

Making the Financial System Sustainable

The EU Action Plan on Financing Sustainable Growth is the most advanced and comprehensive policy agenda on sustainability in the world. But is it going in the right direction? Acting as a bridge between policy and academia, this up-to-date contribution to the global policy debate brings together some of the leading experts from the European Commission's High-Level Expert Group on Sustainable Finance, to discuss how the financial system needs to be reformed to promote sustainability. Finance has long been criticised for being short-term focused and concerned with maximising returns to intermediaries, rather than with the interests of savers and borrowers. The financial system must now take into account environmental, social and governance considerations to support a sustainable economy and this volume offers new insights on the way forward. Essential reading for anyone working on financial sector policy and sustainability.

PAUL G. FISHER is a Fellow at the Cambridge Institute for Sustainability Leadership.

Making the Financial System Sustainable

Edited by

PAUL G. FISHER

University of Cambridge Institute for Sustainability Leadership.



CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press & Assessment
 978-1-108-82756-0 — Making the Financial System Sustainable
 Edited by Paul G. Fisher
 Frontmatter
[More Information](#)



CAMBRIDGE
 UNIVERSITY PRESS

Shaftesbury Road, Cambridge CB2 8EA, United Kingdom
 One Liberty Plaza, 20th Floor, New York, NY 10006, USA
 477 Williamstown Road, Port Melbourne, VIC 3207, Australia
 314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India
 103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment, a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781108827560

DOI: 10.1017/9781108908269

© Cambridge University Press & Assessment 2021

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press & Assessment.

First published 2021

First paperback edition 2025

A catalogue record for this publication is available from the British Library

Library of Congress Cataloging-in-Publication data

Names: Fisher, Paul G. (Paul Gregory), editor.

Title: Making the financial system sustainable / edited by Paul G. Fisher.

Description: Cambridge, United Kingdom ; New York, NY : Cambridge University Press, 2020.

| Includes bibliographical references and index. | Summary: The EU Action Plan on Financing Sustainable Growth is the most advanced and comprehensive policy agenda on sustainability in the world. But is it going in the right direction? Acting as a bridge between policy and academia, this up-to-date contribution to the global policy debate brings together some of the leading experts from the European Commission's High-Level Expert Group on Sustainable Finance, to discuss how the financial system needs to be reformed to promote sustainability. Finance has long been criticized for being short-term focused and concerned with maximizing returns to intermediaries, rather than with the interests of savers and borrowers. The financial system must now take into account environmental, social and governance considerations to support a sustainable economy and this volume offers new insights on the way forward. A must-read for anyone working on financial sector policy and sustainability.

Identifiers: LCCN 2020013359 (print) | LCCN 2020013360 (ebook) | ISBN 9781108842297 (hardback) | ISBN 9781108827560 (paperback) | ISBN 9781108908269 (epub)

Subjects: LCSH: Finance–Environmental aspects. | Capitalism–Environmental aspects. | Economic development–Environmental aspects. | Sustainable development.

Classification: LCC HG101 .M35 2020 (print) | LCC HG101 (ebook) | DDC 332–dc23

LC record available at <https://lcn.loc.gov/2020013359>

LC ebook record available at <https://lcn.loc.gov/2020013360>

ISBN 978-1-108-84229-7 Hardback

ISBN 978-1-108-82756-0 Paperback

Cambridge University Press & Assessment has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Contents

