finance the real economy. However, the actual accounting record is inconsistent with these harsh complaints since “banks and their parent-companies, regardless of size, saw their profits increase steadily during the entire time after the Dodd-Frank Act was passed in 2010. In 2016 alone, banking institutions earned a total of \$175 billion in net profits” (Omarova 2017, 2).³¹ In any case, the imposition by regulation of additional private costs has always been the principal instrument to protect the public from potential harm caused by profit-seeking private agents: “Child labor laws, environmental regulations, anti-fraud rules all raise costs of doing business for those private firms that stand to profit from activities the society deems undesirable” (Omarova 2017, 6). In economics and finance, the main rationale for public regulation is the internalisation of the negative externalities brought about by unfettered markets. The orthodox theory of competitive markets developed this approach long ago.³² In this view, we have to internalise the negative externalities of a certain industry (such as pollution, financial instability, and social distress) by increasing the costs of its products or services in such a way to take account of the external costs imposed on the public. After the Great Recession, no one can doubt that the costs imposed by the financial industry on society are huge. The compliance costs and the foregone profits of regulation are unlikely to have the same order of magnitude of the huge costs imposed by finance on society in recurring crises. As for the employment, in the financial sector the elasticity of supply of financial products and services is much higher than in other sectors of the economy. An increase in relative costs and prices of financial products and services would shift jobs from the financial sector to other sectors more labour-intensive benefiting the overall employment.

A second category of complaints against the new rules of financial regulation focuses on their systematic use of dimensional thresholds to modu-

³¹ As Omarova (2017, 11) specifies, “According to the FDIC statistics, the U.S. banking industry has fully recovered from the crisis and is doing exceedingly well. Thus, in the first quarter of this year, nearly 96% of all U.S. insured depository institutions were profitable; their average return on equity stood at a healthy 9.37%; and their total quarterly income reached \$44 billion, which is 12.5% higher than a year earlier. Insured banks’ total net income in 2016 exceeded \$171 billion. BHCs are also turning handsome profits. For example, in the last quarter of 2016, the total quarterly income of just the top six BHCs—JPMorgan Chase & Co., Bank of America Corp., Wells Fargo & Co., Citigroup, The Goldman Sachs Group, and Morgan Stanley—exceeded \$24 billion” (Omarova 2017, 11).

³² As is well known, Pigou (1920) put forward the first systematic version of this theory.

late rules and requirements of financial institutions. This criticism focuses on a simplistic distinction between allegedly “arbitrary” and “tailored” rules. However, as Omarova (2017, 7) wittily retorts:

...We all live with a myriad of such fundamentally “arbitrary” but practically necessary threshold-based rules every day: the legal age for voting is 18, the legal age for drinking is 21, the individual income tax rates are drawn on the basis of specified income thresholds, and so on. What would happen if we removed all such numerical thresholds as “arbitrary” and replaced them with “tailored” determinations seeking to establish with complete precision every single person’s “unique” individual ability to exercise voting rights, consume alcohol, or pay income taxes? The sheer cost to the public of giving everyone their own “tailored” law will far outweigh any private costs of having to live with “arbitrary” but universally applicable and clearly drawn boundaries.

For example, the US financial industry lobby fought hard to replace the Dodd-Frank’s \$50B size threshold for identifying bank holding companies (BHCs) as SIFIs eventually succeeding (see the Appendix for the recent developments). However, the threshold established by Dodd-Frank is by no means insignificant. In 2017, only 38 BHCs exceeded that threshold in the United States (Omarova 2017, 7). Tailored regulation would significantly increase compliance costs to deal with the endless game of complaints and conflictual interaction with regulators. The ensuing increase of regulators time and energy to calibrate case-by-case individual thresholds would derail the entire regime of SIFI oversight. In addition, this regime would soon become vulnerable to the “mantra of last resort” against directive regulation, according to which it would be just a waste of resources for both the financial industry and the public at large. A similar attack targets supervisory stress testing, another significant novelty of post-crisis regulation. What the financial industry advocates is a “more robust and transparent” stress testing process, meant in fact to force the Federal Reserve to surrender its key supervisory functions to SIFIs themselves.

The arguments deployed by the financial industry pretend that its main preoccupation is that of financing the economic growth of the entire economy. Therefore, any regulatory constraint on financial business, by definition, would restrict its ability “to serve customers, grow the economy and create jobs”. Therefore, in this view, any measure of deregulation would improve the well-being of all citizens. This argument is bluntly

inconsistent with the empirical evidence.³³ Only a small percentage of financial activity does actually aim to finance the real (viz. non-financial) economy. This is particularly true of big financial conglomerates whose activity focuses on massive secondary-market trading operations to the point that, in boom periods, many operators take asset price inflation as a reliable indicator of economic prosperity.³⁴ However, financial inflation is inherently speculative and significantly obstructs the economic growth of the entire economy. First, financial inflation shifts investment from the primary markets in which companies raise new capital for expanding productive capacity to mainly speculative secondary markets. Second, asset price inflation feeds the euphoria of investors that after a peak typically converts in sudden panic triggering a process of debt-deflation.³⁵ Unfortunately, the periodic bursting of unsustainable speculative bubbles effaces not only speculative gains in asset values but also real economic wealth.

The financial strategies pursued by financial institutions in recent decades fed asset price inflation but contributed very little to the growth of the real economy. Most of them, particularly the biggest ones, indulged more and more in the questionable corporate strategies of repurchasing own shares to increase their value and distributing higher dividends to shareholders and higher stock options to the management. The crisis did not interrupt this tendency initiated in the early 1980s (see Sects. 3.8 and 5.8). In 2016, federally insured banks returned to their shareholders \$103 billion in dividends, a number second only to the peak of \$110 billion paid in 2007. As Lazonick (2017) rightly comments:

Using \$103 billion of banks' profits to increase lending to productive economic enterprise would advance both (1) the public interest in having a safer and more efficient system of credit allocation, and (2) the banks' self-professed interest in fostering economic growth ... Yet, banks chose not to go that socially beneficial route.

³³I argued in Vercelli (2017) that this presumption is also inconsistent with economic theory.

³⁴By asset price—or financial—inflation, I mean the persisting increase of prices at which existent assets—stocks, bonds, commodities, real estate, and so on—are traded in secondary markets. The crucial role of financial inflation in the recent evolution of the financial system is thoroughly discussed by Toporowski (2009) and Omarova (2017).

³⁵See (Fisher 1933).

According to the financial lobby, every dollar spent on hiring compliance attorneys is potentially equivalent to \$10 of loans that could finance productive investment. However, this is not the recent and current use of increased profits so that every dollar diverted from banks' regulatory compliance would most likely improve only the earnings of bank shareholders and top managers. Using the same logic, it would follow that "in 2016 alone, banks have willingly deprived the real economy of \$1.03 trillion in small business loans, home purchases and other productive uses" (Omarova 2017).

In a growingly uncertain world, rational investors prefer shorter term investments encouraging further the short-termism of corporate managers. We may overcome the growing short-termism of managers and investors and promote the formation of "patient" capital by explicitly introducing a public perspective that aims to create value for all the citizens of this and subsequent generations. To this end, we should establish public development banks or innovative joint ventures between private and public capital.³⁶

6.7 THE REGULATION OF SELF-REGULATION: SYNTHESIS OR OXYMORON?

The directives agreed by the G20 and their applications in single jurisdictions have so far substantially failed because they aimed to combine the contradictory post-crisis requests, to use the US jargon, of Main Street and Wall Street. Main Street advocated a strict re-regulation of the financial system to align its behaviour to the public interest, while Wall Street opposed it and struggled to enlarge as much as possible the area of self-regulation. I am tempted to dub "regulation of self-regulation" the ensuing flimsy combination of thesis and antithesis to stress its contradictory nature.³⁷ No wonder that this approach to financial regulation proved ineffective, and—in certain areas—counterproductive: not a synthesis but a conflicting mixture, an oxymoron.

³⁶ Lazonic (2017) advocates the joint venture of "patient" private and public capital that could "...finance the building of new roads, bridges, high-speed train lines, clean energy networks, and next-generation industrial plants. It will also create new well-paying jobs, offer new educational opportunities, and unleash new entrepreneurial energy." On this important issue, see Sect. 7.6.

³⁷ Omarova (2011, 482–483) uses this expression in the different sense of meta-regulation.

Long since, economists and financial practitioners compiled an extensive list of functions that are—or should be—played by the financial system; including creation and circulation of money, origination and trade of financial assets, smooth functioning of the payment system, credit to investors and consumers, fixation of interest rates and asset prices, systemic risk management. The process of financialisation raised serious problems for each of these functions. The decentralised creation of money by private banks proved to be often inadequate to keep at the same time monetary and financial stability, full employment, and sustainable growth. The creation of financial assets overgrew and changed the traditional model of banking “originate-to-hold” into the new model “originate-to-distribute” that proved to be more prone to systemic risk. The payment system often faltered since the early 1980s during a sequence of increasingly frequent and deep financial crises and risked a complete collapse in 2008. The credit to finance investment in the real economy has become progressively insufficient, slowing down the rate of growth in recent decades and creating an economic sustainability gap. The growing credit to households and individuals integrated personal consumption in the financial circuit but introduced a new crucial vulnerability in the financial system that contributed to trigger the Great Financial crisis and the ensuing Great Recession. As for the fixation of the rate of interest, the LIBOR and EURIBOR scandal showed that the financial firms do not hesitate to manipulate to their own advantage the “market” rates of interest (see Sect. 5.8). Taking into account that these rates of interest underlie most interest-based financial contracts (in particular those relating to approximately \$350 trillion in derivatives), they affect also their prices and cash flows.

These examples are hardly consistent with the upbeat view on the alleged efficiency of “unfettered” financial markets prevailing in the recent decades and surviving unabated after the crisis. Since the early 1970s, the mainstream doctrine assumed equilibrium, efficiency, and rational expectations, leading to a widespread conviction that the financial system obtains optimal results by regulating itself without external interventions (see Chaps. 3 and 4). This led to the progressive deregulation of much of the pre-existing “directive regulation”. However, the financial markets cannot prosper—perhaps not even survive—without a robust and continuous supportive regulation by the state (Rodrik 2011; King 2017). During the Second Financialisation, the policymakers payed often lip service to the efficiency of unfettered financial markets but could not ignore their shortcomings made evident by a series of financial crises of increasing frequency

and depth (Kaminsky and Reinhart 1999). According to the neoliberal point of view, these shortcomings reflect the persistence of state interventions that prevent the self-regulation of unfettered markets so that the only solution would be to eliminate these interferences. However, the actual implementation of this solution requires time. In the meantime, the political realism requires the introduction of specific rules to mend the flaws of the financial system. These rules coalesced into an alternative system of regulation that I suggested to call “vicarious”, or “assisted”, self-regulation as it aims to support, complement, and enforce spontaneous regulation under the guidelines of public regulation. The results of its application have been, paradoxically, an increasing burden of constraints that in many fields proved to encumber financial institutions even more than the preceding directive regulation, often obtaining worse results.

This apparent paradox requires an explanation. Pure self-regulation, as foreshadowed by Adam Smith and modelled a century later through the general equilibrium approach, is the unintended result of myriads of decisions taken by single decision makers in their own interest. However, in the actual markets the agents have to cope with a host of market imperfections.³⁸ In particular, market actors have to take decisions conditional to the expected behaviour of other agents that asymmetric information and strong uncertainty makes unforeseeable. Counterparty risk is a significant and ubiquitous case in point. That is why financial companies, in their own interest, are not necessarily hostile to some sort of institutional mechanism pressing all economic units to comply with basic rules of information disclosure and fair financial behaviour. This provided in the past the rationale and the mainspring of vicarious regulation. In particular, this explains the establishment of BIS, the central bank of central banks managing the Basel Accord, and more recently of the Financial Stability Board coordinating reforms and standards of the global financial system. What is important for financial institutions is that the regulatory, supervisory, and standard-setting institutions do not escape from their direct influence. However, the financial lobbies seem today so worried by the prospect of binding re-regulation of the financial system by public authority that they prefer to focus on the preventive argument that any regulation would distort and impair their beneficial contribution to the growth of the economy. Under these contradictory pressures, vicarious regulation tried to conform to the

³⁸An account of these imperfections and their implications may be found in Vercelli (2017).

market standards of decentralisation and flexibility by establishing bespoke rules for different subjects and circumstances. The G20 chose to entrust the management of this ever-growing multilayered structure of rules to a multiplying army of institutions (not only central banks but also new institutions such as the Financial Stability Board). The outcome was a sort of casuistic overregulation that financial institutions perceive as hermetic, oppressive, and unmanageable. This is especially the case of small local institutions that play a crucial role in the financial support of the real economy, since they cannot afford the necessary services of competent advising.

The evolution of the Basel Accords provides a significant example of the growing shortcomings of vicarious self-regulation. The first version of the Basel Accord (Basel I) was agreed in 1988 when, in consequence of the progressive dismantlement of the previous directive regulation modelled along the lines of the Glass-Steagall Act (1933), the number and depth of financial crises started to increase (Kaminsky and Reinhart 1999). The Basel accord aimed to support, not supplant, self-regulation. Its non-compulsory rules intended to play the role of setting at the international level agreed benchmarks and standards to increase the stability and efficiency of markets. The compliance with these rules by single financial institutions required some sort of monitoring and a system of disincentives for them to shirk. This called for a new design of regulating agencies. In particular, in the 1980s, many countries reformed central banks to increase their independence from governments and day-by-day politics. In consequence of these reforms and a new interpretation of their charters, central banks gradually lost their role of transmission belt of directive monetary and financial policy into the financial system and assumed the new role of monitoring and supporting financial self-regulation in tune with the emerging neoliberal paradigm. In addition, new regulatory committees popped up to cope with the increasingly complex features of the financial system. The financial lobby soon criticised the rules of Basel I for being too rigid and binding. In 1996, the Market Risk Amendment allowed banks to use internal models to calculate regulatory capital. This Amendment crossed a sort of regulatory Rubicon blurring the distinction between commercial and regulatory risk: “the Basel regime became, if not self-regulating, self-calibrating” (Haldane and Madouros 2012, 7). This preposterous attempt, so to say, of “regulating self-regulation” continued to inform the subsequent evolution of the Accord. In 2004 a new version, Basel II, expanded and articulated the same principles set by the Amendment. Its inadequacy to cope with the emergencies of the Great

Recession led soon to drafting a new accord in 2010, Basel III. The new agreement, however, has been modified and postponed many times under the pressure of powerful financial lobbies. The attempts to fix the shortcomings of vicarious regulation produced a paradoxical result: the unshakable belief in the superiority of self-regulation over directive regulation eventually determined in many fields an increasing “overregulation” (see Haldane and Madouros 2012). This approach to regulation is unable to impose simple, general, and compelling directives to financial institutions in the public interest but greatly increases their complying costs, offering good arguments to the financial lobby for a further deregulation.³⁹ This is *prima facie* revealed by the growing number of pages of the successive versions of the Basel Accord (30 pages Basel I, 347 Basel II, 616 pages Basel III). We have to add the domestic documentation that progressively increased from 18 pages in the United States and 13 pages in the United Kingdom (Basel I) to more than 1000 pages in both countries (*ibidem*, 8). The increasing complexity of Basel rules implied a growing pool of human resources devoted to financial regulation. In the United States, there were 4500 regulators in the 1935 (one over three banks) while in 2011 there were 18,500 (three for every bank); in the United Kingdom, in 1980 there was one regulator for 11,000 employees in the financial sector, while in 2011 there was one for 300 employees (*ibidem*)

The measures approved and implemented after the Great Recession to reform the financial system remained within the scope of vicarious regulation. Their rationale was the idea that regulatory authorities and policymakers should continuously update their benign support to financial self-regulation to cope with its evolution. However, as we have seen, the foundations of these reforms proved to be fragile and their implementation ineffective.⁴⁰ Since this approach to regulation is by definition not hostile to the financial industry, to be justified and effective any new measure looks for a broad consensus from the financial system. Therefore, vicarious regulation endows the financial system of significant advantages over the other sectors but does not succeed to avoid its more damaging

³⁹The increase of compliance costs for financial institutions deriving from this style of vicarious regulation has been striking. For example, according to the estimates provided by Haldane and Madouros (2012, 10), in Europe the financial system has to create over 70,000 new full-time jobs to comply with Basel III requirements, while in the United States not less than 10,000 full-time positions are required to comply just with the Dodd-Frank requirements.

⁴⁰See for example Sarin and Summers (2016, 57, quoted in Sect. 6.4).

externalities. That is why emergency regulation acquired a growing weight during the Second Financialisation. The central banks expanded their role of lender of last resort to provide contingent liquidity and avoid the insolvency of financial institutions under stress. The monetary authorities extended the insurance of deposits to avoid bank runs. The growing dimensions of big banks and other financial institutions strengthened the implicit insurance based on the unofficial but compelling argument that they are too-big-to-fail. The bailout of many big banks and financial institutions during the Great Recession confirmed the existence of this sort of tacit insurance (see Sect. 6.3). The most recent financial crises introduced a new form of emergency (or non-standard) regulation in the form of “quantitative easing” to protect the balance sheets of financial institutions in distress and to avoid a swarm of devastating bankruptcies. Emergency regulation played a role of implicit subsidy to the financial system, especially to big banks, biasing investment decisions in favour of the financial system. In addition, the emergency measures fed moral hazard creating a vicious circle with financial crises.

Notwithstanding the widespread belief in the efficiency and optimality of self-regulation, the state is heavily involved in all forms of regulation, not only in the case of directive and emergency regulation but also in the case of vicarious regulation where the autonomy of market regulation is just a misleading myth. What distinguishes the three forms of regulation mentioned above is a different attitude towards the interests of the financial system as compared to that of the common good. In the case of directive regulation, the priority is the interest of all citizens as perceived by regulators and policymakers complying with the directives approved by the legislature and applied by the government. In the case of vicarious regulation, or assisted self-regulation, the priority is the immediate interest of the financial system in the conviction that a healthy and thriving financial system is in the interest of the common good.⁴¹ As for emergency regulation, its introduction and management has always been particularly controversial.⁴² We may interpret its recent free-handed application as a mechanism of socialisation of losses and privatisation of gains (Stiglitz 2010). Wise regulation should prevent emergencies and set clear rules for

⁴¹ As argued above (in particular in Chaps. 3 and 4) and elsewhere (see e.g. Vercelli 2017), this conviction lacks proper foundations in economic theory and justifies policies inconsistent with sustainability.

⁴² See in particular Tucker (2018).

responsible decision makers. This is possible only within a general framework of directive regulation. An effective regulation of the financial system requires a resolute independence from the undue pressures not only of political parties but also of financial lobbying and any other self-serving coalition of interests. However, this does not imply and must not imply that central banks and the other regulatory agencies should be independent of the directives expressed through democratic procedures that are not only formally, but also substantially, correct. We have to stigmatise such a widespread, but deeply misleading, confusion that violates the basic principles of democracy as recalled in Chap. 1.

6.8 CONCLUDING REMARKS

It is time to assess the results of the preceding analysis from the point of view of comprehensive sustainability. The background of the analysis carried on in this chapter is the long-run process of financialisation that has characterised the evolution of market relations from their first emergence to contemporary financialised capitalism.⁴³ This process has never been linear, continuous, and homogeneous. Periods of accelerating financialisation alternated with periods in which the process slowed down, sometimes even receded, in consequence of a more critical attitude dictated by the prevailing moral and political attitude. Cultural, institutional, and normative conditions always affected the process of financialisation so that different political entities followed dissimilar trajectories. In the deployment of these variegated trajectories, we may detect a common propulsive mechanism based on flexibility-enhancing innovations. Decision theory, financial theory, and economic theory agree that, generally speaking, decision flexibility is desirable because correlates with higher returns, improved security, more freedom, and more power.⁴⁴ The trouble is that, in consequence of the long-term externalities of financial innovations, the enhanced flexibility so obtained by successful innovators in the short period does not translate in more flexibility for most members of society, at least in the long period. The typical diffusion process extends the scope of negative externalities, in particular the increasing inequality between people and the growing financial fragility of economic units. Poorly managed micro-economic flexibility easily degenerates into systemic instability that back-

⁴³ See Chap. 2.

⁴⁴ See Vercelli (2017).

fires on microeconomic fragility, eventually also that of innovators themselves.

Sustainable development requires a sufficient degree of global long-run flexibility to reshape the economic activity in a direction consistent with the basic equilibria of the biosphere. Unfortunately, the recent process of financialisation has further increased the divergence between the evolution of the financial system and the required support to long-term global sustainability. This is because the Second Financialisation not only strengthened the traditional obstacles to sustainability (increasing inequality, shrinking time horizon, and spreading selfish utilitarianism) but also introduced new ones. Among the latter, we have emphasised the progressive convergence between financial and non-financial sectors. Financial variables and objectives progressively affected decision-making in the non-financial sector itself. Conversely, the financial system has assumed a role that goes beyond the traditional one of promoting capital circulation, as it acquired a prominent role in the production and trading of financial instruments. Decision makers increasingly see both financial and non-financial companies as mere collection of assets managed to maximise the creation of value for their proprietors.⁴⁵ The use value of goods is of some concern only to the extent it affects financial returns. Financialised firms neglect the interests of stakeholders different from shareholders unless, in consequence of CSR initiatives or the activism of concerned NGOs, they may exert some influence on short-run returns. Ethical principles matter only to the extent that the legal system is able to enforce them and the expected fines for violating them are higher than the additional returns so obtained. CSR or ESG measures and campaigns may mitigate corporate cynicism but only to the extent that a significant loss of reputation is expected to affect returns.

