Corporate Governance

The Future of Corporate Governance in Capital Markets Following the COVID-19 Crisis

OECD

Corporate Governance

The Future of Corporate Governance in Capital Markets Following the COVID-19 Crisis

OECD

BETTER POLICIES FOR BETTER LIVES

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Please cite this publication as:
OECD (2021), *The Future of Corporate Governance in Capital Markets Following the COVID-19 Crisis*, Corporate Governance, OECD Publishing, Paris, *https://doi.org/10.1787/efb2013c-en*.

ISBN 978-92-64-59275-9 (print)
ISBN 978-92-64-79616-4 (pdf)

Corporate Governance
ISSN 2077-6527 (print)
ISSN 2077-6535 (online)

Photo credits: Cover © OttoKrause/iStock/Gettyimages.com.
Design by: Baseline Arts Ltd

Corrigenda to publications may be found on line at: *www.oecd.org/about/publishing/corrigenda.htm*.

© OECD 2021

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at *http://www.oecd.org/termsandconditions*.

Foreword

Well-functioning capital markets that can allocate substantial financial resources for long-term investments will make a critical contribution on the road to recovery from the COVID-19 crisis. Corporate governance rules and practices will also need to be adapted to the post-COVID-19 reality, particularly with respect to issues such as increased ownership concentration; environmental, social and governance (ESG) risk management; digitalisation; insolvency; audit quality; and creditor rights.

The Future of Corporate Governance in Capital Markets Following the COVID-19 Crisis provides an evidence-based overview of developments in capital markets globally leading up to and including the COVID-19 crisis. It documents the impact of the crisis on the use of capital markets and the introduction of temporary corporate governance measures. Although the structural effects of the crisis on capital markets and its interplay with corporate governance remain to be fully understood, this report presents trends that can be used to shape policies that will support the recovery and formulates the key policy messages that will guide the review of the *G20/OECD Principles of Corporate Governance*.

The findings in this report are supported by an existing body of OECD work that addresses a range of structural developments relevant to the recovery and to creating longer-term resilience. This includes a review of flexibility and proportionality in corporate governance; a review of the duties and responsibilities of boards in company groups; an analysis of the changing landscape of corporate ownership around the world; a review of developments in the public equity and corporate bond markets; and, a review of corporate governance and the management of ESG risks.

This report benefits from discussions within the OECD Corporate Governance Committee and incorporates comments from delegates. The resulting “Conclusions by the OECD Corporate Governance Committee” is included in this publication.

Conclusions by the OECD Corporate Governance Committee

A sustainable recovery of the corporate sector is a key policy priority following the COVID-19 crisis. The corporate sector has played a central role in tackling the health crisis through research and innovation, and by providing a steady supply of goods and services during a time of disrupted global value chains. At the same time, the pandemic has also forced the corporate sector to adapt, and possibly induced long-term structural changes.

Some business models will be phased out or change in character, while others will be premised on new opportunities for innovation and growth. While the crisis might induce such a process of dynamic transformation, there are also concerns that parts of the corporate sector that were under-capitalised before the crisis will exit it with even higher debt levels and that an increased amount of productive resources will be tied up in non-viable companies, dragging down overall investment and economic growth.

The exact trajectory of these structural changes is, at this juncture, difficult to predict. What is certain however, is that the road to recovery will require well-functioning capital markets that can allocate substantial financial resources for long-term investments and a corporate governance framework that gives investors, executives, corporate directors and stakeholders the tools and incentives needed to make sure that corporate practices are adapted to the post-COVID-19 reality.

Drawing on a wealth of national experiences from adapting corporate governance frameworks to the evolving crisis conditions and informed by the report "*The Future of Corporate Governance in Capital Markets Following the COVID-19 Crisis*" that provides an evidence-based overview of developments globally, the OECD Corporate Governance Committee highlights the following messages:

Making public equity markets support recovery and long-term resilience

Stock markets play a key role in providing companies with equity capital that gives them the financial resilience to overcome temporary downturns, while meeting their obligations to employees, creditors and suppliers. At the same time, since 2005 more than 30 000 companies have delisted from stock markets globally, notably in the United States and Europe. These delistings have not been matched by new listings, which has resulted in a considerable net loss of publicly listed companies.

This means that compared to the 2008 financial crisis, many thousand fewer companies have so far been able to access this important source of market-based finance. In particular, the structural decline

of smaller company IPOs means that a larger portion of smaller growth companies have been distanced from immediate access to public equity financing.

- It should be an overarching policy objective to facilitate access to public equity markets for sound businesses. This will help strengthen the balance sheets of viable corporations and the emergence of new business models that are essential for a sustainable recovery and long-term resilience in the case of future shocks.
- From the perspective of inclusiveness, a well-functioning public equity market should also provide ordinary households with the opportunity to directly or indirectly share in the return on capital, giving them additional options for managing savings and planning for retirement.
- In times of crisis, there are typically calls for more demanding corporate governance, compliance and disclosure standards in the non-financial sector. The current crisis is no exception. When evaluating an adaptation to the post-COVID-19 landscape, policy makers and regulators should carefully assess the long-term costs and benefits of interventions, and avoid over-regulation that may discourage companies from going or staying public.
- Steps should be taken to address any structural weaknesses in the stock market ecosystem that discourage smaller growth companies from going public. Policy makers and regulators should take a proactive approach to address the cost of listings and ensure that there are no unnecessary barriers or regulatory and supervisory uncertainties for companies that want to use new alternative listing practices, such as direct listings and online book building.
- To balance the current focus on large listed companies by institutional investors, steps should be taken to improve the visibility and attractiveness of smaller growth companies, for example through dedicated analyst coverage programmes and specialised incubator programmes to prepare growth companies for capital market financing.

Adapting the corporate governance framework

A strong corporate governance framework is essential for a well-functioning capital market. It reassures shareholders that their rights are protected and makes it possible for corporations to lower their cost of capital. This is why the *G20/OECD Principles of Corporate Governance* were developed with an understanding that corporate governance policies have an important role to play in achieving broader economic objectives with respect to investor confidence, capital formation and allocation. To tackle the challenges imposed by the COVID-19 crisis, this perspective is more important than ever.

- The pandemic has raised concerns and triggered lawsuits with respect to the quality of risk-related disclosures. Although most COVID-19-related lawsuits are yet to be adjudicated, experiences from the pandemic call for improvements in the frameworks for risk and crisis management (including health, supply chain, reputational and environmental risks) as well as related issues such as audit quality, stock price manipulation and insider trading. In certain areas, the monitoring and disclosure of risks may be enhanced by the use of new digital technology.
- An important development in several markets is the increase in company group structures. The more complex the structure of a group, the more complex the governance arrangements and the greater the scope for potential abusive practices. Special attention should therefore be given to address inadequacies in national disclosure frameworks related to capital and control structures in company groups, including shareholdings of directors, the approval of related party transactions, the flow of information and the scope of parent company board responsibilities throughout the group.
- During the past decade, several markets have seen an increase in ownership concentration, which to a large extent is attributable to growing state ownership through various state-controlled

investors. Against this background, policy makers and regulators should ensure a level playing field with respect to the governance of state-controlled listed companies and their private investor-owned peers. All categories of shareholders in state-controlled listed companies should be treated equitably and the company should adhere to the same transparency and disclosure standards as other listed companies.

- With respect to shareholder meetings, countries should benefit from experiences during the COVID-19 crisis in order to advance or clarify their regulatory frameworks for remote participation. This should improve the possibilities for all shareholders to follow the meeting and as appropriate pose questions to corporate officers. Regulators will need to decide on the temporality of current measures adopted during the crisis.
- After the COVID-19 outbreak, there have been concerns that some companies may have re-arranged the terms for executive remuneration by adapting performance metrics and ignoring missed targets. To ensure the link between executive remuneration and long-term corporate performance, experiences from such practices call for renewed scrutiny of the conditions and procedures for deciding and overseeing performance-related pay.

Improving the management of environmental, social and governance risks

The COVID-19 pandemic has brought increased attention to the importance of identifying systemic risks and unexpected shocks. Importantly, it has led many investors to consider environmental, social and governance (ESG) risks when making their investment and voting decisions. It is policy makers' and regulators' responsibility to ensure that investors have access to consistent, comparable, and reliable material information when managing their savings and assets.

Clearer ESG disclosure frameworks will also help the corporate sector meet increased expectations when it comes to recognising and appropriately balancing the interests of different stakeholders, including investors, employees, creditors, customers and suppliers, and their contribution to the long-term success of corporations.

- As the pandemic highlights new experiences with respect to ESG risk factors, companies should ensure that they have the expertise, information channels, analytical tools, and internal policies and practices that are specifically tailored to assessing their ESG risk factors.
- In response to an increasing demand that material information related to ESG risks should be disclosed to guide investor decisions and improve capital allocation, policy makers and regulators should facilitate the development of comprehensive ESG frameworks, notably with the purpose of producing consistent, comparable, and reliable climate-related disclosure.
- Corporate boards should demonstrate a leadership role to ensure that effective means of environmental, social and governance risk oversight are in place, establishing clear lines of responsibility and accountability for the quality and integrity of the monitoring and disclosure system throughout the company and its subsidiaries.

Addressing excessive risk taking in the non-financial corporate sector

At the onset of the COVID-19 crisis, there were already widespread concerns about the declining quality of the constantly growing stock of outstanding corporate bonds. Over the last decade (with the exception of 2018) more than 20% of the total annual amount of all bond issues by non-financial companies were non-investment grade. Importantly, over the past three years, the portion of BBB rated bonds - the lowest investment grade rating - has reached of 52% of all investment grade issuance, up from 39% during the 2000-2007 period.

- The surge in the use of bond financing has highlighted the role of corporate bonds in corporate governance and the conditions that bondholders may stipulate with respect to, for example,

dividend payments, capital structure and disclosure. Particularly in markets where the use of corporate bonds has only recently become a significant source of corporate financing, the regulatory framework should require companies to disclose if they are at material risk of not meeting their covenants.

- In an era when recapitalisation of many companies has become vital, companies should also disclose if their current financing arrangements include terms that would limit their ability to obtain additional funding, as well as how these terms could influence the outcomes of workouts and even lead to liquidity problems that would make the company unable to maintain current operations.
- The increase in borrowing by high-risk non-investment grade companies to finance share buyback operations has raised major concerns about excessive risk taking in the corporate sector, since it increases the leverage ratio by simultaneously reducing the company's equity base and increasing its debt. The management and board are best placed to decide on the optimal capital structure, subject to the approval of the shareholders. In doing so, however, they should ensure that proper risk assessment procedures are in place considering different scenarios, the best long-term interest of the company and its financial soundness.

An insolvency framework for recovery and resilience

Bondholders and creditors are key corporate stakeholders with specific claims and governance rights. The terms, amount and type of credit that a company can access will depend on the enforceability of these rights. In a time of crisis when extraordinary measures with respect to insolvency proceedings and liquidity support are in place, corporate boards should be expected to continue taking due regard of and deal fairly with all creditors.

Given the severe economic consequences of the pandemic and the increase in insolvencies in industries such as air transport, hospitality, real estate and related sectors, it is crucial to ensure sound governance of insolvency and restructuring processes that allow for efficient and swift exits of non-viable companies and successful restructurings of viable ones.

- Drawing from experiences of tackling liquidity and solvency challenges during the pandemic, policy makers and regulators should take the opportunity to review the overall efficiency of their insolvency frameworks and the extent to which market-driven workouts can serve as an effective practice to preserve, restructure and re-allocate capital.
- Considering that the portion of under-capitalised, non-viable firms will increase in the wake of the pandemic, temporary measures introduced should be re-visited to ensure that resources are not perpetually tied up in underperforming companies.

Based on these conclusions and experiences from longer-term developments in the corporate and capital market landscape, the OECD Corporate Governance Committee has agreed to undertake a review of the *G20/OECD Principles of Corporate Governance* with a view to adapt their key elements to the post-COVID-19 environment.

Table of contents

Foreword 3

Conclusions by the OECD Corporate Governance Committee 5

Acronyms and abbreviations 13

Executive summary 15

1 Key findings: Capital markets and corporate finance post-COVID-19 17
- 1.1. Making public equity markets work to support recovery 18
- 1.2. The role of corporate governance policy 19
- 1.3. Increased leverage and excessive risk-taking in the non-financial corporate sector 19
- 1.4. Duties and responsibilities of boards in times of crisis 20
- 1.5. The management of environmental, social and governance risks 20
- 1.6. Changes in corporate ownership structure and control 21
- 1.7. Extended growth of corporate bond borrowing 22
- 1.8. Structural challenges in the corporate bond market 23
- 1.9. An insolvency framework for recovery and resilience 23

2 Trends in the corporate sector and capital markets pre-COVID-19 25
- 2.1. The capital structure and performance in the corporate sector 26
- 2.2. Global trends in the use of public equity markets 38
- 2.3. Extended growth and record amounts of corporate bond borrowing 44
- 2.4. Changes in the corporate ownership and the investor landscape 50
- 2.5. Trends in dividends and share buybacks 55
- References 62
- Notes 63

3 Corporate sector COVID-19 measures by OECD and G20 governments 65
- 3.1. Government support programmes 66
- 3.2. Regulatory measures 71
- 3.3. Shareholder engagement and conditionalities 79
- References 80
- Notes 82

4 Capital market financing during the COVID-19 crisis 83
- 4.1. Public equity markets 84
- 4.2. Corporate bond markets 90
- References 96

5 The implications of COVID-19 for the corporate sector and emerging policy issues 99
5.1. The erosion of corporate equity capital 100
5.2. Structural weaknesses in the stock market ecosystem 104
5.3. Emerging corporate governance policy issues 108
5.4. Structural challenges in the corporate bond market 115
5.5. The importance of efficient insolvency systems for recovery 119
5.6. Corporate bond debt, recovery and distressed exchanges 123
References 128
Notes 131

Annex A. Methodology for data collection and classification 133

FIGURES

Figure 2.1. Overview of global non-financial listed corporate sector 27
Figure 2.2. Operating efficiency and profitability of listed non-financial companies 28
Figure 2.3. Share of high-profitable listed non-financial companies 28
Figure 2.4. Leverage of non-financial listed companies 29
Figure 2.5. Debt-to-EBITDA ratio of non-financial listed companies 29
Figure 2.6. Debt of non-financial listed companies with different debt-to-EBITDA ratios 30
Figure 2.7. Debt ratio of non-financial listed companies, by country / region 30
Figure 2.8. Debt ratio of non-financial listed companies, by industries 31
Figure 2.9. Investment rates of non-financial listed companies 32
Figure 2.10. Overview of corporate investment, global listed non-financial companies 33
Figure 2.11. Corporate investment as a share of sales of non-financial listed companies, by country 33
Figure 2.12. Corporate investment by firm characteristics 34
Figure 2.13. Corporate investment, by industry 35
Figure 2.14. Sources of non-financial corporate debt financing, as of end 2019 37
Figure 2.15. Evolution of loans and debt securities use by non-financial corporations, annual net flows 38
Figure 2.16. Initial public offerings (IPOs), total amount raised 39
Figure 2.17. Top 20 jurisdictions by number of non-financial company IPOs during past 10 years 40
Figure 2.18. Newly listed and delisted companies 40
Figure 2.19. Growth company IPOs' share in the total number of IPOs by non-financial companies 41
Figure 2.20. IPO proceeds distribution by industry (share in total regional proceeds, 2010-2019) 42
Figure 2.21. Secondary public offerings (SPOs), total amount raised 43
Figure 2.22. New share issuances through SPOs, as a share of total amount raised 43
Figure 2.23. IPOs and SPOs by non-financial companies 44
Figure 2.24. Corporate bond issuance by non-financial companies, by country/region 45
Figure 2.25. Outstanding amount of corporate bonds issued by non-financial companies 46
Figure 2.26. Corporate bond maturities by credit ratings 46
Figure 2.27. Share of non-investment grade bonds in global bond issuance by non-financial companies and average default rates of rated companies 47
Figure 2.28. Composition of issuance in investment and non-investment grade categories 47
Figure 2.29. Global corporate bond rating index 48
Figure 2.30. Syndicated loan and corporate bond financing of non-financial corporations 49
Figure 2.31. Universe of listed companies and investors' holdings, as of end 2020 51
Figure 2.32. Ownership landscape, as percentage of total ownership by market, as of end 2020 51
Figure 2.33. Average ownership share of the 3 largest owners, as of end 2020 52
Figure 2.34. Institutional investors' ownership, as of end 2020 53
Figure 2.35. Public sector ownership, as of end 2020 54
Figure 2.36. Payout developments for non-financial corporations globally 55
Figure 2.37. Changes in total number of companies doing payouts 56
Figure 2.38. Payouts by non-financial companies 56
Figure 2.39. Payouts by large and small non-financial companies 57
Figure 2.40. Payouts by non-financial companies, by investment intensity 58
Figure 2.41. Investment ranking for the industry with the highest payout ranking 59

Figure 2.42. Investment as a share of revenues, by company groups 59
Figure 2.43. Investment as a share of revenues, by company groups and percentiles 60
Figure 2.44. Share of corporate bonds intended for dividend and share buyback financing 61
Figure 2.45. Share of corporate bonds with covenants restricting payouts 62
Figure 4.1. Total amount of capital raised by non-financial companies in public equity markets in 2020 85
Figure 4.2. Initial public offerings (IPOs) by non-financial companies in 2020 86
Figure 4.3. IPOs by non-financial companies in 2020 by country and industry 87
Figure 4.4. Industry distribution of IPOs by non-financial companies 87
Figure 4.5. Secondary public offerings (SPOs) by non-financial companies in 2020 88
Figure 4.6. SPOs by non-financial companies in 2020 by country and industry 89
Figure 4.7. Industry distribution of SPOs by non-financial companies 89
Figure 4.8. Global corporate bond landscape 90
Figure 4.9. Corporate bond issuance by non-financial companies in 2020, by country/region 91
Figure 4.10. Corporate bond issuance by non-financial companies in 2020, by credit quality 92
Figure 4.11. Composition of issuance in non-investment grade category 93
Figure 4.12. Corporate bond issuance by non-financial companies in 2020 by industry 94
Figure 4.13. Central banks' holdings of corporate debt securities 95
Figure 5.1. The COVID-19 impact on sales of the listed corporate sector, YoY change by country/region 100
Figure 5.2. The COVID-19 impact on sales of the listed corporate sector, YoY change by industry 101
Figure 5.3. Corporate rating changes 102
Figure 5.4. Corporate bond downgrades of non-financial companies by rating category 103
Figure 5.5. Non-performing loans and zombie firms in selected European economies 104
Figure 5.6. Institutional ownership in small and large companies 106
Figure 5.7. Underwriting cost of median initial public offerings as a share of total proceeds, small versus large companies, 2020 107
Figure 5.8. Corporations as the largest shareholders in 2020 112
Figure 5.9. Number and distribution of different types of corporate bond issuers 115
Figure 5.10. Median issue size and the distribution of issue sizes in the corporate bond market 117
Figure 5.11. Historical average one-year 1-notch downgrade probability from a given rating 119
Figure 5.12. Insolvency outcomes for an identical hypothetical case across countries 120
Figure 5.13. OECD indicator of insolvency regimes 122
Figure 5.14. Historical non-IG default rate and bond recovery rate (%) 123
Figure 5.15. Distribution of default event types (%) 125
Figure 5.16. Use of distressed exchanges in different regions (2008-2020) 125
Figure 5.17. Average recovery rates: distressed exchanges vs. bankruptcies 1987-2020Q1 126
Figure 5.18. Covenant protection index for bonds issued in the United States by non-financial companies 127

TABLES

Table 2.1. Non-financial listed companies by market, as of end 2019 26
Table 2.2. Public sector portfolio origin and investments, as of end 2020 54
Table 2.3. Industry ranking for payouts and investment, 2005-2019 58
Table 3.1. Indirect state support measures 67
Table 3.2. Direct state support measures 69
Table 3.3. Annual general meeting, disclosure practices and foreign investment measures 72
Table 3.4. Regulatory measures to increase capital market access 75
Table 3.5. Insolvency and bankruptcy regulatory measures 76
Table 3.6. Payout policy measures 78
Table 3.7. Conditionality of state support programmes 79
Table 5.1. Distribution of re-default events (Jan 2010-March 2020) 126

Follow OECD Publications on:

http://twitter.com/OECD_Pubs

http://www.facebook.com/OECDPublications

http://www.linkedin.com/groups/OECD-Publications-4645871

http://www.youtube.com/oecdilibrary

http://www.oecd.org/oecddirect/

Acronyms and abbreviations

AGM	annual general meeting
ASIC	Australian Securities and Investments Commission
BDC	business development company
BIS	Bank for International Settlements
BoE	Bank of England
BoJ	Bank of Japan
Capex	capital expenditure
CBPS	Corporate Bond Purchase Scheme
CFO	chief financial officer
CIT	corporate income tax
CMF	Chilean Financial Market Commission
CPI	consumer price index
CRA	credit rating agency
CSPP	Corporate Sector Purchase Programme
CSRC	China Securities Regulatory Commission
EBITDA	earnings before interest, taxes, depreciation and amortisation
EC	European Commission
ECB	European Central Bank
EPS	earnings per share
ESG	environmental, social and governance
ESMA	European Securities and Markets Authority
ETF	exchange traded fund
EU	European Union
FCA	UK Financial Conduct Authority
FDI	foreign direct investment
FINMA	Swiss Financial Market Supervisory Authority
FISD	fixed investment securities database
GDP	gross domestic product
HFT	high-frequency trading
HTT	healthcare, technology and telecommunications industries

IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
IG	investment grade
IMF	International Monetary Fund
IPO	initial public offering
ISS	Institutional Shareholder Services
M&A	mergers and acquisitions
MiFID	Markets in Financial Instruments Directive
MIS	Moody's Investors Service
NDRC	Chinese National Development and Reform Commission
NGEU	Next Generation EU
NPL	non-performing loan
OECD	Organisation for Economic Co-operation and Development
OTC	over-the-counter
PEPP	Pandemic Emergency Purchase Programme
PMCCF	Primary Market Corporate Credit Facility
PRI	Principles for Responsible Investment
R&D	research and development
REIT	real estate investment trust
ROA	return on assets
ROE	return on equity
SEBI	Securities and Exchange Board of India
SMCCF	Secondary Market Corporate Credit Facility
SME	small and medium-sized enterprise
SOE	state-owned enterprise
SPAC	special purpose acquisition company
SPO	secondary public offering
SWF	sovereign wealth fund
TRBC	Thomson Reuters business classification
US SEC	U.S. Securities and Exchange Commission
VAT	value added tax
WSF	German Economic Stabilisation Fund

Executive summary

This report presents indicators and analysis of capital structures, corporate performance, the use of market-based financing, corporate ownership structures and payout policies over the last two decades. It reviews regulatory and financial support measures related to the COVID-19 crisis in the areas of corporate governance and corporate finance. It then presents key indicators relating to the non-financial corporate sector's use of public equity and corporate bond markets during 2020, and reviews central bank policies related to the corporate bond markets. Using an analysis of structural weaknesses in both the public equity and corporate bond markets worldwide, the report focuses on the role that capital markets can play on the road to recovery and resilience. It also identifies key corporate governance policy issues that may require further attention in the post-crisis era.