List of Figures	<i>page</i> vii
List of Tables	ix
List of Boxes	x
List of Contributors	xi
Foreword	xx
CHRISTIAN THIMANN	
Preface	xxix
 Introduction	 1
KAJETAN CZYŻ AND PAUL G. FISHER	
 1 Capitalism Meets Multilateralism	 13
PADDY ARBER AND STEVE WAYGOOD	
 2 Public Meets Private: Sustainable Finance for a Sustainable Economy	 26
INGRID HOLMES	
 3 Central Banking and Climate Change	 49
KERN ALEXANDER AND PAUL G. FISHER	
 4 Sustainable Finance and Prudential Regulation of Financial Institutions	 75
ESKO KIVISAARI	
 5 Transparency and Accountability Standards for Sustainable and Responsible Investments	 104
FLAVIA MICILOTTA	

vi CONTENTS

6	Environmental Risk Analysis by Financial Institutions	122
	NINA SEEGA AND ANDREW VOYSEY	
7	Sustainable Governance and Leadership	145
	CLAUDIA KRUSE AND MICHAEL SCHMIDT	
8	ESG Risks and Opportunities: A Fiduciary Duty Perspective	168
	WILL MARTINDALE, ELODIE FELLER AND RORY SULLIVAN	
9	Active and Responsible: A Cost-Efficient Model for Integrating Sustainability	196
	MAGNUS BILLING AND CARINA SILBERG	
10	Passive-Aggressive or Just Engaged: New Active Ownership Approaches through Benchmarks	214
	DAVID E. HARRIS	
11	Financing a Just Transition: How to Connect the Environmental and Social Dimensions of Structural Change	237
	NICK ROBINS	
12	Sustainable Finance for Citizens	258
	ANNE-CATHERINE HUSSON-TRAORE	
13	Individual Impact Investors: The Silenced Majority	276
	STAN DUPRÉ	
14	Strengthening Green Finance by Better Integrating the Social Dimensions in the European Union's Sustainable Finance Laws	299
	MYRIAM VANDER STICHELE	
	Index	327

Figures

6.1	An analytical framework for understanding environmental sources of financial risks	<i>page</i> 126
6.2	The focus of the illustrative case studies featured in this study	132
8.1	The growth in responsible investment regulation and policy	176
11.1	Reasons for investor action on the just transition	248
11.2	Priorities for investor action on the just transition	250
13.1	The preferences of French and German retail investors: consulting clients and AGM resolutions	283
13.1a	Should end clients be consulted on voting preferences on climate? Should the preferences be binding for intermediaries?	283
13.1b	Preferred categories of climate resolution for retail investors	283
13.2	Investment impact	284
13.3	Frequency of investors' environmental impact claims by sustainable investment products manufacturers	289
13.4	Compliance of investors' environmental impact claims made by sustainable investment products manufacturers	290
13.4a	Frequency of problematic claims per MDEC criteria (in per cent of funds)	290
13.4b	Funds categorised based on how deceptive the claims are (by per cent of funds)	290
13.5	Interpretation of investor impact claims by German and French consumers	291
13.5a	Interpretation of a false claim (green equity fund)	291

viii LIST OF FIGURES

13.5b	Interpretation of an accurate but ambiguous claim (thematic equity fund)	291
13.6	Sustainability investment preferences of French and German consumers	292
13.7	French and German consumers for taking action on their equity investment	293

Tables

6.1	Illustrative case studies of climate risk assessment	<i>page</i> 130
8.1	Examples of policy instruments promoting sustainable investment by pension funds	177
11.1	Employment implications of the transition: key findings	243
11.2	Setting the scope of the just transition: initial illustrations	245
12.1	Screening choices	263
12.2	Funds with particular ESG labels	266

Boxes

8.1 Common and civil law	<i>page</i> 170
8.2 The traditional fiduciary duties	172
8.3 EU regulation on sustainability-related disclosures in the financial services sector	181
8.4 Examples of integrated finance and sustainability policy	184
8.5 Modern fiduciary duty	190
8.6 A legal framework for impact	193
10.1 ESG data types	224
10.2 How ESG data is applied in the index design	227
10.3 Index regulation	228
10.4 Smart sustainability case study	231

Contributors

Kern Alexander holds the Chair in Law and Finance at the University of Zurich, and Director of Studies, Queen's College, University of Cambridge. Publications include *Principles of Banking Regulation* (Cambridge University Press, 2019) and *Brexit and Financial Services* (coauthored with Moloney et al., 2018). Since 2009 he has served as a regulatory and policy adviser to the European Parliament, the G20, and the United Nations Environment Programme. His report, 'Stability and Sustainability in Banking Reform: Are Environmental Risks Missing in Basel III?' (Cambridge, 2014) was the first study of the interrelationship between banking regulation and environmental sustainability. He is the founder of the Research Network for Sustainable Finance.