The process of financialisation aims to sweep away the constraints to economic decisions, while sustainable development requires the respect of rigid quantitative constraints that assure the basic equilibria of the society and the biosphere. A radical reform of the financial system is thus a necessary, though not sufficient, condition for sustainable development. In the light of the preceding analysis, we cannot hope that spontaneous self-regulation may transform the financial system in the direction required by sustainable development. To the same conclusion leads the preceding analysis of vicarious regulation and emergency regulation that

⁴⁵ See Lazonick (2014).

ruled in the recent decades. We have to return to a directive style of regulation that does not fear to set, when necessary, quantitative constraints to the financial activity in the form of sanctionable prohibitions or obligations. The increasing complexity of the financial system requires simple but general rules and prohibitions. The illusion that vicarious regulation can mitigate risk by pricing it in a market-like manner has been self-defeating because this strategy has significantly contributed to the complexity of financial decision-making exposing it to growing unmanageable uncertainty.⁴⁶

The perspective here advocated is by no means easy to implement. It is very difficult to adopt now this sort of regulation philosophy, taking into account the recent evolution of the policy paradigm and the coevolution of the financial and economic system. Let us hope that the urgency of the sustainability issues may encourage the resolute efforts of all the people of good will towards a genuinely sustainable finance.

In the next two chapters, I intend to sketch the outlines of a radical reform of the financial system and its regulation to make its evolution consistent with the normative perspective of democracy and comprehensive sustainability as clarified in the first chapter.

APPENDIX: THE REGULATION OF SHADOW BANKING AFTER THE CRISIS⁴⁷

Definition of Shadow Banking

The complexity, the extensive range of activities, and the lack of transparency of the shadow banking system make it difficult to formulate a single all-encompassing definition. Some authors define shadow banking by reference to particular instruments and entities. According to Gordon and Metrick, for example:

In its broad definition, shadow banking includes such familiar institutions as investments banks, money market mutual funds, and mortgage brokers; some rather old contractual forms, such as sale-and-repurchase agreements (repos); and more esoteric instruments such as asset-backed securities (ABSs), collateralized debt obligations (CDOs) and asset backed commercial paper (ABCP). (Gorton and Metrick 2010).

⁴⁶ See e.g. Haldane and Madouros (2012).

⁴⁷ The author of this Appendix is Maria Carmen Siniscalchi.

Other authors define shadow banking by reference to entities performing credit intermediation so long as these entities are non-bank entities. The earlier and most famous entity-based definition was coined by McCulley who defined the shadow banking system as “the whole alphabet soup of levered-up non bank investment conduits, vehicles, and structures” (McCulley 2007).

Shadow banking is also defined by reference to entities and activities. The FSB (Financial Stability Board), for example, adopts a broad definition of shadow banking as “credit intermediation involving entities and activities (fully or partially) outside the regular banking system” (FSB 2017). Credit intermediation, in turn, consists of:

1. Maturity transformation that is converting long-term financial assets into short-term liabilities. Securitisation, which is considered “the central artery of the shadow banking system” (Gerding 2012), is fundamental to transform illiquid loans into liquid securities (short-term financial instruments for investors).
2. Credit transformation that consists in the enhancement of the credit quality of the debt issued by the intermediary and it is carried out, for example, by lending to borrowers with a lower credit standing (and thus a higher yield) than the intermediary funding instruments. Securitisation and derivatives play an important role in the credit transformation process (Gerding et al. 2012).
3. Liquidity transformation that consists in using liquid liabilities (short-term instruments) to fund illiquid assets.

The IMF introduces a further definition of shadow banking based on “non core liabilities” (IMF 2014). Non-core liabilities are defined in contrast to “core liabilities” that represent the traditional financial intermediation function of the banking system (viz. regular deposits of ultimate creditors). According to this definition,

financing of banks and non bank financial institutions through non core liabilities constitutes shadow banking, regardless of the entity that carries it out. (IMF 2014)⁴⁸

⁴⁸The non-core liabilities are issued also by other depository corporations, including money market mutual funds (MMMFs) and all other financial corporation except insurance companies, pension funds, and non-MMMFs. The main components of non-core liabilities

Because this definition focuses on the funding sources and not on the type of institution that issues the liabilities, it includes also forms of shadow banking that are carried out within the banking system.

Examples of shadow banking entities usually include, among others, money market funds (MMFs), credit hedge funds, broker-dealers, securities finance companies, credit insurance companies, and securitisation vehicles (FSB 2018). However, a list of shadow banking institutions could not be exhaustive, given the different forms that shadow banking may take across countries (due to different legal and regulatory framework) and the constant innovation of the sector. The instruments usually connected with shadow banking are asset-backed commercial papers, asset-backed securities, credit derivatives, CDO, and repos (Gorton and Metrick 2010; Gerding 2012).

Despite the differences, the various definitions do underline some typical characteristics of the shadow banking system that is to provide credit intermediation services linking borrowers to investors through capital markets. Therefore, shadow banking performs a role similar to traditional banks but it relies on financial markets not on bank deposits for the provision of funds. Shadow banks raise short-term funds in the money market and use those funds to buy assets with longer term maturities. However, unlike the traditional banking system, the credit intermediation process is conducted through a chain of non-bank financial intermediaries linked together in complex ways. As we have already said, securitisation and credit derivatives represent an important component of the shadow banking system.⁴⁹ The shadow banking system, being outside or partially outside the banking system, is not subject to traditional bank regulation. Therefore, shadow banks do not have access to central bank refinancing and deposit guarantee schemes. However, the financing sources (short-term liabilities) on which the system relies, according to many scholars (e.g. Gorton, Gerding, Kane, and Ricks), are functionally equivalent to bank deposits. Some shadow banking instruments have money-like characteristics (low risk and high liquidity) and can thus be subject to runs and

are debt securities, loans, MMF shares, and a small portion of restricted deposits excluded from broad money (IMF 2014).

⁴⁹ Pozsar et al. (2010) divide the credit intermediation process performed by the shadow banking system in seven steps in sequential order: (1) loan origination, (2) loan warehousing, (3) ABS issuance, (4) ABS warehousing, (5) ABS CDO issuance, (6) ABS “intermediation”, and (7) wholesale funding. A specific type of shadow bank performs each step through a specific funding technique.

panics whenever confidence is lost as the 2008 financial crisis highlighted. As is widely acknowledged, many of the events that marked the crisis were related to non-bank financial institutions and markets.

Recent Evolution of Shadow Banking

The sector of shadow banking has grown massively in the years before the crisis: according to the FSB (2012), assets in the global shadow banking system grew from \$26 trillion in 2002 to \$62 trillion in 2007.⁵⁰

The literature mentions many factors as key drivers of this exceptional growth. Deregulation and competition, for example, encouraged commercial banks to enter high-risk businesses. Increased competition from non-bank and innovation in financial markets, helped by regulatory and legal changes (in particular the special treatment under the bankruptcy code for repos and securitisation), contributed to the decline of the traditional banking sector (Gorton and Metrick 2010). Some authors explain growth as fuelled by regulatory arbitrage and technology (e.g. Schwarz 2011–2012): banks tried to circumvent capital requirements shifting activities to the non-bank sector, while technology has provided non-bank financial institutions to cope with investors demand for products quickly and at a lower cost than the traditional banks.

Non-bank intermediation in itself, according to most authors, does have advantages in terms of creating new sources of funding, reducing reliance on banks and therefore bringing diversity to the financial system; however, to the extent that non-bank intermediaries perform a bank-like function and are largely unregulated, they can become a source of systemic risk. In fact, the 2008 financial crisis has shown that shadow banking poses the same, if not higher, economic risks and negative externalities as traditional banks. In addition, shadow banking is not a standalone system but it is deeply interconnected with the core banking system in a complex way. The two systems are interconnected, for example, through markets such as repo market that links MMFs, banks, investment banks, hedge funds through securities lending. As stated by the FSB (2017)

The financial crisis revealed how the regular banking system was both intertwined with and exposed to risk in the shadow banking system. For exam-

⁵⁰The measure is based on the balance sheets of OFIs (other financial institutions), which comprise all financial institutions that are not classified as banks, public financial institutions, insurance companies, or pension funds (FSB 2012).

ple, shadow banking often involves explicit or implicit support from banks, which “borrow trust” from the capital and liquidity resources of banks, and ultimately, banks’ backstop mechanisms. Before the crisis, this support allowed shadow banking entities to expand and transform liquidity/maturity on a scale they would otherwise not have been able to do.

In the United States, the creation of “financial holding companies”, following the dismantling of the Glass-Steagall Act and the passage of the Gramm-Leach-Bliley Act of 1999, facilitated this process. Conglomerates that own or control commercial banks, investment banks, insurer companies, and other financial institutions enable the transfer of public subsidy meant for banks to other affiliates in the corporate group. According to Hockett and Omarova (2016), “the most critical overall benefit that non-bank financial institutions derive from affiliating with commercial banks is access to banks’ deposit base.”

The Federal Reserve emergency lending facilities introduced in the aftermath of the Lehman Brothers’ bankruptcy were a recognition of the necessity to provide a backstop for all the functional steps involved in the shadow banking process (Porzan et al. 2010).

During the decade following the financial crisis, policymakers and regulators have been implementing legislative reforms based on the principles set by the G20 countries which charged the FSB with the task of fixing the fault lines that caused the financial crisis in conjunction with international standard setters and organisations. In particular, regarding the shadow banking system, the G20 Summit (2011) acknowledged that “The shadow banking system can create opportunities for regulatory arbitrage and cause the build-up of systemic risks outside the scope of the regulated banking sector” (G20, Final Declaration, 2011). Therefore, the G20 countries agreed to strengthen the regulation and oversight of the shadow banking system through a “balanced approach between indirect regulation of shadow banking through banks and direct regulation of shadow banking activities, including money market funds, securitisation, securities lending and repo activities and other shadow banking entities” (*ibidem*). To this end, they requested the FSB to develop a series of reforms and policy measures to transform shadow banking into resilient market-based finance. Following this mandate, the FSB focused on five specific areas where action should have been taken to reduce systemic risk: (1) mitigating risks in banks’ interactions with shadow banking entities, (2) reducing the susceptibility of MMFs to “runs”, (3) improving transparency and aligning

incentives in securitisation, (4) dampening pro-cyclicality and other financial stability risks in securities financing transactions (SFTs) such as repos and securities lending, and (5) assessing and mitigating financial stability risks posed by other shadow banking entities and activities (FSB 2013).

Regulators around the world tried to monitor shadow banking and create new rules addressing both shadow banking as entities and the instruments of shadow banking. The entity-based regulation can be carried on through the regulation of shadow banks operations (direct regulation) and through the regulation of banks' interaction with shadow banking entities (indirect regulation).

Following this categorisation, in the next sections, I analyse the main points of the implemented regulation in the United States and EU.

The Post-crisis Regulation of Shadow Banking in the United States

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (see Appendix 1 in Vercelli 2017) included many provisions relevant to shadow banking. Indirect regulation tried to address shadow banks' failures by

1. implementing increases in banks' capital requirement,
2. designating important financial institution to be under increased regulation and scrutiny,
3. separating risky proprietary trading from the core banking system.

Specifically, as for point 1, the "Collins Amendment" to Dodd-Frank (Section 171) amended the definition of capital and imposed capital and leverage requirements to US depository institutions, US bank holding companies, bank subsidiaries, and systemically important non-bank financial companies. Subsequently, the above requirements were integrated with the adoption of Basel III international standards (see "The US Final Rule on capital standards" that adopted the Basel III framework on July 2013).

As for point 2, Dodd-Frank addressed the systemic risk associated with largest, most complex, and most interconnected financial institution by allowing the Financial Stability Oversight Council (FSOC) to designate systemically important financial institutions (banks and non-banks) that could pose a threat to financial stability in order to put them under increased regulatory scrutiny.

While banking organisations with \$50 billion or more in assets were automatically subject to enhanced prudential standards, non-bank SIFIs were designated on a case-by-case basis.

On May 2018, the “Economic Growth, Regulatory Relief, and Consumer Protection Act” (the “Reform Law”, bill S.2155), the first major financial services reform bill since the enactment of the Dodd-Frank Act, was passed into law. The bill, among other things, has increased, from \$50 billion to \$250 billion, the threshold (amending Section 165 of the Dodd-Frank Act) at which a large banking organisation automatically becomes subject to enhanced federal oversight, including, for example, higher capital, liquidity, stress tests, and other requirements (Lexology 2018).

Banks with assets of less than \$100 billion would be freed of current oversight requirements. The Federal Reserve has been granted discretionary power to impose enhanced standards on organisation with \$100 billion or more in assets. The alleged aim of the legislation was to give regulatory relief to smaller financial institutions and community banks and although there was a bipartisan consent on this point, the \$250 million threshold raised concerns even among supporters of a revision. For example, former Representative Barney Frank, co-signatory of the original Dodd-Frank, said that the failure of two or three institutions in the \$250 billion range would put the system in a “Lehman Brothers territory” (Vox, March 2018), considering that Countrywide Financial, for example, one of the largest home-mortgage providers, had assets in the \$210 range before it failed (actually it was acquired by Bank of America for a sixth of the value of its market value before the crisis began).

As for non-bank SIFIs (investment banks and other non-banks), in the early years of Dodd-Frank enactment, FSOC designated Ge Capital (financial services unit of General Electric), AIG, Metlife, and Prudential (life insurers) as systemically important financial companies but by now none of them have SIFI label anymore. In fact, the Council de-designated GE Capital in 2016, AIG in 2017, Prudential in 2018, while Metlife won a legal battle to remove its designation in 2017. The designation process includes several rounds of investigation and research to make regulators understand how risk can affect the system. Dodd-Frank allowed designated companies to take actions to reduce risks and be re-examined for de-designation. Although the designated SIFIs undertook significant divestitures to reduce systemic risk, they remain large and globally connected companies (e.g. Metlife has 90 million consumers in 60 countries,

AIG has half a trillion dollars in total assets), while two of them (GE Capital and AIG) were bailed out by the federal government during the 2008 financial crisis. Critics fear that the FSOC de-designation which effectively ended the entity-based non-bank SIFI regulation may have as consequence to incentivise the migration of risk from the regulated banking sector to the unregulated shadow banking system, a process that the post-crisis regulation was meant to prevent (Kress et al. 2018).

As for point 3, Dodd-Frank introduced the Volcker rule (Section 619) which prohibits BHCs from engaging as principal in proprietary trading for buying or selling financial instruments to profit from short-term price movements. It also prohibits banks from sponsoring or investing in hedge funds or private equity funds. The rule contains important statutory exemptions for certain activities such underwriting and market-making related activities, hedging, insurance company activities, as well as trading in US government securities and on behalf of customers. The rule took effect partially in July 2015. In 2018 the “Reform Law” exempted from the Volcker rule banks with less than \$10 billion in total consolidated assets and in the same year the Federal Reserve approved a proposal which is currently under discussion, to “simplify and tailor compliance requirements related to the Volcker rule” (Federal Reserve 2018). The proposed reforms are meant to lighten some restrictions of the rule, for example giving banks more discretion to determine whether their trades are permitted, expanding exemptions and transferring some oversights to the banks themselves. However, some critics think that these reforms, once approved, would eliminate many protections included in the 2013 final rule. SEC Commissioner Kara Stein, for example, stated that “This proposal cleverly and carefully euthanizes the Volcker rule” (quoted in Gelzinis 2018).

An important piece of direct regulation is the regulation of MMFs.⁵¹ In the aftermath of the 2008 financial crisis which saw the oldest MMF in the United States (the Reserve Primary Fund) “break the buck”,⁵² the SEC

⁵¹ A MMF is a type of mutual fund which is characterised by investing in short-term (usually less than a year) fixed income, high credit quality securities such as treasury bills, commercial paper, and repos. There are many types of funds according to the investor’s typology (retail or institutional) and the composition of the assets’ portfolio (corporate debt securities, tax-exempt debt securities, and government debt securities).

⁵² MMFs pay dividends that reflect prevailing short-term interest rates but, unlike other investment companies, they promise investors a fixed share value of \$1 (“a buck”) redeemable on demand. They seek to maintain a NAV (net asset value) at a constant \$1 per share by

(Securities and Exchange Commission) introduced significant rules changes for MMFs. In fact, in January 2010, the SEC adopted a first step of measures to strengthen both the resilience and stability of MMFs to avoid future risk of runs for the sector. The reforms were intended primarily to improve liquidity and credit risk management as well as to enhance reporting requirements. The 2010 rules, among other things, required MMFs to have a minimum percentage of their assets in highly liquid securities, limited MMFs investment in rated securities to those rated in the top two rated categories, permitted MMFs board of directors to suspend redemptions if the fund were about to “break the buck”. In 2014, the SEC introduced a new set of rules governing MMFs. The 2014 reforms required institutional prime MMFs (which invest primarily in corporate debt securities) and municipal MMFs (which invest primarily in tax-exempt municipal securities) to convert to a floating net asset value (FNAV).⁵³ Retail MMFs and those investing in government securities were permitted to continue to adopt a constant net asset value (CNAV). The reforms also authorised both retail and institutional prime and municipal MMFs to impose liquidity fees under certain circumstances and suspend redemptions temporarily during times of stress (SEC 2014-143). Despite criticism regarding the likelihood that the FNAV would eliminate the risk of runs, the new rules “clarify for investors the risk associated with investing in money market mutual funds, while making it clear to the market and to policymakers that these financial instruments are not bank products to be overseen by prudential regulators, but rather investment products properly regulated by the SEC” (former SEC Commissioner Dan Gallagher as reported in the Consumer Financial Act And Capital Market Protection Act of 2017). As a result and in anticipation of these reforms, more than \$1 trillion have shifted from prime and municipal MMFs with a FNAV to government MMFs with a CNAV by the end of 2016 (Rennison 2016). Concerns about rising borrowing costs in particular for municipal MMFs led in 2017 (May 3) to the introduction of a bill

valuing their assets with the “amortized cost” method. This method means that these funds value their investments at the amount paid (cost) for them which may also include a discount or premium. The CNAV (constant net asset value) is difficult to maintain when the market-based value of MMF’s assets deteriorates: the Reserve Primary Fund’s share value fell below \$1 due to the fund’s exposure to Lehman Brothers’ commercial paper triggering a run on MMFs which was stopped only with an explicit government backstop.

⁵³The FNAV means that MMFs’ share price would fluctuate according to the changes in the market-based value of their portfolio of securities.

(H.R.2319) to reverse portions of the 2014 rules governing MMFs. The bill will restore the ability for all MMFs, regardless of whether their investors are retail or institutional to use a stable share price (CNAV) instead of a floating share price (FNAV) if they comply with certain requirements and restrictions. Additionally, the legislation removes the requirements for MMFs to impose liquidity fees. Although the bill prohibits a taxpayer bailout of any MMFs, it does not forbid the Federal Reserve to implement, under certain circumstances, a program of facilities that could benefit MMFs.

The bill was ordered reported on January 2018 by the House Financial Service Committee with strong bipartisan support (Stephen et al. 2018).

As we have seen, shadow banking can also be regulated through the regulation of its instruments as, for example, securitisation, repos, and derivatives. To promote an alignment of interests between sponsors and investors, the Dodd-Frank Act requires issuers of asset-backed securities (ABS) and any other entities who organise the sales of such securities to retain at least 5% of the credit risk of the securitised assets. To address the problem related to off-balance sheet vehicles, in June 2009 the Financial Accounting Standard Board issued two new accounting standards SFAS (Statement of Financial Accounting Standard) 166 and SFAS 167 resulting in firms consolidating some of their off-balance sheet securitised assets.

In particular, SFAS 166 eliminates the concept of “Qualified Special Purpose Entity” that allowed firms to transfer some financial assets off the balance sheet despite the fact that they retained effective control over those assets. As for derivatives, the Dodd-Frank Act contains significant changes in the regulation of OTC derivatives⁵⁴ whereas the Act did not specifically target repos, which are affected indirectly by capital requirements set by the Act and Basel III.

To reform some aspect of the tri-party repo market⁵⁵ which accounts for two-thirds of the US repo market, in February 2012 the Federal

⁵⁴In particular, the Act requires that derivatives be cleared and traded on exchanges (see Appendix 1 in Vercelli 2017).

⁵⁵A tri-party repo is a repo transaction executed through a third-party agent, a custodian, who acts as an intermediary between the two parties engaged in a repo. The participants that act as sellers of securities (and borrowers of cash) are banks or securities broker-dealers that hold securities for sale to customers while the buyers of securities (lenders of cash) are institutions such as money market funds, insurance companies, and pension funds who seek a short-

Reserve Bank of New York (FRBNY) issued a “Tri-party Repo Infrastructure Reform Task Force’s Final Report”. The Report laid out a road map to promote and recommend changes to the operational model of the then two clearing banks (custodian).⁵⁶

A custodian plays a number of important roles as intermediary: when the two parties agree to enter into a tri-party repo transaction, they both independently instruct the custodian to execute the transaction. All the transfers⁵⁷ are made through accounts held by the custodian who also takes custody of the securities involved in a repo and offers services to help sellers manage the best use of their collateral. Typically, in an overnight repo, before the reforms the previous day contracts ended early in the morning but the next day contracts began only late in the afternoon; therefore, because of this delay in settlement, the custodian banks used to extend intraday credit to the dealers (sellers of securities) until a new overnight repo was settled. Consequently, the custodian banks were exposed to dealer default and the repo parties were exposed to custodian bank default.

The reforms aimed, among other things, at reducing the market’s reliance on discretionary extension of intraday credit by the custodian banks,⁵⁸ which contributed to the market’s fragility during the crisis (FRBNY 2012). The reforms have succeeded in reducing the share of tri-party repo volume that is financed with intraday credit from a clearing bank below the Task Force’s original target of 10%. However, there are still concerns and issues to be solved, in particular regarding the risk of fire sales of collateral by creditors of a dealer that has defaulted. According to the FRBNY, “no mechanism exists to address the challenge of coordinating sales of collateral of a defaulted dealer in an orderly manner” (FRBNY 2015).

term investment for their available cash. For more details on repos, see Appendix 2 in Vercelli 2017.