Supporting the recovery. Stock markets play a key role in providing companies with the equity capital that gives them the financial resilience to overcome temporary downturns, while meeting their obligations to employees, creditors and suppliers. In 2020, already-listed non-financial companies raised a record of USD 626 billion in new equity. Since 2005, however, more than 30 000 companies have delisted from stock markets globally - equivalent to 75% of all listed companies today. These delistings have not been matched with new listings, resulting in a net loss of listed companies. This means that several thousand fewer companies today are able to tap public equity markets directly and at a relatively low cost. Many advanced markets have also experienced a structural decline in listings of smaller growth companies, distancing a larger portion of these companies from ready access to public equity financing.

These trends have raised concerns about structural weaknesses in the stock market ecosystem. First, the shift from retail direct investments to large institutional investors has created a bias towards large listed companies, as the average share of institutional ownership in large listed companies is significantly higher than their ownership in smaller companies. Second, the structure of investment banking activity is an important factor behind high listing costs, as high underwriting fees and stock price discounts have discouraged companies from going public. The systematic acquisition of smaller growth companies - especially by large technology companies - may also contribute to the drying up of the IPO pipeline of smaller independent companies that could potentially increase competition and challenge the status quo.

Corporate governance frameworks. With the COVID-19 crisis preventing many companies from meeting certain legal and regulatory obligations, governments around the world have taken steps to adjust these requirements. Although some of these adjustments are considered temporary, they may also have a lasting impact on how companies are governed, their capital structure, their ownership structure and how they manage their relationship with shareholders and stakeholders. This gives new impetus to the discussions on a number of long-term developments that may call for an adaptation of corporate governance policies and regulations in the post-COVID-19 era.

Experiences from the pandemic call for improvements in the frameworks for risk and crisis management as well as related issues such as audit quality, stock price manipulation and insider trading. Countries should also benefit from their experiences in order to advance or clarify the regulatory frameworks for remote participation in shareholder meetings. Recent practices by some companies related to altering the

terms for executive remuneration following the crisis also call for renewed scrutiny of the conditions and procedures for deciding and overseeing performance-related pay.

Importantly, there has been an increase in **ownership concentration** at the company level in global stock markets. Institutional investors have considerably increased their assets under management over the last 15 years while the number of listed companies in many advanced equity markets has decreased. These opposing trends have resulted in a growing amount of money being allocated to a diminishing number of companies and the resulting re-concentration of ownership in the hands of large institutional investors. For example, the three largest institutional investors in the United States now hold a combined average of 23.5% of the equity in listed companies.

The concentration of ownership in some other markets reflects the importance of company group structures. For example, private corporations and holding companies in several Asian economies hold more than 30% of the total equity capital in publicly listed companies. The increase in ownership concentration can also be attributed to the presence of public sector ownership. Globally, the public sector, including central governments and sovereign wealth funds, owns USD 10.7 trillion of listed equity, which amounts to 10% of global market capitalisation.

Environmental, social and governance risks. Accelerated by the COVID-19 pandemic, many investors are paying greater attention to ESG considerations when making their investment and voting decisions. Policy makers and regulators need to ensure that investors have access to consistent, comparable, and reliable material information, notably climate-related information, when managing their savings and assets. This would also help the corporate sector to meet increased expectations when it comes to recognising and appropriately balancing the interests of all stakeholders and their contribution to the long-term success of corporations.

The non-financial corporate sector. Not all firms have been equally affected by the COVID-19 crisis. This is partly related to differences in financial soundness going into the crisis, with high leverage levels making some companies more vulnerable. In the aftermath of the 2008 financial crisis, global corporate bond markets saw a significant and lasting increase in issuances, doubling from a yearly average of USD 890 billion between 2000-2007 to USD 1.87 trillion between 2008-2020. The COVID-19 outbreak accentuated this trend and 2020 recorded a historical peak of USD 2.9 trillion in issuances by non-financial companies, resulting in an all-time high of USD 14.8 trillion in outstanding non-financial corporate bonds.

Even before the COVID-19 crisis hit, however, the declining quality of the outstanding stock of corporate bonds and the increase in borrowing by companies with lower quality credit ratings were raising widespread concerns about excessive risk-taking in some parts of the corporate sector. One example has been the use of corporate bond markets to finance share buyback operations by high-risk non-investment grade companies. Since 2000, the share of corporate bond offering documents that explicitly mention share buybacks or dividends among the intended uses has increased from 2% to 11%.

Rapid developments in the corporate bond market have revealed some **structural challenges**. The share of newcomers to the corporate bond market has given way to recurring active issuers. The share of first-time issuers in 2020 amounted to only 27%, with their share of total issuance at an all time low of 12%. This, along with evidence from the 2008 financial crisis, underlines that an established relationship with the corporate bond market provides an advantage for attracting new capital immediately following a crisis.

With respect to risk transparency, the significant increase of BBB rated bonds - the lowest investment grade rating - before the COVID-19 outbreak was actually coupled with a declining number of downgrades relative to upgrades. This, together with the fact that the 1-notch downgrade probability is lowest for bonds just above non-investment grade status, may suggest that credit rating agencies are mindful of downgrading BBB issuers due to their special status just above the non-investment grade threshold. Such rating stability concerns may limit the ability of credit ratings to properly inform investors about the risks of individual bonds.

1 Key findings: Capital markets and corporate finance post-COVID-19

This chapter provides an overview of key issues in capital markets and corporate finance that will be critical for the recovery in the post-COVID-19 world. The chapter highlights the importance of having well-functioning public equity markets and appropriate corporate governance frameworks to support the recovery. It notes the increased leverage and excessive risk-taking in some parts of the non-financial corporate sector and the importance of the duties and responsibilities of boards in times of crisis. It identifies structural issues in the corporate bond market and the need to have insolvency frameworks to support the recovery and provide resilience. These key findings identify the direction, priorities and underlying principles for policies that will support the corporate sector recovery and long-term resilience.

The COVID-19 crisis is not only having immediate negative social and economic impacts. Importantly, it may also press for structural changes in the corporate sector and in capital markets. Some businesses will recover after a temporary downturn while others will be phased out. Yet other businesses and sectors will find new opportunities for innovation and growth.

Several industries saw sharp declines in revenues, in particular in the first and second quarters of 2020. The Energy sector was hit particularly hard, with a 44% decrease in revenues in the second quarter compared to the previous year. As the crisis caused sharp reversals in earnings expectations, credit rating agencies downgraded 537 non-financial corporations in March and April 2020 alone. This is almost equal to the total number of downgrades during the entire year of 2019.

The future trajectory of these structural adjustments is hard to predict. But what is known with certainty is that policies that support a process of adaption are themselves the best guarantee for a sustainable near-term recovery and for long-term resilience. It is also known that the road to recovery will require that substantial financial resources are made available for investment, and that an adaptation of corporate governance policies and frameworks can help both existing and new companies access the capital that they need.

Absent successful policies that support recovery and transformation, there is a real risk that the portion of under-capitalised and underperforming firms will increase and remain elevated. This is not a hypothetical scenario. In Europe, after the 2008 financial crisis and the subsequent euro area sovereign debt crisis, the ratio of non-performing loans and the share of non-viable firms increased steadily for several years, dragging down corporate investment and economic growth.

Again, as the COVID-19 crisis' structural effects on corporate finance and its interplay with corporate governance remain to be fully understood, this report presents some trends and empirical evidence that already can be used to identify the direction, priorities and underlying principles for policies that will support the recovery. Considering the power of path dependency, when evaluating different policy options it is important that they should serve the dual purpose of supporting a near-term recovery as well as the longer-term objective of making the business sector more dynamic and resilient to possible future shocks.

1.1. Making public equity markets work to support recovery

Stock markets play a key role in providing companies with equity capital that gives them the financial resilience to overcome temporary downturns, while meeting their obligations to employees, creditors and suppliers. For example, in 2009, in the wake of the financial crisis, when bank credit became inaccessible, publicly listed non-financial companies raised a record USD 511 billion in new equity through the stock market. This pattern seemed to repeat itself during the 2020 pandemic, when already listed non-financial companies raised a record of USD 626 billion in new equity.

However, since 2005, over 30 000 companies have delisted from the stock markets globally, notably in the United States and Europe, which host some of the world's largest stock markets. These delistings have not been matched by new listings, which has resulted in a net loss of listed companies in the OECD as a whole in every single year between 2008 and 2019. While many companies were able to instantly, and at relatively low cost, tap into equity markets after the 2008 crisis to overcome financial difficulties, this time several thousand fewer companies have been able to do so.

Moreover, the stock market's ability to readily provide listed companies with new equity in times of crisis does not necessarily apply equally to established large companies and newer smaller companies. In many advanced markets, there has been a substantial and structural decline in listings of smaller growth companies, distancing a larger portion of these companies from ready access to public equity financing.

These trends have raised concerns that stock markets have increasingly become a source of funding for fewer but larger companies. Part of the explanation is the lower cost of debt financing and better access to private capital. However, other developments have also led to structural weaknesses in the stock market ecosystem. First, the shift from retail direct investments to large institutional investors has created a bias towards large listed companies. As shown in this report, in all advanced markets the average share of institutional ownership in large listed companies is significantly higher than their ownership in smaller companies.

Second, the new stock market structure, where privately owned for-profit exchanges rely heavily on income from trading and related information/data services, encourages a focus on large companies with liquid stocks. As a result, investors' attention has been diverted away from smaller growth companies that in turn have been discouraged from going public. The lack of interest in smaller companies in the stock market is illustrated by the fact that also trading volume is highly concentrated in large companies in most markets.

Third, the structure of investment banking activity is an important factor behind high listing costs. Companies have been discouraged from going public by the high underwriting fees and stock price discounts that investment banks apply to their valuations before the public offerings. Fourth, it has also been suggested that systematic acquisitions of smaller growth companies - especially by large technology companies - have contributed to drying up the IPO pipeline of smaller independent companies that could potentially increase competition and challenge the status quo.

1.2. The role of corporate governance policy

The COVID-19 crisis has made it difficult for many companies to meet some legal and regulatory requirements such as the organisation of annual shareholder meetings and disclosure of financial statements. In light of these constraints, governments around the world have taken steps to adjust certain key corporate governance requirements. Several of these measures are considered temporary in nature and have been introduced for the purpose of mitigating the immediate impact of the crisis.

However, some of these temporary measures may also have a lasting impact on how companies are governed, their capital structure, their ownership structure and how they manage their relationship with their shareholders and stakeholders. These are all crucial issues addressed by the *G20/OECD Principles of Corporate Governance*. For example, out of necessity the crisis has provided an opportunity for regulators to clarify or make changes with respect to remote participation in shareholder meetings.

The crisis has also given new impetus to the discussions on a number of long-term developments in corporate practices, ownership structures and capital markets that may call for an adaptation of corporate governance policies and regulations in the post-COVID-19 era. These include means to mitigate excessive systemic risk-taking in the non-financial corporate sector, the management of ESG risks, and provisions with respect to the concentration of corporate ownership and company groups.

1.3. Increased leverage and excessive risk-taking in the non-financial corporate sector

Not all firms and not even firms operating in the same industry and in the same economy, have been affected equally by the COVID-19 crisis. The differences in impact of the crisis are to a certain extent related to the financial soundness going into the crisis, such as high leverage levels, that have made some companies more vulnerable.

It is the company management and board who are best placed to decide on the optimal capital structure of a company, subject to the approval of the shareholders. In doing so, they should consider the best

interest of the company and ensure its financial soundness. However, the increase in borrowing by companies with lower quality credit ratings and high leverage levels over the past decade have raised major concerns about excessive risk-taking in some parts of the corporate sector.

One example has been the use of corporate bond markets to finance share buyback operations by high-risk non-investment grade companies, which increases the leverage ratio by simultaneously reducing the company's equity base and increasing its debt. Since 2000, the share of corporate bond offering documents that explicitly mention share buybacks or dividends among the intended uses has increased from 2% to 11%.

1.4. Duties and responsibilities of boards in times of crisis

Since the onset of the pandemic, corporate boards have been under intense pressure due to the uncertainty concerning the health crisis and the resulting adjustments of the regulatory landscape. In this difficult setting, shareholders and other stakeholders gradually began expressing discontent about some company actions through lawsuits. In some cases, shareholders have sued companies and directors for understating or not properly disclosing pandemic-related risks and allegedly known negative impacts of the pandemic on the company's business and operations. Although most COVID-19-related lawsuits are yet to be adjudicated, their general focus is on inaccurate or misleading disclosure, stock price manipulation, insider trading and non-compliance with emerging health regulations.

In addition to litigations, boards have been subject to challenges in several other areas, including executive remuneration, cybersecurity and insolvency. First, given that many companies laid off or put employees on short-time working schemes during the pandemic, the level of executive remuneration has become an area of scrutiny; particularly in companies that receive some sort of direct or indirect public financial support. Second, there are also concerns that companies are adapting the conditions for executive bonus programmes, switching performance metrics and ignoring missed targets in order to evade or mitigate otherwise unavoidable reductions in executive pay resulting from the pandemic.

Third, remote working arrangements for employees can increase cybersecurity risks since employees' home computers and networks are typically less protected against cyberattacks, requiring further board oversight of this critical issue. The fourth area of board responsibility that has been highlighted during the crisis is that the board should have the capacity to regularly evaluate and communicate how a crisis impacts the company's ability to meet its upcoming debt commitments under different scenarios and different strategic alternatives to maintain the business continuity. The ability to serve these functions, particularly for large companies, may have general and longer-term implications for board composition and how the board organises its work.

1.5. The management of environmental, social and governance risks

The COVID-19 pandemic has brought increased attention to the importance of identifying systemic risks and unexpected shocks. The reason is that a corporate sector that is willing and able to assume risk is at the very heart of a dynamic and resilient economy. Consequently, as new types of risks emerge or become more salient, companies, their shareholders and society at large all have an interest in the proper identification, management and disclosure of these risks.

Lack of credible risk assessments not only increases uncertainty about expected performance and the long-term viability of individual companies, but also leads to inefficient allocation of economic resources, adversely impacting corporate and economy-wide resilience. The need for robust structures and procedures for risk management and high-quality disclosure, including environmental and social issues, is well articulated in the *G20/OECD Principles*. As the current pandemic brings new experiences at the

company level, companies may for example be in need of new types of expertise, additional information channels, better analytical tools, and novel internal policies and practices specifically tailored to assessing their ESG risks.

At the same time, material information related to ESG risks that may shed light on the future performance of the company should be disclosed to the public. For the scope of information disclosure, many jurisdictions apply the concept of materiality, which can be defined as information whose omission or misstatement could influence decisions taken by the users of the information. The *G20/OECD Principles* recognise that material information can also be defined as information that a reasonable investor would consider important in making an investment or voting decision.

1.6. Changes in corporate ownership structure and control

While the *G20/OECD Principles* address the implications of an increase in intermediary ownership, another important development with respect to corporate ownership structures is the increase in ownership concentration at the company level. While this is a global development, there are important country and regional differences with respect to the different categories of shareholders that make up the largest shareholders at the company level. These differences in turn have implications for the emphasis of any related regulatory considerations and priorities.

With respect to institutional investors, their assets under management have increased considerably during the last 15 years while the number of listed companies in many advanced equity markets has decreased. As a consequence of these opposite trends, a growing amount of money has been allocated to a diminishing number of companies resulting in a re-concentration of ownership in the hands of large institutional investors. This development has been particularly prominent in the United States, where the 3 largest institutional investors together hold on average 23.5% of the equity in listed companies.

Of particular interest to corporate governance is that the growth of institutional investors to a large extent is attributable to the use of passive index investment strategies. Extensive reliance on index investment strategies may limit the incentives of institutional investors to monitor risks and opportunities in individual companies. Consequently and on rational grounds, insufficient resources may therefore be spent on fulfilling one of the key functions of capital markets, namely to scrutinise individual corporate performance and to allocate capital according to growth potential and governance performance.

In some other markets, the concentration of ownership is not the result of increased institutional ownership but of company group structures. For example, in several Asian economies, including India, Indonesia and Singapore, and in some other emerging markets such as Chile and Turkey, private corporations and holding companies hold more than 30% of the total equity capital in publicly listed companies. This confirms the presence of private corporations and holding companies as an important category of owners in listed companies and in many cases also the presence of group structures. From a corporate governance perspective, company groups present the same agency problems that face stand-alone companies with defined control. Yet the more complex the structure of a group, the more complex is the agency problem and the scope for potential abusive practices, for example through related party transactions.

Inadequacies remain in many national frameworks related to the disclosure of capital and control structures and shareholdings of directors; and, divergences across countries with respect to the requirements for parent company board oversight of key risks. At the same time, the COVID-19 crisis has put additional pressure on listed companies that are part of a group structure. Since not all businesses are affected equally by the crisis, individual group companies that are in a relatively stronger position may be expected to play a role in supporting the parent company or other companies in the group, in particular with respect to intra-group financing. Experiences from recent reforms in a number of jurisdictions may provide useful guidance for improvements.

The increase in ownership concentration in listed companies is also attributable to the presence of public sector ownership, which poses its own challenges with respect to governance practices and how the government fulfils its ownership function. Globally, the public sector, including central governments and sovereign wealth funds, owns USD 10.7 trillion of listed equity, which amounts to 10% of global market capitalisation.

1.7. Extended growth of corporate bond borrowing

While the means and processes differ from those of shareholders, bondholders play an important role in defining the boundaries of corporate actions and the monitoring of corporate performance. This is particularly salient in times of financial distress, which many corporations are facing under the COVID-19 crisis. Like equity, bonds typically provide longer-term financing than ordinary bank loans and serve as a useful source of capital for companies that want to diversify their capital structure.

In the aftermath of the 2008 financial crisis, global corporate bond markets saw a significant and lasting increase in issuance. Annual corporate bond issuance by non-financial companies doubled from USD 890 billion in the period 2000-2007 to USD 1.87 trillion in the period between 2008 and 2020. In many countries the increased use of corporate bonds has been supported by regulatory initiatives aimed at stimulating the use of corporate bonds as a viable source of long-term funding for non-financial companies. The increase in bond usage has also been consistent with the objectives of the expansionary monetary policy and related unconventional measures by major central banks.

This surge in the use of corporate bond financing has further highlighted the role of corporate bonds in corporate governance. Covenants for example, which are clauses in a bond contract that are designed to protect bondholders against actions that issuers can take at their expense have a strong influence on the governance of issuing companies. Covenants may range from specifying the conditions for dividend payments to clauses that require issuers to meet certain disclosure requirements.