Paddy Arber is Head of International Government Engagement at Aviva, the United Kingdom's largest insurer and a significant global investor. He leads work across Aviva's insurance and investment arms to develop and advocate policy for market reform that will help build a more sustainable global financial system. His recent work includes contributions to the EU High Level Expert Group on Sustainable Finance and UN Global Investors for Sustainable Development Alliance. Before joining Aviva, Arber worked for the UK Government on international negotiations, including EU finances and the Paris climate change agreement.

Magnus Billing is the CEO of Alecta and represents Alecta on nomination committees of Swedish A-list companies. Billing was previously the CEO of Nasdaq Nordic and Baltic Markets. Within Nasdaq, he held such positions as Chief Legal Counsel and Senior Vice President. He was a member of the Nasdaq Listing Committee,

xii LIST OF CONTRIBUTORS

chair of the Nasdaq Nordic Foundation and served as a member of the Board of Directors of Federation of European Securities Exchanges, Swedish House of Finance and as an alternate director of the Swedish Corporate Governance Code Board of Directors. He is chairman of the Advisory Board at the Stockholm Sustainable Finance Centre.

Kajetan Czyż is a Senior Income G&S Specialist at Baillie Gifford where he leads on sustainability across the income strategies. Previously as Programme Director, Sustainable Finance at the Cambridge Institute for Sustainability Leadership (CISL), he led private sector research and engagement across banking, insurance and investment. A contributor to EU High Level Expert Group, UK Green Finance Task Force and ISO sustainable finance standards. Before CISL, he headed work on securitisation with the UN, developed green bond markets in India and Brazil, and led on green infrastructure at the Climate Bonds Initiative. From 2013 at BMO GAM he worked on the energy transition and represented the EU investment industry at the Paris Climate Summit.

Stan Dupré^{**} is founder and CEO of the 2° Investing Initiative, a leading think tank on sustainable finance globally. It is particularly known for having introduced portfolio climate scenario analysis into financial regulation and supervisory practices, as well as into banking and investors voluntary practices. Dupré teaches at Paris Dauphine University. He has authored multiple papers on sustainable finance, including *All Swans Are Black in the Dark*, *Non-Financial Message in a Bottle* and *Connecting the Dots between Climate Goals, Portfolio Allocation and Financial Regulation*. Before creating 2° Investing Initiative, Dupré was Managing Director of the strategic planning consultancy *Utopies*.

Elodie Feller^{*} is the Investment Programme Lead at the UN Environment Programme Finance Initiative (UNEP FI). UNEP FI's

activities include research, advocacy, awareness raising, capacity building and the development of guidelines and tools for financial institutions to align investment practices with the Paris Agreement and the Sustainable Development agenda. She leads the Fiduciary Duty in the 21st Century programme, the Task Force on Climate-Related Financial Disclosures Investor Pilot and the Legal Impact Framework project. Feller is a member of the EU Technical Expert Group on Sustainable Finance developing the EU Taxonomy. Previously she worked at Lombard Odier Investment Managers as product specialist and ESG analyst.

Paul G. Fisher^{**} (Editor) is a fellow of the Cambridge Institute for Sustainability Leadership. After ten years as an academic at the University of Warwick, he served at the Bank of England for twenty-six years, in a number of senior management positions. He was a member of the Monetary Policy Committee (MPC) and the interim Financial Policy Committee (FPC) (serving as Executive Director for Markets on both) and as the Deputy Head of the Board of the Prudential Regulation Authority (PRA). His current portfolio includes serving as Chair of the London Bullion Market Association; Non-executive Director at the UK Debt Management Office; Visiting Professor at the London Institute of Banking and Finance and at Richmond University, London; and Senior Research Fellow at King's College Business School, London.