⁵⁶The FRBNY had the direct supervisory responsibilities of the then two custodian banks operating in the tri-party repo market: J.P. Morgan Chase (JPMC) and Bank of New York Mellon (BNYM). In 2018, JPMC closed its tri-party business leaving BNYM the only firm to act as a tri-party agent in the US tri-party repo market.

⁵⁷The transfer of the purchase price from the buyer’s deposit account to the seller deposit account and the transfer of securities from the seller’s securities account to the buyer’s securities account. These flows are reversed to settle the return leg of a repo.

⁵⁸Because of the reforms, the custodian banks moved the start of tri-party settlement (the unwind) from 8:30 am to 3:30 pm to reduce intraday credit and credit exposure.

The Post-crisis Regulation of Shadow Banking in the European Union

In 2013, the EU, following consultation on the Green paper on shadow banking issued in 2012, set out a road map to implement measures aimed at tackling financial risks emerged from the unregulated sector. In particular, the Commission intended to “take initiative such as transparency of the shadow banking sector, establishment of a framework for money market funds, reform of rules for undertakings for collective investment in transferable securities (UCITS), securities law and risks associated with securities financing transactions (principally securities lending and repurchase transactions) and establishment of a framework for interactions with banks” (Communication from the Commission to the Council and the European Parliament 2013). As a consequence, a series of regulations and directives were issued and/or updated in the following years. In particular, regarding the interconnectedness between the shadow banking sector and the regulated banking sector (indirect regulation), CRD IV (Capital Requirement Directive, 2013/36/EU) and CRR (Capital Requirement Regulation, n.575/2013) introduced in the EU law the bulk of the international standards agreed by the Basel Committee on Banking Supervision in 2010, known as Basel III. They reinforced, among other things, the capital requirements imposed on banks in their transactions with the shadow banking system enhancing, for example, the existing capital requirements for banks derivative transactions and counterparty credit risk that stems from them.⁵⁹ While higher capital requirements and the recovery and resolution framework may contribute to improve the resilience of an individual bank,⁶⁰ the proposal of a regulation by the European Council (June 2015) “Regulation on structural measures improving the resilience

⁵⁹ On July 7, 2019, there were published in the Official Journal of the EU (OJ) the CRR II (EU Regulation 2019/876 of the European Parliament and of the Council of 20 May 2019) and CRD V (EU Directive 2019/878 of the European Parliament and of the Council of 20 May 2019). The revised directive and regulation, among other things, complete the transposition of the remaining Basel III agenda into the EU law. In particular, they implement the net stable funding ratio (NSFR) and leverage ratio as well as introduce the total loss absorbing capacity standard (TLAC) that is a key element of the FSB’s policy measures to address “too big to fail”.

⁶⁰ The Directive on Bank Recovery and Resolution (BRRD II, Directive EU 2019/879/) and the Single Resolution Mechanism Regulation (SRMR II, Regulation EU 2019/877) amended, respectively, Directive 2014/59/EU and Regulation EU 2014/806. They updated the rules on recovery and resolution of failing institutions.

of credit institutions” was meant to address the risk posed by large, complex, and interconnected credit institutions.⁶¹ After years of negotiations without reaching an agreement, the European Commission withdrew the proposal in the 2018 working program (EU Commission 24/10/2017—Com (2017), 650 final, Annex 4). The reasons given for withdrawal were the lack of progress in the negotiations since 2015 and the alleged recognition that the objectives of the proposal had already been achieved by other regulations. As for the regulation of entities, on June 30 2017, the new European Regulation for Money Market Funds was published on the Official Journal of the EU.⁶² The Regulation applies to all MMFs established, managed, or marketed in the EU. The EU reforms, as the ones in the United States, aimed to make MMFs more resilient to market shocks and to protect investors in the event of large cash withdrawal during periods of high volatility. Under the regulation, there are three different kinds of MMFs: (1) public debt CNAV MMFs: a funds that can operate at CNAV if invest at least 99.5% of its portfolio in public debt securities, reverse repo secured with government securities, and cash; (2) variable net asset value (VNAV) MMFs: these funds can be classified as short-term funds or standard VNAV funds. The standard funds typically aim at higher returns and invest in assets with longer maturities; (3) low volatility net asset value (LVNAV) MMFs: a new category of funds which is a hybrid between the existing CNAV and the VNAV MMFs. One characteristic of LVNAV is that shares can be issued or redeemed at a CNAV per share as long as such price does not deviate by more than 0.20% from the NAV calculated in accordance with market prices. Both CNAV and LVNAV funds are permitted to use amortised cost accounting for the valuation of assets, but LVNAV funds may only use it for securities with a maturity of 75 days or less. The regulation introduces, among other things, new liquidity requirements in order for MMFs to be able to satisfy investor redemptions and portfolio diversification requirements to avoid undue exposure to a single issuer. In addition, the regulation details the circumstances under which the board of public-debt CNAV and LVNAV funds may decide to impose redemption gates and/or liquidity fees and when such action is mandatory. To avoid that an underperforming fund affects the rest of the financial sector, the regulation prohibits for all MMFs financial assistance

⁶¹ For details, see Appendix 1 in Vercelli 2017.

⁶² Regulation (EU) 2017/1131 of the European Parliament and of the Council of June 14, 2017 on Money Market Funds, 2017 OJ (L.169), Euro-Lex website.

(sponsor support) from a third party. Finally, MMF managers are required to operate a rigorous credit assessment process that is to invest in high-quality and well-diversified assets without over-reliance on credit rating provided by third parties and to provide greater transparency of information to investors and regulators.

Other forms of shadow banking entities are regulated through the Alternative Investment Fund Managers Directive (AIFMD), 2011/61/EU. The AIFMD applied to managers of funds that are not UCITS,⁶³ including hedge funds, private equity funds, and retail estate funds. The Directive aims to create a single harmonised regulatory framework for EU established managers of Alternative Investment Funds (AIFs) as well as to set out a regime for the marketing in the EU of both EU and non-EU AIFs by non-EU managers. Under the Directive, authorised managers can sell shares of AIFs through Europe to professional investors on the basis of a passport regime. Authorised managers are subject to a number of obligations relating, for example, to governance, capital requirements, and remuneration policies. In particular, managers are required to provide national authorities with a set of information on aspects such as their investment portfolio, leverage, and collateral. To reduce systemic risk, authorised managers are also subject to limitations on leverage. As for the instruments of shadow banking, the Securitisation Regulation (Regulation EU 2017/2042) came into force on January 2018 and became applicable across the EU on January 1, 2019. The Regulation provides a general framework for securitisation combining and reforming existing sectoral legislation in one single regulation and as such it applies to institutional investors, to sponsors, original lenders, and securitisation special purpose entities. The Regulation establishes requirements for, among other things, due diligence, risk retention,⁶⁴ and transparency for all parts involved in the securitisation process. In addition, the Regulation aims to create a more risk sensitive and prudential framework for “simple, transparent and standardised” (STS) long-term securitisation and asset-backed commercial paper program. The label STS is meant to help investors in their own

⁶³UCITS V (Undertaking for collective investment in transferable securities, Directive 2014/91/EU) is a framework for investment funds that can be sold to retail investors. Together with AIFMD, they provide for a collective set of rules for fund management activities in EU. For details on UCITS, see Appendix 2, in Vercelli 2017.

⁶⁴According to the regulation, the material net economic interest of the originator, sponsor, or original lender shall not be less than 5% based on notional value at origination and not subject to any credit risk mitigation or hedging.

due diligence process. The Regulation sets out a series of criteria for a securitisation to comply with in order to be considered a “STS” and regarding, for example, portfolio and cash flow, investor data availability, and structural elements. In addition, the Regulation sets out the conditions under which certain institutional investors (banks and investment firms) can benefit from more profitable regulatory capital treatment for STS securities exposures. The Regulation, given the complex structure of the re-securitisation process that makes difficult to assess the risk involved, introduces a ban on re-securitisation subject to derogation for some asset-backed commercial paper programs.

The Regulation (EU) 2015/2365 (SFTR) which entered into force on January 2016 aims to enhance transparency on the market of securities financing transactions (SFTs) (mainly securities lending and borrowing and repurchase agreement) and of the reuse of financial instruments provided as collateral by counterparties. The SFTR introduces three requirements: transaction reporting, disclosure, and collateral reuse obligation. In fact, SFTR requires financial and non-financial counterparties to report their SFTs to approved registered EU trade repository. SFTR also requires information on the use of SFTs by investment funds to be disclosed to investors in the regular report and pre-investment documents issued by the funds. SFTR also sets out minimum transparency conditions to be fulfilled by the receiving counterparty before re-using the collateral such as disclosure of the risks to the providing counterparty and the obligation to acquire prior express consent.

The derivatives contracts which are another important component of shadow banking are covered by the Regulation 648/12 known as EMIR (European Market Infrastructure Regulation) which set out requirements for the clearing of OTC derivatives through authorised counterparties (CCPs), and risk mitigation requirements for non-cleared derivatives, as well as post-trade reporting requirements for all OTC derivatives.⁶⁵

Notwithstanding these reforms, shadow banking has continued to be a source of systemic risk because of emerging new risks and vulnerabilities. For example, following the reforms of the OTC derivatives markets (which include mandatory central clearing of standardised OTC derivatives),

⁶⁵ For details of EMIR, see Appendix 1 “The evolution of financial legislation” in Vercelli (2017). On June 17, 2019 an updated version EMIR 2.1 came into force. The new regulation, among other things, introduced a new category of “small financial counterparties” which will be exempted from the obligation to clear their transactions through a central counterparty (CCP) while remaining subject to risk mitigating obligations. Smaller financial counterparties will also have reduced clearing and reporting obligations.

inevitably the increased share of central clearing has been associated with further risk concentration in CCPs. Thus in the 2015 G20 Summit, the G20 Leaders affirmed that “Critical work remains to build a stronger and more resilient financial system. In particular, we look forward to further work on central counterparty resilience, recovery planning and resolvability.... We will continue to monitor and, if necessary, address emerging risks and vulnerabilities in the financial system, many of which may arise outside the banking sector. In this regard, we will further strengthen oversight and regulation of shadow banking to ensure resilience of market-based finance, in a manner appropriate to the systemic risk posed” (G20 Leaders’ Communique’ 2015). Mark Carney (governor of the Bank of England and former chair of the FSB), in his speech at the Institute of International Finance’s Washington Policy Summit (April 2017), asserted that, due to the reforms implemented, “the financial system is safer, simpler and fairer”. In particular he underlined that “The system is simpler because a series of measures are eliminating the fragile forms of shadow banking while reinforcing the best of resilient market based finance”. Therefore, he welcomed the growth of global asset under management which have grown from around \$50 trillion a decade ago to \$77 trillion in 2015: “This growth creates new sources of funding and investment, promotes international capital flows, reduces reliance on bank funding, and brings welcome diversity to the financial system.” On the other hand, he admits that “asset management’s importance reinforces the need to minimise the risk of sudden stops in times of stress. The FSB estimates that in 2015 more than \$20 trillion of assets were held in funds susceptible to such risk” (Mark Carney 2017, *ibidem*) As for the CCPs, “CCPs reduce contagion risks in banking, and they make the massive derivatives market more robust. The extent to which they reduce overall systemic risks, however, depends on their resilience and resolvability” (Mark Carney, *ibidem*). The sector is continuing to grow. According to the newly appointed FSB director, Randal K Quarles, “Since the global financial crisis, non-bank financing has grown relatively rapidly, in both its absolute size and its relative importance in intermediating credit. In the jurisdictions that the FSB closely monitors, non-bank financial assets are just under 50 percent of total global financial assets, a share that has grown by close 5 percentage point since 2009” (Quarles 2019). He asserted that “...the shift within the financial system toward non bank financing represents a welcome increase in the diversity of the source of lending to both firms and households” but he also acknowledges that “...Non bank financing can also lead

to lower lending standards, bidding up the price of risky assets and sending an encouraging signal to credit underwriters. More recently, new forms of interconnectedness between non bank financial firms and the banking system have emerged that could, in some scenarios, act as channels for domestic and cross-border amplification of risks” (ibidem). The assets of other financial intermediaries (OFIs) grew by 7.6% to \$116.6, 6 trillion globally in 2017. OFIs assets represent 30.5% of total global assets, the largest share OFIs have had on record. Investment funds constitute the largest OFI subsector (FSB 2019).

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PART III

Towards a Democratic and Sustainable
Regulation



Proposals for a Radical Reform of the Financial System

7.1 INTRODUCTION

The project of a new regulatory building requires an accurate choice of construction materials and a clear design of how to assemble them. In this chapter, I intend to choose robust cornerstones to be used in such a construction by selecting and discussing a few radical reform proposals that may contribute to a different, more robust, building. I will discuss weak and strong points of each of these proposals modifying them to improve their effectiveness and mutual compatibility. In the next chapter, I will suggest an architectural design that aims to assemble the selected building blocks into a coherent and sustainable building.

A careful examination of these proposals shows that none of the reforms considered here is sufficient by itself to mend the system. This suggests that we cannot hope to find a single “silver bullet” to fix the financial system. However, in this and the following chapter, I want to show that the proposals here selected and discussed do not necessarily exclude each other and may thus be included in a package of measures to reform the financial system and its regulation according to a design capable to change the direction of its structural change towards a sustainable direction. I emphasise that my argument does not aim to define neither a utopic optimal structure of the financial system nor an ideal regulation able to reach and maintain it. I focus instead on the financial system’s direction of structural change in the conviction that the most comprehensive and effective reform will not stop its evolution that will remain in part unpredictable.

The evolution of the financial system, as well as its regulation and supervision, are the result of the dialectical interaction between financial institutions on one side and democratic institutions on the other side. As we have seen in the preceding chapters, in the last decades, the participants in this evolutionary game have confronted each other on a growingly uneven playing field that slopes steeply in favour of increasingly powerful financial institutions. We have to change the rules of the game to empower the democratic institutions of the necessary authority to orientate the financial system towards the public interest and maintain its evolution in a direction consistent with the needs of all citizens according to normative principles of comprehensive sustainability.

I start the analysis from one of the most radical proposals of structural stabilisation: the Chicago Plan first proposed almost one century ago (Sect. 7.2). The basic idea is the transformation of banks in “narrow banks” (or 100% reserve banks) whose deposits are fully covered by safe assets. Taking into account the shortcomings of different variants of narrow banks, I maintain that their establishment would not be the silver bullet to fix the system. On the other hand, I argue that narrow banks could coexist with “broad banks” not subjected to the same limitations. In Sect. 7.3, I discuss a proposal of stabilisation of broad banks that is particularly promising: the adoption of a sort of mandatory “health insurance” for broad banks, as suggested by King (2017). However, the stabilisation of the banking sector is insufficient to fix the whole financial system, unless we also succeed to tame the shadow financial system (Sect. 7.4). In addition, financial instability is not the only negative externality produced by the financial system. We have thus to address them all trying to internalise the externalities by introducing a “financial pollution” tax (Sect. 7.5). Of course, financial taxation is not the only contribution the state should provide to improve the financial system. In Sect. 7.6, I discuss the main contributions that public banks could provide to the well-being of citizens. Finally, in Sect. 7.7, I examine a few proposals that advocate the establishment of a new guardian or sentinel institution with the crucial role of guaranteeing that the financial system and its regulatory institutions act consistently in the interest of all citizens. In the final section, I will express a few preliminary thoughts on how to combine the constructive blocks reviewed in this chapter in a new, more robust, regulatory building. These insights will be further developed and articulated in the next chapter.

7.2 NARROW BANKING

A particularly radical reform proposal of the financial system points to the separation of the money and credit functions of banks. This would have the great advantage that policymakers could control these two aggregates independently and thus more effectively. In addition, “banks would become what many erroneously believe them to be today, pure intermediaries that depend on obtaining outside funding before being able to lend” (Benes and Kumhof 2012, 5). The Chicago Plan promoted this reform as a reaction to the Great Depression with the aim of stabilising the financial system.¹ This Plan was first drafted and privately circulated in 1933 by a group of prestigious American economists including Henry Simons, Irving Fisher, and Frank Knight. The advocated reform was based on the prohibition of “fractional reserve banking”, mandating banks to keep 100% safe assets such as government securities and reserves with the central bank.² The first drafts of the Chicago Plan were memorandums to the US President.³ The Roosevelt administration considered the Plan with interest but opted for a different course of action that led to the approval of the Glass-Steagall Act (1933) without excluding the subsequent adoption of a more radical reform inspired by the Chicago Plan. The advocates of the Plan continued to elaborate it and to lobby for its adoption during the crisis. It is interesting to observe that the proponents of the Chicago Plan were committed supporters of *laissez-faire* in the real economy and as such played the role of direct ancestors of the influential post-war Chicago School led by Milton Friedman. They believed, however, that the special nature of money justified the attribution to the State of an exclusive monopoly on money creation. In their opinion, this was a necessary prerequisite for a workable *laissez-faire* in the allocation of credit, capital, and productive resources. The advocacy of variants of the Plan continued after WWII involving future Nobel laureates belonging to different schools of

¹ Frederick Soddy (1926), winner of the Nobel Prize in chemistry, was the first to propose a plan of this kind. The distinguished professor of economics at the University of Chicago Frank Knight almost immediately picked up and developed Soddy’s idea involving many colleagues in its development and propagation (Knight 1927). Not surprisingly, the idea acquired much greater influence after the collapse of Wall Street in 1929.

²The second condition prescribes that “the financing of new bank credit can only take place through earnings that have been retained in the form of government-issued money, or through the borrowing of existing government-issued money from non-banks, but not through the creation of new deposits, *ex nihilo*, by banks” (Benes and Kumhof 2012, 4).

³See in particular Simons et al. (1933).

thought such as Allais (1947), Friedman (1960), and Tobin (1984).⁴ Not surprisingly, a lively and influential revival of the ideas underlying the Chicago Plan emerged and gathered momentum only after the Great Recession.

I, now, turn the attention to the contents of a few significant variants of this radical reform project of the financial system. According to Irving Fisher (1936), the most illustrious early advocate of the Chicago Plan, its adoption would bring four main advantages, namely:

1. better control of bank-created credit money whose fluctuations are a major determinant of business cycles;
2. complete elimination of bank runs;
3. faculty of the government to issue money directly at zero interest, rather than to borrow it from banks at interest⁵; and
4. significant reduction of private debt as money creation no longer requires private debt creation. Let us consider the soundness of these claims.

The first claim that asserts a better control of credit money is true under a series of conditions rarely made explicit. In particular, a wise reformer should not forget that also the creation of fiat money by the government has been subject to abuses on behalf of specific interests leading to disruptive fluctuations.⁶ The advocates of private money creation have perhaps overemphasised the shortcomings of fiat money creation by the state, a problem that—however—cannot be ignored (on this point, see the excellent historical excursus in Benes and Kumhof 2012, 12–17).⁷ The second claim, asserting the complete elimination of bank runs, may seem correct as a matter of course. However, a deeper inspection leads one to recognise

⁴The late Minsky discussed the viability of a revival of the Chicago Plan in the mid-1990s. See the unpublished paper 73 by Minsky (1994), and the following unpublished papers 51, 59, 60 drafted in 1995, all available in the Minsky Archives at the Levy Economics Institute of Bard College. His initial critical support to an updated version of the Chicago Plan became eventually more cautious if not sceptical (see on this issue Kregel 2012).

⁵The monopoly of money creation attributed to the government would lead to a significant reduction in the interest burden of government finances and to a dramatic reduction of (net) government debt.

⁶A case in point is that of the so-called political cycles (see e.g. King 2017, 262).

⁷As Benes and Kumhof (2012, 17) assert, “To summarize, the Great Depression was just the latest historical episode to suggest that privately controlled money creation has much more problematic consequences than government money creation.” The Great Recession has recently confirmed this assertion.

that this claim is not literally true. The basic idea is that, by backing each loan with a corresponding value of safe assets, a bank guarantees the immunity towards any sort of possible shock affecting the value of its liabilities. The trouble is that there is not such a thing as an unconditionally safe asset. Even government securities, treated by Fisher as completely safe, are not always fully reliable. It is true that, under usual circumstances, treasuries are safer than any other asset, but this does not imply that government securities are always fully safe in a period of generalised financial distress. Moreover, even an alleged complete elimination of bank runs within private banking does not imply the elimination of similar runs in other articulations of the financial system, in particular in the shadow banking sector (see Sect. 7.5).⁸ As for the faculty of the government to issue money directly at zero interest and its favourable consequences on the public budget (third claim), Fisher is altogether right and the importance of his remark cannot be overstated. Consistently with the Fisher's insight, we may argue that the privatisation of money creation systematically pursued since the early 1980s has been the main factor explaining the progressive increase of public debt in the following period. The inversion of the debt/GDP trend occurred in the late 1970s corroborates this assertion.⁹ Finally, as for the expected significant reduction of private debt (forth claim), it is not necessarily correct because private debt could find alternative forms and sources, for example, within the rapidly evolving shadow banking system. Summing up, the Chicago Plan in its early versions does not seem to be able to maintain all its promises. Even if we ignore the likely troubles of the transition period, the ultimate consequences of the new regime are not so clear and depend on the ever-changing conditions of the financial system and its regulation. We should always keep in mind the evolutionary nature of the financial system and its amazing capability of adapting to unpredictably changing environments taking into full account its complexity, flexibility, and plasticity. In particular, in the new context, the business model of banking activity would have to undergo a radical recalibration. For example, one could speculate that commercial banks would feel encouraged to charge higher costs and/or

⁸ Many commentators agree today that the financial crisis of 2007–2009 was triggered by a run in the repo market (see e.g. Gorton 2010, and Gorton and Metrick 2010). I come back on this crucial issue at the end of this section in my comments to the Cochrane contribution.