When the COVID-19 crisis hit, there were already widespread concerns about the declining quality of the outstanding stock of corporate bonds. In each year from 2010 to 2019, with the exception of 2018, more than 20% of the total amount of all bond issues by non-financial companies was non-investment grade. In 2020, almost one-quarter of all corporate bond issuances were non-investment grade. Importantly, between 2017 and 2020, the portion of BBB rated bonds - the lowest investment grade rating - accounted for 52% of all investment grade issuance. During the period 2000-2007, the portion was just 39%.

After the outbreak of the COVID-19 crisis, the bond market continued to be a significant source of capital for non-financial companies. In 2020 a historical record of USD 2.9 trillion of corporate bonds was issued globally by non-financial companies. As a result of this surge in corporate bond issuance, by the end of 2020, the global outstanding stock of non-financial corporate bonds had reached USD 14.8 trillion, up from USD 13.7 trillion at the end of 2019.

In contrast to the high levels of investment grade issuance, the total issuance by non-investment grade companies, in particular by those with lower ratings, decreased sharply in the immediate wake of the crisis. In total, non-investment grade companies only raised USD 5 billion globally in March 2020, corresponding to less than 13% of the historical 5-year average. Through subsequent support by central banks seeking to address this segment, non-investment grade issuance exceeded its average in April, and in every month of the rest of the year. The monthly average issuance of non-investment grade bonds between April and December 2020 was almost double that of the monthly average between 2015 and 2019.

1.8. Structural challenges in the corporate bond market

In order to improve and widen the use of corporate bond markets by non-financial companies, some structural challenges in the functioning of the market and in the credit rating system may require further attention. First, the share of newcomers to the corporate bond market has declined over the past decade to the advantage of recurring active issuers. Even after the dedicated monetary policy initiatives to support corporate bond issuance, the share of first-time issuers was only 27% in 2020 and their share in total issuance decreased to an all-time low of 12%. This is of critical importance because evidence from both the 2008 financial crisis and the COVID-19 crisis suggests that having an active established relationship with the corporate bond market provides an advantage when it comes to attracting new capital, especially in the immediate period after a crisis hits.

Second, although there has been a global tendency towards a relative increase in the number of smaller issues over the past decade, this is not true for all markets. Notably, in the United States, the median debt issue size has increased successively and has remained above USD 500 million each year since 2014. A similar development can be observed in Europe during 2020, when the median debt issue size jumped sharply from its 5-year average of USD 316 million to USD 407 million and the corporate bond market became strongly dominated by large issues. Renewed attention to the objective of facilitating access to the corporate bond market for smaller companies may be warranted with a view to increase financial resilience and preserve productive capacity during temporary downturns.

One important factor to consider with respect to the dominance of larger issuers is the mechanics of the credit rating system. The scale of a company is typically an important factor for its credit rating, and holding other factors constant, a larger company size is associated with a higher rating. The dominance of rating-based investment strategies among bond investors may therefore automatically result in a higher allocation to larger companies because they tend to have better ratings. The same effect may be triggered by regulations that define or restrict corporate bond holding by financial institutions to certain rating segments.

Third, despite a significant increase of BBB rated bonds, before the COVID-19 outbreak there was a declining number of downgrades relative to upgrades, which may suggest that credit rating agencies are mindful of downgrading BBB issuers due to their special status just above the non-investment grade threshold. The one-year 1-notch downgrade probability is lowest for bonds rated BBB-, which is also the lowest rating notch before crossing the line to non-investment grade status. Such rating stability concerns may limit the credit ratings' ability to properly inform investors about the risks of individual bonds.

1.9. An insolvency framework for recovery and resilience

Given the severe economic consequences of the pandemic and the likelihood that the current liquidity challenges will eventually turn into solvency problems for some companies, distinguishing between viable and non-viable companies is becoming increasingly important for a proper allocation of available resources. Under such circumstances, an insolvency regime that allows for efficient and swift exits of non-viable companies and successful restructurings of viable companies is crucial. Moreover, the differences in insolvency regimes across countries will likely affect how well companies and investors navigate through the pandemic and any future downturn in economic activity.

A company in default can resolve its financial distress through an out-of-court restructuring or by going through formal bankruptcy procedures. An out-of-court restructuring practice that re-emerged in the corporate bond market in 2008 and whose prevalence has significantly increased in the subsequent period is the use of distressed exchanges. In distressed exchanges, an issuer offers new or restructured debt consisting of a new package of securities, cash or assets to its creditors or bondholders, who may

voluntarily accept the offer. Such exchanges have the effect of reducing the original debt burden of the issuer and can hence help avoid a bankruptcy or payment default.

Creditors and bond investors tend to agree to distressed exchanges because the recovery after a distressed exchange is more likely and higher than in a bankruptcy. Given that the recent high recovery rates in the corporate bond market are mainly supported by the frequent use of distressed exchanges, if the financing conditions for distressed exchanges deteriorate or if the frequency of distressed exchanges re-defaulting into bankruptcies increases, recovery rates could decline rapidly with overall negative effects on resilience.

Responding to the COVID-19 crisis, many jurisdictions have made temporary changes to their insolvency practices. These temporary changes have been helpful in protecting otherwise viable companies from filing for insolvency due to the difficulties arising from the extraordinary health measures associated with the coronavirus outbreak. However, if such temporary changes remain in force, in the longer-term they may undermine one of the most significant objectives of insolvency regimes, which is to ensure a timely initiation of workouts or insolvency proceedings. Delays in the initiation of insolvency processes can, in turn, increase costs, erode the final value of the firm and reduce the likelihood that viable firms are successfully restructured. Considering that the portion of non-viable firms will increase in the near-term, finding the right balance during the transition and the path to modernise insolvency regimes will be an important task for many countries to ensure that resources are not perpetually tied up in underperforming companies.

2 Trends in the corporate sector and capital markets pre-COVID-19

This chapter provides a detailed account of the state of the non-financial corporate sector in the two decades prior to the COVID-19 pandemic. Using firm level data, it offers analysis of corporate capital structures, investment and performance; the use of market-based financing; corporate ownership structures; and payouts policies. Documenting the structural trends in place prior to the pandemic enables a more informed analysis of the impact of the crisis, the subsequent recovery and the associated policy measures. As such, this chapter serves as background, setting the scene for the remainder of the report.

The COVID-19 crisis has had a major impact on the corporate sector around the world. The unprecedented sudden shock caused a sharp contraction in economic activity and corporate revenues. It also changed the conditions for corporate access to finance and investment. However, not all firms and sectors are affected to the same degree or in the same way. While many companies have lost their investment grade rating or even defaulted on their debt, some have experienced higher sales and increased their market share. Some sectors, such as services, and economies that heavily rely on consumer spending have been hit harder than others.

However, variations in the impact of the crisis at the firm level can also be linked to underlying conditions that left some companies more vulnerable going into the crisis, such as high leverage levels and long-term weaknesses in company performance. To be able to analyse the impact of the crisis, the conditions for the recovery and how to increase resilience of the corporate sector, it is first essential to understand the status of firms and industries entering the crisis. Using firm-level data, this chapter provides indicators and analysis on capital structures, corporate performance, the use of market-based financing, corporate ownership structures and payout policies over the last two decades. It serves as background for the rest of the report.

2.1. The capital structure and performance in the corporate sector

The business sector accounts for the large majority of the production, employment and exports in the world economy. Corporations are also the main source of investment in fixed capital as well as research, innovation and human resources. While the listed non-financial corporate sector represents a small share of total number of companies, it makes up a large part of the world economy, with a market capitalisation of USD 70 trillion by the end of 2019.

The availability of standardised financial information for listed companies allows for a comparable and reliable analysis of key indicators. To provide an overall comparative analysis of their capital structure, performance and investment before the outbreak of the pandemic, this section uses financial information from approximately 31 000 listed non-financial companies from around the world (Table 2.1).

Table 2.1. Non-financial listed companies by market, as of end 2019

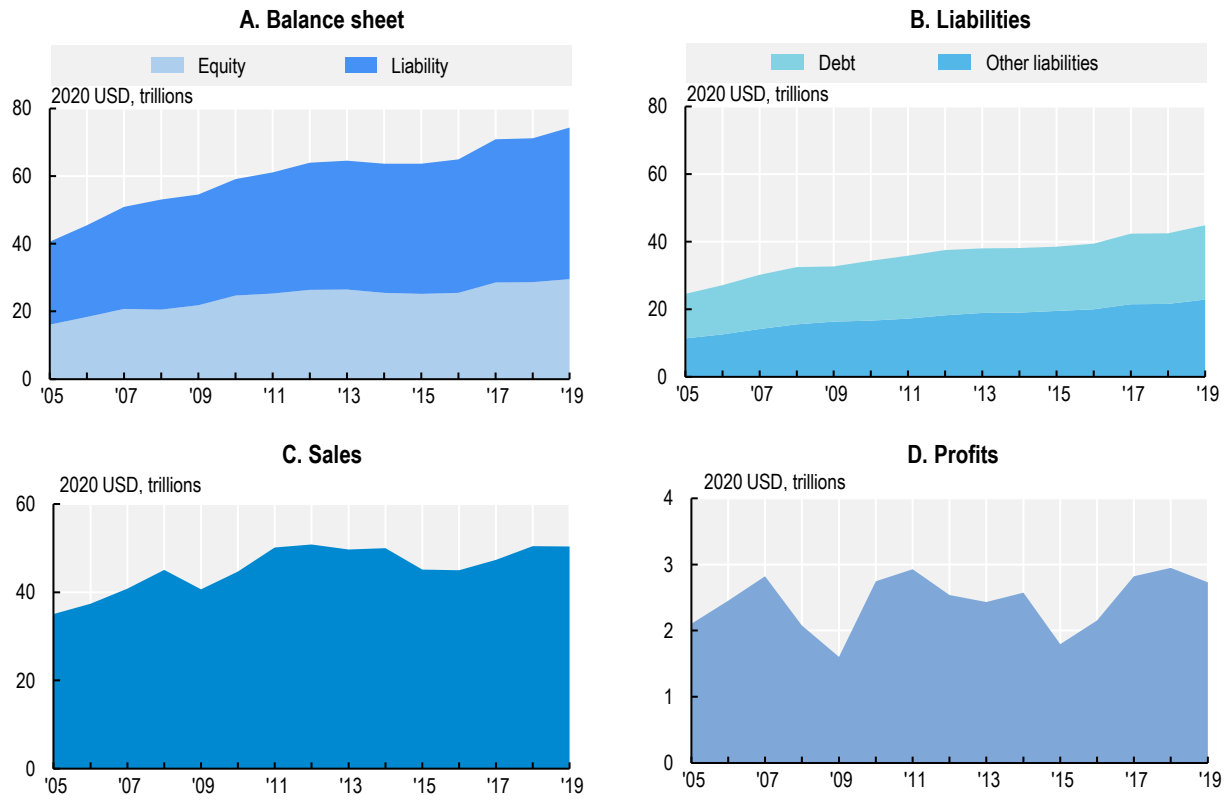
	Market capitalisation (USD trillion)	Leverage	ROE	ROA	Turnover	Investment ratio	No. of companies
Global	70.0	31%	9%	4%	68%	8%	30 962
OECD	51.3	31%	10%	4%	69%	9%	16 296
United States	27.9	33%	13%	4%	70%	10%	2 861
Europe	13.2	32%	9%	3%	65%	8%	4 708
Japan	5.5	26%	9%	4%	81%	8%	3 464
China	8.9	29%	7%	3%	67%	7%	4 226

Note: Leverage is measured as total financial debt divided by total assets. Turnover ratio is measured as total sales divided by total assets. Investment ratio is measured as the sum of capital expenditure, and research and development (R&D) expenses over total sales.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

The overall capital structure of the non-financial corporate sector shows a stable trend over time. As seen in Panel A of Figure 2.1, the aggregate size of listed company balance sheets was USD 74 trillion at the end of 2019. In 2019, equity, including retained earnings, accounted for 40% of the total assets, while liabilities represented 60%. Liabilities include both financial debt - interest bearing - and non-financial debt such as accounts payable, tax payables and others. The portion of financial debt in liabilities has increased since 2005 by 5 percentage points to 51%.

Despite a steady increase in total assets over the last decade, growth in sales and profits has been sluggish. While aggregate sales in 2019 were only 12% higher than in 2008, total assets increased almost 40% over the same period. At the same time, total profits fluctuated around USD 2.5 trillion throughout the period. As shown in Panels C and D of Figure 2.1, aggregate sales and profits dropped by 10% and 23% respectively in 2009 following the 2008 financial crisis. After this crisis, sales and profits recovered but experienced a slowdown in 2015. The 2015 downturn in profits was mainly driven by the economic slowdown in Brazil and Canada as listed companies of both countries recorded significant losses. Then, in 2017, the global economic upswing along with stronger commodity prices, resulted in an aggregate growth in sales and profits.

Figure 2.1. Overview of global non-financial listed corporate sector



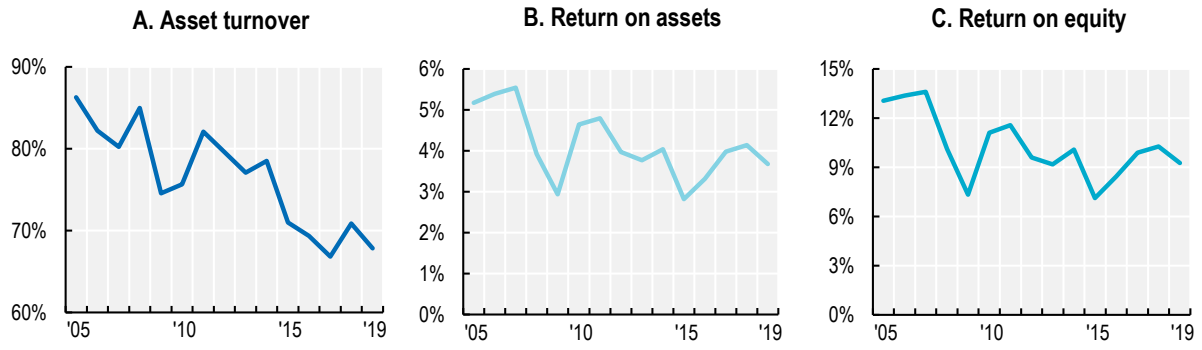
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

With respect to performance indicators for non-financial listed companies worldwide, a first observation in Figure 2.2 is that the asset turnover ratio (sales divided by total assets) has decreased from 86% to 68% over the past fifteen years. Asset turnover ratio measures the relative efficiency with which a firm uses its assets to generate sales. A lower ratio indicates that more assets are required to obtain the same level of sales. To improve their operating efficiency, firms generally have to identify investment needs to increase sales to achieve their growth target. However, over the past decade, the growth in total assets has not been associated with a corresponding growth in sales. A possible reason behind the decreasing asset turnover ratio can be overcapacity in certain industries, as well as a diminishing marginal productivity of capital.

Along with the decrease in operating efficiency, aggregate firm profitability has also decreased. Return on assets (ROA) and return on equity (ROE), measures of profitability, have both dropped at the aggregate level. After the sharp decrease in profitability experienced during the 2008 financial crisis, both ROA and

ROE picked up in 2010 and 2011. When the European corporate sector was hit by the 2012 European sovereign debt crisis, it also drove down profitability ratios globally. After reaching its lowest levels in 2015, both ROA and ROE were almost back at the 2012 levels by the end of 2018.

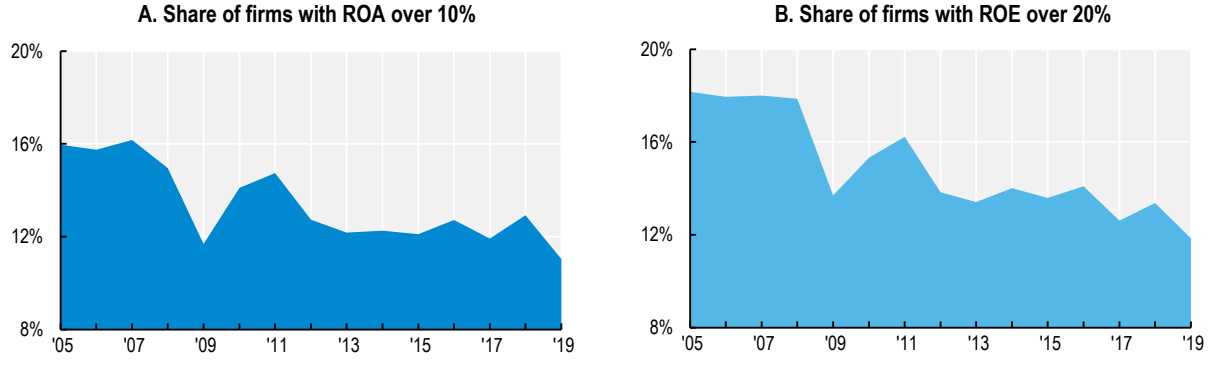
Figure 2.2. Operating efficiency and profitability of listed non-financial companies



Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

A closer look at company level profitability in Figure 2.3 shows that the overall decline in profitability ratios has been driven to some extent by a decrease in the share of high-performing firms. For example, the share of firms with ROA over 10% among all listed non-financial companies dropped from 16% in 2005 to 11% in 2019, and the share of firms with ROE over 20% dropped quite drastically from 18% to 12% over the same period.

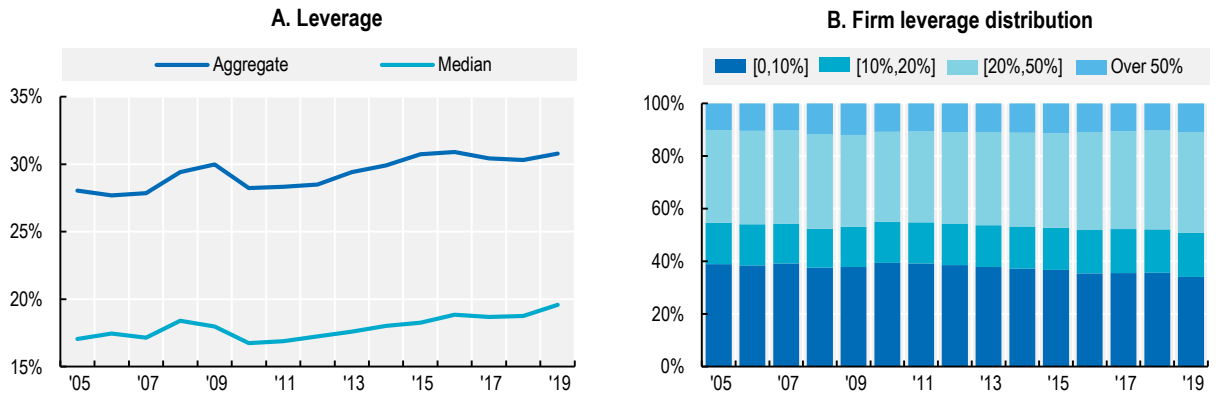
Figure 2.3. Share of high-profitable listed non-financial companies



Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Firm leverage ratios at the aggregate level, measured by financial debt over total assets, increased immediately after the 2008 financial crisis followed by a brief fall, which could possibly be explained by deleveraging in the banking sector and/or the exit of highly leveraged firms (Figure 2.4, Panel A). After 2012, however, leverage levels increased and at the end-2019 they remained considerably above the pre-2008 crisis levels. While the pattern of increased leverage is the same, it also appears from Panel A that median leverage is much lower than aggregate leverage, indicating that larger firms are the ones with higher leverage ratios. As illustrated in Panel B of Figure 2.4, the leverage distribution across firms has been stable over the years. By the end of 2019, around 11% of listed firms had leverage ratios over 50%.

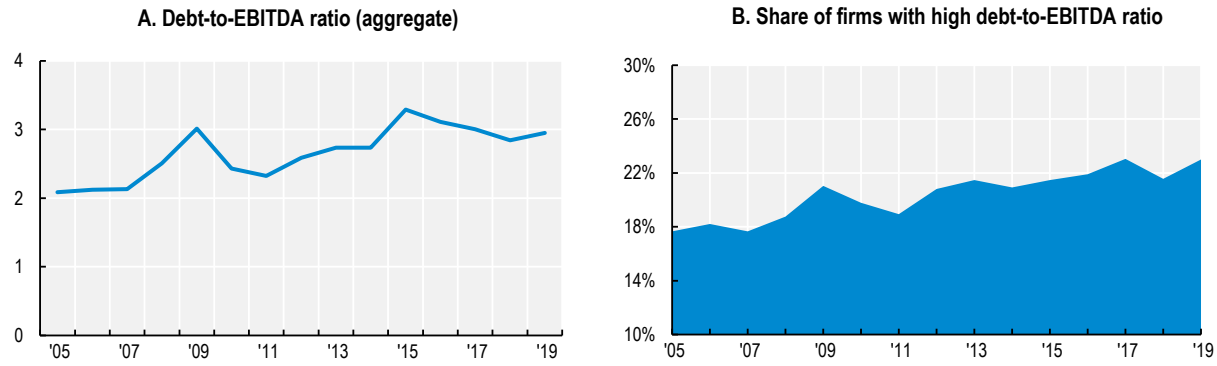
Figure 2.4. Leverage of non-financial listed companies



Note: Leverage is measured as total financial debt divided by total assets.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

A common indicator used to analyse a company's ability to service its financial and other debt is the debt-to-EBITDA ratio. This ratio shows the indebtedness level against the revenue generating capacity of the company and provides a proxy for the debt sustainability of the borrower. Higher values reflect a lower capacity to service debt. In 2005, the aggregate debt-to-EBITDA ratio was 2x, which after the 2008 financial crisis rose to 3x (Panel A, Figure 2.5). Following modest improvements in 2010 and 2011, the ratio continued its upward trend until the end of 2015, when it reached 3.3x. At the end of 2019, it stood at 3x. Another important observation is that the share of companies that can be considered in the higher risk category with respect to their ability to service their debt has also increased over the past decade. Firms with debt-to-EBITDA over 4x increased from 18% to 23% during the 2005-2019 period (Panel B, Figure 2.5).