David Harris^{**} is Head of Sustainable Business, London Stock Exchange Group, where he is responsible for sustainability and green finance integration into service. Harris also leads sustainable investment engagement at FTSE Russell where he led the development of FTSE Russell's sustainable investment index capabilities. He has held a variety of industry positions including Vice Chair of the UK Sustainable Investment and Finance Association (UKSIF) and chaired the UN Sustainable Stock Exchange's Working Group developing Model ESG Reporting Guidance.

xiv LIST OF CONTRIBUTORS

Ingrid Holmes^{**} is a director at Hermes Investment Management, leading on Hermes Policy and Advocacy. She has more than fifteen years of experience working on environmental policy and sustainable finance issues – with a long-standing interest in climate change. Prior to joining Hermes, Holmes was a director at a sustainable development think tank, had worked in asset management and had been an adviser in the UK Parliament and Government. Holmes has also held several Government advisory roles including as Sherpa to the Green Investment Bank Commission (2010/2011), member of the UK Green Finance Initiative (2016/2018) and running the Secretariat for the Green Finance Taskforce (2017/2018).

Anne-Catherine Husson-Traore^{**} is a CEO and cofounder of Novethic, the sustainable transformation accelerator of the Caisse des Dépôts Group. Originally a journalist in the television sector, she became passionate about sustainable finance in 2001 and has since then focused on how to accelerate the transformation of the financial sector and companies towards greater social and environmental responsibility. She participates in many initiatives, speaks at numerous conferences, teaches business school students and continues with journalism. Husson-Traore invests all her energy to enhance, connect and activate the catalysts of sustainable and inclusive performance.

Esko Kivisaari^{**} is the Deputy Managing Director of Finance Finland. He was also Immediate Past Chairperson (2019–2020) of the Actuarial Association of Europe (Chairperson 2018–2019), member of the Executive Committee of Insurance Europe, member of the EFRAG European Lab Steering Group and member of the Consultative Expert Group on Digital Ethics in Insurance of the European Insurance and Occupational Pensions Authority (EIOPA). Kivisaari's publications include *Vakuutusoppi* (in Finnish, translated: *Insurance Handbook*) and *Vakuutustalous* (in Finnish, translated: *Insurance Economics*).

Claudia Kruse^{**} is Managing Director Global Responsible Investment & Governance at APG, a fiduciary manager for Dutch pension funds with € 505 bn of assets under management (April 2019). She is part of the management team of the Chief Investment Officer. Kruse is also a board member of the International Corporate Governance Network (ICGN) and co-chair of the Advisory Committee on the UN Sustainable Development Goals of the Principles for Responsible Investment. Before joining APG in April 2009, Kruse worked in London for almost a decade in the investment industry on the buy- and sell-side (JPMorgan).

Will Martindale^{*} is Director of Policy and Research at PRI. Martindale leads PRI's global regulatory affairs and public policy programme, the flagship fiduciary duty project jointly with UNEP FI and the implementation of PRI's sustainable financial system activities in national policy reform. Martindale has a background in banking, joining JPMorgan's graduate programme in June 2004. In September 2010, he joined BNP Paribas, as a business manager for its credit trading desk.

Flavia Micilotta^{**} leads the sustainability practice of Deloitte in Luxembourg and was previously Director at the Luxembourg Green Exchange, the key stock exchange for listing of green bonds and in that capacity was a member of the EC Technical Expert Group focussed on an EU green bond standard. She is a member of EFRAG's EU Corporate Reporting Lab and of the EIOPA Occupational Pension Stakeholder Group. Micilotta has also been an Executive Director of Eurosif. Previously a sustainability consultant and qualified environmental auditor, she assisted companies to embed sustainability in their business models and go beyond the remits of social and environmental compliance. She was a founding member of the UN Global Compact in Belgium.