⁹ See Vercelli (2017).

negative interest rates on deposits to recover the profits lost. This could accelerate the ongoing shift of savers away from banks towards different forms of shadow banking. The net effect upon financial stability of this new stage of disintermediation would be highly uncertain and not necessarily beneficial unless far-sighted regulators will prove to be able to keep this complex process under control.

If these criticisms are correct, how can we explain that so many distinguished economists and high-level experts could believe in the quasi-thaumaturgic effects of such a radical reform? We may find the answer in the shortcomings of the simplistic models of money and finance adopted by them. A case in point is Fisher who published an extremely influential modern version of the Quantity Theory of Money that was a standard reference for the co-authors and early followers of the Chicago Plan (Fisher 1922 [1911]).¹⁰ In such a theory, the endogenous creation of credit money affects its velocity of circulation that, according to its proponents, would be altogether stabilised by a fully implemented Chicago Plan. However, as also recent supporters of an updated version of the Chicago Plan maintain, “The main reason why monetarism had to be abandoned in the 1980s is the fact that [it] is only effective if there is a stable deposit multiplier” (Benes and Kumhof 2012, 38). However, as Benes and Kumhof (*ibidem*, 11) rightly point out citing Kydland and Prescott (1990), a stable deposit multiplier is just a myth.¹¹ These criticisms do not imply that a serious reform of the financial system should ignore the rich and inspiring literature on the Chicago Plan and Narrow Banking. Since its inception, the debate on this Plan and its many variants has never been interrupted and has been revived after the recent crisis with the support of up-to-date models that are much less simplistic than those based on the traditional Quantitative Theory of Money. We can draw

¹⁰ After the Wall Street panic of 1929, Fisher was compelled to recognise that the velocity of circulation of money is much more volatile than he believed in the past. In particular, he understood that in the trough of a serious crisis the velocity of circulation of money undergoes a breakdown due to the process of debt-deflation (Fisher 1933). This prompted Fisher to embrace, develop and promote the Chicago Plan. Recent compelling evidence about this point has been produced by Koo (2011).

¹¹ In their influential contribution to banking theory Diamond and Dybvig are more drastic: “100% reserve banking is a dangerous proposal that would do substantial damage to the economy by reducing the overall amount of liquidity. Furthermore, the proposal is likely to be ineffective in increasing stability since it will be impossible to control the institutions that will enter in the vacuum left when banks can no longer create liquidity” (Diamond and Dybvig 1986, 55–68).

important suggestions from the recent contributions for a beneficial reform of the financial system along lines reminiscent of the Chicago Plan. I pick up two of them that are particularly interesting and suggestive for the purposes of this book.¹²

First, I focus on the influential contribution by Jaromir Benes and Michael Kumhof, distinguished researchers of IMF (Benes and Kumhof 2012). To test the empirical validity of the Chicago Plan, they use a state-of-the-art, carefully calibrated, monetary dynamic stochastic general equilibrium (DSGE) model of the US financial system. In their opinion, the results obtained fully validate the four claims of Fisher discussed above.¹³ In addition, the same authors argue that the adoption of an updated version of the Chicago Plan exhibits further advantages:

First, output gains are very large, approaching ten percent, due to a combination of lower real interest rates, lower distortionary tax rates, and lower monitoring costs in the banking system. Second ... it allows the government to achieve much lower steady state inflation without any risk of falling into a liquidity trap. (Benes and Kumhof 2012, 8)

Of course, all these results so favourable to the Chicago Plan are conditional to the adoption of their model and its particular calibration. The DSGE model used is certainly much more adequate for its goal than the models used by the early contributions based on the Quantitative Theory of Money, even in the updated version of Fisher (1922 [1911]). However, as is well known, also the most sophisticated DSGE models are often criticised for their inability to take adequate account of the complexity of the monetary and financial system. For example, Joseph Stiglitz has recently reasserted that DSGE models provide “inadequate modelling of the

¹²Among the other most influential recent versions of the Chicago Plan, I signal the Narrow Banking plan (Kay 2009), Kotlikoff’s (2010) Limited Purpose Banking, the Positive Money and NEF plan (Jackson and Dyson 2012). See also the supportive arguments by Wolf (2014), and the criticisms by Dow et al. (2015).

¹³Benes and Kumhof (2012, 55) assert: “Our analytical and simulation results fully validate Fisher’s (1936) claims. The Chicago Plan could significantly reduce business cycle volatility caused by rapid changes in banks’ attitudes towards credit risk, it would eliminate bank runs, and it would lead to an instantaneous and large reduction in the levels of both government and private debt. It would accomplish the latter by making government-issued money, which represents equity in the commonwealth rather than debt, the central liquid asset of the economy, while banks concentrate on their strength, the extension of credit to investment projects that require monitoring and risk management expertise.”

financial sector” and that this explains why “they were ill-suited for predicting or responding to a financial crisis” (Stiglitz 2018, 70). A critical assessment of this sort of models has been voiced also by high-level practitioners. For example, researchers of the Bank of England found that the DSGE model COMPASS specified and calibrated by the Bank of England produced in the shorter period forecasts less accurate than simple judgemental forecasts of the Monetary Policy Committee, even before the crisis. The accuracy of all forecasts broke down during the financial crisis:

Performance at the peak of the crisis was poor, and even in the years that followed, the Inflation Report and several model-based methods tended to over-predict GDP growth and under-predict inflation. (Fawcett et al. 2015, 23)

This paper concludes:

More generally, the recent financial crisis has posed new challenges for DSGE modelling and forecasting. From a modelling perspective, the current generation of DSGE models is not well suited to capturing the implications of large financial shocks that may have non-linear effects, particularly when policy rates become constrained by the zero lower bound. (Ibidem, 24)

These shortcomings are also in part true of the model by Benes and Kumhof, notwithstanding their extensive and painstaking effort of injecting monetary and financial realism in the standard DSGE model. The basic approach adopted by Benes and Kumhof is that of comparing two steady states, referring respectively to the pre-transition economy and post-transition economy as well as to the traverse from one steady state to the other. The calibrated model aims to take into account the available evidence but seems to ignore the rapid evolution of the financial system during and after such a radical structural change.

More recently, John Cochrane, a leading exponent of the Chicago School, has proposed a new version of the plan focused on liabilities rather than on assets, and on run-prone contracts rather than on systemically dangerous institutions:

Dodd-Frank focuses on systemically dangerous institutions. I focus on systemically dangerous contracts, and an institution is only dangerous if it issues such contracts. Regulation should be based on behavior, not identity. (Cochrane 2014, 43)

Cochrane's plan priority is the elimination of run-prone securities from the financial system by narrowing the scope of banks activity. According to his suggested definition, a narrow bank is a bank that takes deposits, and invests 100% of the money in interest-paying reserves at the central bank. According to Cochrane, a narrow bank is completely safe because its liabilities are fully covered by safe assets. Therefore, having this concrete alternative, the investors would not need to invest in repurchase agreements, short-term commercial paper, and other forms of run-prone short-term debt. This would make this sort of financial instruments more controllable. Cochrane rightly maintains that runs are a negative externality of specific contracts, such as deposits and overnight debt. Among other characteristic features, run-prone contracts promise fixed values and first-come first-served payment. Because of these specific features, their use must be limited by imposing a sort of Pigouvian taxation on their negative externalities. In this vision, not only demand deposits, but also fixed-value money-market funds, or overnight debt must be backed entirely by short-term Treasuries. Cochrane points out that the ongoing evolution of financial, computational, information and communication technology promise to overcome long-standing objections to narrow banking. A further objection is that there is a sustained demand of liquidity that can only be satisfied by an adequate supply of safe liquid assets provided by traditional commercial banks transforming maturity and risk of assets. Cochrane argues that public debt is largely sufficient to cover the potential demand of liquidity. In the case of the United States, for example, "\$18 trillion of federal government debt is enough to 100 percent back any imaginable fundamental economic need for run-prone assets" (ibidem, 25). He maintains that public debt is the most reliable default-free and run-proof security because:

The government can always print dollars to pay off debts. It might inflate, but it need not default. The underlying claim to future taxation is a safer backing for short-term debt than any claim the private sector can securitize. These features give the government a natural monopoly in producing run-proof interest-paying money. (Ibidem, 26)

Cochrane's vision is a suggestive alternative to the prevailing philosophy of regulation as exemplified by the Dodd-Frank Act and contributes to clarify its shortcomings. It also contains valuable insights for a radical reform of financial regulation. In particular, one significant advantage of

this plan could be the potential simplification of regulation: “Detecting hidden run-prone financing will require a few regulators, but the project is an order of magnitude easier than current asset regulation, capital regulation, and stress testing” (ibidem, 18). In addition, if the deposits are substantially safe because they are backed by 100% safe reserves, the attention of regulators may shift unencumbered towards all the other most dangerous areas of the financial system, including shadow banking.¹⁴ In particular, if narrow banks are available, regulators can repress run-prone alternatives more easily without fearing too much the occurrence of unintended negative consequences. Notwithstanding its interesting insights, also this version of the Chicago Plan has serious limitations. First, narrow banking backed by treasuries is only perfectly safe so long as treasuries themselves are perfectly safe. We may certainly agree that a particular focus on these securities is fully justified. However, we should not worry only of potential financial runs. Financial instability becomes difficult to control whenever a negative feedback materialises, such as the endogenous feedback between debt and deflation (Fisher 1933). This may bring about a serious financial crisis also in the absence of a traditional run, as argued among others by Fisher (ibidem), and Minsky (2008 [1986]). The crisis would be systemic to the extent that there are contagion mechanisms that extend financial distress to the system. This is typical of negative financial feedbacks. For example, the fire sale of assets by an economic unit to counteract excessive debt reduces the net worth of other units having these assets in their portfolio; this triggers the fire sale by other units and so on. Negative financial externalities are significant whenever this sort of contagion affects the balance sheets and expectations of many—often most—economic units in a certain financial system. The use of Pigouvian taxation to curb “financial pollution” cannot thus be limited to run-prone securities.

Finally, at a higher level of abstraction, I have to emphasise that any debt of any subject that other people sufficiently trust may play the role of money (or at least one or more of its roles according to the specific circumstances). This implies that it may turn out to be extremely difficult to prevent the private creation of money; however it is possible, indeed necessary, to regulate it. Even if, by adopting an improved variant of the Chicago Plan, we should succeed to prevent the direct manufacturing of credit

¹⁴As Cochrane rightly emphasises, commercial banks are only a small part of the financial system (Cochrane 2014, 21).

money by private banks, it is likely that market-based finance would find alternative ways to create endogenous money. As we know all too well, this has already massively happened in the recent past, determining the boom of shadow banking while paving the way to the Great Recession.¹⁵ The new electronic technologies, such as those based on the blockchain approach, are likely to contribute to the growing diffusion of new forms of private money. This evolutionary process will not necessarily oust private banks from the process of creation of private money, as they may participate in it, for example, by contributing to manufacturing and/or managing electronic money.

Summing up, the mere introduction of narrow banking is unlikely to solve all the problems connected with financial instability and financial pollution. For the same reasons, the introduction of narrow banking is unlikely to succeed to separate completely endogenous money creation from credit provision. However, it may greatly improve the safety of deposits without resorting to public insurance limited by unavoidable strict caps that encouraged the development of shadow banking in the recent past. It is much better to keep private money creation out of the shadow to allow a more efficient control of its dynamics. In addition, an updated version of narrow banking may become a cornerstone for a different kind of financial compartmentation based upon a sharp regulatory distinction between different kinds of narrow banks and other categories of banks (see Sects. 8.2 and 8.3).

7.3 BROAD BANKING AND EMERGENCY LIQUIDITY

In the preceding section, I discussed only a particular type of narrow banking that I may call Depository Narrow Bank, as it focuses on the safety of deposits. In the next sections, I will introduce and discuss other kinds of narrow banks focusing on different objectives: in particular, the Narrow Saving Banks and Narrow Funding Banks suggested to reform shadow banking (Sect. 7.5), and Narrow Public Banks to meet exigencies that private banks are unable to satisfy (Sect. 7.8). We have seen in the former section that it would not be wise to impose a particular model of narrow banking as the only one admitted by law. This would certainly increase the number and variety of non-bank banks that would try to surrogate the repressed functions and services, making more difficult the

¹⁵ See Chap 5.

regulation of the financial system. It is preferable to allow also another category of banks, “broad banks”, characterised by different functions, services, legal constraints, and regulatory rules. In principle, the scope of their activity should be complementary to that of narrow banks making them similar to the investment banks of the Bretton Woods period but quite different from the universal banks of the period following the approval of the Gramm-Leach-Bliley Act (1999). The law should forbid broad banks to create deposits and interfere with the specific functions of all types of narrow banks but would allow them to provide a broad variety of additional financial services complying with a different regulatory framework. This model of compartmentation would be unable to separate completely lending and money creation because broad banks, by definition, would not need to cover completely their loans with safe assets. This would allow broad banks to create private credit money as investment and universal banks used to do, though in a reduced scale and in a more controllable way. Broad banks could be authorised to operate freely on financial markets, though only under the mandatory constraint of respecting a few strict financial regulations that I am going to discuss in this section.

The compartmentation of banking activity advocated in this section is reminiscent of that between commercial and investment banks introduced by the Glass-Steagall Act but takes into account the ongoing evolution of the financial system and its regulation. Legislators should update this simple compartmentation by imposing targeted regulations that should jointly address the two big problems made evident by the crisis: financial instability and the implicit subsidy to financial institutions too big and too interconnected to fail. I suggest the adoption of new regulatory measures that taken together promise to safeguard the stability of broad banks and that of the financial system. The first one is the imposition of a financial pollution tax aimed to internalise the negative externalities of investment banking (see Sect. 7.8). This tax aims to encourage the required financial support to the real investment, particularly long-term investment, reducing the relative weight of speculation, particularly that based on high-frequency trade. The rate of this tax should increase with the size of the financial institution to discourage a further concentration of banking activity. This measure does not seem to be sufficient to ensure the financial stability of broad banks that could remain too big and interrelated to fail. Therefore, I endorse the adoption of an additional measure first suggested by Mervyn King that aims to replace the traditional role of a central bank as “lender of last resort” with a new role that he dubbed “pawnbroker for

all seasons” (King 2017, 270–281).¹⁶ The King’s plan restricts the lender-of-last-resort role of central banks within limits established *ex ante* by each financial institution. These limits depend on the collaterals posted by each financial institution in the balance sheets of the central bank. Looking at this scheme from the point of view of liabilities, it amounts to a sort of mandatory “financial health insurance”, the cost of which is given by the haircuts imposed by the central bank on the collateral posted. This proposal builds on what King considers the most important development in central banking since the crisis, namely the expansion of lending against wider collateral implemented by increasingly unconventional measures of quantitative easing (*ibidem*, 270). We can define this sort of intervention carried on by the central banks as creation of emergency money against illiquid and risky assets. King justifies this measure as a coping strategy in the face of radical uncertainty having three aims:

First, to ensure that all deposits are backed by either actual cash or a guaranteed contingent claim on reserves at the central bank. Second, to ensure that the provision of liquidity insurance is mandatory and paid for upfront. Third, to design a system which in effect imposes a tax on the degree of alchemy ... (*Ibidem*, 271)¹⁷

According to the King’s Plan, each financial institution decides which assets, and how much of them, would position in advance at the central bank for subsequent use as collateral. In addition, “For each type of asset the central bank would calculate the haircut it would apply when deciding how much cash it would lend against the asset” (*ibidem*, 271). Adding up the value of all these assets and subtracting the haircut established by the central bank for each of them, each financial institution obtains the maximum value of an emergency loan that it is entitled to borrow from the central bank. From the point of view of liabilities, the financial institution should compare the effective liquid assets with the effective liquid liabilities, which could run at short notice. The regulatory requirement on banks and other financial intermediaries would be that “their effective liquid assets should exceed their effective liquid liabilities ... The penalty, or

¹⁶The name for this sort of insurance is technically correct because, differently from the usual commercial insurance, there is no redistribution between the insured subjects, eliminating this crucial source of moral hazard. The name “pawnbroker for all seasons”, however, is not a particularly attractive “logo” for this new role of the central bank since in common language the word “pawnbroker” may still have, as it had in the past, negative overtones.

¹⁷King means by alchemy “the belief that all paper money can be turned into an intrinsically valuable commodity” (*ibidem*, 8).

the price of insurance, would be encapsulated by the haircuts required by the central bank on different forms of collateral” (ibidem, 272). King maintains that the implementation of this proposal would eliminate the incentives not only for bank runs but also for financial runs more in general. In addition, its effects would be countercyclical, as the central bank would use the collateral funds in troubled times provided by financial institutions in tranquil times. For the same reason, in his opinion, in consequence of the adoption of this plan, neither taxpayers nor creditors should have to suffer from the consequences of financial distress. Finally, this proposal would have the great virtue of simplicity since, according to King, “Almost all existing prudential capital and liquidity regulations, other than a limit on leverage, could be replaced by this one simple rule” (ibidem). These claims look optimistic in the light of the growing complexity of the financial system (I will further discuss this point in the next chapter). However, the implementation of this proposal could contribute to stabilise the financial system in accordance with two crucial requisites of financial regulation that this book advocates and are too often neglected: the simplicity of regulation rules and the full assumption of responsibility by private decision-makers for the consequences of their actions. Because of this reform, financial institutions in distress would be rescued neither by innocent taxpayers (bailout) nor by helpless customers (bail in) but by the financial managers themselves in consequence of their mandated precautionary behaviour. Notwithstanding all these merits, we should be aware also of the limits to this proposal. First, completely safe assets do not exist and the actual safety degree of the posted collaterals is relative to the financial conditions prevailing in a certain moment. Therefore, in a period of crisis, the haircut calculated by the central bank when the collaterals were posted may prove to be insufficient *ex post*, even largely insufficient in specific circumstances of severe financial distress.¹⁸ The scheme is thus likely to stabilise the system mainly in not too troubled times, when only a limited number of financial institutions suffer from severe financial distress. In a period of generalised financial distress, its efficacy would be limited because the value of collaterals could be insufficient to cover all the required emergency lending. This could be the case in the event of a new great financial crisis. Therefore, this reform does not make altogether obsolete the traditional role of “lender of last resort” played by central

¹⁸This is what happened in the repo market at the beginning of the Great Recession (see, e.g., Gorton 2010).

banks. In addition, also this form of insurance is subject to moral hazard. The existence of these emergency funds kept by the central bank could encourage the banks to adopt more risky strategies. However, this obnoxious effect could be greatly reduced by the periodic compulsory disclosure of the consistency of these funds and their effective use. Summing up, the existence of a mandatory “financial health insurance” scheme would shift upwards the triggering point of a crisis (requiring a bigger initial shock or most robust contagion), and would significantly reduce the systemic risk for taxpayers and creditors of the financial institutions in distress. Though the adoption of a wise version of the King’s Plan cannot play the role of “silver bullet” capable to fix the financial system, its implementation within a more general and more articulated plan of directive regulation may contribute to stabilise the financial system in accordance with the normative precepts advocated in this book.

7.4 SHADOW BANKING AND MARKET-BASED FINANCE

The most controversial issue of post-crisis regulation is whether and how to regulate the so-called shadow banking. A key determinant of the crisis was one or more runs in shadow banking, as Gorton and his co-authors pointed out immediately after the peak of the crisis (see, e.g., Gorton 2010; Gorton and Metrick 2010). Most top regulators, including Bernanke himself, soon endorsed this thesis. However, the most qualified opinions diverged on which response the regulators had to adopt. The original text of the Dodd-Frank Act includes many provisions relevant to shadow banking; for example, hedge funds must now register with the SEC, much of the over-the-counter derivatives trading should move to exchanges and clearinghouses, and the Federal Reserve should regulate all systemically important institutions.¹⁹ Furthermore, retail finance lenders will now be subject to consistent federal-level regulation through the new Consumer Financial Protection Bureau housed within the Federal Reserve. Notwithstanding all these significant regulatory innovations, Dodd-Frank did not tackle some of the most important issues raised by shadow banking, including those concerning money-market mutual funds (MMMFs), securitisation, and repurchase transactions (“repo”). The recent re-regulation discussed in the Appendix does not seem to be able to solve the

¹⁹ See Appendix section “The Post-crisis Regulation of Shadow Banking in the United States”.

problems raised by shadow banking. The problems of shadow banking derive from the coupling of two fundamental features: the systematic production and use of run-prone financial instruments and the absence of sufficient information on their consistency and flows. I may clarify the consequences of this perverse interaction by using the analysis of Gorton and Metrick (2010), although—as we will see—in their policy suggestions they did not draw all the implications of their own analysis. The troubles with a run-prone contract start when the counterparts suddenly realise that its value is not information-insensitive, as they had believed until then, but is instead information sensitive. Beyond this threshold of awareness, the magnitude of the financial distress becomes a function of the perceived reliability of relevant information. In the case of commercial banks, notwithstanding the compulsory disclosure of balance sheets, when the financial distress started to spread, the depositors judged the available information insufficiently reliable and started a run. In the case of shadow banking, the relevant information is almost completely absent making a run much more probable and virulent. The historical experience confirmed that this mix of contractual features is particularly dangerous. The deposits of commercial banks are run-prone but decision-makers have a lot of information on their consistency, location and variations. This made possible, among other actions of supervision and control, the adoption of a government-guaranteed insurance up to a given threshold, a measure that proved to be adequate for retail banking. The absence of reliable information makes this remedy inapplicable in shadow banking. A partial exception is the case of MMMFs that could be reformed in such a way to justify the extension of insurance to them. The regulatory problem is that the MMMFs compete with commercial banks offering higher-return deposits pretending they are safe, although these funds do not pay for their insurance. According to the Group of Thirties (2009):

Money market mutual funds wishing to continue to offer bank-like services, such as transaction account services, withdrawals on demand at par, and assurances of maintaining a stable net asset value (NAV) at par should be required to reorganise as special purpose banks, with appropriate prudential regulation and supervision, government insurance, and access to central bank lender-of-last-resort facilities.