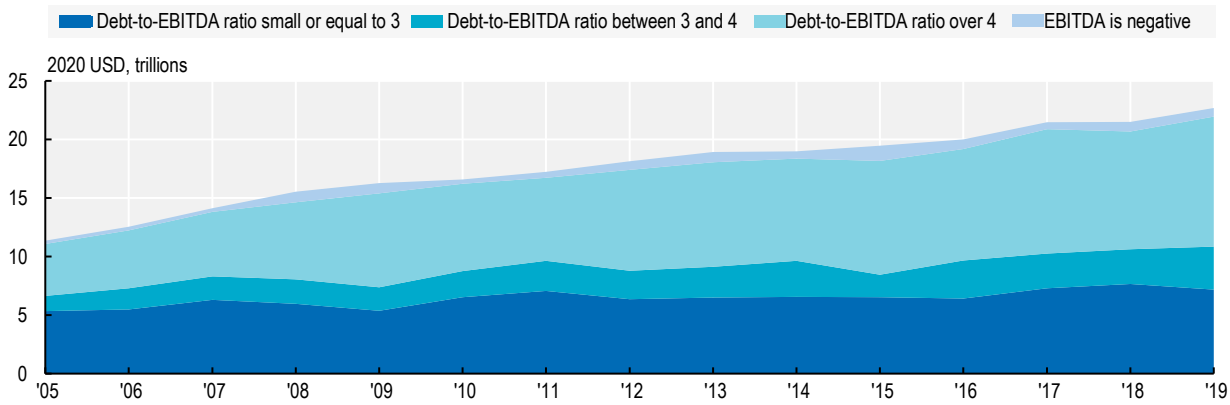
Figure 2.5. Debt-to-EBITDA ratio of non-financial listed companies



Note: Firms with high debt-to-EBITDA ratio are defined as those with a value greater than 4x.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Figure 2.6 further explores whether the increase in outstanding debt over the past decade has been proportionate between different risk groups of companies in terms of debt-to-EBITDA ratios. The analysis shows that the debt has been accumulated mainly in firms with lower debt servicing capacity. Notably, the total nominal debt held by firms with debt-to-EBITDA ratio over 4x more than doubled from USD 4.4 trillion to USD 11.1 trillion. As a result, their share in total amount of corporate debt increased from 39% in 2007 to 49% in 2019.

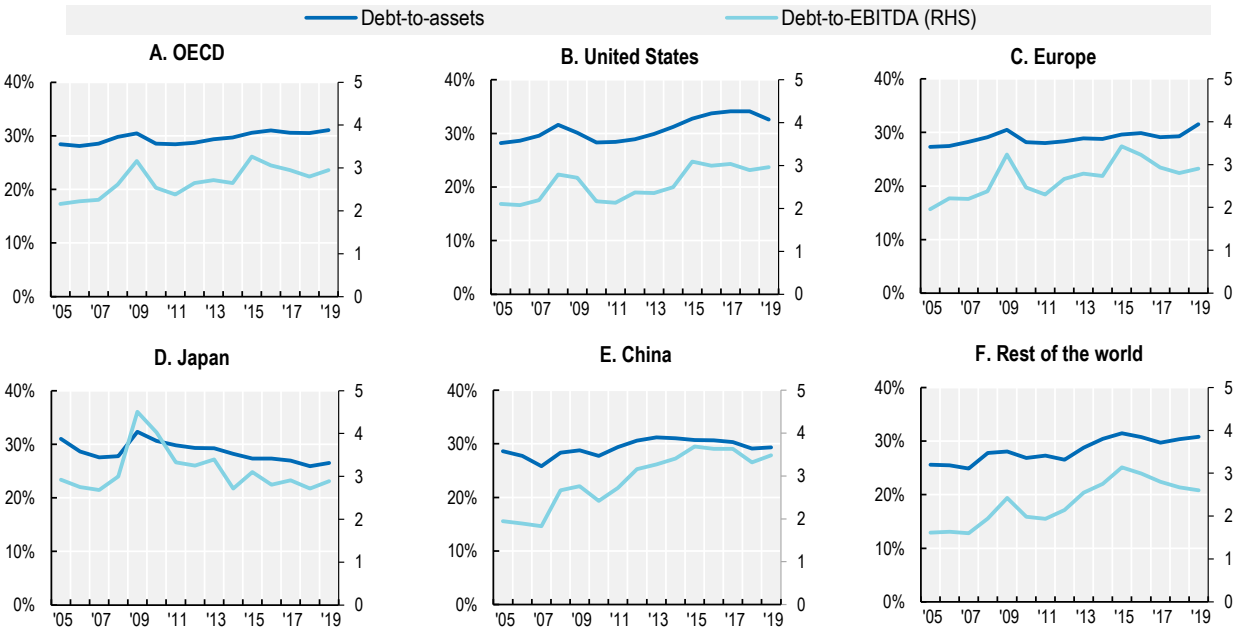
Figure 2.6. Debt of non-financial listed companies with different debt-to-EBITDA ratios



Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Across regions, corporations, with the notable exception of Japan, witnessed an increase in leverage both measured as debt-to-assets and debt-to-EBITDA ratios (Figure 2.7). In terms of debt-to-assets ratio, all regions experienced a slight increase from 2005 to 2019, except for Japan where the debt-to-assets ratio decreased from 31% to 26%. Specifically, the United States and Europe have both seen an increase of 4 percentage points. The increase in leverage is even larger when measured with debt-to-EBITDA ratio, as most regions have seen an increase from around 2x to almost 3x. The largest increase took place in the People's Republic of China (China) where this ratio increased from less than 2x to 3.5x. In the case of Japan, despite the dramatic surge to 4.5x during the 2008 financial crisis, the ratio returned to the pre-crisis level in recent years.

Figure 2.7. Debt ratio of non-financial listed companies, by country / region

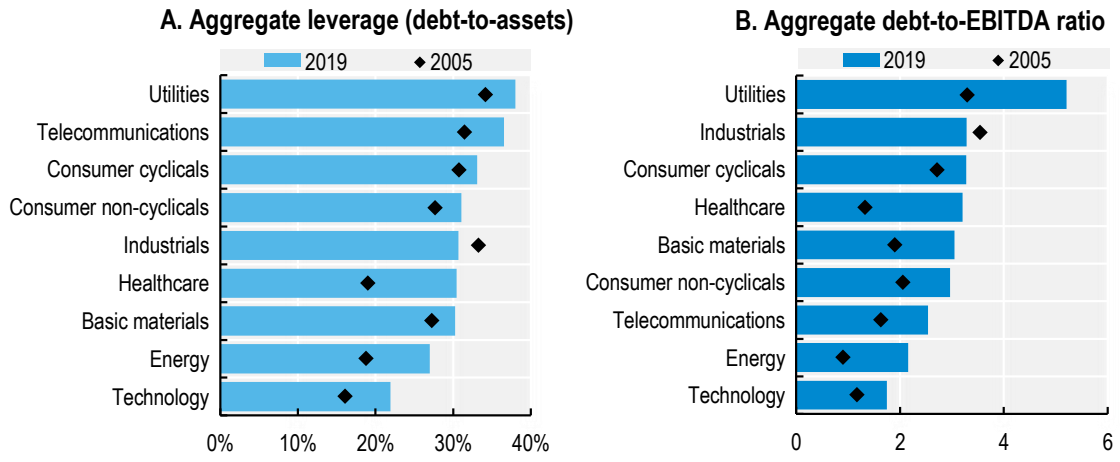


Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Figure 2.8 shows leverage ratios across industries. Looking at the debt-to-assets ratio, all industries, except industrials, experienced an increase in leverage between 2005 and 2019. Likewise, when looking

at leverage in terms of the debt-to-EBITDA ratio, all industries, except industrials, saw a larger increase in leverage. Utility companies experienced one of the highest increases in leverage, with a four percentage points increase in debt-to-assets ratio and with debt-to-EBITDA ratios increasing from 3.3x to 5.2x. Technology companies had the lowest leverage among all industries. However, their debt-to-assets ratio still increased by six percentage points without causing a similar increase in its debt-to-EBITDA ratio, owing to higher profitability ratios. A further analysis of technology companies also shows that these companies have the highest cash ratio, with more than 20% of total assets in cash or short-term liquid investments. Reproducing the analysis with median ratios leads to parallel results.

Figure 2.8. Debt ratio of non-financial listed companies, by industries



Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

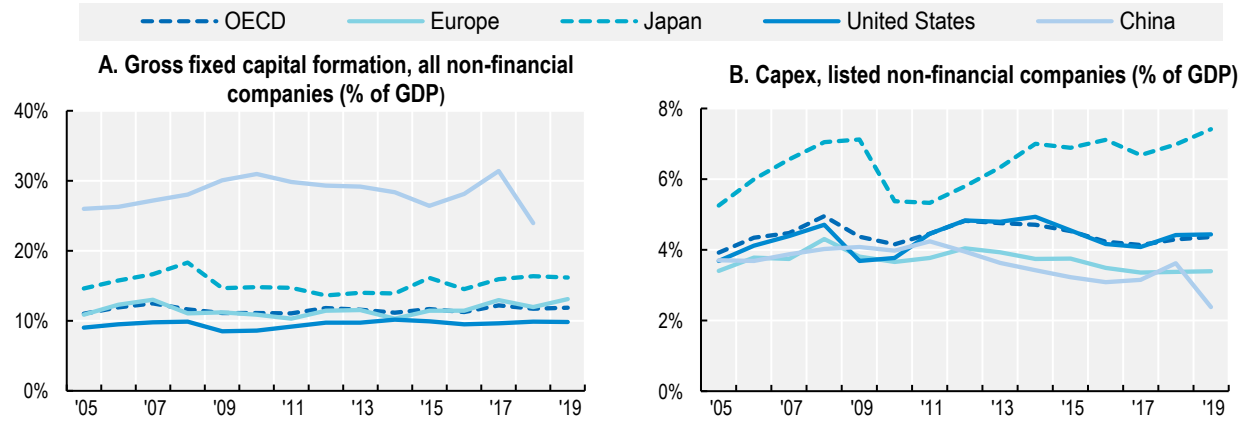
2.1.1. Corporate investment

A large share of total investment in most economies is made up by non-financial corporations. However, non-financial companies' investment growth has not picked up during the past decade. In the OECD as a whole, the investment ratio - measured as gross fixed capital formation by non-financial companies to GDP - has gone from 11.0% in 2005 to 11.9% in 2019 (Figure 2.9, Panel A). In Japan and China, the last observed investment ratios were lower than in 2008, whilst in the United States it has remained almost unchanged. It is only during the last years that investment ratios have slightly begun to increase. Europe saw investment grow from 10.3% to 13.1% of GDP during the period from 2014 to 2019, and Japan saw a two percentage point increase from 13.9% to 16.2% over the same period. In the United States, investment picked up more quickly after the 2008 crisis, increasing from 8.5% in 2009 to 10.2% in 2014. Since then though it has remained more or less constant. In terms of the level of investment to GDP, China is a notable exception, showing a significantly higher investment ratio than other regions. Further, the Chinese case is unique because investment by non-financial companies increased throughout the 2008 crisis up until 2010 when it reached 31% of GDP, after which it has fluctuated, with a notable drop in 2018.

While few in number, publicly listed companies make up a large portion of non-financial companies' gross fixed capital formation. Indeed, listed corporations' investment - measured as capital expenditure (Capex) over GDP - in OECD countries has been on average 4.4% since 2005 (Figure 2.9, Panel B). This amounts to about 40% of the non-financial corporate sector's total gross fixed capital formation. In Japan, investment in fixed capital by the listed segment after the 2008 financial crisis has grown faster than the economy at large, from 5.4% in 2010 to 7.4% in 2019. In Europe, investment in fixed capital by listed companies has been downward sloping since 2012. However, investment by all non-financials companies has increased somewhat in the region, in particular since 2011. Investment in fixed capital by listed companies in the

United States has increased slightly since 2017 while overall corporate investment has remained flat. In China, although the non-financial sector at large has invested at much higher rates - equivalent to 30% of its GDP - listed non-financial companies contribute a small share to fixed capital formation compared to other countries. Further, their capital expenditure as a share of GDP has been decreasing, in particular since 2011.

Figure 2.9. Investment rates of non-financial listed companies

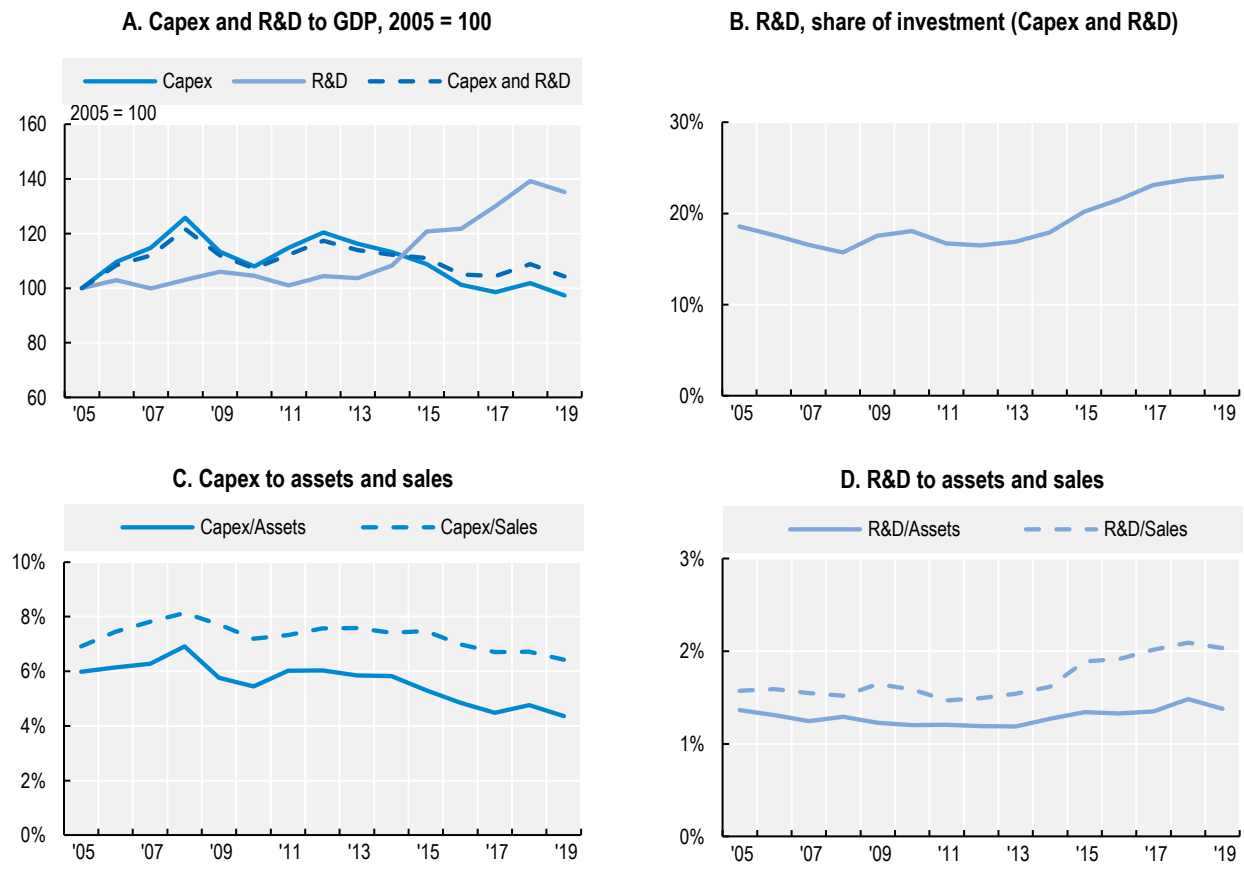


Source: OECD Statistical Data, OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

By looking at investment by non-financial listed companies, it is also possible to separate measures of investment in research and development (R&D) from investments in fixed capital (Capex). Looking at non-financial listed companies around the globe, investment as share of GDP has not changed significantly over the 2005-2019 period. However, this masks large changes in the composition of investments. Specifically, investment in R&D has seen a significant increase that has been offset by declining capital expenditure. While Capex has decreased by 2.7%, R&D investments grew by over 35% as a share of GDP between 2005 and 2019 (Figure 2.10, Panel A). As a result, the share of R&D in total investment increased from 19% in 2005 to 24% in 2019 (Figure 2.10, Panel B). A similar trend can be observed when looking at investment as a share of sales and assets. While Capex has decreased as a share of both assets and sales, R&D increased, implying that R&D investments grew faster than both total sales and assets (Figure 2.10, Panels C and D).

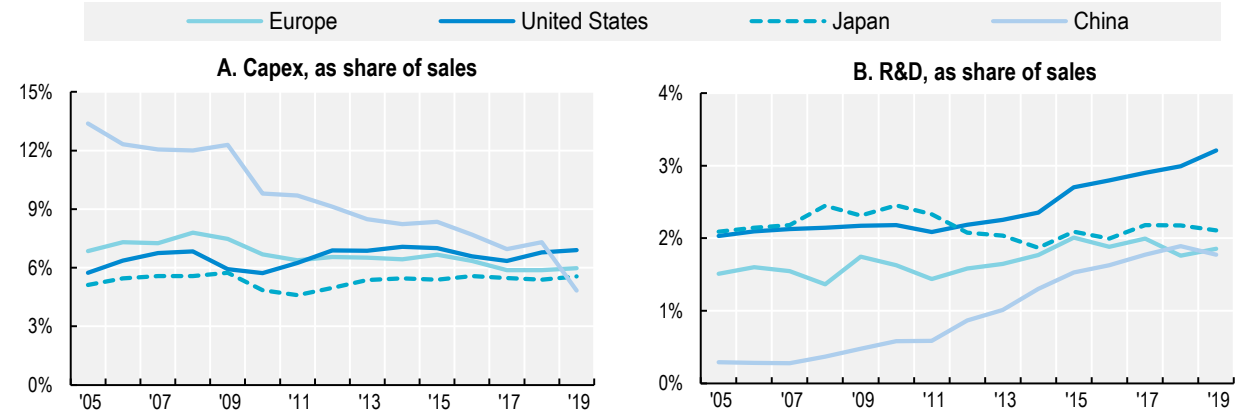
Looking at these investment developments on a regional level, the trends differ markedly (Figure 2.11). For Capex, the trend has largely been flat in most regions. The notable exception is China where Capex as share of sales has declined from 13.4% to 4.8% from 2005 to 2019. The level of R&D investments has increased in all regions. China and the United States have seen the largest increases in R&D by listed companies. Europe has seen improvements in R&D investments since 2011. Similarly, after a sluggish period following the 2008 crisis, Japan has shown an upward trend in R&D after 2014.