xvi LIST OF CONTRIBUTORS

Nick Robins^{*} is Professor in Practice for Sustainable Finance at the Grantham Research Institute at the London School of Economics. Previously, Robins was codirector of UNEP's Inquiry into a Sustainable Financial System. Before that, he was Head of the Climate Change Centre of Excellence at HSBC and earlier Head of socially responsible investment funds at Henderson Global Investors. Robins is a cofounder of Carbon Tracker and Planet Tracker and has published widely on business, finance and sustainability, including *The Corporation that Changed the World: How the East India Company Shaped the Modern Multinational* and *Sustainable Investing: The Art of Long-Term Performance*.

Michael Schmidt^{**} is a member of the management board and the Chief Investment Officer of Lloyd Fonds AG. Schmidt is also a board member of DVFA – the German Society of Investment Professionals – and heads its Commission on Corporate Governance & Stewardship. He is a member of the Sustainable Finance Committee of the German Federal Government and a member of the Sustainability Advisory Council at Deutsche Post DHL. In previous roles, Schmidt served on the management boards of Deka Investment and Union Investment for three and six years, respectively. Prior to that, he worked for fourteen years in the asset management division of Deutsche Bank.

Nina Seega is Research Strategy Director, Centre for Sustainable Finance, University of Cambridge Institute for Sustainability Leadership. Seega is an Academic Visitor at the Bank of England and in 2016–2017 she co-led the CISL team serving as Knowledge Partner for the risk analysis track of the G20 Green Finance Study Group. She sits on the Strategic Advisory Board for Sustainable Finance at the British Standards Institute and Advisory Board of the Hughes Hall Climate Change Engagement Centre. Previously,

Seega was the Head of the London Traded Products Desk for Dresdner Kleinwort, responsible for credit risk management of traded products.

Carina Silberg is the Head of Sustainability at Alecta and is responsible for overseeing and advancing Alecta's sustainability work. Silberg represents Alecta in a number of initiatives including Swedish Investors for Sustainable Development (SISD), facilitated by the Swedish International Development Cooperation Agency (Sida). She was previously a member of the Executive Management team at corporate communications advisory firm Hallvarsson & Halvarsson, heading its CSR and sustainability practice with multinational corporate clients. Her other experiences include the role as Senior ESG analyst and Head of Engagement at GES Investment Services (today part of Sustainalytics).

Rory Sullivan is CEO of Chronos Sustainability, Visiting Professor in Practice at the Grantham Research Institute at the London School of Economics, Strategic Advisor to the Principles for Responsible Investment and Chief Technical Advisor to the Transition Pathway Initiative. He is an internationally recognised expert on responsible investment and climate change, with more than thirty years of experience in these and related areas. Previously, he was Head of ESG Research and Standards for FTSE Russell and Head of Responsible Investment at Insight Investment. His publications include *Valuing Corporate Responsibility: How Investors Really Use Corporate Responsibility Information* (Greenleaf, 2011) and *Responsible Investment* (Greenleaf, 2006).

Christian Thimann*** (Foreword) has been the Chair of the EU High-Level Expert Group on Sustainable Finance, while acting as the Head of Strategy and member of the Executive Committee of the AXA Group. He has subsequently advised the European Commission in the

xviii LIST OF CONTRIBUTORS

area of financial regulation. Prior to that, he worked in executive positions at the European Central Bank, most recently in the role of Director General.

Myriam Vander Stichele^{**} is a senior researcher at the Centre for Research on Multinational Corporations. Since 1999, she has been researching and publishing about the financial sector from a sustainability and public interest perspective and its integration in trade and investment agreements. She focuses on the EU regulatory process since the 2008 financial crisis. Vander Stichele and her publications include *The Missing Dimension – How European Financial Reforms Ignore Developing Countries and Sustainability* (2011) and *Mobilising the Financial Sector for a Sustainable Future* (2015). She supports civil society around the world to promote a sustainable and stable financial sector.