Gorton and Metrick (2010) endorse this proposal suggesting to call these special-purpose banks Narrow Saving Banks (NSBs). In the case of

securitisation and repurchase agreements (“repo”), we cannot apply government-backed insurance so that we have to resort to what Gorton and Metrick claim to be the only viable alternative: the provision of adequate collateral regulated by strict rules, as used, for example, to stabilise national bank notes in the twentieth century. In the case of securitisation, the solution suggested by Gorton and Metrick (2010, 22–24) relies on the creation of Narrow-Funding Banks (NFBs), which would mediate between securitisation and final investors: “Instead of buying asset-backed securities, final investors would buy the liabilities of NFBs. All securitised product must be sold to NFBs; no other entity is allowed to buy ABS”²⁰ (ibidem). This proposal is based on the recognition that securitisation provides financial services similar to those offered by traditional banks. It is thus equitable to regulate similar functions with similar institutions and rules. Therefore, we should conceive Narrow Funding Banks as genuine banks with charters, capital requirements, periodic examinations, and discount-window access. However, since their activities are narrowly circumscribed:

they will be rules-driven, transparent, stand-alone, newly capitalised, entities which can only buy ABS and issue liabilities. They cannot take deposits, make loans, engage in proprietary trading, or trade derivatives; they literally have no activities other than purchasing ABS. These limitations will result in a much lower risk profile than traditional banks, with lower earnings volatility and a much lower return on equity. (Gorton and Metrick 2010, 22)

In the case of repos, Gorton and Metrick propose a series of rules that would create two types of allowable repos:

The first type, done by commercial banks and NFBs (“banks”), captures the monetary function of repo and is regulated analogously to 19th century bank notes (with regards to collateral) and 21st century depository institutions (by using minimum haircuts as an analogue to capital requirements). The second type may be done by any institution with a license, and is regulated so as to be more expensive than the first type. (Ibidem)²¹

²⁰ Of course, NFBs could also buy other high-grade assets, for example, US treasuries.

²¹ Gorton and Metrick rightly advocate that lawmakers and judges “prevent a third type of totally unregulated repo, by making clear that the special bankruptcy protections offered to repo would simply not apply outside of the first two types” (ibidem).

The proposals of Gorton and Metrick indicate a fruitful direction for a sensible regulation of shadow banking. However, I have to point out two shortcomings in their argument that have to be mended. First, besides government-backed insurance and government-supervised collateralisation we have to take into account a third regulatory instrument, the Pigouvian taxation of financial pollution that I am going to discuss in the next section. The use of this policy instrument would be particularly appropriate in this specific case to discourage the use of run-prone financial instruments such as those created and traded by shadow banking. One can hope that the adoption of a wise version of this tax could downsize the most dangerous activities carried on by shadow banking. The objection that shadow banking is beneficial to society and should not be repressed does not take into account that its returns accrue to a minority of persons while its huge negative externalities are borne by most citizens. Although most commentators ignore or underplay it, the second problem is even bigger. The early literature emphasised a crucial feature of shadow banking that has also suggested its name: the absence of reliable and precise information on the dimensions of its consistencies and flows and the nature of its interrelations with other financial institutions. Today, the desire to protect shadow banking by any form of repression led financial lobbies, followed by most regulators, financial economists and commentators, to rechristen it as “market-based finance”. The new name aims to substitute the negative overtones of the word “shadow” with the positive overtones of the word “market”, but the substance does not change. Unregulated markets are highly shadowy because their transactions are in principle impersonal, indirect, and often off-record. If the implicit claim is efficiency, this is in principle denied by asymmetric information and fundamental uncertainty that haunt financial markets, in particular those where shadow institutions operate, and heavily distort their alleged allocative virtues.

7.5 TAXATION OF FINANCIAL “POLLUTION”

New taxes are always extremely unpopular and it is thus all too easy for the financial lobbies to prevent their approval, or at least to convince lawmakers to water down their contents. The issue of the optimal level of taxation is beyond the limits of this book. Therefore, the suggestions put forward in this section are not meant to alter the status quo of aggregate taxation. The financial taxes advocated in this book aim to substitute existing taxes

having distortive effects without altering the aggregate burden of taxation. Therefore what follows is not subject to the standard objection that we should focus instead on how to reduce taxes not on how to increase them. On the contrary, by broadening the tax base, an apt implementation of financial taxation could significantly favour a reduction of the burden of taxation for most taxpayers. Financial taxation could be based on the coordinated implementation of two simple schemes: the adoption of a financial transaction tax (FTT) and a financial pollution tax.

As for the FTT, in the *General Theory* (1936) Keynes foreshadowed it as an instrument to curb financial speculation and instability, while the Nobel laureate Tobin (1978) resumed this idea for the narrower goal of stabilising currency exchanges after the fall of the Bretton Woods system. Subsequently, a countless number of different proposals of financial taxation flourished, but only some of them reached the stage of actual implementation.²² Nevertheless, according to Griffith-Jones and Persaud (2012a, b), not less than 40 countries have adopted a version of the FTT raising about \$38 billion in 2011. Notwithstanding the shortcomings of most FTT schemes implemented, the assessment of their results has been usually rather positive (*ibidem*). The support for the adoption of a version of this tax is very large not only by well-known economists and experts (including the Nobel laureate Stiglitz), but also in the public opinion.²³ Nevertheless, the resistance of the financial lobbies has been very tough and has succeeded to block its adoption in many countries or to water down its content. A case in point is the EU financial transaction tax (EU-FTT), a proposal drafted by the European Commission in September 2011 aiming to introduce a FTT within the 27 member states of the European Union by 2014. The tax would only affect financial transactions between financial institutions charging 0.1% against the exchange of shares and bonds and 0.01% across derivative contracts.²⁴ Notwithstanding the

²²The so-called “Tobin tax” focuses on currency transactions for stabilising currencies on a global scale. Later on, Tobin expressed a more cautious point of view on this proposal mainly for the difficulties he envisaged in its implementation. As Cochrane has recently pointed out, these problems may be overcome by an apt use of new technologies (Cochrane 2014).

²³A 2011 Eurobarometer poll questioning more than 27,000 European citizens found that most of them were strongly in favour of a Financial Transactions Tax, by a margin of 61%–26%.

²⁴According to the European Commission, it could raise €57 billion every year. The residence plus issuance condition implies that the EU-FTT would cover all transactions that

approval by 11 European Countries, the implementation of the proposal has been postponed many times and seems unlikely.

The name of FTT has been attributed to a variety of proposals and schemes having different purposes, tax bases and implementation technicalities. I have to put some order before picking up the ideas that fit the vision advocated in this book. Let me first emphasise that the purposes of the existing schemes are disparate and often mutually inconsistent. Among the main purposes, I can mention the internalisation of financial externalities, downsizing of the relative weight of speculation in finance and of the financial sector itself in the whole economy, volatility and instability reduction, correction of distributive biases in finance, and the simplification of financial taxation. We have to keep in mind that there are significant trade-offs between these goals. In particular, the simplification is easier the larger is the tax base, while the structural corrections within the financial system and between the latter and the non-financial system require a more focused taxation on specific categories of transaction. The regulatory vision advocated in this book calls for the simplification and rationalisation of financial taxation complying with the normative principles of extended sustainability. To this end, the best strategy is that of coupling a very broad Financial Transaction Tax with a targeted “financial pollution tax” (FPT). The broad FTT should apply a very low tax rate to all financial transactions with the following purposes:

1. increase the cost of financial investment as compared to that of real investment,
2. increase the cost of speculative transactions, and
3. in particular, significantly increase the cost of high-frequency automated trade.

Summing up, this tax would alter the relative price between financial and real transactions in a direction that is consistent with the broad sustainability approach advocated in the first chapter. This is not enough to correct the more severe negative externalities produced by the current regime of the financial system and its regulation. Therefore, we have to introduce a second, more focused, financial tax meant to internalise the most significant negative externalities, focusing on run-prone financial

involve a European firm, whether it carries out these transactions in the EU or elsewhere. This condition prevents firms to avoid this tax by moving their transactions offshore.

instruments (as advocated by Cochrane 2014), and financial biases in income distribution. The rate and the base of this FTT should adapt to the flow of information on the extent and causes of financial pollution in a certain period and jurisdiction. The coupling of a general low-rate broad-based FTT with a higher-rate narrower-based FPT would be a much simpler financial taxation system than the current one, and would comply better with the normative approach of extended sustainability. However, the FTT should not aim “to throw some sand in the wheels of our excessively efficient international money markets” as Tobin maintained (Tobin 1978, 153). On the contrary, the advocated approach to financial taxation aims to make markets more efficient by internalising their negative externalities. However, for the purposes of this book, I do not need to specify the details of this approach to financial taxation. A full-fledged blueprint would require a collective, multi-disciplinary and multi-expertise, persistent effort backed by a wide political agreement extending its reach beyond the boundaries of a single state.

7.6 THE ROLE OF PUBLIC BANKING

The relationship between the state and the financial system has always been tense and controversial. Though the financial system pursues specific goals that rarely coincide with the general interest of all citizens, it managed to gather an overwhelming power on them that it is increasingly difficult to contain. In tranquil times, this conflict may escape our awareness. However, the apparent harmony between regulators, legislators and finance could signal a high degree of regulatory capture that might sow the seeds of future crises. Many observers maintained that this has been the case in the period going from the early 1980s to the Great Recession, and possibly also in its aftermath.

The first point to clarify is that the state, whether we like it or not, plays a crucial role in finance, a much broader and deeper role than it is usually recognised today. The building of the financial system reposes on public foundations. The public nature of these foundations may be hardly visible so long as they are deeply entrenched in a solid ground that assures its structural stability but the landslides produced by financial earthquakes expose them to the sight also of sceptical observers. After the post-Lehman shock, “We were forcibly reminded of the dependence of the financial system on the unique capacity of the state to create the money that people want when they trust nothing else” (Wolf 2014, 201). As Wolf (2014, 5)

correctly says “the current financial system is inherently dependent on state.”

It is important to understand the ultimate foundations of this crucial role of the state to force the financial system to align its activity with the public good. Let us start from the observation that there are compelling arguments for attributing to the state a natural monopoly in the production of money. As is well known, a natural monopoly emerges when institutional and market barriers confer to one particular supplier a large advantage over potential competitors. In the case of finance, a few significant natural barriers come immediately to mind. First, under normal conditions, the state produces the safest assets that are guaranteed by its large wealth and capacity of taxation.²⁵ Second, the monetary and financial stability of the system is an important public good that is under-produced by private financial institutions.²⁶ In particular, since private money creation depends on credit demand, its behaviour is inevitably procyclical inducing booms and busts in the real economy. Third, financial markets are characterised by significant externalities that distort their allocative functions. Keeping in mind these three natural barriers, only the state may self-deney its crucial role in finance whenever for ideology or regulatory capture aims to broaden the role of private finance. As we have seen in Sect. 7.2, the advantages of public money creation are often recognised also by many of the most committed supporters of free market theories and policies, such as Fisher and Cochrane.²⁷ As for credit creation, we find another instance of natural monopoly that is rarely recognised. Mainstream economics and finance always maintained that private credit creation and allocation are more efficient than the public alternative. This may be true in many cases for short-term credit. However, the more we lengthen the time horizon of credit repayment, the more private financial institutions shy away from credit concession because of the excessive uncertainty of its returns. Private

²⁵ As I argued before, a completely safe asset does not exist. However, in most circumstances, the safest assets are created by the state.

²⁶ As is well known, a public good is a non-excludable and non-rivalrous good, as there is no way to exclude someone from its use, while its use by one individual does not reduce its availability to other individuals.

²⁷ As we have seen in Sect. 7.2, John Cochrane, leading exponent of mainstream financial economics and uncompromising supporter of free markets, in his thoughtful contribution in support of narrow banking did not hesitate to recognise that the state has a natural monopoly in money creation for reasons similar to these mentioned in this section (Cochrane 2014).

banks may be willing to overcome this obstacle only if safe collaterals guarantee the credit. An example is given by liens on real estates that guarantee long-run mortgage lending. However, what is often called “patient finance” can only be provided by public banks, or with public support or guaranties (see, e.g., Brown 2014, 2019; Gabbi et al. 2016).

The returns from public banking belong to the community and must be re-invested in its interest. Since public banks do not need to worry about a sufficient remuneration of private shareholders or top managers, they can support the real investment of firms and the welfare of all the members of the community charging a lower interest rate. According to Ellen Brown, Founder and President of the Public Banking Institute:

Currently, 35% to 40% of the money we pay for goods and services goes to interest, paid out to bankers, financiers, and bondholders, which explain how wealth is systematically transferred from Main Street to Wall Street ... That helps explain why, by 2010, 1% of the population owned 42% of US financial wealth. Those in the bottom 80% pay hidden interest that those on top collect. (Brown 2014, 1)

Public banking has a long pedigree,²⁸ but it was disgraced since the neoliberal revolution of the 1970s. However, it remained significant in many countries, not only in China’s state capitalism but also in market economies such as Germany, Taiwan and Costa Rica. The public model is also inspiring the postal banks of different countries such as Japan, Switzerland, and New Zealand. In the United States, we find only one state-owned bank: the Bank of North Dakota that has been and still is very successful. In particular, it managed to mitigate the effects of both the Great Depression and the Great Recession by constructively interacting with private partners and community banks.²⁹ A public bank may be chartered with a particular social or policy mandate such as strategic innovation, environmental and social sustainability, and development. In particular, public banks can support the investment in merit goods such as education, health care, infrastructures. A case in point is the funding of the massive investment required to speed up the mitigation of global warming.

²⁸ See Brown (2013).

²⁹ As Brown observes, “North Dakota has more banks per capita than any other state, because community banks have not been forced to sell to their Wall Street competitors” (Brown 2014, 3). This example shows the efficacy of the principle of check and balances also in the banking activity. On this point, see Chap. 8.

According to authoritative research centres, the amount of current private funding of green investment is roughly one third of what would be required. As for the fear that public funding of investment could crowd out its private funding, this concern is not confirmed by the available evidence. On the contrary, in most cases public banks, including private and community banks, have been reliable partners of the private sector, encouraging entrepreneurial start-ups, providing liquidity and other supportive services. Generally speaking, “public banks have been found to be safer and more productive to economies than private banks” (Brown 2014, 3).

7.7 GUARDIANS AND SENTINELS IN THE PUBLIC INTEREST

In the aftermath of the Great Recession, many commentators observed that financial regulation had acted without taking into due account the interests of the great majority of citizens. The influential Berkeley economist Ross Levine maintained that “there is no mechanism through which the public and its elected representatives can obtain an informed, expert, and independent assessment of financial regulation” (Levine 2011, 2). Therefore, citizens cannot induce regulatory institutions to act consistently on their behalf. Regulatory agencies recognise that the public authorities nominated them to pursue the public interest, and claim that they always struggle to comply with this fundamental goal. However, according to Levine, this claim is unjustified for three main reasons. First, the public is not capable of effective participation in financial policy-making as it lacks adequate information and technical expertise. In addition, regulators are often victims of regulatory capture, since “financial institutions directly pressure and lobby elected officials and regulators, breaking the line of influence running from the public through elected representatives to the execution of financial policies” (Levine 2009, 1).³⁰

³⁰ Levine (2011) mentions three basic factors that explain the growing impact of regulatory capture in financial regulation. First, the financial sector is a large contributor to political campaigns. Second, many senior regulators use the revolving door by moving from the financial sector into public office and then returning to private financial institutions. Third, “Regulators interact primarily with people from the financial services industry, which might be the same people with whom they worked or went to graduate school. Human nature suggests, therefore, that regulators might identify with this financial services ‘community’ and seek to please and service ‘their’ community through their regulatory policies” (Levine 2011, 20–21).

Finally, the independence of financial regulatory institutions has been conceived and implemented in a questionable way.³¹ This is true also for the most strategic financial regulatory institution, namely the central bank. For example, in the United States:

Although designed to be independent of short-term politics, the Fed is not independent of private financial institutions. Banks help choose the leadership of the Federal Reserve banks; many senior Fed officials worked for private financial institutions before coming to the Fed; many Fed officials move to jobs in private financial institutions; and, Fed officials are, by necessity, in constant contact with the private institutions that they supervise. These ties do not necessarily imply that Fed officials are corrupt or using their official positions to land more lucrative jobs in the private sector. But, the close connections with private financial institutions mean the Fed is not independent. (Levine 2011, 4)

Based on these considerations, Levine advocated the establishment of a broad “auxiliary institution to act as a sentinel on behalf of the public to improve the design, interpretation, and implementation of financial regulations agency” (Levine 2009, 1). According to Levine, the task of this “sentinel” institution christened Financial Regulatory Commission (FRC) would be to acquire any information necessary for evaluating the state of financial regulation as the financial marketplace changes over time. The main duty of the FRC would be that of delivering an annual report to the Congress assessing the impact of financial regulation on the public (*ibidem*, 3). To this end, the Sentinel must act as a politically independent agency funded from the Federal Reserve’s budget and staffed with economists, lawyers, accountants, and financial industry professionals. According to Levine, the senior members of the FRC should be appointed by the US President and confirmed by the Senate for staggered terms long enough to limit an improper political influence. Summing up, Levine’s proposal constructively touches upon a crucial requisite of sound financial regulation: the adoption of a model of governance capable of incentivising regulators to act consistently in the public interest. A particularly interesting insight of this proposal is the umbilical link with the theory of democracy. In Levine’s opinion the FRC is meant to contribute to improve “upon the successful US institutional template of checks and balances” following the

³¹ Johnson and Kwak (2010) and Barth et al. (2011) review the main factors that induce regulators to have different incentives from those of the public at large.

authoritative tradition of Montesquieu (2002 [1748]) and Madison (1788). In this view, the tensions and rivalries of contending institutions “not only limit the concentration and abuse of power; they also enhance the proper design and implementation of policies” (Levine 2009, 3).

The proposal of Levine has been very influential and rightly so. However, I have to emphasise that the institutional design of the FRC does not endow it of the power necessary to play effectively the advocated role of “check and balances” upon regulatory institutions. This depends on two crucial shortcomings of the Levine’s plan: (i) the Sentinel risks to be yet another creature of the executive (represented by the US President) exactly as other regulatory authorities³² and (ii) in addition, it does not include public interest representatives directly in the regulatory process.³³ I will resume these criticisms in the next chapter to suggest a more satisfactory link with citizens.³⁴ For the time being, I observe that, in tune with the approach advocated by Levine but on a more restricted scale, the Dodd-Frank Act established in 2010 the Consumer Financial Protection Bureau (CFPB) with a legal mandate to focus on consumer protection. This bureau is an independent regulatory unit hosted and funded by the Federal Reserve to monitor, supervise, and regulate consumer financial services dealing with lending, credit, and debt. In addition, the CFPB collects and analyses data related to consumer financial services. Its jurisdiction encompasses most financial companies operating in the United States including banks, credit unions, securities firms, mortgage-servicing operations, and foreclosure relief services. The CFPB writes and enforces rules for financial institutions, examines both bank and non-bank financial institutions, monitors markets and reports on them, collects and tracks consumer complaints.

Elisabeth Warren, professor of Law at Harvard was the main early advocate, energetic promoter and institutional architect of this new bureau. In September 2010, President Obama named Warren Assistant to the President and Special Advisor to the Secretary of the Treasury to set up the new agency. Obama eventually did not nominate her as the first director of the new agency because of the strong opposition of financial lobbies

³²The confirmation by the Senate does not seem sufficient to guarantee an effective participation of the majority of citizens through their elected representatives.

³³This point has been rightly emphasised by Omarova (2012) who produced an alternative proposal capable to overcome this shortcoming. I am going to examine this proposal later in this section.

³⁴See Sect. 8.5.

and members of the Congress, and turned to former Ohio Attorney General Richard Cordray who was sympathetic with the original goals of the Agency and succeeded to make its activity influential. According to the CFPB's website opened in February 2011, its "central mission ... is to make markets for consumer financial products and services work for Americans—whether they are applying for a mortgage, choosing among credit cards, or using any number of other consumer financial products".³⁵ In 2016 alone, CFPB received hundreds of thousands of consumer complaints about financial services and made them publicly available on a federal government database.³⁶ From its creation until 2017, the CFPB "has curtailed abusive debt collection practices, reformed mortgage lending, publicised and investigated hundreds of thousands complaints from aggrieved customers of financial institutions, and extracted nearly \$12 billion for 29 million consumers in refunds and cancelled debts".³⁷ In addition, the CFPB offers several personal finance tools for consumers, and provides plain-language answers to personal finance questions. Since its inception, the CFPB came under the fire of sharp criticism. In particular, financial lobbies fought with vigour what they defined a new obnoxious form of financial repression. This systematic denigratory campaign found a growing support in the Congress that was accused of regulatory capture by the supporters of the Agency. President Trump nominated new directors that adopted a much milder approach towards financial institutions.³⁸ In addition, he signed on May 2018 Congressional legislation repealing the enforcement of automobiles lending rules and exempting many banks from the CFPB's regulations. As all innovative institutions operating in a rapidly changing environment, also the CFPB has still to find the best possible trim to play its role in an effective and sustainable way. However, a constructive reform of this agency should not throw away the baby with dirty water and should keep into account that the CFPB is an innovative regulatory institution struggling to protect the public interest. People's

³⁵ See CFPB (2011).

³⁶ Since 2011, more than 730,000 complaints have been published in the CFPB database (Freking 2017). CFPB supporters claim that it is a "vital tool that can help consumers make informed decisions" (ibidem).

³⁷ Eder et al. (2017).