Figure 2.10. Overview of corporate investment, global listed non-financial companies



Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Figure 2.11. Corporate investment as a share of sales of non-financial listed companies, by country

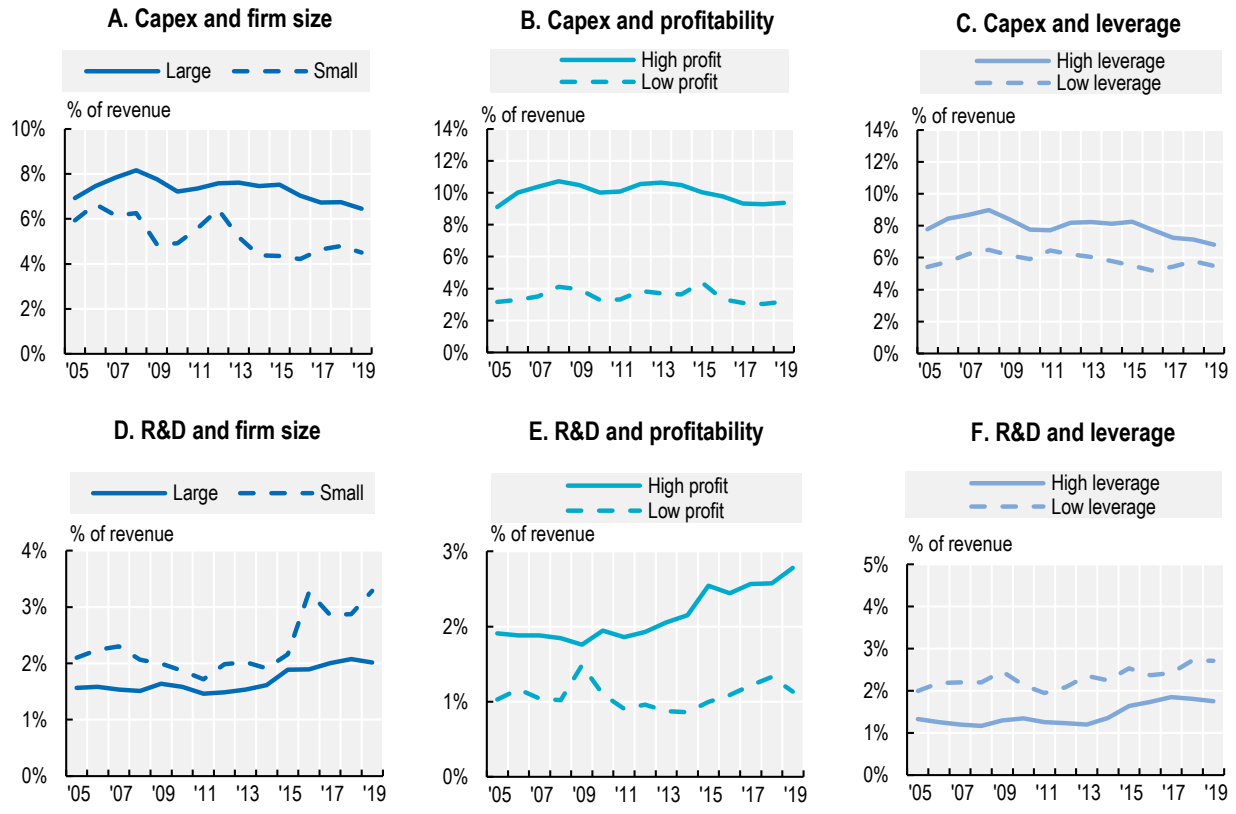


Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Significant differences in the type and level of investment can be observed when splitting companies according to their financial characteristics. Companies are first categorised by size (measured by assets), which shows that large companies invest more in Capex and less in R&D relative to small companies (Figure 2.12, Panels A and D). Further, this R&D investment gap between small and large firms has widened since 2016. When grouping companies by profitability levels - measured as the EBITDA margin -

there are significant differences in both their R&D and Capex investments (Figure 2.12, Panels B and E). High profit companies invest over two times more in Capex and R&D compared to companies with low profits levels. This is in line with the assumption that companies prefer to finance investments with internally generated resources. Another corporate characteristic that influences investment patterns is the leverage level (Figure 2.12, Panels C and F). Notably, high leverage companies invest a larger share of their revenues in capital expenditure than low leverage firms do. Contrarily, low leverage firms devote a larger share of their investment to R&D compared to high leverage companies. This underlines that equity financing is more suited to finance riskier projects with uncertain outcomes, as represented by R&D investment. At the same time, it shows that investment in fixed capital can be pledged as collateral and so lends itself more easily to debt financing.

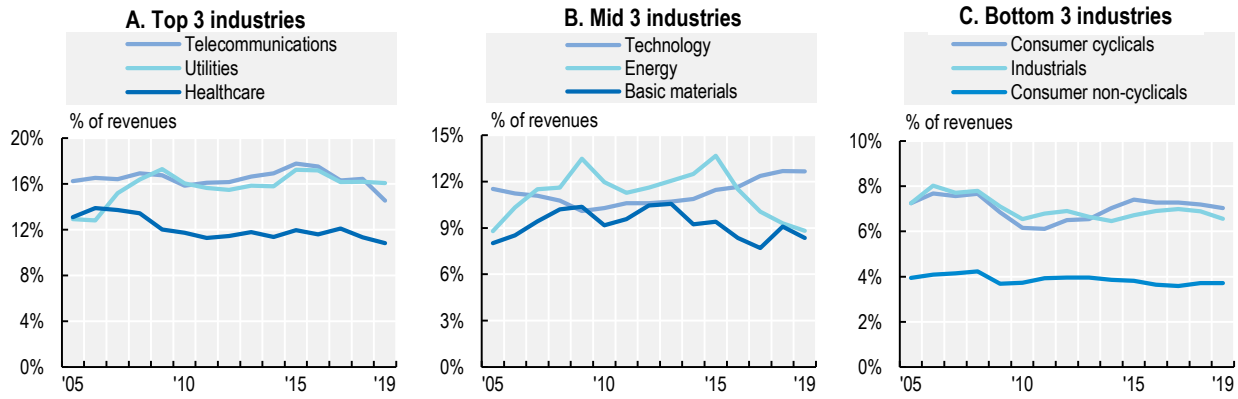
Figure 2.12. Corporate investment by firm characteristics



Note: Large (small) firms are defined as having total assets above (below) the median assets level. High (low) profit firms are defined as having EBITDA margins above (below) the median EBITDA margin. The EBITDA margin is defined as EBITDA over total revenues. High (low) leverage firms are defined as having leverage above the (below) median level. Leverage is defined as financial debt over total assets.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

Investment patterns largely depend on the industry in which companies operate. Since 2005, companies in the telecommunications industry have devoted the largest share of their sales to investment on average, closely followed by utilities (Figure 2.13, Panel A). In 2019, these two industries had investment-to-sales ratios that were 4.5 percentage points higher than the third most investment intensive industry, which was healthcare. On aggregate, most industries have had relatively flat investment trends since 2005. Notably, energy has seen a drop from 14% in 2015 to below 9% in 2019 (Figure 2.13, Panel B).

Figure 2.13. Corporate investment, by industry



Note: Industry investment ranking is based on the average ratio of investment (Capex and R&D) to revenue from 2005 to 2019.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

2.1.2. Short-termism and underinvestment

The corporate sector has sometimes been criticised for underinvesting in the period following the 2008 financial crisis. It has been argued that corporations have shown myopic behaviour by favouring short-term results at the expense of long-term productive investment. Such short-term behaviour may for example be an effect of misaligned incentives between the company and its shareholders or the company and its executives through flawed remuneration structures. The issue is of importance since it relates to the development of the productive capacity of the economy at large.

The existing evidence is not conclusive on the question of whether sluggish investment is rooted in short-termism. Haldane and Davies (2011) measure short-termism as an excessive discount applied to investment projects. The study provides evidence of an increase in short-termism over time based on that metric. Others, contrarily, have claimed that there is no convincing evidence in favour of the short-termism hypothesis, pointing to the fact that sluggish capital expenditure - interpreted as a symptom of short-termism - is a global trend and not just one in stock market dependent economies, and that R&D investment is still increasing (Haldane and Davies, 2011[1]) (Nathan and Goldberg, 2019[2]).

As shown above, globally, investment as a share of GDP by non-financial companies has slightly grown, and R&D has significantly increased. However, it is not possible to say that this is evidence either for or against short-termism. While investment has remained more or less constant or even increased in most regions in the preceding analysis, it should be emphasised that these figures refer only to listed companies, and that they reflect gross investment. However, there is evidence that depreciation rates have increased, with significantly lower growth of real business capital stock compared to pre-2008 levels in many economies. Further, in a low-growth environment, there is a risk that constant investment rates mask a low-growth equilibrium where the levels remain constant only because both investment and the economy at large are growing slowly (ECB, 2018[3]). Other studies find evidence of underinvestment both in the Euro Area when measuring net investment as a share of GDP (Kalemli-Özcan, Laeven and Moreno, 2019[4]) and in the United States when comparing investment to corporate valuations and profitability (Gutiérrez and Philippon, 2016[5]). Finally, in a US context, studies have found that private companies invest less than public companies, particularly in R&D (Feldman et al., 2018[6]). This makes the sample composition of the figures presented here important.

To the extent that there is a problem of underinvestment, the question is what is driving it. Short-termist pressure by shareholders is a possible explanation, but it is one among many others. The problem may also be an issue of, for example, a lack of access to adequate financing due to incomplete capital markets, a lack of competition which disincentivises investment, regulatory uncertainty or a debt overhang problem.

Even when looking only at short-termism, there are several possible causes, including the structure of executive compensation and shareholder incentives that are not conducive to investment, which may in turn be an effect of changed ownership structures. For example, the increasing presence of institutional investors as owners of listed companies, in particular those following passive investment strategies, risks lower monitoring and engagement with the investee company (De La Cruz, Medina and Tang, 2019[7]). There are also suggestions that a lack of competition may lead to underinvestment (Gutiérrez and Philippon, 2017[8]).

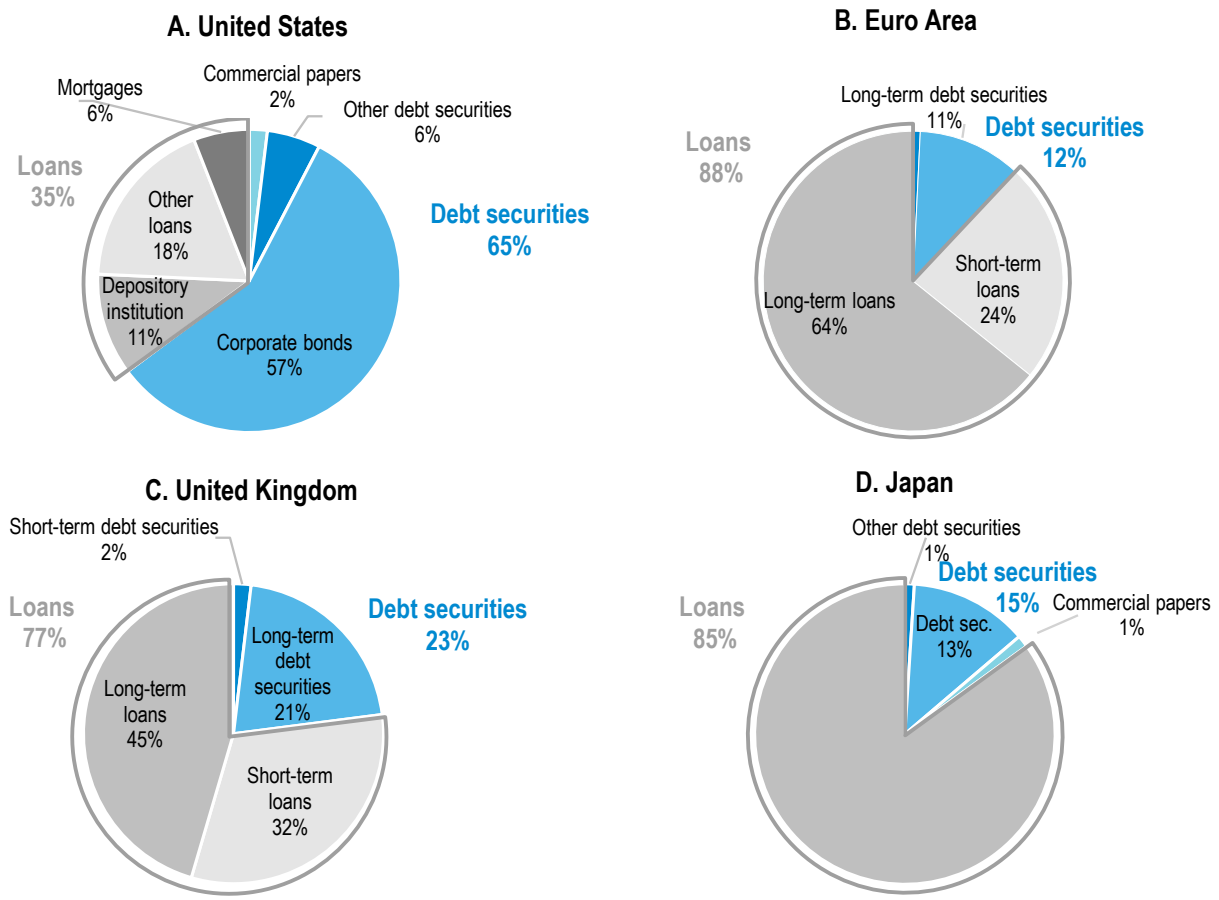
It is worth mentioning that a number of studies relate short-termism and underinvestment specifically to corporate payouts. Some have defined short-termism simply as increases in the ratio between corporate payouts (dividends and share buybacks) and revenues or net profits (EY and EC, 2020[9]). In a US context, owing to the prevalence of share buyback programmes, it is common to look at the effects of such operations on corporate investment (see e.g. (Lazonick, 2014[10]); (Almeida, Fos and Kronlund, 2016[11])). The empirical evidence for the relationship between payouts, revenues and investment for listed companies is addressed in greater detail under section 2.5 below.

2.1.3. Sources of debt financing

Financial systems are often classified as bank-based or market-based in relation to the main source that companies use to finance themselves. While the use of market-based instruments such as corporate bonds increased over the past few decades, bank lending in the form of loans is still the major financing source for non-financial corporations in most economies. As seen in Figure 2.14, non-financial companies from the euro area, the United Kingdom and Japan rely heavily on loans while companies from the United States mostly use corporate bonds and other debt securities as a source of debt financing. By the end of 2019, loans corresponded to 88% and 85% of the total debt financing of non-financial companies from euro area and Japan respectively, while only amounted to 35% of the total debt financing of the US non-financial companies.

Until the 2008 financial crisis, many parts of the world experienced consistent economic growth, accompanied by a decrease in risk perception and an increase in the amount of liquidity. As a result, bank lending to non-financial corporations experienced a gradual upward trend between 2000 and 2007 across regions, except in Japan. The annual net flow of loans to non-financial corporations almost tripled in the United States and the United Kingdom, and increased 40% in the euro area during the same period (Figure 2.15). In contrast to these positive flows, Japanese non-financial companies experienced negative net flows of loans between 2000 and 2004. However, in line with the overall economic and financial trends, the annual net flow of loans to Japanese non-financial corporations improved after 2010 (Figure 2.15, Panel D). In response to the economic and financial turmoil accompanied by uncertainties about the borrower quality and contraction in the available funds, bank loan flows slowed down substantially in 2009 and/or 2010 across all regions. In addition, a second wave of corporate credit tightening occurred in the euro area following the 2012 sovereign debt crisis (Figure 2.15, Panel B).

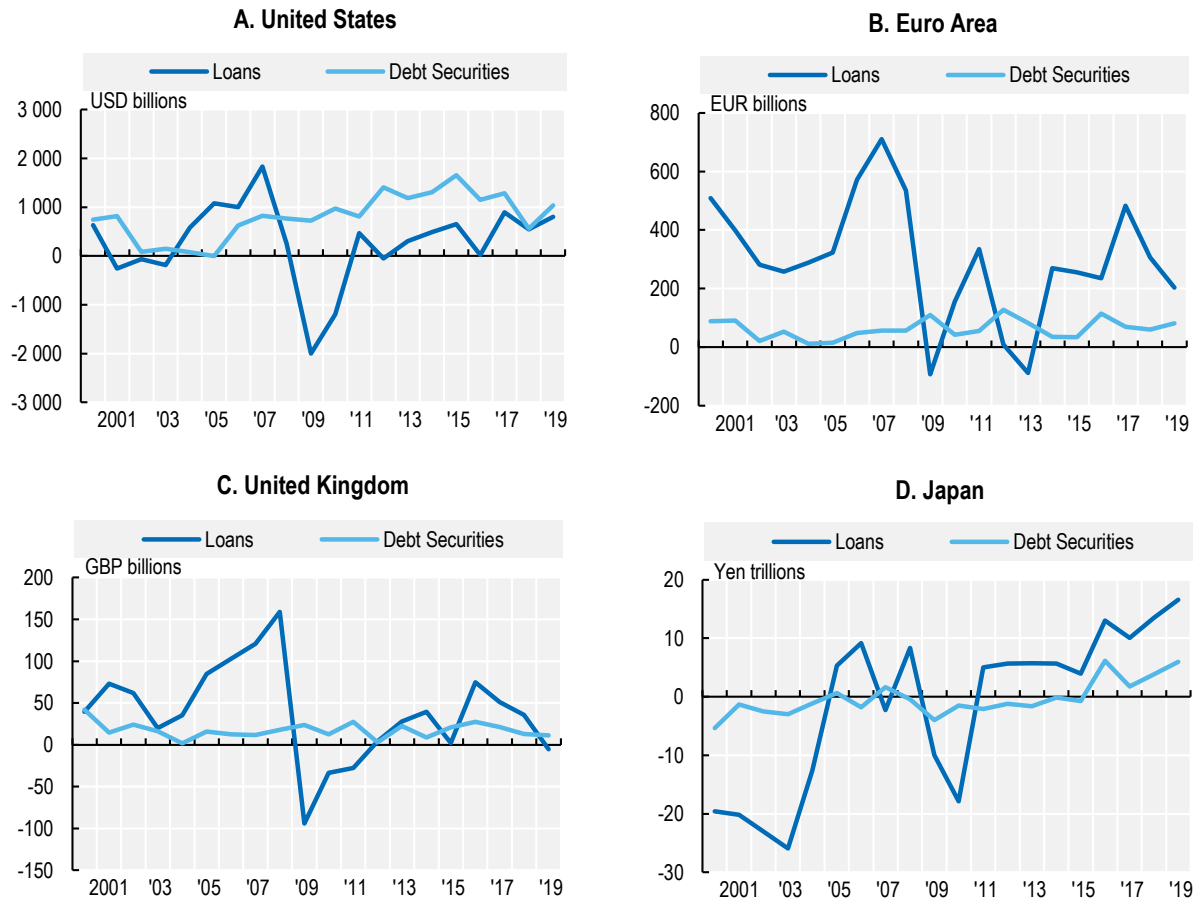
Figure 2.14. Sources of non-financial corporate debt financing, as of end 2019



Source: National financial accounts flow data released by the US Federal Reserve, the ECB Statistical Data Warehouse, the Bank of England and the Bank of Japan.

Following the 2008 financial crisis, banks increased their resilience by significantly strengthening their capital and liquidity buffers to comply with the stricter regulatory requirements that were enacted in response to the crisis. This was one of the reasons for the contraction in the bank lending following the 2008 financial crisis and resulted in an increase in the use of other alternative sources of financing, especially capital market instruments.

Figure 2.15. Evolution of loans and debt securities use by non-financial corporations, annual net flows



Source: National financial accounts flow data released by the US Federal Reserve, the ECB Statistical Data Warehouse, the Bank of England and the Bank of Japan.

2.2. Global trends in the use of public equity markets

Access to equity capital gives corporations the financial resilience that helps them overcome temporary downturns while still meeting their obligations to employees, creditors, bondholders and suppliers. During the 2008 financial crisis, for example, publicly listed non-financial companies raised only in 2009 a historical record of USD 511 billion of new equity through the stock market in a time when bank credit suddenly became difficult to access, or vanished completely.

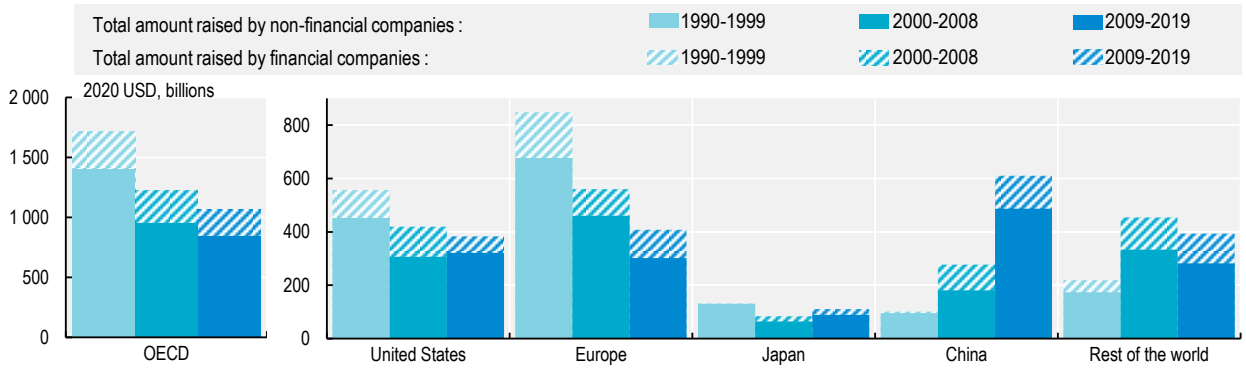
The scrutiny by equity markets also serves the critical function of allocating capital between long-term viable businesses and companies that have structural weaknesses and limited prospects to survive. This function is particularly valuable in times of structural adjustments with possible long-term implications for the industrial structure, such as the current COVID-19 crisis. By its long-term nature and ability to engage in projects with uncertain outcomes, equity financing also contributes to innovation and business dynamics, which are the prerequisites for sustainable economic recovery and long-term resilience. From the perspective of ordinary households, public equity markets provide an opportunity to directly or indirectly participate in the corporate value creation and additional options for managing savings and plan for retirement.