Andrew Voysey is responsible for Strategy and Business Development at Soil Capital, a farm management and independent agronomy firm committed to scaling regenerative agriculture through market solutions via its activities across Europe, Latin America and beyond. Over the previous decade, Voysey built and led the sustainable finance team at the University of Cambridge Institute for Sustainability Leadership, where he retains a senior associate position. He was also an academic visitor at the Bank of England, advising on climate change.

Steve Waygood^{**} is a member of the CIO Investment Committee at Aviva investors and chairs the ESG Senior Management Team. He founded Aviva Investor's Sustainable Finance Centre for Excellence and also co-founded the Corporate Human Rights Benchmark, the World Benchmarking Alliance and the UN Sustainable Stock Exchange Initiative. Waygood has advised the UK Government, the European Commission, the Financial Stability Board and the UN on the creation of sustainable capital markets. He is Honorary Senior

Visiting Fellow at City University Business School and Senior Associate at the Cambridge Institute for Sustainability Leadership and has received awards from Brummell, the Chamber of Commerce, the City of London, the United Nations Foundation, Yale and Harvard.

- *** Chair, EU High-Level Expert Group on Sustainable Finance
- ** Member, EU High-Level Experts Group on Sustainable Finance
- * Observer/observer organisation, EU High-Level Experts Group on Sustainable Finance

Foreword

Sustainable Finance and the Need for a ‘New and Sustainable Globalisation’

by Christian Thimann¹

Rarely has a topic gained global prominence as fast as has ‘Sustainable Finance’: the integration of long-term sustainability goals, including climate, into financial decision-making. The aim is to support the economy on a path that maintains employment and welfare in a way that is sustainable in the long-term.

The Paris Agreement, reached at the Conference of the Parties 21 (COP21) on climate change in late 2015, laid the basis for the sustainable finance agenda. For the first time in twenty years of this annual conference, the financial sector was mentioned as playing a role to help bring more investment into decarbonisation. In 2016, a majority of the signatories ratified the agreement at national level and the threshold for global implementation was passed. In 2017, the European Commission launched a High-Level Expert Group on Sustainable Finance, which I had the privilege to chair and whose membership included many contributors to this book, including the editor.

The group presented its report in early 2018, and the European Commission built its Action Plan on Sustainable Finance only a few months later, largely inspired by the group’s work. Implementation started whilst the group continued to meet, based on a broad-based recognition of the issue among the financial sector at large as well as the supervisory, and ultimately the central banking community. By the start of 2020, one can safely say that sustainability issues, regarding climate change and other long-term objectives, had been

¹ Chair of the EU High-Level Expert Group on Sustainable Finance and Vice-Chair of the FSB Task Force on Climate-related Financial Disclosures (TCFD). Views expressed are personal.

‘mainstreamed’ in the financial system. From niche to mainstream in less than five years—a remarkable achievement.

The second remarkable aspect about sustainable finance is that it is ultimately science-based, at least when relating to climate change. It is the natural sciences that have measured global warming and sea level rise, qualified and quantified greenhouse gas emissions and developed a metric for the trend in total emissions to keep climate change in check. There are not many instances where the work of the natural sciences has fed into financial regulation as rigorously as for climate change.

With great prominence comes great responsibility. It is a huge task to finance the transformation of the global economy towards lower emissions and generally a much more environmentally responsible functioning. The implications go far beyond the energy and even the transportation sectors; a far-reaching decline in global CO₂ emissions will only be possible if there is change along the entire process in which goods are produced, transported, consumed and disposed of in the global economy.

We will soon realise that the biggest ‘climate killer’ is not coal, as is sometimes postulated, but the way in which globalisation has been pursued. The globalisation that we have witnessed over the past three decades has incurred a shift of production towards geographical areas with weaker environmental and social standards; it has also pushed to the extreme the focus on maximising the profits from consumption through low production costs with disregard to all areas of sustainability; and it has led to an astronomic rise in global transportation of all sorts: people, raw materials, unfinished goods and finished goods, creating massive emissions, pollution and environmental damage.