³⁸ When Cordrey resigned in November 2017, Trump nominated as acting director Mick Mulvaney, director of the office of Management and Budget and vocal critic of the policy pursued by the CFPB under Cordrey; in December 2018 he nominated Kathy Kraninger who was expected to continue the same mild approach of her predecessor.

representatives genuinely concerned with democracy should thus defend it and further empower its role by extending its reach to all the issues concerning financial regulation (see Sect. 8.5).

Starting from worries strictly connected with those previously discussed in this section, Edward J. Kane—Professor of Finance at the Boston College—worked out a proposal to defend taxpayers from undesired bailouts of financial institutions in distress. According to Kane, we should consider the wilful exploitation of the safety net as a prosecutable form of theft. (Kane 2013, 75–83). Kane rightly asserts that in the end safety nets “impose future liabilities on taxpayers for providing help to the financial sector and their high-income creditors and stakeholders” (ibidem, 79). The statute of all SIFIs should recognise explicitly this reality to give taxpayers an equitable position. A proper insurance or lending contract should quantify costs and benefits of safety nets on taxpayers but this is impossible because the potential risks for taxpayers are subject to unquantifiable Knightian *uncertainty*. In addition, Kane stigmatises that regulators and policymakers avoid acknowledging the anti-egalitarian effects that these schemes entail:

They tell us instead that, as compared to doing nothing at all, their highly extravagant income transfers saved us all from catastrophe. There are plenty of taxpayers who, when they finally have to pay the bills for the bailout will find that catastrophic, too. (Kane 2013, 81)

This is, for example, the case of retired people who, since long, earn very low rates of interest on their savings progressively curtailed by limited but persistent crawling inflation. According to Kane, a wise reform of financial supervision should quantify the amount of subsidies received by the beneficiaries of tail risk imposing them to pay for the value they receive.³⁹ Corporate law should recognise that the existing provisions that

³⁹ Kane clarifies that “Taxpayers’ equity position is inferior to that of ordinary shareholders in at least five ways. First, taxpayers cannot trade their positions away if they see problems coming down the line. Second, taxpayers’ downside liability is not contractually limited, but their upside gain is. As a firm recovers, the value of its government guarantees approach zero. Once this happens, further gains go entirely to the shareholders. That is why shareholders of zombie firms are attracted to negative present-value projects with heavy upper tails. Third, taxpayer positions carry no procedural or disclosure safeguards. Fourth, taxpayer positions are not recognised legally as an equitable interest. That means that protected firms can exploit taxpayers without fear of class-action lawsuits. Finally, managers of zombie firms can

guarantee a robust, though only implicit, safety net for SIFIs do not compensate taxpayers for their risk bearing. This violates a fundamental principle of negative liberty, as discussed in Chap. 1, according to which all investors deserve to be protected from any form of actual or potential expropriation. According to Kane:

a straightforward way to do this for SIFIs would be to establish single-purpose trusteeships at firms designated difficult-to-fail-and-unwind. Each trusteeship should have the power to require firm managers to calculate the value of taxpayer equity honestly, disclose this value publicly, and pay an appropriate dividend to the Treasury. Trusteeships in SIFIs might be governed by a handful of trustees recruited for character and financial expertise. But—as private parties—trustees could be sued personally if they fail to enforce taxpayer interest. This would render them less incentive-conflicted than top government policymakers whose office protects them from lawsuits. (Kane 2013, 81)⁴⁰

In the next chapter (Sect. 8.4), building on the proposal of Saule Omarova, I will suggest my preferred version of the Sentinel (or Guardian) institution that could coordinate within its institutional design also the SIFI trusteeships suggested by Kane.

7.8 CONCLUDING REMARKS

In Chap. 6, we have seen that the ongoing reforms of the financial system did not succeed to change its evolution in a more sustainable direction. I examined in this chapter a few radical proposals of reform that promise to contribute to this goal. In the next chapter, I will try to assemble them within a coherent framework. It was natural to start the critical investigation of the most interesting proposals of radical reform by focusing on the Chicago Plan that, since the Great Depression of the 1930s, promises a sweeping solution to the instability of the financial system by drastically separating money and credit creation. The harsh opposition of financial lobbies and momentous objections of financial economists prevented so

and do further abuse taxpayers by blocking or delaying recovery and resolution” (Kane 2013, 79–80).

⁴⁰According to Kane, the trustees operating in different SIFIs might be expected to organise a standard-setting association and eventually the office of SIFI trustee could evolve into a self-governing profession (*ibidem*).

far any concrete attempt of implementation. Most criticisms, however, assume that according to the Chicago Plan all banks must be narrow banks required to keep 100% safe reserves. I maintain instead that, according to a principle of checks and balances, narrow banks and broad banks, namely banks not subjected to the limitations of narrow banks, may coexist compensating to a certain extent their specific shortcomings. The stability of broad banks would be pursued by imposing to all of them a mandatory “financial health insurance”. Depositors might choose whether to hold their savings in a narrow bank without the current limits of public insurance relying on their mandatory coverage with safe assets or in a broad bank relying on the “health insurance policy” underwritten in a fully disclosed contract with the central bank. The competition between narrow banks of different kind and broad banks in all the fields were both can operate, and their specific constraints should check, and possibly reverse, the trend towards a progressive concentration of banking activity in institutions too big to fail. As for shadow banking, its regulation should be pursued by establishing narrow banks ad hoc regulating its activity and disclosing all the significant information. Significant examples would be the establishment of Narrow Saving Banks to regulate MMMfs and Narrow Funding Banks to regulate the repo market, implementing the suggestions of the Group of thirties as endorsed also by Gorton and co-authors. These reforms promise to conduct shadow financial institutions out of the shadow, while increasing choice freedom and safety of depositors. This regulatory approach to shadow finance does not intend to repress genuinely competitive market forces but to provide necessary levees to channel them towards the sustainable well-being of all citizens. This approach should be further strengthened by introducing a “financial transaction” tax coupled with a “financial pollution” tax targeting mainly broad banking. It is widely agreed that unfettered financial markets produce huge negative externalities. Competitive market theory maintains that by internalising negative externalities the results obtained by competitive markets would improve. The introduction of these two simple financial taxes may thus help the market to reach a better allocation of resources also in a long-run perspective.

The state can re-regulate the financial system in a more sustainable direction not only by an apt financial policy but also by accepting its inalienable responsibilities in the financial field. First, it has to draw all the implications of its natural monopoly in the creation of money. The risk of a misuse of this power, as is typical in any case of monopoly, suggests the

opportunity of franchising in part this power to private broad banks without renouncing the franchisor's prerogatives of standard-setting for, and control of, the franchisors. As for credit, both depositors' narrow banks and broad banks could be authorised to provide credit to their clients. However, the credit creation of narrow banks would be limited by the previous availability of savings according to their strict role of intermediation. On the contrary, broad banks would be authorised to create credit providing the additional liquidity considered necessary for fostering development. However, the state should supervise the process of private credit creation by imposing a mandatory "financial health insurance" and the financial taxes mentioned above to assure financial stability. In addition, the state should counteract the limits of private creation of credit in the funding of public goods providing the subrogation of this role, whenever necessary, to specific public banks chartered with a particular merit mandate such as strategic innovation, environmental and social sustainability, and comprehensive development. In particular, public banks should support the investment in merit goods such as education, health care, and infrastructures. Finally, recognising that the citizens and their elected representatives cannot obtain directly the necessary information to induce the regulatory institutions to act on their behalf, we have to establish a meta-institution to provide directly the citizens and their democratic representatives all the necessary information. This Institution should also provide a periodic assessment of the performance of regulatory, standard-setting and supervisory institutions for the sake of improving and updating, whenever necessary, their design, coordination, and performance guaranteeing that these institutions and the financial system act always in the public interest.

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Towards a Sustainable Financial System

8.1 INTRODUCTION

This final chapter aims to assess the results of the preceding investigation from the viewpoint of comprehensive sustainability as defined in Chap. 1. In the periods characterised by accelerating financialisation, one may detect a common propulsive mechanism based on flexibility-enhancing innovations. Most decision-makers consider flexibility desirable, as it is conducive to higher returns, improved security, and enhanced freedom.¹ The trouble is that, in consequence of the long-term negative externalities of financial innovations, successful innovators implement the enhanced flexibility to suit their own short-period self-interest, but this does not translate in more flexibility for society, at least not in the longer period. The typical diffusion process of financial innovations extends the scope and persistence of negative externalities, in particular the increasing inequality between people and the growing financial fragility of economic units. Microeconomic flexibility easily degenerates in systemic instability that backfires on microeconomic accounting equilibria, also those of the innovators. Sustainable development requires the support of finance because it needs a high degree of global long-run flexibility to reshape the economic activity in a direction consistent with the basic equilibria of society and of the biosphere. The trouble is that the recent process of financialisation increased the divergence between the short-term time horizon

¹See Chap. 2 of this book and Vercelli (2017).

of the financial system and the required support to long-term global sustainability. This is because the Second Financialisation not only strengthened the traditional obstacles to sustainability raised by financial deepening (increasing inequality, shrinking the time horizon, and incentivising selfish utilitarianism), but also introduced new ones. Among the latter, we have emphasised in particular the progressive intermingling between financial and non-financial sectors (see Chap. 2). Financial variables and goals progressively dominated decision-making in the non-financial sector itself. Conversely, the financial system has assumed a role that goes beyond the traditional one of implementing and promoting the circulation of capital, as it acquired a growing role in the production and distribution of purchasing power by the systematic creation and trading of a growing variety of financial instruments. In financialised capitalism, decision-makers increasingly see both financial and non-financial companies as mere collection of assets managed to maximise the creation of value for their proprietors. The use value of goods is of some concern for producers only to the extent it affects financial returns. Financialised firms neglect the interests of stakeholders different from shareholders unless, in consequence of corporate social responsibility (CSR) and ESG initiatives or the activism of concerned NGOs, they may exert some influence on short-run returns. In financialised capitalism, ethical principles matter only to the extent that the legal system is able to enforce them and the expected costs for violating them—fines and loss of reputation—are sufficiently higher than the additional expected returns so obtained. CSR and ESG initiatives may mitigate corporate cynicism but only to the extent that a significant deterioration of image is expected to affect returns. The process of financialisation aims to relax the constraints to economic decisions, while sustainable development requires the respect of rigid quantitative constraints that assure at the same time the basic equilibria of the society and the biosphere. A radical reform of the financial system is thus a necessary, though not sufficient, condition for sustainable development. In the light of the preceding analysis, we cannot hope that spontaneous self-regulation may transform the financial system in the direction required by sustainable development. To the same conclusion leads the preceding analysis of the vicarious self-regulation that ruled in recent decades. We have to return to a directive style of regulation that does not fear to set, when necessary, quantitative constraints to the economic and financial activity. The increasing complexity of the financial system requires simple but general rules and prohibitions. The illusion that we can mitigate risk by pricing it imitating

the market has been self-defeating because this strategy has significantly contributed to the complexity of financial decision-making exposing it to growing unmanageable uncertainty. This is by no means an easy perspective. It is very difficult to adopt this sort of regulation philosophy, taking into account the recent evolution of the policy paradigm and the co-evolution of the financial and economic system. However, the urgency of the sustainability issues might encourage the resolute efforts of all the people of good will to implement a radical change in the financial system consistent with a sustainable and democratic development model.

Keeping in mind these general goals, in the preceding chapter, I reviewed a few selected construction blocks for rebuilding the regulatory and supervisory apparatus of the financial system to induce it to comply with the requisites of democracy and sustainability. In this final chapter, I intend to combine these constructive elements according to a design complying with the values of comprehensive sustainability as spelled out in the first chapter. What I am advocating is a change of direction in the evolution of the financial system. I do not feel allured by any temptation of designing a utopic model of “optimal” finance. Nothing can stop the financial system from evolving. However, we can and should channel its evolution within robust levees that may guarantee its compliance with the needs of all citizens. This will not stop the chess match between financial institutions on one side, and lawmakers, regulators, and supervisors on the other side. However, the democratic institutions can, and should, endow themselves of the instruments capable of enforcing their authority while withdrawing all unjustified advantages from finance and the minority of citizens having interests aligned with those of finance. The main constructive principle that I adopt to combine the building blocks discussed in Chap. 7 is the re-compartmentation of the financial system according to guidelines that update and further articulate the design adopted in the Bretton Woods period. In Sect. 8.2, I argue that the principle of compartmentation plays a crucial role in all living and artificial systems liable to episodes of instability and crisis, as is confirmed by a series of examples drawn from different fields. I then combine in Sect. 8.3, the regulatory building blocks reviewed in the preceding chapter by adopting the principle of compartmentation as reviewed in the preceding section. A different financial system requires different regulators fully trained in the rules and subtleties of the new game. In particular, we should be fully aware that the policies pursued by central banks in recent decades played a crucial role in influencing the direction of evolution of the financial system. In

the past, this role of central banks has been almost completely disregarded although it has always been of crucial importance. In the absence of an explicit and specific mandate of the legislature, this role is utterly inconsistent with the principles of democracy. Therefore, if we wish to change the direction of evolution of the financial system in a sustainable direction, we have to rethink the institutional features of central banks and their policy strategies. To this end, in Sect. 8.4, I sketch a broad profile of an updated model of central bank that should be independent of undue pressures in a much more demanding and general sense than the current one to comply not only with the formal rules of democracy but also with its substantive requirements. The new view of the central bank should then influence all other existing regulators on which it exerts *de facto* an extended influence. However, for our purposes, we do not need to enter into the institutional details of the new regulatory building. The only exception is the establishment of a new guardian institution that I will call Public Interest Council drawing inspiration from the proposal put forward by Saule Omarova (2012). I will argue that an institution of this kind is necessary to represent the interests of all citizens in the financial system and assure its compliance with the principles of democracy.

8.2 COMPARTMENTATION OF THE FINANCIAL SYSTEM AND DEMOCRACY

The reaction to the financial determinants of the Great Depression led to the prompt adoption of a new philosophy of directive regulation meant to tame the destructive forces of the financial system and orientate its immense potential towards the wellbeing of all citizens.² The implementation of this view crucially relied on the compartmentation of the financial system in the wise conviction that this was a necessary move to assure its stability and fairness. As is well known, its two basic pillars were the separation of commercial and investment banking to avoid conflicts of interest and financial contagion between them, as well as a significant control of international capital flows to defend the stability of currency exchanges and to keep some degree of policy autonomy at the national level. This new

²I have already mentioned in many occasions the Glass-Steagall Act approved in 1933 by the US Congress. Many other countries soon imitated its approach that was broadly agreed and advocated in the Peace Conference of Bretton Woods (1944). This vision of financial regulation and supervision ruled in most countries until the late 1970s.

philosophy of financial regulation assured an unprecedented long period of financial stability that supported the high rate of growth of post WWII until well into the 1970s. Subsequent empirical evidence confirmed that financial compartmentation might avoid, or at least mitigate, the conflicts of interest and the processes of contagion underlying financial crises. However, notwithstanding its amazing success, this approach to financial regulation has been constantly under attack before and after the Bretton Woods agreement that sanctioned it. The main arguments, which resonated with increasing strength as the memory of the Great Depression progressively faded away, focused on the *prima facie* conflict between this approach to regulation and the basic tenets of market economics. A very general assertion, which is ubiquitous in decision theory and found widespread applications in microeconomics and finance, is that in principle the rational choice from a larger option set improves the pay-off of the decision-maker. The actual validity of this proposition depends on a host of assumptions that are often counter-factual and ignore the negative externalities, such as financial instability, associated with de-compartmentation. However, since the late 1970s, the mounting neoliberal consensus ignored the necessary qualifications asserting that the functional and territorial compartmentation of financial decisions is bound to produce inefficient results. The application of this argument to banking supported the transition to universal banking, while its application to markets supported the liberalisation of exchanges within and between countries. In the 1950s and 1960, the prevailing view of financial regulation influenced by Keynesian ideas could contend that the unprecedented financial stability coupled with sustained rates of growth of the real economy justified the status quo based on compartmentation. The prevailing view on the trade-off between financial stability and efficiency changed dramatically in the 1970s in consequence of the period of persistent stagflation and the rapid parallel surge of New Classical Economics and Modern Financial Economics supporting a radical pro-market theory and policy (see Sects. 4.3 and 4.4). The new neoliberal consensus coalesced in theory and policy since the early 1980s starting a process of progressive abatement of the barriers underlying financial compartmentation, a process that culminated in the US with the partial repeal of the Glass-Steagall Act sanctioned by the Gramm-Leach-Bliley (GLB) Act approved in 1999. This Act accelerated a pre-existing process of centralisation and consolidation in the financial system and favoured the emergence of a few Universal Megabanks. Enormous Financial Holding Companies became universal dealers in

secondary markets of whatever they could quantify, standardise, and turn into a tradable asset (Wilmarth 2009). This sort of “universal financialisation” of the economy brought about an unprecedented transfer of wealth from the real economy to the increasingly speculative financial sector (*ibidem*).

The rapid ascent of universal banking and the related progressive consolidation of the financial system gave a crucial contribution to its growing instability and had a decisive impact on the Great Financial Crisis of 2007–2009 and its policy implications (see Sect. 5.2 and 5.3). One of its most disturbing consequences was the progressive extension and deepening of the too-big-to-fail implicit insurance that contravenes the normative principles advocated in the first chapter of this book. After the recent devastating financial crisis, one would have expected a much more vigorous reaction to eliminate the huge hidden tax financing this obnoxious “insurance”. This tax does not only violate the normative principles (in particular transparency, democracy, and distributive justice), but also completely overturns the prescriptions of sound market economics by charging the heavy burden of negative externalities on the shoulders of their victims instead of the much more robust shoulders of their originators, namely the big financial conglomerates. Post-crisis regulation pretended to face the problem with a series of measures that proved to be largely ineffective because they did not dare to go to the root of the problem. We cannot dream of conquering the instability of the financial system, and not even of seriously mitigating it, without reintroducing an updated form of compartmentation.³ In my opinion, it is impossible to leave untouched the economies of scale and higher decision flexibility provided by large dimensions curbing at the same time the too-big-to-save problem. The only reliable remedy is the establishment of an apt checks and balances system between different economic, financial, and political powers, coupled with a progressive improvement of distributive justice. In the past, improved economies of scale and decision flexibility translated in higher private profits and more instability that were ultimately payed by the taxpayers. The crucial role of compartmentation as pivotal stabilisation device is well known in many fields that have structural analogies with

³This is true also of the measures implemented in the UK under the tag of ring fencing. It is early to judge the results of this approach but it is difficult to believe that in periods of serious financial distress this sort of weak compartmentation may be sufficient to avoid conflicts of interest and contagion.

finance. In the brief excursus that follows, I recall some examples that corroborate my assertion.

Compartmentation is a ubiquitous device used in complex systems to prevent or mitigate disasters. We find its use in both natural and man-made systems. In biology, for example, cellular compartmentation enables the cells to carry out at the same time different metabolic activities by generating specific microenvironments for the optimal regulation of biological processes.⁴ In psychology, compartmentation is a crucial mechanism of self-defence to avoid cognitive dissonance generated by conflicting values, emotions, or beliefs. I am, here, particularly interested in man-made systems where often compartmentation is engineered to assure the stability or security of the system. I limit myself to three well-known examples. Since long, ship-builders have adopted the subdivision of a ship's hull into watertight compartments as fundamental device to assure the buoyancy of the vessel when the hull is impaired.⁵ For example, the great transatlantic Titanic, built in the two years before its tragic maiden cruise in April 1912, boasted a hull with sixteen watertight compartments and this was a crucial reason why the experts considered it unsinkable. Unfortunately, the ends of the transverse bulkheads had been built lower than in the original project to leave more space to passengers, so that the

compartments were actually only watertight horizontally; their tops were open and the walls extended only a few feet above the waterline.... [Therefore] when the hull of the Titanic was torn open in the collision with the iceberg, water began to flood the damaged compartments in the bow. As the ship pitched forward under the weight of the water in the bow compartments, water began to spill over the tops of the bulkheads into adjacent, undamaged compartments. (Bassett 2000, 7)

The faulty design of compartmentation was thus a crucial cause of the rapid sinking of the vessel that prevented the rescue of more than 1500 people.

⁴ Membranes that provide physical barriers to biomolecules maintain their optimal concentration for each specific regulation process.

⁵ China introduced the technique of watertight bulkhead compartmentation in vessels building during the Han dynasty (206 BC to 220 AD). Silk-way merchants spread this technique in Europe during the Middle Ages. The most famous of them was the Venetian merchant and chronicler Marco Polo who mentioned this technique in his famous book (2005 [1350]).

We can find in fire prevention another significant example of the crucial role of compartmentation in thwarting the diffusion of a disruptive process. In the case of buildings and other habitable structures or spaces (including traffic tunnels, aerospace vehicles, ships, and submarines) compartments play a crucial role in preventing or mitigating the diffusion of fire, smoke, or flue gas. One recent tragic example of inadequate compartmentation has been the catastrophic fire that destroyed London's Grenfell tower in 2017: "The compartmentation required in the building was breached by the ability of the fire to spread on the external wall from that compartmented flat to the next" (Fire Officers Association 2018, 4).

Another case in point is that of nuclear power plants, as the design of nuclear plants has progressively focused on the minimisation of the overall probability of loss of compartmentation between reactors in case of different fire scenarios. For example, the guide YVL 4.3 on "Fire protection at nuclear power plants" of the Radiation and Nuclear Safety Authority (STUK) prescribes that

A nuclear power plant shall be designed to keep fire loads as limited as practically possible. Heavy fire load concentrations or compartments where the risk of a fire is high shall be separated into individual fire compartments. (STUK 1999, 7)⁶

Finally, the measures taken to fight the transmission of a contagious disease adopt systematically different forms of isolation of individuals or groups of individuals. Public health laws typically "authorize public health officials to make orders for the isolation of infected individuals, and the quarantine of those who have been exposed to a serious contagious disease" (WHO 2016, 160).