Today, there are almost 40 531 listed companies in the world with a combined market value of about USD 105 trillion. This also means that public equity is the largest segment of capital markets that is available to the general public. Since the mid-1990s, the public equity market landscape has undergone some important changes. One important development has been an increased use of public equity markets by Asian companies. In the 1990s, European companies - mainly from the United Kingdom, Germany, France and Italy - dominated the global scene in terms of initial public offerings (IPOs) and accounted for 42% of all capital raised with almost 3 000 listings during the decade (Figure 2.16). Since then, European IPO activity has declined in both absolute and relative terms. And during the past decade leading up to the COVID-19 crisis, the amount of public equity capital raised by European non-financial companies was below both US and Chinese companies.

Between 2009 and 2019, 47% of all public equity in the world was raised by Asian companies. This is a marked increase from 22% during the 1990s. The growth of Asian markets is mainly the result of a surge in Chinese IPOs, which is shown separately in Figure 2.16. The number of Chinese IPOs more than tripled between the 1990s and the post-2008 period, when they represented almost one-third of the global proceeds. The Japanese market, which in 2000-2008 experienced a relative decline in the total IPO proceeds with respect to the 1990s, saw a 32% increase during the 2009-2019 period, which also contributed to the increased importance of Asian equity markets during the past decade.

As a result of the surge in IPOs, there has also been an increase in the global share of Asian listed companies. In the beginning of 2021, over half of the world's listed companies were listed on Asian stock exchanges that together represented 32% of the market value of the world's listed companies.

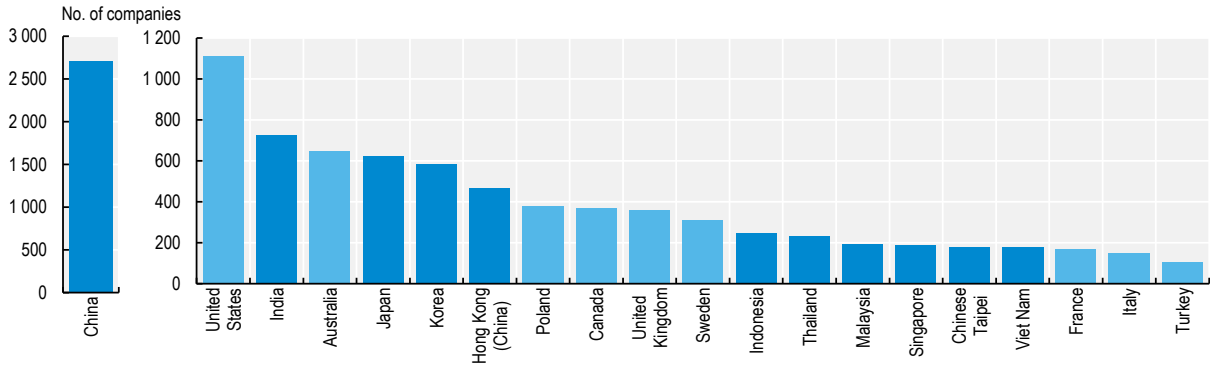
Figure 2.16. Initial public offerings (IPOs), total amount raised



Source: OECD Capital Market Series dataset, see Annex for details.

The shift towards Asia has been even more pronounced with respect to the number of IPOs by non-financial companies. As seen in Figure 2.17, Chinese non-financial companies have been the world's most frequent users of IPOs during the past decade, with about two and a half times as many IPOs as the United States. Moreover, other Asian markets - India, Japan, Korea and Hong Kong (China) - also rank among the top 10 IPO markets globally. Importantly, several Asian emerging markets, such as Indonesia, Thailand, Malaysia and Viet Nam, rank higher in terms of IPOs than most advanced economies. Among the EU member states, only Poland ranks among the top 10.

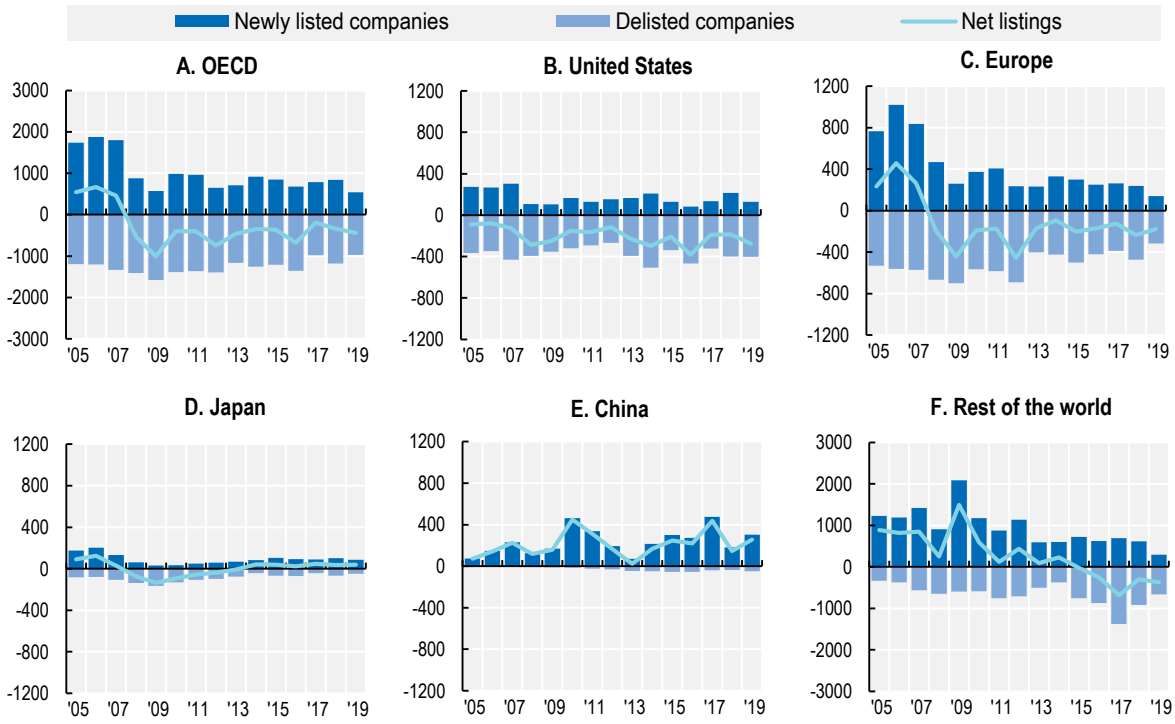
Figure 2.17. Top 20 jurisdictions by number of non-financial company IPOs during past 10 years



Source: OECD Capital Market Series dataset, see Annex for details.

The change in the global public equity market landscape has not only been driven by a shift in the number of new listings towards Asian markets. Another contributing factor is an increasing number of companies that have delisted from the stock markets outside of Asia. As noted above, since 2005, over 30 000 companies have delisted from the public stock market globally. In particular, there were almost 8 000 delistings of European companies over the 2005-2019 period, over 5 000 delistings of US companies and around 1 300 of Japanese companies. For the United States and Europe, these delistings were larger than the number of new listings, resulting in a net decrease in listed companies every single year between 2008 and 2019 (Figure 2.18). In Japan on the other hand, net listings were positive in 9 out of the 15 years shown in Figure 2.18. In China, there were on average less than 30 delistings per year, resulting in a considerable net increase in the total number listed companies.

Figure 2.18. Newly listed and delisted companies

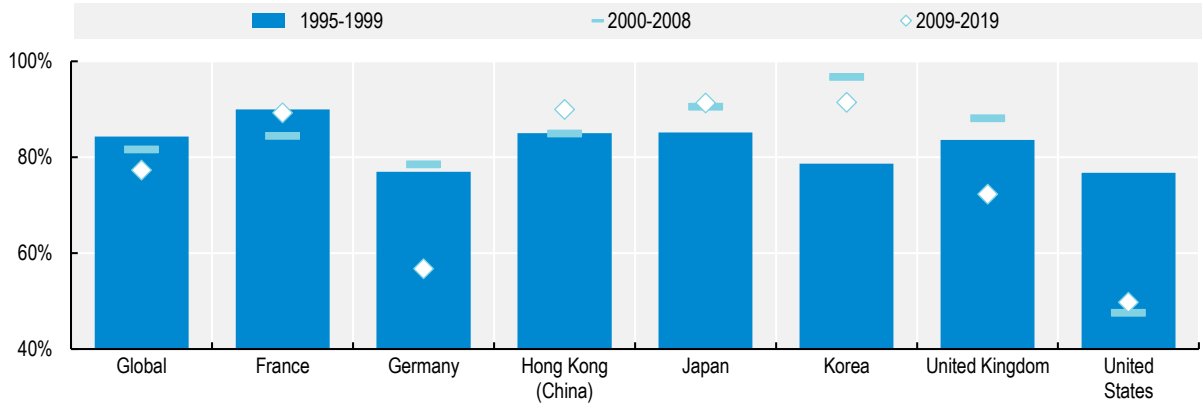


Source: OECD-ORBIS Corporate Finance dataset, see Annex for details.

2.2.1. Growth companies' use of public equity financing

The growth of Asian stock markets and the increased number of delistings in the United States and Europe are not the only features of global equity markets during the past decade. Another characteristic, described in Figure 2.19, is the decline in the listings of smaller growth companies in some advanced markets. Smaller growth companies are defined as those raising less than USD 100 million in an IPO. In the United States, for example, the portion of growth company listings was around 50% during the 2009-2019 period compared to 77% during the 1995-1999 period. A similar trend can be observed in Germany and to some extent in the United Kingdom. However, advanced markets in Asia - such as Hong Kong (China), Japan and Korea - have all seen an increase in the portion of growth company listings compared to the 1990s. In Hong Kong (China), Japan and Korea, 9 out of 10 IPOs in the past decade have been by growth companies. It is also important to note that China and India together hosted on average one-third of the world's growth company IPOs in the past five years.

Figure 2.19. Growth company IPOs' share in the total number of IPOs by non-financial companies



Source: OECD Capital Market Series dataset, see Annex for details.

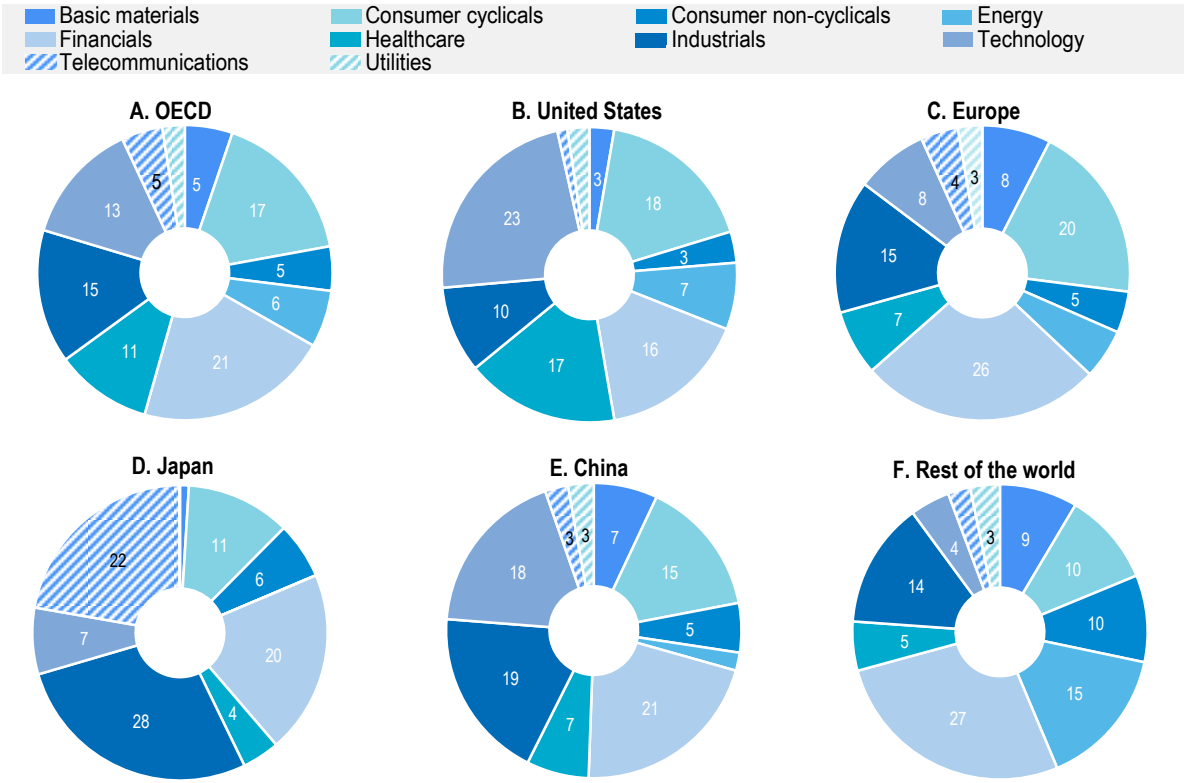
2.2.2. The industry composition of IPO financing

As mentioned above, public equity markets do not only serve the role of providing companies with long-term capital. Another important function is to scrutinise the viability of different business propositions and to allocate equity capital between competing ends. This is a function that has been highlighted as an important policy objective, but also as a practical administrative challenge, for distributing public support to businesses in the current COVID-19 crisis.

Figure 2.20 presents a breakdown of the total proceeds from IPOs across different industries between 2010 and 2019. While the financial sector has absorbed an important part of the IPO proceeds across all regions, there are some noteworthy differences with respect to the healthcare, technology and telecommunications industries (HTT). In the United States, 41% of all equity was raised by companies from the HTT industries with 17% going to healthcare and 23% going to technology companies. The Japanese HTT industries accounted for 34% of all IPO proceeds with a dominance of the telecommunications industry. Technology companies are also dominant within the HTT industries in China. Out of the 28% of IPO proceeds that went to the HTT industries, technology accounted for about two-thirds and healthcare for a quarter. In Europe, the share of IPO proceeds that went to the HTT industries was about 19%, of which technology companies were the largest recipients, followed by healthcare and telecommunications companies.

In 2019, more than 200 technology companies worldwide raised a total amount of USD 50 billion, which equalled 27% of all proceeds from IPOs worldwide. The amount raised by technology companies in 2019 was fairly split between Chinese and US companies that accounted for 42% and 39%, respectively. Among the technology companies, the IPOs of the Chinese company Alibaba Group[1] in Hong Kong (China) and the US companies Uber Technologies and Lyft Inc. rank among the top 10 of the largest IPOs in 2019.

Figure 2.20. IPO proceeds distribution by industry (share in total regional proceeds, 2010-2019)



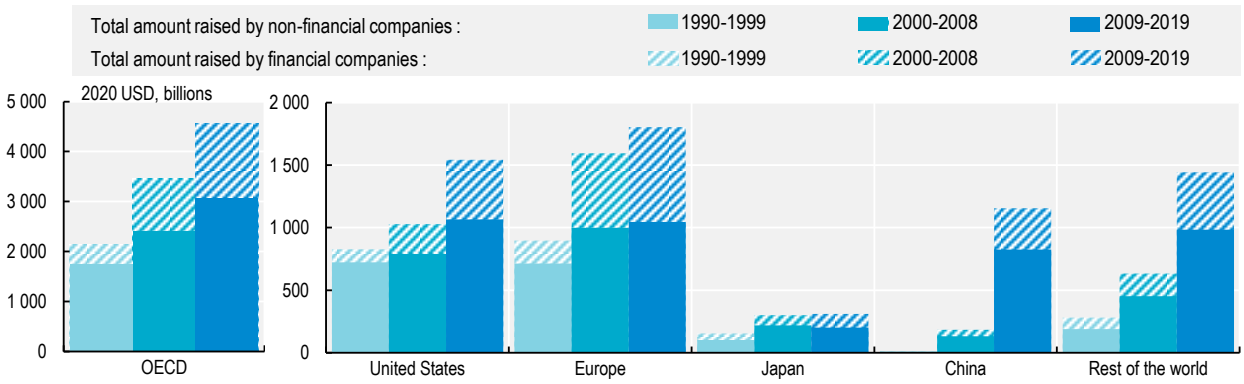
Source: OECD Capital Market Series dataset, see Annex for details.

2.2.3. Increased importance of secondary public offerings

Secondary public offerings (SPOs) allow companies that are already listed to continue raising equity capital on primary markets after their IPO. The proceeds from the SPO may be used for a variety of purposes and can also help fundamentally sound companies to bridge a temporary downturn in economic activity such as the crisis caused by the COVID-19 pandemic. As mentioned in the introduction to this section, SPOs played an important role in providing the corporate sector with equity capital in the wake of the 2008 financial crisis.

The use of SPOs as a source of funding has gained momentum over the recent decades. The total proceeds raised between 2009 and 2019 worldwide amounted to USD 7.2 trillion, which is almost three times more than the amount raised through SPOs during the 1990s. The increase in the use of SPOs is true for all regions illustrated in Figure 2.21. In Europe and the United States - the dominant regions in terms of SPO volume - the proceeds doubled from 1990-1999 to 2009-2019. In Japan the use of SPOs for the last decade was two times higher than the 1990s. In China, the use of SPOs was marginal during the 1990s, however, in the past decade Chinese companies raised USD 1.15 trillion in equity through SPOs, equal to 16% of all equity raised in the world through SPOs during the period.

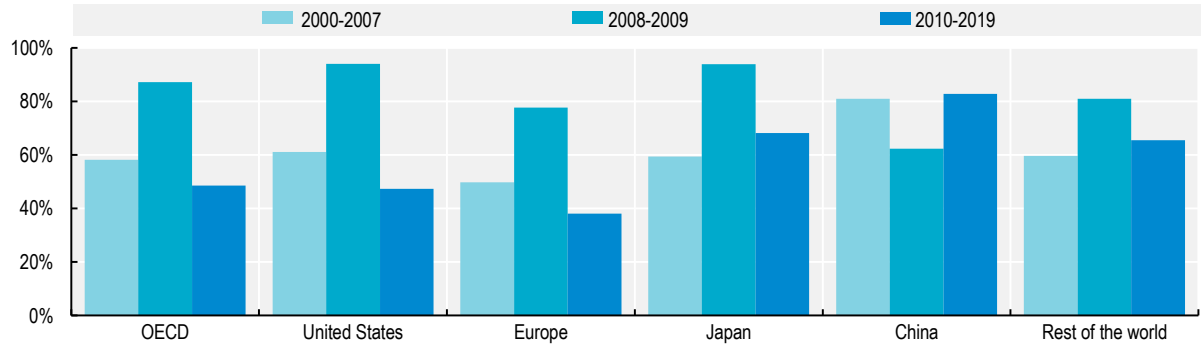
Figure 2.21. Secondary public offerings (SPOs), total amount raised



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Typically, an SPO can be undertaken either by the company itself issuing new shares or when an existing owner offers a block of shares not previously considered as part of the free-float. In the first case, the company will raise new additional equity, while the second case implies only ownership transfer. Figure 2.22 shows that new share issuances accounted for 60% of the total SPO proceeds globally before the 2008 financial crisis. During the recent decade, new shares represented about 50% of SPO proceeds in the United States and 40% in Europe. In both cases, the numbers represent a decrease compared with the period before the 2008 financial crisis. Importantly, during the 2008-2009 period and across all regions, with the exception of China, at least 78% of the proceeds raised via SPOs were in the form of new share issuances. This was also the period, when a record amount of USD 1.7 trillion was raised through SPOs globally amidst the 2008 financial crisis.