The environmental damage is most visible in the emerging economies where a large share of the production destined for final consumption in developed markets has been located; this has been a high price to pay for the income rise in these economies. And western Europe has witnessed the social damage of this globalisation in terms

xxii FOREWORD

of structural unemployment and desertification of entire regions – think of Southern Italy, many regions of France, Northern England or Eastern Germany, to name just a few.

At the same time, however, this globalisation has boosted economic development in emerging markets in a speed and breadth never seen before. This is the positive side of globalisation, and this is also why the solution cannot consist of backtracking on globalisation as such. The solution cannot be protectionism or autarky; the solution is a *different globalisation* as suggested below.

To correct some of these trends and arrive at a sustainable manner of global production and consumption will be a herculean task, for European policy makers and others alike. Europe has much to gain from taking sustainability seriously but could also lose on both environmental and other economic grounds if the process is not well handled. The following paragraphs explain the reasoning.

* * *

Sustainable finance is, first of all, a call on the financial sector itself to change its functioning away from a short-term focus towards a long-term orientation. Financial speculation, short-term profit extraction, betting on (and hence forcing) corporate distress by way of short-selling, must be brought in check much more resolutely than has been the case so far. There are too many pockets in the financial system that are on a monthly, quarterly or annual performance cycle and push the real economy towards similar performance cycles. We cannot build a long-term future while focusing on swings in quarterly earnings. And none of the new ESG-disclosures demanded from the real economy will help if the financial sector is unable to process them properly.

The changes towards sustainability and long-term orientation are necessary in particular for the structure and functioning of financial markets; specifically, the stock market and corporate bond market. There is far too much short-term profit seeking in trading of stocks and long-term bonds. The market economy does not need

stock prices changing by the minute or by the nano-second. It may even be seen as unethical to trade people's jobs by the minute and pretend that the value of a corporation with tens of thousands of employees should be re-priced several hundred times per day. In economic terms, such price fluctuations are meaningless, and for sustainability they are poisonous. In contrast, much less change is necessary as regards banking, insurance or pension funds as these institutions in Europe are already today strongly focused on the real economy and on long-term welfare generation.

* * *

For the European economy, three issues must be kept in mind.

First, global CO₂-emission targets are science-based, but national targets are not, and neither is the European Union (EU) target. National targets and the EU target are the outcome of negotiations that took place in Paris. Here, the EU and its Member States promised a much deeper decline in emissions – namely of 40% over a few decades – than other developed economies (for example, the US promised only a 10-15% cut before stepping out of the Paris agreement altogether). China will continue to increase CO₂ emissions until at least 2030. The EU must remember that great ambition comes with great risks, because such an emissions reduction is not possible with today's technologies other than through a massive cut in European economic activity, which would have huge and possibly unsustainable consequences. The EU emissions reduction path is only economically and socially sustainable if it remains open to new technologies, while keeping jobs and production in Europe.

Second, the easy answer for the EU would be to lay on top of the European financial and real economy industry yet another layer of rules and regulations that would be so strict that it would severely constrain economic activity on the continent. Already today, the European economy is the most tightly regulated economy in the world. This is not just true for banking and insurance, but also for

xxiv FOREWORD

agriculture, telecommunications and many other sectors. Sustainable finance must not simply create an additional layer of regulation but should lead to a *change* in regulation – or even just a change in how it is applied – to promote sustainable outcomes. Ideally, it would lead to far less complex regulation, as the single overarching objective of sustainable economic development is unambiguously clear.

Europe is one of the continents with the cleanest, most environmentally friendly industrial production processes. Therefore, if Europe were to raise standards unilaterally and further regulation were to lead to the delocalisation of industrial activity outside of Europe, this might seemingly help towards Europe's extremely ambitious CO₂ emissions targets. But actually, it would be net negative for the global climate to the extent that production is just moved to more polluting locations and it would diminish Europe's remaining industrial base, which carries millions of jobs and the European welfare system. Such a strategy would have economic costs for the EU and environmental costs for the planet.