In all these emblematic cases, and in many more that I have no space to mention here, the dynamics underlying the role of compartmentation have similar features. There is a mechanism of transmission of distress to a growing number of units that compartmentation can stop, mitigate or at least slow down. This is not only valuable in itself but also because in many cases it gives the time for more radical rescue interventions. I contend that a well-designed compartmentation has to play a crucial role also in the financial system, where it may provide a fundamental and non-fungible

⁶ See Vercelli (2014) for a discussion of the analogies between financial instability and the structural instability of nuclear power plants (see note 8).

contribution to its stabilisation. Financial instability is vulnerable to contagion that only financial compartmentation may efficiently prevent or mitigate.

For the purposes of this book, it is particularly interesting to observe that the principle of compartmentation plays a crucial role also in the theory and practice of democracy. It is today widely recognised that in a democratic society the power of the state has to be compartmentalised in different separate institutions that check and balance the specific power of each of them (see e.g., Montesquieu 2002 [1748]; Madison 1788). This suggests that a wise compartmentation of the financial system does not only mitigate financial contagion and stabilise the system, but may check and balance the excessive accumulation of power of financial institutions, in particular, banks and capital markets, that would have grave disruptive effects much beyond the financial sphere.

8.3 OUTLINES OF A NEW REGULATORY BUILDING

In this section, I intend to sketch the contour of a “vision” of the financial system able to overcome, or at least mitigate, the shortcomings of the current system. To reach this target, we have to reform the existing regulatory approach, which proved unable to tame the financial system by redirecting its activity in the interest of all citizens. I argued that the structural features of a stable and benevolent financial system should be rooted in a new compartmentation of financial services that may assure its stability and an effective democratic control. We can still learn a lot from the model of compartmentation successfully introduced by the Glass-Steagall Act in 1933 that assured an unprecedented period of financial stability and—at the same time—a more adequate democratic control on finance. However, the past and ongoing evolution of the financial system suggests the adoption of an updated model of compartmentation. To this end, I examined the strength and weaknesses of a few selected proposals of reform that may play the role of building blocks of the new regulatory building. As we have seen in the preceding chapter, none of these building blocks is new. I just reshaped some of their details, where necessary, to make them fit better a full-fledged democratic vision of financial regulation. None of these proposals might play by itself the role of a silver bullet that may fix the system by itself. The excessive hopes occasionally entertained on the robustness of each of these building blocks taken in isolation may depend on the insufficient consideration of the complexity, flexibility, and plasticity of the

financial system. We have thus to find the right combination of these construction elements to erect an earthquake-resistant building. Therefore, in this section, I assemble them according to my preferred configuration to show their mutual compatibility and to sketch their joint implications.

The new regulatory building must reject the principles of Universal Banking deeply rooted in economic and financial theory and sanctioned by recent regulation and mainstream legislation culminating in the US with the approval of the Gramm-Leach-Bliley Act in 1999. It should instead allocate the bank models permitted by law in separate compartments characterised by different regulations (see Sects. 7.3 and 7.4). In the compartment that I consider most important for the public, I have allocated different types of narrow banks each of which have a precise goal and have to respect institutional guidelines meant to optimise their specific behaviour. The Depository Narrow Bank accepts and creates deposits that, following the different versions of the Chicago Plan, must be fully covered by safe assets (Sect. 7.3). This makes superfluous the existing deposit insurance schemes while assuring that the credit created by narrow banks does not alter the quantity of money. Other narrow banks have different targets and are regulated in such a way to allow them to reach their targets in the best possible way. Examples are the so-called Narrow Saving Banks and Narrow Funding Banks, suggested to overcome the problems of shadow banking (Sect. 7.5). Another example is that of local banks that support the consumption and investment of people and small firms in a particular geographic area. These banks can be private, public, or mixed. The public imprinting is necessary whenever the targets on which they focus have the nature of a public or community good that private banks are insufficiently motivated to offer in the required quantity (Sect. 7.7). The most important example is the provision of patient capital for strategic investment and sustainable development. The competition between private and public banks on the same targets provides a form of peculiar checks and balances that should be beneficial for the quality of their services and the containment of an excessive accumulation of power.

Differently from most supporters of the various versions of the Chicago Plan, I argued in favour of the establishment of a residual compartment for broad banks that may provide financial products and services not provided by narrow banks (Sect. 7.4). Broad banks cannot hold or create deposits but can create credit in other forms keeping it out of the shadow. In this compartment, creation of credit and money are not separated and

may thus originate all the problems that the variants of the Chicago plan aim to solve in a resolute manner. However, I suggested imposing to broad banks two strict regulation rules that seem jointly capable to overcome many instability problems typical of fractional banking: a sort of compulsory “financial health insurance” and a targeted taxation of financial pollution (Sect. 7.6). The reason for admitting a residual category of broad banks is to facilitate a complete emersion of shadow finance as regulated market-based finance while repressing its submerged forms. To shorten the lag between elusive financial innovations and their regulation, I advocate the approval of a general provision that whatever institution plays one of the functions of a narrow or broad bank should be automatically subjected to the same regulations. This would allow the courts to extend immediately the existing regulatory laws to new forms of securities and institutions introduced to evade the current rules.

I am fully aware that the vision of the financial system sketched in this chapter is liable to possible critiques. In what follows, I briefly anticipate some of them and I sketch the response that I would be inclined to give. An obvious critique is that the vision suggested in this chapter is too radical. This criticism has been addressed to each of the reform proposals selected in the previous chapter. Their combination as assembled in this section is unlikely to reduce the critical pressure against them, particularly on the part of financial lobbies and believers in the virtues of unfettered markets. It is obvious that for the financial lobbies defending the status quo or trying to improve it further in their own interest, any significant reform touching upon the private interests of financial institutions and markets would be defined as too radical. However, we should always remember that the point of view of financiers and the layers of society aligned with their interests is restricted to a powerful but small minority of citizens. Therefore, a genuine belief in the values of democracy should encourage a sincere reformer to go on unabated. This is what already happened in the past. For example, the Glass-Steagall Act of 1933 and the introduction of the FDIC insurance of deposits were perceived in their time as extremely radical proposals and were opposed with great determination by financial and free-market lobbies. We could say that after an event so extreme as the Great Depression or the Great Recession what is required is a radical discontinuity while a non-radical proposal would be unlikely to work.⁷

⁷This truth has been often recognised also by mainstream researchers such as, for example, Gorton (2010).

A similar criticism is that, while some of the ideas advocated in this chapter may be valuable in themselves, their implementation in practice is impossible because the necessary political conditions are missing. This objection is likely to be true. However, the ambition of this chapter is just that of indicating a direction of change to stimulate the aggregation of the necessary consensus to implement it. In addition, the political conditions may suddenly change. One example that is unfortunately quite plausible is the occurrence of a new financial crisis that could be more devastating than the last one. It is important to know in which direction to move after an event of this kind.

Mainstream economists and financial lobbies routinely use a defeatist argument to assert the impossibility of a binding financial regulation. In their opinion, any attempt at regulating money and finance would be inane, as financial innovation would soon circumvent any restrictive rule. This defeatist argument so often repeated to inhibit any serious attempt of serious reform of the financial system is indeed ludicrous. It is obvious that any form of regulation can be conceptualised as an endless strategic game between regulated subjects and regulators. This does not imply that legislators, regulators, and supervisors are deprived of instruments to seriously engage financial lobbies. To give up before starting the match would be as if a chess player or tennis player walked out of the match for the fear of losing it. In addition, the empirical evidence shows that it is not always so easy to circumvent a good piece of regulatory legislation. For example, the Glass-Steagall Act (1933) was partially repealed by the Gramm-Leach-Bliley Act only after 66 years, notwithstanding the massive opposition of the financial lobbies during all the period. Finally, a powerful Guardian (or Sentinel) Institution directly reporting to the people representatives could play a decisive role to maintain level the playing field of regulation (see Sect. 2.5).

Finally, another likely criticism is that the proposals assembled in this chapter are redundant. I am particularly sensitive to this criticism because I strongly advocate in this book a drastic simplification of the regulatory framework to make it more transparent and efficient. More work must be done to clarify this issue. I do not exclude that after a careful analysis we should conclude that some of the reform proposals assembled in this chapter might prove to be redundant. From my own point of view, this would be good news that would strengthen the regulatory vision here advocated. For the time being, I observe that in engineering, whenever there is a risk of a catastrophe that is difficult to prevent, the optimal design of the system includes some precautionary redundancy in the system, so that if one preventive device does not work properly, another may backstop it. For

example, nuclear plants are endowed of “redundant” safety mechanisms each of which is believed to be sufficient to thwart any serious deviation from the “critical” state that is sought for a sustainable and efficient generation of nuclear energy.⁸ Of course, redundancy should be accurately calibrated to the specific case and should not impair the necessary simplicity of the regulatory design. Moreover, one should never forget that compartmentation, as any form of pluralism, is a precondition of learning. The proposal here advocated should be seen as a dynamic process conducive to persistent collective learning aiming to improve the financial system and its regulation. The experience will teach us how to evolve the compartmentation framework and the nature of the various compartments in full compliance with the principles of democracy. In addition, policymakers and regulators repeat in all the official documents that they want to build a resilient financial system. We should keep in mind that the ecology taught us since long that the resilience of an ecosystem requires a congruous degree of biodiversity.

8.4 THE NEW CENTRAL BANK

A radical reform of the financial system requires a reconsideration of the institutional design, targets, and accountability of regulating institutions. In this section, I focus on the most important of these institutions: the central bank. Central banking has played the role of red thread connecting the chapters of this book. At its very outset, in the first chapter, I took central banking as an example to show that finance raises deep normative questions, including those discussed in general terms in the first chapter: liberty, democracy, distributive justice, and sustainability. In Sect. 2.7, I briefly described the genesis and early evolution of central banking and its interaction with the contemporaneous evolution of banking. In Sect. 5.8, I focused on the structural change affecting central banks after the Great Stagflation of the 1970s pointing out some of its responsibilities in the genesis of the crisis and the ensuing propagation of financial distress. In Sect. 6.6, I discussed the reaction of central banks to the subprime financial

⁸ Redundancy in nuclear plants avoided many disasters. However, it is difficult to establish in general which is the optimal degree of redundancy because redundant safety mechanism may be disrupted by the same severe shock that triggers a persistent and cumulative deviation from equilibrium, as in the case of the Fukushima1 plant in 2011, or by a cascade of unexpected events triggered by an initial mistake, as in the case of the Chernobyl Plant in 1976. On the analogies between nuclear chain reaction and financial contagion see Vercelli (2014).

crisis, the Great Financial Crisis and the ensuing Great Recession, emphasising the unusual boldness of their interventions coupled with far-reaching shortcomings. In Chap. 7, I discussed a promising plan suggested by King (2017) to reform the lending-of-last-resort function of the central bank (Sect. 7.3), and then a few interesting proposals to establish a new institution playing the role of sentinel or guardian of the public interest that would entertain a dialectical relation with the central bank (Sect. 7.8). Throughout the book, we have seen that after the crisis central banks have considerably extended their power. This significant extension under the pressure of events lacks clear foundations in the core of mainstream theory as Bernanke himself, one leading architect of the ongoing extension, candidly recognised (Bernanke 2012, 2015). Other top regulators such as Mervyn King (2017), Adair Turner (2016), and Paul Tucker (2018) expressed similar views. In this section, I discuss to what extent the actual power surge of central banks is consistent with the principles of democracy and how can we bridge the gap between central banks and democracy. I did not mention central banking only in Chap. 3 on the genesis and early evolution of Modern Financial Economics, and in Chap. 4 on the co-evolution of mainstream Equilibrium Macroeconomics. This absence is by no means casual as it plays a crucial role in the implementation of the plot. Mainstream economics and finance did not contemplate a significant role for money and finance in the core of their theory, and thus did not have much to say on the role of central banks regulating them. The equilibrium approach was then unable to provide a robust explanation of their rationale, and thus also to design sound guidelines for their behaviour.

The role of central banks as mediator (or referee, or gatekeeper) between private banks and the state has been questioned mainly in the extreme cases of free banking (as in the US in the period 1837–1862) or of public monopoly of banking (as in the case of the People’s Bank of China after 1947). However, I observe that whenever free banking ruled, one or more banking institutions emerged to represent the common interests of private banks and provide them with common services such as the clearance of payments and securities transactions.⁹ Analogously, at the other extreme of the spectrum, in a public monopoly regime, the state

⁹In the US for instance, during the free banking era, some local banks assumed functions that are typical of a central bank. For example, the Suffolk Bank of Boston acted as a private bank note clearinghouse, while the New York Safety Fund provided deposit insurance for member banks.

usually established a specialised institution with the necessary expertise to focus on international and local financial issues with a significant degree of operational independence.¹⁰ In all the other cases between the two extremes, we observe in history a spontaneous tendency towards a certain degree of centralisation of the interaction between private banks and the state. The push towards the centralisation of monetary and financial policy typically came from both sides, though for different reasons. The state has been inclined, especially in troubled times, to delegate its authority on financial matters to an institution ruled by a board of experts committed to act in the public interest. On the other hand, not differently from medieval guilds, private banks sought a common representation of their interests towards the state and other private subjects, and tried to enforce a minimal self-regulation of their trade. Central banks combined these two drives with different weights in different times, countries and circumstances. In other words, the central bank played the role, so to say, of Janus Bifrons looking at the same time to the public interest and to the private interest of financial institutions trying to mediate between them. The trouble is that—in many circumstances—a myopic astigmatism distorted the sight of the central bank blurring the image of the public interest that has been pursued in a questionable way. The balance between the two concerns is the consequence primarily of the specific way in which the independence of the central bank is conceived and implemented. In the past, different regimes of independence set in reflecting the existent or desired balance of power between state and financial system. This is still the crucial issue that any serious reform of central banking has to address.

I start my argument from the observation that the ruling notion of central bank's independence is ambiguous but ultimately at variance with the substantive principles of democracy as clarified and advocated in this book (see Sect. 1.3). The basic principle underlying the current mainstream conception of central bank independence is the separation of its functions, in particular of those concerning the management of monetary policy, from “direct political influence” (ECB 2017). However, what does it mean “direct political influence”? It can mean undue pressures of political exponents or parties exerted independently of sound democratic procedures. In particular, it could mean independence from the myopic and self-serving

¹⁰The People's Bank of China plays the role of central bank of the People's Republic of China. It is a Department of the State Council, namely the government of the Republic, but has a high degree of operational independence.

political cycle.¹¹ Everyone would agree with this sort of independence from day-by-day politics. However, also the legitimate influence of the citizens exercised through correct democratic procedures has to rely on direct, or indirect, political influence. The risk is that, to exclude undue political pressures, the institutional design of central banks throws out the necessary democratic control, as the proverbial baby with bath water. In addition, the central bank should be independent also of the undue pressures from the financial lobbies. Notwithstanding this crucial requirement is of fundamental importance, few commentators mention it and few practitioners try to comply with it. The empirical evidence shows that this sort of independence is not always pursued with the necessary rigour. Let me recall a significant example. During the 1980s and 1990s, under the pressure of financial lobbies and increasingly sympathetic economic and financial doctrines (see Chaps. 3 and 4), the Federal Reserve Board (FRB) did not hesitate to exploit loopholes in the Glass-Steagall Act to relax the existing rules forbidding universal banking.¹² In 1998, the FRB openly breached the Glass-Steagall Act by allowing “Citicorp, the largest US bank holding company, to merge with Travelers, a major financial conglomerate that owned a leading securities firm, Salomon Smith Barney, as well as subsidiaries engaged in a full range of insurance activities” (Wilmarth 2009, 972). That merger produced Citigroup, the first US Universal Bank. The FRB’s approval of the Citigroup merger placed great pressure on the Congress to repeal the Glass-Steagall Act: “the FRB’s action confronted Congress with the choice of either approving legislation to ratify the Citicorp-Travelers merger or forcing a potentially disruptive breakup of a huge financial conglomerate. In November 1999, the Congress enacted the Gramm-Leach-Bliley Act, which ratified the Citigroup merger and authorised universal banking” (Wilmarth 2009, 973). The FRB acted in the conviction, supported by the emerging new classical consensus in economics and finance, that by abating the existing barriers between different financial services, the financial holding companies could exploit significant economies of scale and scope, improving safety by diversifying their activities and lowering costs for their clients. The ensuing financial

¹¹This is the definition of political cycle provided by the ECB itself: “If governments had direct control over central banks, politicians could be tempted to change interest rates in their favour to create short-term economic booms or use central bank money to finance popular policy measures. This would seriously harm the economy in the long term.” (ECB 2017)

¹²See Wilmarth (2009) for a more detailed account of this very instructive story.

crises soon falsified this illusory hope (see Chap. 5). We are here concerned with the anomalous kind of independence emerging in that period as revealed by this episode. The central bank, a power ultimately delegated by people through the parliament in the interest of all citizens, systematically endorsed a campaign brought forward by the financial lobbies forcing the legislature to implement a questionable reform that paved the way to the ensuing catastrophic financial crises. This behaviour does not seem consistent with the principles of democracy and deeply questions the neoliberal version of independence that underlined it (Palley 2019). In what follows, I focus on the latter issue.

I start the investigation from the institutional design of the ECB that is emblematic of the dominant technocratic view of central bank's independence since it was conceived and established *ex novo* in the 1990s, the golden age of neoliberal ideas, by a political elite strictly committed to them.¹³ The Treaty on the Functioning of the EU approved in Maastricht in 1993 gave the ECB a clear but limited mandate to maintain price stability in the euro area (Article 127). The Treaty considered it as the “cornerstone of the euro area’s monetary system”. Within this framework, the Governing Council of the European Central Bank committed itself to keep inflation below, but close to, 2% over the medium term.¹⁴ As is well known, other central banks contemplate also further primary objectives. For example, since the 1970s, the Fed has also the task of facilitating full employment and the growth of the real economy. The rationale for the ECBs exclusive focus on inflation targeting relies upon two strong assumptions: (i) a rigid inflation target is a necessary condition of sustained growth and job creation¹⁵ and (ii) monetary stability, coupled with micro prudential oversight, assures financial stability. These assumptions reflect the explicit adhesion of the ECB to mainstream New Neoclassical

¹³As is well known, the Maastricht Treaty established the ECB that officially came into force on November 1, 1993.

¹⁴“By having the monetary policy of the ECB focus on this objective, the Treaty incorporates modern economic thinking on the role, scope and limits of monetary policy” (ibidem).

¹⁵“This is the best contribution monetary policy can make to economic growth and job creation.” (ibidem) “Without prejudice to the objective of price stability”, the Eurosystem shall also “support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union”. These include *inter alia* “full employment” and “balanced economic growth”. In other words, the Treaty establishes a clear hierarchy of objectives for the ECB assigning overriding importance to price stability.

Economics, called in its documents “modern economic thinking”, a terminology that seems to endorse the idea, quite popular before the crisis, of a wide convergence between different schools of thought reached in macroeconomics and monetary theory by the turn of the Millennium (Macroeconomic Consensus). In any case, this assertion betrays a non-pluralistic point of view that neglects the existence, or at least the relevance for policy, of viewpoints in macroeconomics and monetary theory that are radically different from the mainstream point of view. In particular, the ECB has explicitly endorsed the long-run neutrality of money that is the hallmark of all variants of neo- and new classical economics, and defines inflation as a purely monetary phenomenon as all the monetarist schools do. These two basic assumptions justify also the alleged independence from “direct political influence” to avoid self-serving short-term improvements in the state of the economy obtained by worsening its long-run prospects. The trouble is that this approach excludes also the necessary grip of democracy on monetary policy since sovereign people can defend general interests only through some sort of “direct political influence”. The defence of ECB from the accusation of “democratic deficit”¹⁶ seems to focus on the alleged increase in accountability that has accompanied the increase in independence as a necessary complement to central bank independence. Therefore, the ECB explains its decisions and underlying reasoning to EU citizens and their elected representatives with communiqués and hearings. In particular, the ECB’s President attends quarterly hearings at the European Parliament’s Committee on Economic and Monetary Affairs. This suggests that the definition of accountability adopted and practised by the ECB is extremely reductive. It is no more than transparency as it focuses on a flow of information and recommendations from the ECB to the people.¹⁷ However, according to the best doctrine, transparency is certainly “instrumental for accountability, but not constitutive of accountability” (Bovens 2005, 6). This is not only a question of definition. To play the role of “necessary complement” to

¹⁶ See, for example, Bovens (2005, 31) and literature there cited. As Bovens maintains, “In Europe, there has long been a concern that the trend toward European policymaking is not being matched by an equally forceful creation of appropriate accountability regimes ... Accountability deficits are said to exist and even grow, compromising the legitimacy of the European polity” (Bovens 2005, 31).