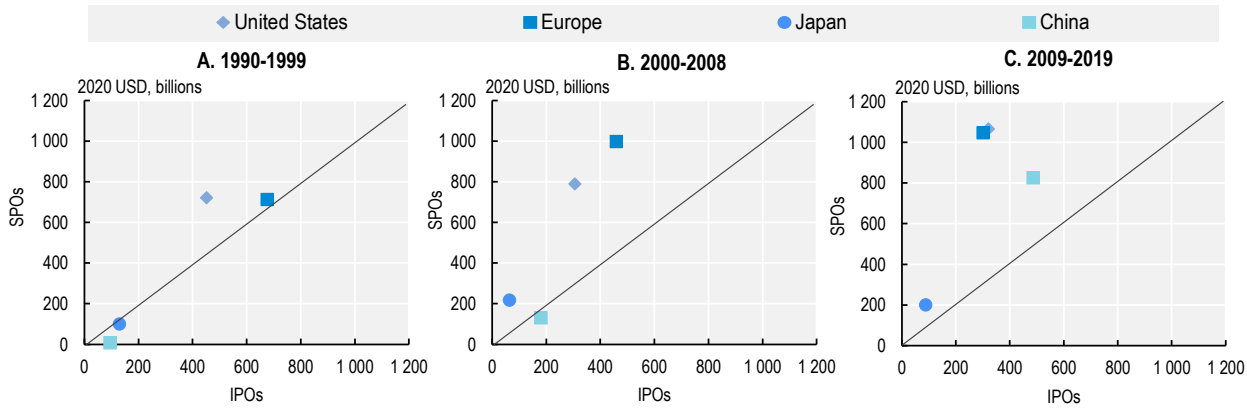
Figure 2.22. New share issuances through SPOs, as a share of total amount raised



Note: The calculation includes all SPOs where information for new and old share issuances was available.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

The steady growth of SPOs worldwide has also shifted the importance of public equity financing from IPOs to SPOs with respect to total funds raised. While in the 1990s, SPOs accounted for half of the proceeds raised in the public equity markets (IPOs and SPOs combined), in the last decade their share reached a historical amount of 75% of the total proceeds. In addition, as shown in Figure 2.23, whereas in regions as the United States and Europe saw a decreasing trend in the companies' use of IPOs over time, there is an increasing use of SPOs instead. This together with a decrease in the listings of smaller growth companies discussed above may again raise the question if stock markets increasingly have become a source of equity funding for fewer but larger companies, sometimes using the proceeds from equity and corporate bond markets to acquire smaller growth companies to complement and further expand their operations.

Figure 2.23. IPOs and SPOs by non-financial companies



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

2.3. Extended growth and record amounts of corporate bond borrowing

Compared to ordinary bank loans, corporate bonds typically have longer maturities and can be issued for a defined purpose. In addition the absence or relatively limited requirements for collateral gives corporate bond financing a special role as a source of financing compared to other types of borrowing.

The surge in the use of corporate bond financing during the past decade has also highlighted the role of corporate bonds in corporate governance. Covenants - clauses in a bond contract that are designed to protect bondholders against actions that issuers can take at their expense - have a strong influence on the governance of issuer companies. They range from specifying the conditions for dividend payments to obliging issuers to meet certain disclosure requirements. Moreover, by trading, bondholders also affect the cost of capital of the corporation, which indirectly or through actions by shareholders serve as a disciplining force on corporate behaviour. Bondholders and other creditors may also play a particularly active role during periods of financial distress and insolvency, which many corporations are facing as a result of the COVID-19 crisis.

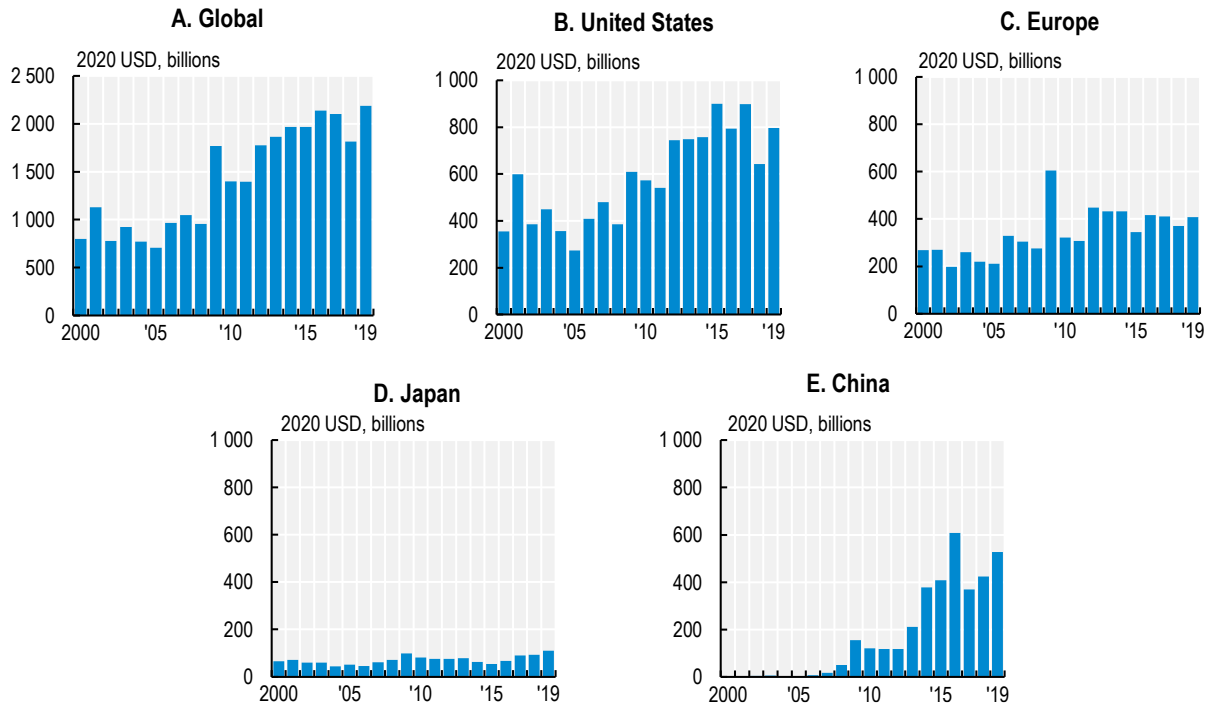
Figure 2.24 presents the total amount of proceeds that non-financial companies received through corporate bond issues in each year over the past two decades. A common observation across all the panels is the significant and lasting increase in issuance in the aftermath of the 2008 financial crisis. Globally, annual corporate bond issuance doubled from an average of USD 890 billion before the 2008 financial crisis since 2000 to an average of USD 1.78 trillion in period between 2008 and 2019. Similarly, US non-financial companies increased their annual issuance from a pre-2008 crisis average of USD 414 billion to an average of USD 699 billion in the post-crisis period and European companies saw an increase from USD 257 billion to USD 398 billion.

A common observation across panels A to C of Figure 2.24 is the decline in corporate bond issuance in 2018, which happened in the second half of the year as a reaction to a move towards less accommodative monetary policies by major central banks across the globe. When these central banks later provided reassurance about their continued support to the market whenever necessary, corporate bond issuance re-bounced in 2019.

Figure 2.24 in Panel D shows that annual issuances in Japan saw an increase to a degree similar to that observed in the United States and in Europe, moving from an annual average of USD 57 billion in the 2000-2007 period to USD 80 billion in the subsequent period. Importantly, Japanese annual corporate bond issuances has been on a positive trend for the last 5 years reaching in 2019 USD 111 billion - twice the 2015 amount. Panel E of the same figure reflects that Chinese corporate bond issuance accelerated

sharply in the past decade, starting from a negligible level prior to the 2008 financial crisis up to an annual average of USD 467 billion during the past 5 years, making Chinese companies the second largest issuers after US companies.

Figure 2.24. Corporate bond issuance by non-financial companies, by country/region



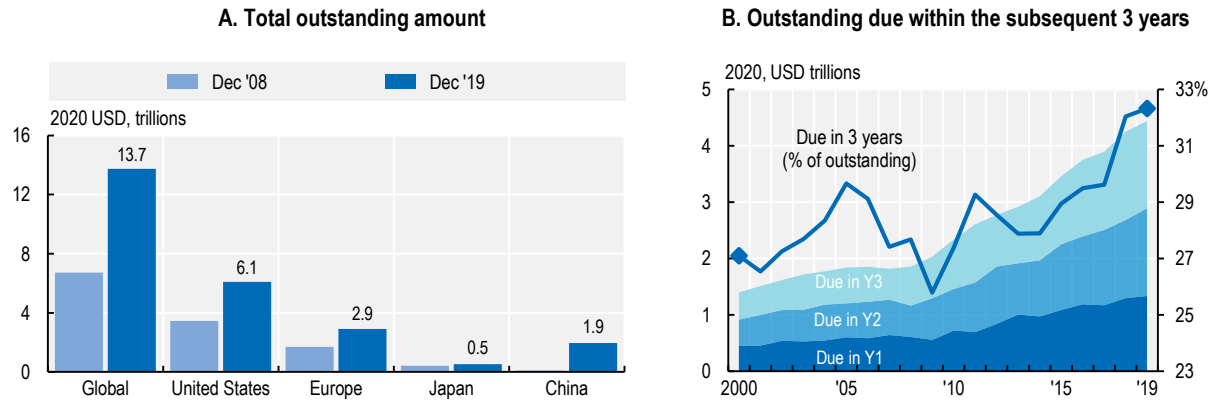
Note: The figures are based on the analysis of 92 623 unique corporate bond issues by non-financial companies from 114 countries.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

2.3.1. Large outstanding stock of non-financial corporate bonds

As a result of a decade-long build-up of corporate bond debt since the 2008 global financial crisis, the world entered the COVID-19 crisis with a record level of USD 13.7 trillion in outstanding debt in the form of corporate bonds. Of this amount, USD 6.1 trillion was issued by US companies, USD 2.9 trillion by European companies, USD 1.9 trillion by Chinese companies and USD 0.5 trillion by companies in Japan. Together, these countries made up 84% of the global outstanding stock of corporate bonds.

Going into 2020 and the COVID-19 crisis, corporate bond issuers also faced record levels of repayment and refinancing requirements. Panel B of Figure 2.25 presents the inflation-adjusted outstanding amount of corporate bonds that needs to be paid back or refinanced within the subsequent three years. The real amounts due within the following three years have constantly increased since the 2008 global financial crisis and as of December 2019, non-financial companies worldwide needed to pay back or refinance an unprecedented USD 1.3 trillion within one year, USD 2.9 trillion within two years and USD 4.4 trillion within three years. The amount due within three years as a percentage of the total outstanding amount also reached a 20-year record high at 32.3% in 2019.

Figure 2.25. Outstanding amount of corporate bonds issued by non-financial companies



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

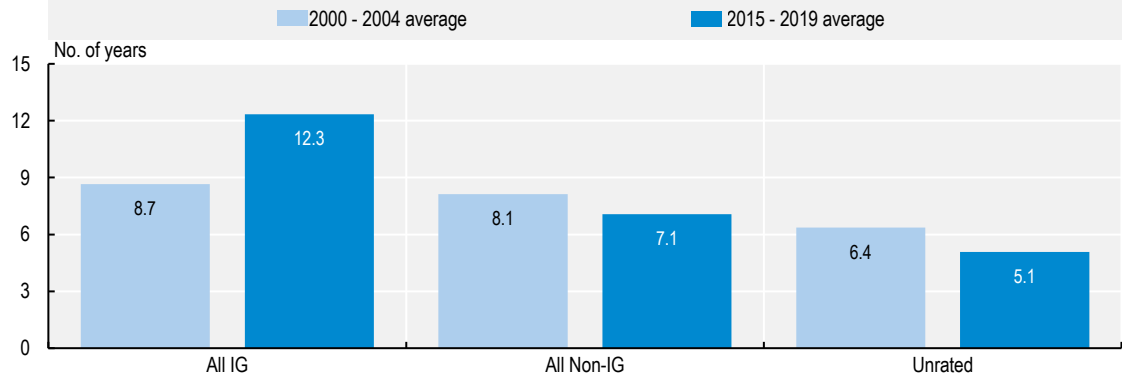
2.3.2. Longer maturities for investment grade bonds but not for others

If a corporation can issue bonds with a longer maturity, it will help to extend its debt obligations, which may be particularly helpful in times of a temporary financial distress. The average maturity of corporate bonds at origination, could therefore be a good indicator of how long an average company with liquidity problems can sustain the pressure of refinancing its debt or when a distressed exchange of debt[2] may occur.

Figure 2.26 shows that for issuances during the 2015-2019 period, the average maturities at origination for investment grade bonds was 12.3 years, which is 3.6 years longer than the average maturities for bonds issued between 2000 and 2004. Although this lengthening undoubtedly gives more flexibility to investment grade issuers, longer maturities are also associated with higher price sensitivity to changes in interest rates.

For non-investment grade and unrated bonds however, maturities have shortened. As reported in Figure 2.26, the average maturity for non-investment grade bonds fell from 8.1 years in the early 2000s to 7.1 years in the past 5 years. Likewise, average maturity of unrated bonds was shortened from 6.4 to 5.1 years. The need to repay or refinance debt in shorter intervals could not only compromise the investment horizon for these companies that may still be relatively young and growing, but may also make it more difficult to survive temporary external shocks such as the COVID-19 crisis that are threatening the financial viability of an otherwise viable business.

Figure 2.26. Corporate bond maturities by credit ratings

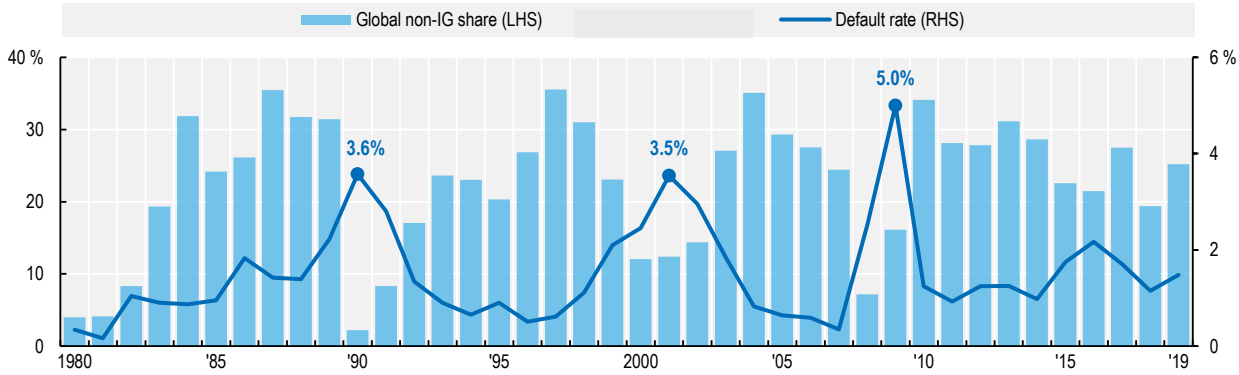


Note: Maturity is the average of the original maturity equally weighted proceeds.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

2.3.3. Long-lasting decline in overall bond quality

An important feature of the current corporate bond market has been a persistently high share of non-investment grade bonds. As reported in Figure 2.27, in each year from 2010 to 2019, with the exception of 2018, more than 20% of the total amount of all non-financial corporate bond issues was non-investment grade. In 2019, one quarter of all corporate bond issuances were non-investment grade. Since the ratio of non-investment grade to all corporate bond issuances is a commonly used proxy for overall bond market quality, it is important to note in Figure 2.27 that corporate bond markets experienced the longest period in the past 40 years that the non-investment grade ratio remained this high before a significant increase in default rates.

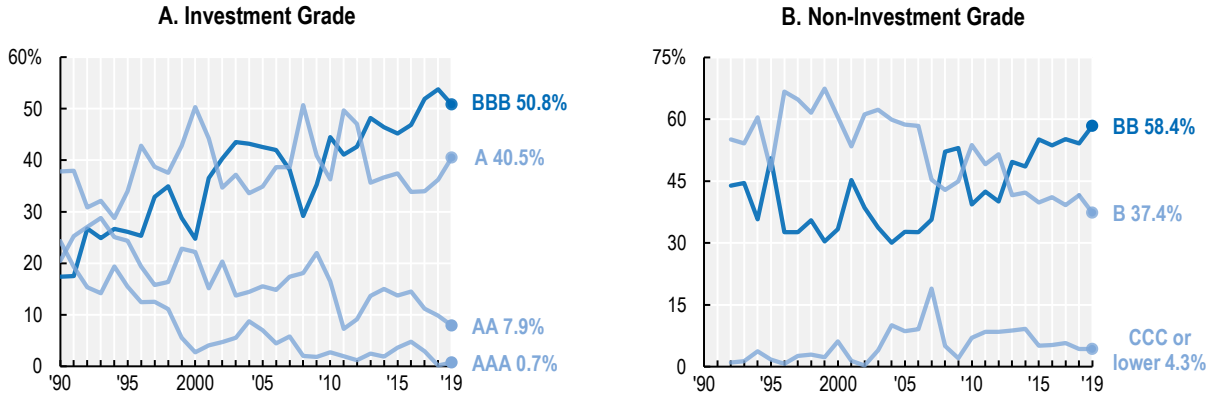
Figure 2.27. Share of non-investment grade bonds in global bond issuance by non-financial companies and average default rates of rated companies



Note: The figure is based on the analysis of 63 705 corporate bond issues with rating information from 105 countries.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, (MIS, 2020[12]), see Annex for details.

Another important development indicating that the COVID-19 crisis was preceded by a long-term decline in overall corporate bond quality is the increasing dominance of BBB bonds within the investment grade category. Figure 2.28 shows the rating composition of issuance in investment and non-investment grade categories starting from 1990s. According to Panel A, the share of BBB rated bonds, which is the lowest quality of bonds that are included in the investment grade category, increased from an average of 38.9% over the 2000-2007 period to an average of 44.6% in the 2008-2019 period and trending upwards. In 2019, half of all issuance (50.8%) in the investment grade category had the lowest rating BBB.

Figure 2.28. Composition of issuance in investment and non-investment grade categories



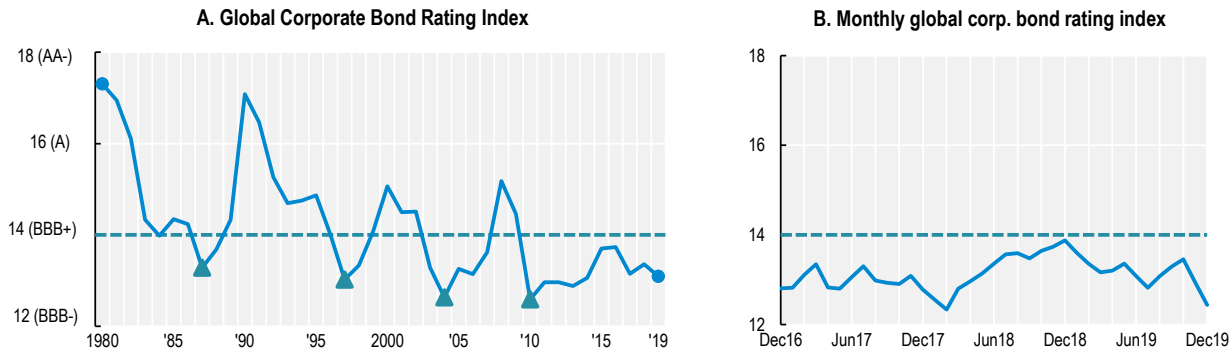
Note: In Panel B, 1990-1991 data are not reported due to an insufficient number of non-investment grade issues in those years.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

In the smaller non-investment grade category, however, the shift was towards a larger portion of higher rated bonds. Specifically, the portion of BB rated bonds in the global non-investment grade issuance averaged 35.2% before the 2008 global financial crisis and 50.1% during the 2008-2019 period, with a peak of 58.4% in 2019.

Given these major shifts in intra-category quality of investment and non-investment grade corporate bonds a global corporate bond rating index is constructed to provide a measure of overall bond quality rating. This allows for a more refined approach than simply using the share of non-investment grade bonds in total issuance shown in Figure 2.29.[3] Based on information about all rated bonds that have been issued by non-financial companies worldwide, the two panels of Figure 2.29 plot this overall quality index for each year since 1980 (Panel A) and for each month in the 3 years before the COVID-19 crisis (Panel B).

According to the yearly data in Panel A, the lowest levels of issuer quality were reached in 1987, 1997, 2004 and 2010. In each of these years, the index reached a lower value than in the previous cycle, with a record low of 12.6 in 2010. Moreover, the number of years for which this index stayed under 14, which corresponds to a BBB+ rating, increased in each cycle. Notably, from the all-time low in 2010 up to December 2019, the global corporate bond rating index has stayed below BBB+ for a full 10 years and remained at 13.1 in 2019. This means that in 2019, the average corporate bond issued had a rating of approximately BBB.

Figure 2.29. Global corporate bond rating index



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

A closer look at the 3-year period from December 2016 to December 2019 in Panel B shows that in some months, the index actually moved very close to the BBB+ level. The improvement in the global corporate bond rating index observed in 2018, coincided with a period when the major central banks had become or were expected to become less accommodative. However, this trend in bond quality was reversed as soon as central banks, starting in January 2019, declared their readiness to re-launch accommodative strategies as necessary. As a consequence, the index dropped throughout 2019, and at year-end 2019 it was back to the 2017 level with an overall bond rating slightly above the non-investment grade category.