The experience of the delocalisation of the European steel industry to other continents is a case in point: when steel factories in France, Germany and other countries were dismantled and rebuilt in the far East, the desulphurisation facilities were often left behind. The global environmental impact was severely negative. Therefore, sustainability should lead to a *re-localisation* of part of the activity that was lost. Such re-localisation to Europe would improve environmentally friendly productions, reduce transportation and lower global emissions. Europe should *favour* economic activity *in its own regions* and focus on local, sustainable production rather than global, unsustainable production. 'New and sustainable globalisation' would favour local production wherever possible, and imports from far around the globe would be the exception and not the rule. 'Sustainable Finance' should therefore have a spatial dimension. Vicinity matters, and proximity is preferable.

It is simply against common sense that Europe has its shoes, textiles, household goods, household appliances, stationery, basic

machinery and tools and a rising share of food imported from locations thousands of kilometres away. What has led to this outcome? Economics and non-sustainable finance have played a key role in driving this process by focusing on short-term monetary returns at the expense of social and environmental costs in both the production country and the European Union.

A key concept is the one of ‘comparative advantage’ postulating that differing relative costs of production within a country favour specialisation by each country and international trade. While conceptually appealing, the argument has two shortcomings.

The concept of comparative advantage overlooks transportation costs including environmental costs, and it overlooks size differences and market power. It is best to illustrate the latter point with the economic development in the country of origin of the inventor of ‘comparative advantage’, David Ricardo. Ricardo’s family was originally from Portugal and emigrated to England. His father became wealthy as a stockbroker in London, and David Ricardo developed theories on international trade.

English officials made heavy use of his argument of ‘comparative advantage’ in the second half of the 19th century to convince Portugal to open its domestic market on a large scale through advantageous tariffs to English industrial goods. England was seeking market access for its booming industrialisation. In exchange, Portugal would export Port wine, as the theory had famously suggested.

What was the result? The Portuguese economy was provided with cheap industrial goods from much larger England, practically wiping out any existing and nascent industrial activity in Portugal. The economic impact was devastating: before this opening occurred, around 1860, Portuguese per capita GDP was 75% of that of France and supported by industrial activity in textiles in particular. By 1910, this share had fallen to 13% and industry was virtually absent in Portugal. There is little doubt for economic historians, that this broad opening to trade with a much larger economy was the main reason for

xxvi FOREWORD

late economic development in Portugal, famously called ‘le retard Portugais’.

Replace England with China and Portugal with selected EU regions, say in France or Italy, respectively, and the economic consequences become visible again. Consumers in these regions are flooded with cheap industrial goods from China and other Asian emerging economies, but domestic industry and employment have been massively diminished. The only difference to the historical example is that these regions do not export Port wine, but tourism services to a fast-growing number of tourists from China and other emerging markets.

This is why the EU’s Sustainable Finance should focus in particular on fostering local and regional activity within Europe, for the economic and social benefit of the EU and for the environmental benefit of the planet. In this way, it would support the ‘new and sustainable globalisation’. The benefits of such new and sustainable globalisation for emerging markets would remain: they would still have access to all technological progress available, but not so as to destroy their own environment in favour of mass production for developed countries.

Third, getting the pacing right on implementing sustainable finance, and climate policies more broadly, is critical. Regulatory changes can steer industry but must not be so fast that European industry does not have the time to adjust. It would not be the first time that abrupt policy changes had wiped out entire European industry sectors: it happened to the photovoltaic industry after the EU opened abruptly to massive imports; it happened to the lighting industry after the EU set up lightbulb regulations and demanded a quick shift towards halogen and then LEDs that now almost exclusively come from China. As a result, Europe lost jobs and product prices rose sharply. These may seem very specific sectoral examples, but developments in the energy, car manufacturing, machinery, technology and digital sectors are also worrying.