¹⁷ The only significant exception mentioned by the ECB is that members of the European Parliament can address written questions.

independence, genuine accountability requires the possibility by the democratic forum to question the adequacy of the information and the legitimacy of the conduct. Moreover, the possibility of sanctions of some kind for insufficient or distorted information, to limit the argument to the duty of transparency, is a constitutive element of accountability (*ibidem*). In addition, which is the ultimate democratic forum? For the time being, not the European Parliament because its powers are too limited to play this role. The governing body of the ECB is composed by the five members of the Executive Board appointed by the European Council and the governors of the national central banks of the nineteen euro-area countries. The members of the European Council are the heads of state or government of the twenty-eight EU member states, the European Council President and the President of the European Commission. In principle, all these decision-makers are, or should be, accountable to the parliaments of the member states. The latter however—based on this peculiar principle of independence—are not involved in any form of validation of the ECB behaviour. This immediately suggests that there is a blatant deficit of accountability implying a significant deficit of effective democracy. Public accountability is extremely important from a democratic perspective, as it permits to call those holding public office to account in a democratic fashion for their acts (Bovens 2005, 25, and literature there cited). This approach is deeply rooted in the great tradition of democratic thought from Locke to Max Weber. Its modern version describes representative democracy as a concatenation of principal-agent relationships starting from the people, the ultimate democratic forum, through the elected parliament that plays this role between elections (*ibidem*). Public accountability is the reverse path from the agent to the principal, namely the people represented between elections by the elected parliament, to assure that the agents align to its targets. The fluidity and continuity of this feedback is essential for democracy and no one has the right to impair or suspend it. The only crucial qualification, which I fully endorse, is that the central bank should be independent of day-by-day politics because monetary policy requires long-term targets and intertemporal consistency. In the light of the principles of democracy that I have briefly recalled, the unilateral flow of information, justifications and recommendations from the ECB to the citizens of member states has more to do with technocratic paternalism rather than with healthy democracy and is in any case an insufficient condition for the latter. The source and ultimate justification of this paternalist attitude that

underlined the institutional design of the ECB is its acritical adhesion to what it calls “modern economics”. The basic source of paternalism is the idea, already foreshadowed by Adam Smith with its metaphor of the “invisible hand”, that a perfectly competitive market maximises the welfare of people. If this were true, one could say, the citizens would be well advised to delegate the monetary and financial decisions to an independent authority that has the expertise to apply in the best possible way modern economics to the actual circumstances. However, as a long and prestigious tradition of political and moral thought (going back to John Locke and John Stuart Mill) maintained, this sort of political paternalism violates the basic moral principle of individual autonomy, namely the positive liberty of persons (see Sect. 1.2). Technocratic paternalism is thus at odds with substantive democracy based on people’s sovereignty. In addition, the acritical belief in modern economics reveals a monist attitude that is in its turn incompatible with democracy. Effective democracy can thrive only in a pluralist environment: if there is no alternative, there is no genuine choice to be made and we are misled by this unfounded belief to delegate day-by-day decisions to technocrats who can, better than us, apply the only possible choice in the best possible way. Moreover, also in the extreme case of acritical belief in the so-called modern economics, there are always internal variants of the models and alternative readings of circumstances that lead to different choices. Therefore, also in this case, effective accountability cannot be played down in a paternalist mood.

Summing up, a serious reform of central banking is overdue. We cannot design and implement the required radical reform of the financial system without reforming central banks. We should put the glasses of Janus Bifrons again on the side of public interest to correct its chronic astigmatism in the direction of the democratically elected representatives of all citizens. This is a basic requirement of genuine substantive democracy because the interests of financial institutions are only a subset of the general interests of citizens, unless we believe that what is good for finance is good for all. Unfortunately, as I argued in the preceding chapters (in particular in Chap. 3), this self-serving assertion often repeated by the financial lobbies, is not true. We should thus subordinate the satisfaction of financial interests to the interests of all citizens. The solution does not lie in the demise of central banks because financial markets are unable to self-regulate themselves, and the democratic representatives of all citizens may improve their regulation by resorting

to a genuinely democratic delegation of some of its powers. Therefore, there are good reasons to retain one specialised institution endowed of all the necessary powers, means, and expertise to regulate effectively the financial markets in the public interest. Moreover, there are good reasons to keep it independent if we substitute the current technocratic notion of independence with a deeper and broader one that we may call “democratic independence”.¹⁸ The central bank must be independent of undue pressures coming from all directions: private financial institutions, markets, and partisan political interferences, but cannot be independent of democratic directives. To avoid this dangerous distortion, the citizens should delegate the power of central banks explicitly and precisely through its direct representatives, the parliament. In addition, the behaviour of central banks’ officials must be fully transparent, not only by assuring all relevant information on their acts and motivations, but also by stimulating the necessary dialectics with all citizens. Cristal-clear transparency is not enough. Central banks must be fully accountable being subject to democratic procedures of systematic evaluation of their conduct that should not exclude the possibility of sanctions. Therefore, the respect of the democratic rules must be precisely specified and prescribed in a code of power delegation to agencies that has to be fully consistent with democratic principles as argued and clarified by Tucker (2018). Within a solid framework of democratic delegation, a central bank must obtain a sufficient power to tame financial markets and assure their respect of democracy. However, this delicate and far-reaching power must be exercised in the interest of all citizens. This is possible if, and only if, we succeed to break the vicious circle between the herd behaviour of financial decision-makers and group-think of regulators and experts. The central bank needs to cultivate pluralism in economic and financial thinking and thus also in their policy practices.

8.5 THE PUBLIC INTEREST COUNCIL

Going further in the direction advocated by Levine (discussed in Sect. 7.8), Saule Omarova, professor of Law at Cornell University, proposed the establishment of a general guardian institution in finance, the Public

¹⁸ By “democratic independence” I mean a rigorous independence from all partial interests coupled with strategic dependence on general interests as expressed by representative democracy.

Interest Council (PIC), with the specific mission of defending and promoting the public interest within the financial system (Omarova 2012). In her opinion, it is crucial that an institution of this kind represents the interests of all citizens in the financial system rather than only the important but circumscribed interests of consumers, as in the case of the recently established Consumer Financial Protection Bureau (see Sect. 7.7). This proposal aims to amend the shortcomings of the Financial Regulatory Commission (FRC) proposed by Levine (2009, 2011), and to specify a few institutional details overlooked by him. Omarova agrees with Levine that it is important to create, and then progressively upgrade, a series of effective incentives to force regulatory agencies and private financial institutions to act in a manner consistent with the long-term public interest. In her opinion, the PIC should play this role mainly to preserve financial stability and minimise systemic risk. Although the PIC would not have any legislative or executive powers,

it would have broad statutory authority to collect information from government agencies and private market participants. In addition, it could take action in identified areas, to participate in regulatory rule-making, and to petition Congress to take action with respect to specific issues of public concern. (Ibidem)

The Congress should establish the Council by statute as an independent, non-partisan government agency that is outside both the legislative and executive branches: “the proposed Council is similar to a congressional advisory and investigatory commission functioning on a permanent rather than temporary basis” (Omarova 2012, 659). The PIC should be funded and appointed by the Congress for staggered terms and should be directly accountable to it enjoying full political independence from executive and regulatory agencies as well as from private financial institutions. Therefore, the Council’s members

can neither be employed by nor receive compensation from financial services industry or financial regulatory agencies on the date of their nomination or at any time during some reasonable period—which probably should not be less than two years—prior to such a date. Members of the Council would also be prohibited from accepting such employment or compensation from the financial institutions and regulators for a reasonable period of time after they complete their service. (Ibidem, 662)

These provisions are meant to avoid the “revolving door” effect that too often distorts the incentives of regulatory agencies to act purely in the public interest. The same provisions should be also applied to all other regulatory independent agencies, including central banks. If central bankers have to play the role of genuine independent gate-keepers between Wall Street and Main Street, namely between financial institutions and the general public, they should avoid ambiguous and compromising revolving doors.

I believe that the proposal put forward by Omarova elaborating on the original suggestions by Levine is an excellent starting point for designing a new genuinely democratic institution capable to induce the financial system to take into account the general interest. What follows in this section sketches my views on this institution. I borrow from Omarova the name of the Council and much of its suggested institutional design, but not its foundations in terms of tripartism that could be potentially misleading.¹⁹ A representative democracy needs a specific institution to play the role of sentinel or guardian to scrutinise whether the relationship between the constitutional powers and the financial system is managed in the interest of all citizens in accordance with the views of their democratically elected representatives. In the traditional view of democracy, the legislature is the direct expression of all citizens and nominates the executive power that is legitimate only as far as it manages to keep its confidence. The Parliament has thus the right and duty of controlling whether the executive and independent agencies act in the interest of all citizens and provides directives to ensure a better compliance. This is particularly important in the case of finance because the link between the executive and the regulatory agencies is, by design (for the sake of their alleged independence), indirect and loose. Therefore, we should conceive the Public Interest Council as the direct expression of the legislature and the indirect, but immediate and proper, expression of the will of all citizens. Its effective power should be authoritative enough to support a significant role of check and balances on regulatory institutions in the financial system, as rightly advocated by Levine (2009, 2011).²⁰

¹⁹ According to Omarova, the PIC has to keep a strict independence from both bankers and bureaucrats: “the presence of an effective third-party ‘guardian’ at the decision-making table potentially creates a built-in source of countervailing perspective on substantive policy issues and imposes structural checks on regulatory capture” (Omarova 2012, 642).

²⁰ Notwithstanding the systematic reference to tripartism, the institutional design suggested by Omarova for the US is broadly consistent with the democratic foundations of the

Though I agree with Omarova that financial instability and systemic risk are crucial externalities that affect the wellbeing of all citizens, there is no reason to restrict the scope of the PIC to these issues. While the current tendency is towards an increasing multiplication and fragmentation of financial regulatory agencies, the Council should recompose all these fragments within a unified view to monitor and evaluate the impact of the co-evolution of the financial system and its regulation on the wellbeing of all citizens. A particularly significant example is the effects of the financial system and its regulation on the unequal distribution of income and wealth of people. The institutional foundations in terms of basic democratic principles here advocated suggest the crucial importance of further attributes of the PIC that should inform its charter and its implementation. The most important of these attributes is pluralism. As is widely recognised, democracy is meaningless without pluralism. As I argued in Chap. 5, a crucial factor that underlies the increase in financial instability since the early 1980s and the ensuing crises is the vicious circle between herd behaviour in financial markets and groupthink of policy and regulatory institutions. This vicious circle played the obnoxious role of aligning the policy and regulatory decisions with the short-term interest of financial institutions. To mend—or at least mitigate—this problem, the Council must represent all the main visions of the citizens as represented in the Parliament. The government is an expression of the parliament that selects and recomposes its different views in some sort of convergent will to implement a collective action as coherent as possible. The scope of pluralism is thus limited by the urgency of decision-making. This is in part true also of the central banks and other independent agencies. While I advocate also in this case robust injections of pluralism, the latter may be limited by emergency situations. Pluralism should thus be guaranteed in all its time dimensions and implications by the Council that is free from short-term decision urgencies, even in situations of emergency. We can see the Council as a second-order regulatory and supervisory agency that should keep a medium to long time horizon, and a structural view. It should thus study the structural evolution of the financial system and its implications for

Council here advocated. In her opinion, “the Council’s main functions would be to impose structural checks on regulatory capture and to diffuse the industry’s power to control the regulatory agenda by putting both financial regulators and financial institutions under constant and intense public scrutiny” (Omarova 2012, 624). This and other similar passages make evident the link between the views of Omarova and the democratic doctrine of checks and balances rightly recalled by Levine (2009, 2011), and strongly supported in this book.

financial regulation and supervision evaluating to what extent the current system of agencies is adequate for the new challenges. Its periodic reports should also provide advice on how to reform the financial system and its regulatory and supervisory apparatus. All its reports and documents could publish minority views for the sake of pluralism.

The likely objection that such a PIC would be a duplication of other regulatory agencies, in particular of the central bank, would be unjustified because:

1. the Council does not have short-term operational duties,
2. the time horizon of the Council is mainly medium-long term,
3. the increasing number of regulatory agencies requires a clarification and monitoring of the evolving relationship between their duties and the joint effects of their actions,
4. the influence exerted by central banks on the structural evolution of the financial system should be monitored, corrected and channelled in a direction fully consistent with substantive democracy and comprehensive sustainability. In other words, the different institutional design of the Council allows it to counteract the structural limits of the central banks and the other regulatory agencies deriving from their short-term and specialised operational responsibilities, particularly under emergency conditions. The Council should be designed to focus in particular on structural change in the financial system in a long-period perspective to facilitate the choices of the legislature. This allows it to focus on crucial aspects of financial regulation and supervision insufficiently covered by central banks, such as the general institutional design of the entire constellation of relevant agencies, the implications of their evolution on the wellbeing of the citizens without neglecting the distributional issues. In addition, this institution should have a section covering the field of consumer protection taking into account the experience of the Consumer Financial Protection Bureau established in the US by the Dodd-Frank Act. Finally, the Council could co-ordinate the activity of SIFIs trustees suggested by Kane (2013). This is important because, otherwise, the SIFIs trustees would undergo the risk of bearing delicate responsibilities without the necessary power (see Sect. 7.7). As members of the PIC they could signal the problems observed in their own SIFIs, request an empirical investigation on the emerging issues and suggest regulatory initiatives with the backing of the agency.

8.6 CONCLUDING REMARKS

An author should never fear criticism but only neglect. I wrote this book hoping to stimulate a candid dialogue with my readers. The critiques contained in this book, even the most severe and uncompromising, are a bid of dialogue with interlocutors having different views. Any reply to these critiques, as any other criticism to the arguments of this book, would signal the acceptance of my bid (although not necessarily of my ideas), and would thus be very welcome. I only claim with the maximum emphasis that the issues discussed in this book are extremely important though unduly neglected, or played down, by most people including policymakers and regulators. A constructive dialogue is a sort of interpersonal transaction that benefits both parties. As in the case of economic and financial transactions, the occurrence of dialogue requires an initial divergence of opinions, otherwise the transaction would be useless. The second condition for the occurrence of dialogue is where the devil hides. The dialogue starts only if both interlocutors see an opportunity for learning from their interaction (constructive dialogue), or for discrediting the adversary (inquisitorial dialogue). The constructive dialogue requires the adhesion to some form of pluralism; otherwise, by definition, learning from a different point of view would be excluded and no one could benefit from any sort of dialogue. Unfortunately, the equilibrium approach that came to dominate both financial economics and macroeconomics since the 1970s is intrinsically monist because it is hypnotised by a strong belief in the superiority of the advocated approach over the alternative ones and excludes the possibility of learning from heterodox viewpoints. In addition, the rational agents of this theory are by definition monists, as they entertain rational expectations and thus by assumption do not make systematic mistakes and cannot learn from them. Therefore, they cannot learn from other agents pointing out their mistakes but only by updating their own information set as soon as new empirical evidence makes it necessary. This allows only for some very restricted form of pluralism, and thus for a not less restricted dialogue, mainly on the interpretation of the empirical evidence. However, also this small window of potential dialogue is half shut by the rigid and idiosyncratic methodological presuppositions of mainstream orthodoxy. Inquisitorial dialogue is a possible outcome of monism but requires some sort of consideration, maybe simple fear, of the adversary; otherwise, it would be perceived as a mere loss of time. Being a committed pluralist, I am especially interested in constructive dialogue,

but I would prefer to be the victim of severe inquisition rather than of desert or instrumental neglect. Unfortunately, only rarely mainstream economists indulge in serious inquisition based on detailed and thoughtful arguments, probably because they feel so right and powerful to afford a sheer neglect of different points of view. This explains why, since the equilibrium approach took macroeconomics and financial economics by storm in the 1970s, a pluralist dialogue on the issues discussed in this book has been so weak, notwithstanding their vital importance. Not by chance, a lively dialogue on similar issues developed in the 1970 when the power was still divided between contrasting paradigms (Keynesians vs. Monetarists), and rekindled for a while after subsequent major crises, in particular for a couple of years after the Great Recession in consequence of the short-lived Keynesian revival. However, in all these cases, the restoration of a strongly hegemonic mainstream point of view has been too quick to feed a persistent stream of constructive, or even inquisitorial, dialogue.

I am fully aware that many of the crucial arguments, both positive and normative, advanced in this book are highly controversial. I briefly recall here some of them from the point of view of democracy, in the hope of soliciting a constructive controversy. The evolution of financial markets since the late 1970s took a direction bringing about a concentration of power increasingly at variance with substantive democracy. Since democracy is a necessary condition of individual liberty, particularly in its positive sense (Sect. 1.2), the growing democratic deficit implied a weakening of individual liberty for a majority of citizens. A case in point is the progressive dismantlement of the Welfare State. This process eroded the positive liberty, and thus wellbeing, of most people in consequence of the slowing down of growth and the progressive deterioration of its sustainability. The misleading direction taken by the financial system was not a spontaneous process that we could not stop. I argued in this book that a crucial role in initiating, pursuing, and validating the process has been, and is, played by a vicious circle between the groupthink of policymakers and regulators and the herd behaviour of decision-makers in financial markets. The equilibrium approach in financial economics and macroeconomics justified the adoption in the financial markets of behavioural rules and institutional tendencies validated and protected ex-post by regulators and legislators. In particular, this led to the adoption of a form of *laissez faire* much more radical than that ruling before the Great Depression and that actively moderated during the Bretton Woods period. The growing hegemony of the equilibrium approach diffused the conviction that “the state is the

source of the salient economic and social problems, not their solution” and that this assertion is always true. This conviction was progressively validated ex-post with the instrumental support of the financial orthodoxy by dismantling, deteriorating, and privatising the services that the state provided to the citizens. In finance, this attitude led in many countries to the privatisation of money creation and to the adoption of a more radically technocratic notion of independence of central banks. Since the dominant vision alleged that the equilibrium approach was the only “scientific” approach in economics and finance and that this approach implied well-defined policy rules, it was easy to reach the conclusion that technocrats well versed in equilibrium economics and finance were the best managers of these rules. However, if “there is no alternative” to the choices of technocrats (TINA fallacy), there is no space for substantive democracy because any intervention by democratic institutions deviating from the technocratic interpretation of the rules would be perceived as distortionary. The TINA fallacy is altogether inconsistent with democracy, and its widespread adoption is thus a litmus test of a non-democratic attitude. The independent central banks crucially contributed, intentionally or not, to the evolution of the financial system in the direction of its de-compartmentation and liberalisation that proved to be inconsistent with the principles of substantive democracy. In addition, the asymmetric monetarist policy pursued by Greenspan and his followers and imitators distorted significantly the flows of investments from the real sector to the financial sector. This contributed to the progressive increase in the weight, concentration and profits of finance, but also to the growth of its instability until the Great Financial Crisis of 2007–2009 and the following Great Recession. The change of policy did not last beyond the autumn of 2009 when mainstream experts and policy authorities tried to convince the public opinion that the crisis was over and orthodox policies could be restored in the real economy. The ensuing austerity policies produced deep sufferings for great part of the population that was unable to react against the overwhelming power of finance. The G20, following the immediate precedent of the Dodd-Frank Act, started a process of re-regulation of the financial system coordinated by the Financial Stability Board pursuing a system of vicarious regulation, or regulation of self-regulation, proved to be ineffective and burdensome for most financial institutions. This process of re-regulation did not succeed to change the direction of evolution of the financial system, as it increased its concentration in big conglomerates practising universal banking, did not counteract the causes of instability,

did not correct the distortions of investment shifting from the real economy towards finance, and did not reduce the negative externalities suffered by most citizens. In Chaps. 7 and 8, I suggested the outlines of a radical reform of the financial system capable to re-orient its evolution in a direction consistent with democracy according to the normative principles of enlarged sustainability. This book argued that this requires a re-compartmentation of finance introducing an apt system of checks and balances between redesigned functional compartments of finance. An effective management of such a system requires a new philosophy of direct regulation that induces the financial system to respect the principles of democracy and enlarged sustainability. I am fully aware of what will be likely considered the weakest point of my suggested perspective. The suggested “plan” demands more responsibilities for the state but this goes against the widespread and growing mistrust in the state. However, democracy is not implementable without the state. This is particularly true for the less advantaged layers of society. In particular, the much-needed redistribution of income in favour of the lower layers of society necessitates the active intervention of the state. This does not imply the “repression” of free markets but the internalisation of its negative externalities and its regulation for the common good. If only the state may provide the required foundations for the financial system, responsible politicians should stop its systematic delegitimation and the progressive dismantlement of its authority and effectiveness. They should rather reverse this disruptive trend and proceed in the opposite direction of an ambitious reform of the state. In a democratic society this does not imply a bigger state, at least in the sense of a bigger bureaucracy, a greater intrusion into the private sphere, or a reduction of individuals’ liberty. On the contrary, huge and inefficient bureaucracies (as vividly depicted by many great writers of the past, such as Kafka (1968) in the Castle, are typical of authoritarian states. A democratic state does not need a big bureaucracy to be efficient and play a crucial and irreplaceable role in protecting the citizens’ privacy and in defending and extending their liberty. Minsky advocated a big state and a big central bank as non-fungible remedies against financial instability, but this does not imply overgrown, bureaucratic and authoritarian public institutions (see e.g., Minsky 1986). An efficient state rather requires lean and authoritative institutions. The new technological advances offer a host of new opportunities to build a new model of state. However, this important and promising issue goes beyond the limits of this book.

Professor Saule Omarova of the prestigious Cornell Law School graphically likened the current process of financial regulation after the crisis to the popular game of whack-a-mole, alluding to a process in which the attempts to solve a problem are piecemeal and inconclusive, resulting only in temporary or minor improvements. In order to avoid playing endless and frustrating rounds of “whack-a-mole”, it is necessary to put the structural reform of the financial system on top of present policy priorities (see Omarova 2018, 26). This book tried to design the outlines of a structural reform of the financial system and its regulation capable to constrain their co-evolution in a direction consistent with the public interest according to the normative principles of democracy and comprehensive sustainability. In the absence of a radical reform of this kind, the financial mole will continue to burrow the terrain over which the fragile building of democracy lies until an autocratic elite will cry out “well dug old mole”.²¹

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²¹As is well known, this expression has been uttered by Hamlet (Shakespeare’s Hamlet, Act 1, Scene 5) to praise the effectiveness of the father’s ghost seeking vengeance. Hegel and Marx, among others, have borrowed this expression in different contexts. Hegel refers to the transformation of poetry into pure spirit that occurs suddenly as in a volcanic eruption. Marx, who learned philosophy by studying Hegel and English by studying Shakespeare, referred to the ghost of communism and the revolutionary eruption that it would have eventually determined. Today the ghost of financial technocracy undermines the fragile building of democracy without which the development of our societies would rapidly become irretrievably unsustainable.

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