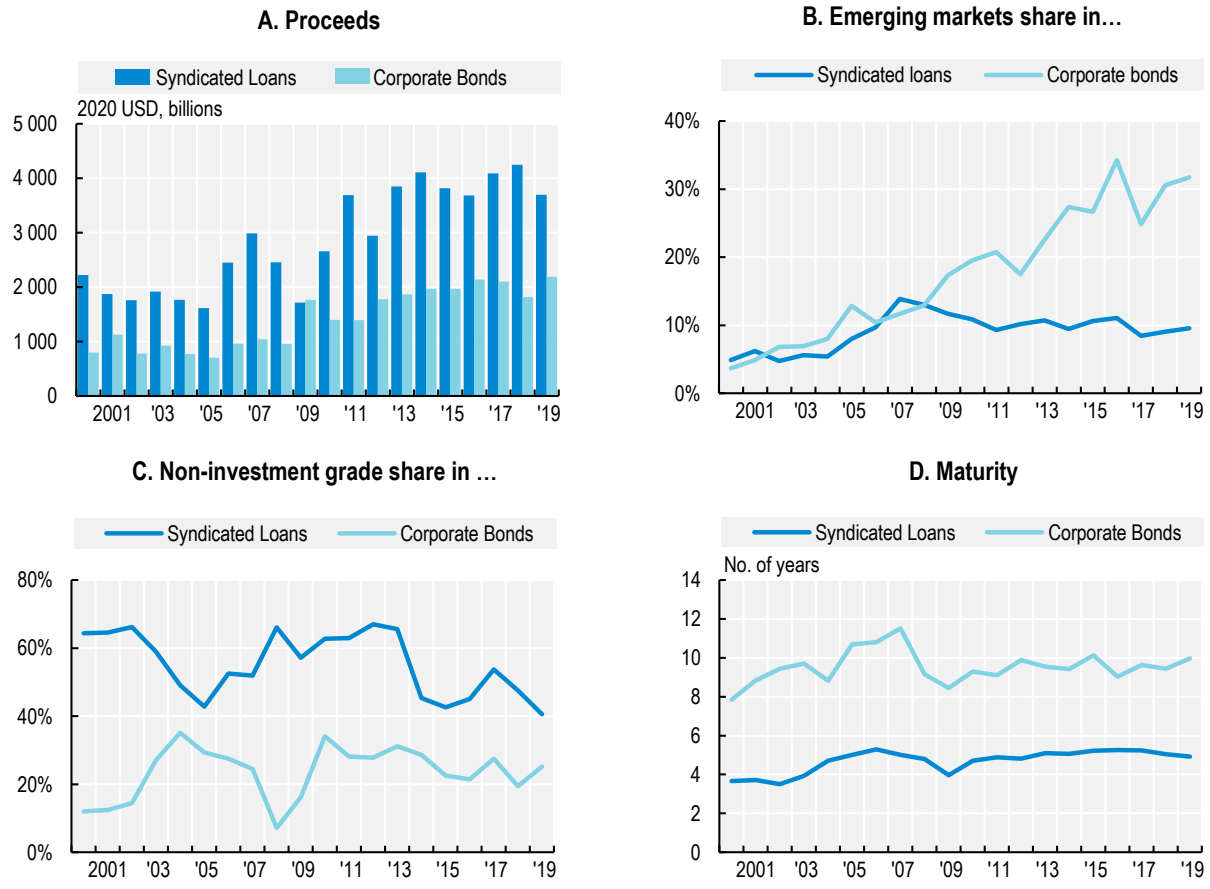
2.3.4. Corporate bonds versus syndicated loans

Companies that are in search of larger amounts of funds may obtain a syndicated loan where the lender is a group (syndicate) of banks rather than a single bank, which allows the participating banks to share the credit risk. Similar to corporate bonds, syndicated loans can also be traded on the secondary market, securitised and rated by independent rating agencies.

Figure 2.30 in Panel A shows the amount of capital that non-financial corporations borrowed in the form of syndicated loans and raised by corporate bonds respectively over the period between 2000 and 2019. For

the period as a whole, the annual average amount borrowed through syndicated loans was double the amount that of raised through corporate bonds. While the use of syndicated loans experienced a temporary decrease following the 2008 financial crisis, corporate bonds issuance continued its positive trend with a significant increase in 2009. The share of US borrowing in the syndicated loans market increased from 28% in 2007 and reached 52% of total borrowing in 2019. In the corporate bond market however, the share of proceeds in total raised by US firms declined to 36% of total proceeds in 2019 from 46% in 2007.

Figure 2.30. Syndicated loan and corporate bond financing of non-financial corporations



Note: In Panel C, syndicated loans' creditworthiness refers to their yield type, and non-investment covers the "highly leveraged", "leveraged" and "near investment grade" yield types, while undisclosed yield type is excluded from the calculations. In Panel D, maturity refers to the weighted average maturity of the proceeds.
Source: OECD Capital Market Series Dataset, Thomson Reuters Eikon, see the Annex for details.

Another observation derived from Panel B of the same figure is that the increased global share of proceeds from corporate bond issuances by non-financial corporations from emerging markets has not been matched by an equivalent increase in the share of syndicated loans, which has remained stable at around 10% for the past decade.

While the asset allocation of most institutional investors in the corporate bond market has been driven by rating-based investment mandates, lenders of syndicated loans are restricted by capital requirements. Figure 2.30 in Panel C shows the share of new issuance of non-investment grade corporate bonds of all corporate bonds and the share of all syndicated loans that have a yield comparable to a non-investment bond between 2000 and 2019.

Figure 2.30 in Panel D, provides a comparison between the average maturities for syndicated loans and corporate bonds between 2000 and 2019. Over the entire period, average maturities of corporate bonds have always been higher compared to that of syndicated loans. In 2019, the average maturity of corporate bonds of non-financial corporations was 10 years with the corresponding figure for syndicated loans around 5 years.

2.4. Changes in the corporate ownership and the investor landscape

On-going changes in the global equity market landscape and the functioning of capital markets have also translated into changes in the ownership structures of the world's listed companies. These developments have important consequences for the premises on which corporate governance regulations are best designed and implemented. One of the most important developments in this respect is the increase in institutional ownership, which was analysed and addressed during the review of the *2015 G20/OECD Principles of Corporate Governance* (OECD, 2015[13]). Since then, the use of indexed investment vehicles, for example exchange-traded funds, has further nurtured the discussion about how the different business models and/or political dependence of large institutional investors influence their ability and incentives to exercise their ownership function. Another less recognised development is the increase in ownership concentration at the company level. While this is a global development, there are important country and regional differences with respect to the different categories of shareholders that make up the largest shareholders at the company level; differences that again have implications for the focus of regulatory considerations and priorities.

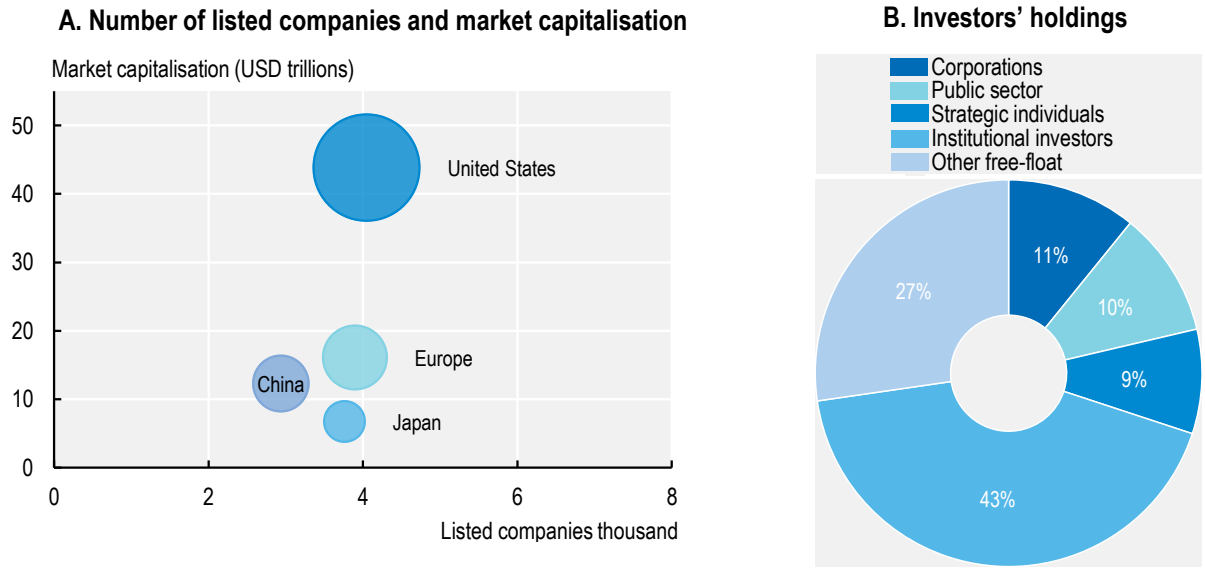
By the end of 2020, there were 40 531 listed companies in the world with a combined market value of USD 105 trillion. This section provides a global overview of how these companies are owned with respect to both the different categories of investors and the degree of ownership concentration at the company level. The findings build on firm-level ownership information from almost 26 000 listed companies from 92 different markets. Together, these companies make up 98% of the global stock market value. Using the records of owners for each company, the investors were classified into 5 categories: private corporations, public sector, strategic individuals, institutional investors and other free-float (see Annex for details); (De La Cruz, Medina and Tang, 2019[7]).

Panel A in Figure 2.31 shows the relative size of different markets with respect to capitalisation and the number of listed companies, while Panel B shows the distribution of shareholdings among the 5 different investor categories identified above. At global aggregate level, the largest investor category is institutional investors, which hold almost 43% of the world market capitalisation, followed by private corporations holding 11% and the public sector holding 10%. Strategic individuals rank 4th owning 9% of the world's listed equity. The remaining 27% free-float is held by shareholders that do not reach the threshold for mandatory disclosure of their ownership records and retail investors that are not required to do so.

Figure 2.32 shows how the relative importance of the different investor categories varies across markets. Institutional investors is the most dominant category of investors in OECD countries holding at least 54% of the equity and with some of the unreported free-float also likely to be held by institutions. Notably, in the United States, institutional investors is by far the most dominant category of investors holding at least 68% of the equity. Institutional investors is also the single largest category in Europe and Japan. In China, institutional investors is the smallest category, holding 11% of the market capitalisation. Instead, the largest investor category in China is the public sector, which holds 29% of all shares. The public sector is also a significant owner in the rest of the world with a 24% ownership. Listed companies in Japan, the rest of the world and Europe also have a significant portion of their shares held by other corporations. This is particularly pronounced in Japan where corporations hold 22% of market capitalisation. Together with engagement by strategic individuals, these data seem to confirm the presence of private corporations and

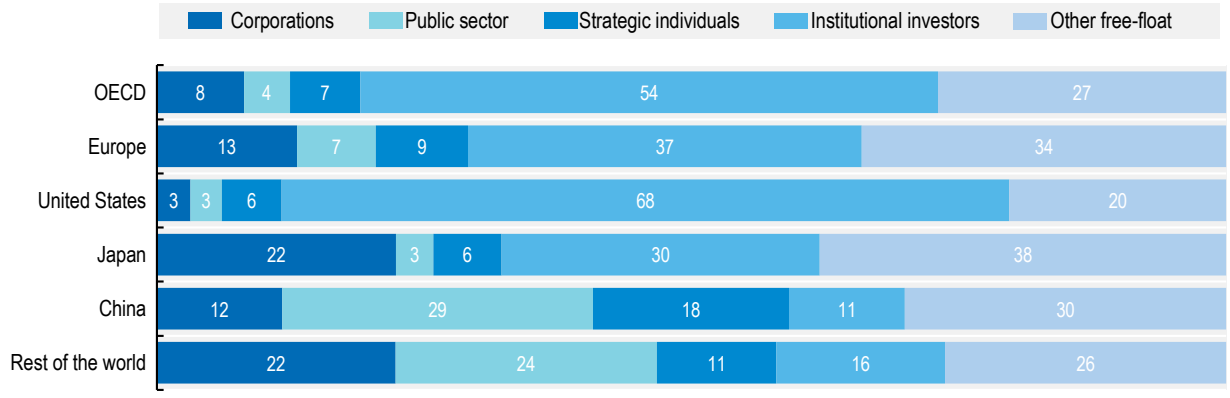
holding companies as an important category of owners in listed companies and in many cases also the presence of group structures.

Figure 2.31. Universe of listed companies and investors' holdings, as of end 2020



Note: Panel A shows the market capitalisation and number of listed companies and the bubble size represents their share in global market capitalisation. Panel B shows the overall ownership by value of the categories of owners.
Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

Figure 2.32. Ownership landscape, as percentage of total ownership by market, as of end 2020



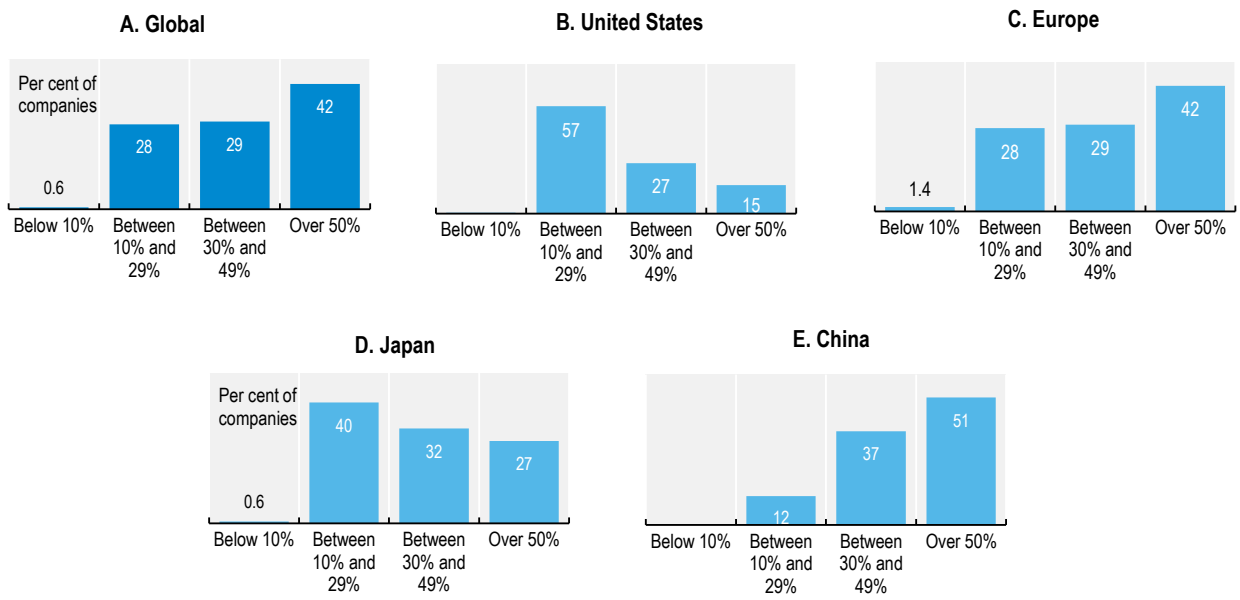
Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

2.4.1. The prevalence of concentrated ownership

The degree of ownership concentration in an individual company is not only of importance to the relationship between owners and managers. It may require additional focus on the relationship between controlling owners and non-controlling owners. Contrary to what has been seen as received wisdom in the much of the corporate governance debate, the ownership structure in most markets is today characterised by a fairly high degree of concentration at the company level. But as indicated already in Figure 2.32 above, there are indeed important differences with respect to the categories of owners that make up the largest owners.

Figure 2.33 shows the share of companies with different levels of ownership for the three largest shareholders at the company level. The first panel shows that in 28% of the world's listed companies, the three largest shareholders together hold between 10 and 29% of the equity. In 29% of the listed companies the three largest shareholders hold between 30-49% and in 42% of the world companies, the largest three shareholders hold more than 50% of the equity. In only 0.6% of the world's listed companies the three largest shareholders own a total of less than 10%.

Figure 2.33. Average ownership share of the 3 largest owners, as of end 2020



Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

The pattern of concentration differs quite significantly across markets. In the United States for example, the three largest owners hold between 10 to 29% of the equity in more than half of the listed companies (57%) while they exceed 50% in just 15% of the companies. A similar but less pronounced pattern can also be seen in Japan. In Europe and to some extent in China, however the pattern is somewhat reversed. In Europe the three largest owners hold between 10 to 29% of the equity in 28% of the companies (China 12%) and over 50% in 42% of the listed companies (China 51%). The world distribution is largely influenced by the distribution in Asian companies as they represent 54% of the world's listed companies.

2.4.2. The role of institutional investors as owners

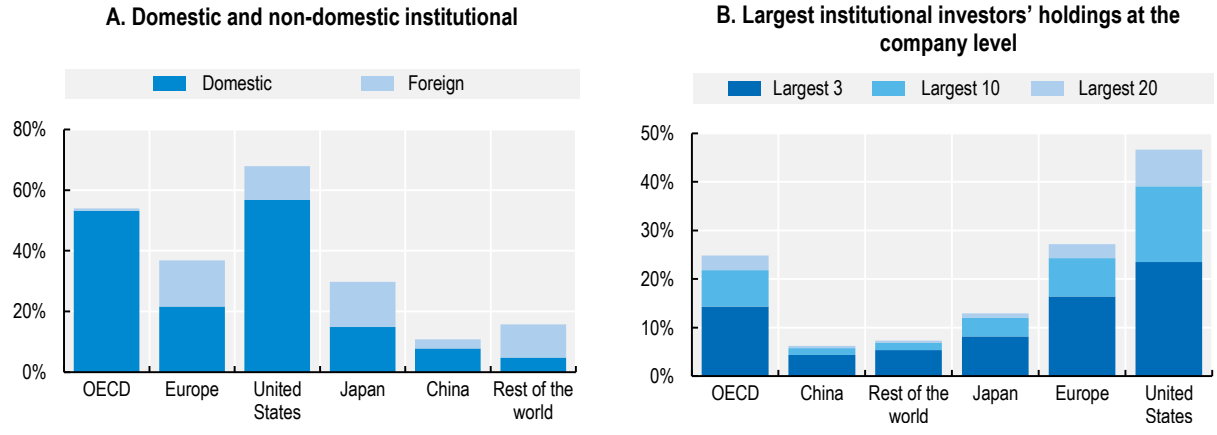
As recognised in the *2015 G20/OECD Principles of Corporate Governance*, individual investors have predominantly come to participate in the stock market through intermediary investors, such as pension funds and/or via pooled investment vehicles such as mutual funds (OECD, 2015[13]). This change in the way of saving and investing has led to the rise of institutional investors and turned them into important owners in many companies around the world. One reason for this is the advantages that come from pooling capital into large diversified portfolios that can take advantage of economies of scale and enhance the risk-return relationship at relatively low cost for the individual. But in some markets, the development has also been influenced by regulatory changes. One such factor driving the growth of institutional investors has been the transition of pension systems from pay-as-you-go to funded pension plans, leading to rapid growth of both privately and publicly managed pension funds. In 2019 pension funds and all retirement vehicles in the OECD held USD 32.3 trillion of assets under management, which is 60.1% of OECD GDP (OECD, 2019[14]).

The overall result of this development has been a longer and more complex investment chain between the individual household and the listed company. This includes increased intricacy with respect to cross-investments between institutional investors, an increase in advisory services, index providers, and frequent outsourcing of ownership and asset management functions to sometimes multiple layers of businesses. The increased holdings by institutional investors also raise concerns that they might not have enough incentives to promote competition in competing investee companies (OECD, 2017[15]). In this new ownership landscape, it can sometimes be difficult to identify and allocate the responsibility for assuming the ownership functions in the best interest of the ultimate beneficiary. Particularly since active and informed ownership requires significant resources that profit maximising institutions and asset managers may be reluctant to carry. Certain institutions may also be under arbitrary direct or indirect political pressure to carry out their ownership functions in a manner that, from a financial standpoint, is not in the interest of the ultimate beneficiaries.

As shown in Panel B of Figure 2.31 above, institutional investors is the largest category of investor holding 43% or USD 44 trillion of the global market capitalisation. Despite their growth at the global level, Figure 2.32 also showed that their portion of ownership varies across different markets ranging from 68% of all holdings in the United States to about 11% in China. Figure 2.34 shows the relative importance of domestic and foreign institutional investors in different markets as well as the importance of institutional investors for ownership concentration at the company level. In the United States about 83% of all institutional ownership is held by domestic institutions. This may to a large extent be explained by the fact that the world's largest asset managers are US-based and that US stock markets represent the highest share in most investable indices, e.g. the United States represents around 67% in the MSCI World Index.

In Europe and Japan where institutional investors hold between 30% and 40% of the listed equity the distribution between domestic and foreign institutional ownership is more balanced. For instance, in Japan, around half of the institutional investors' holdings correspond to foreign holdings whilst in Europe foreign institutional investors hold 41%. It is worth noting that for OECD countries and Europe intra-regional investments are considered domestic. Hence, under this definition, a German Pension fund investing in a French listed company is considered a domestic investor. There are some markets that show a much lower presence of institutional investors, such as China and the rest of the world. However, whereas in China the share of foreign investors is only 28% of the total institutional investments, in the rest of the world, foreign institutions account for about 70% of all institutional investments.

Figure 2.34. Institutional investors' ownership, as of end 2020



Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

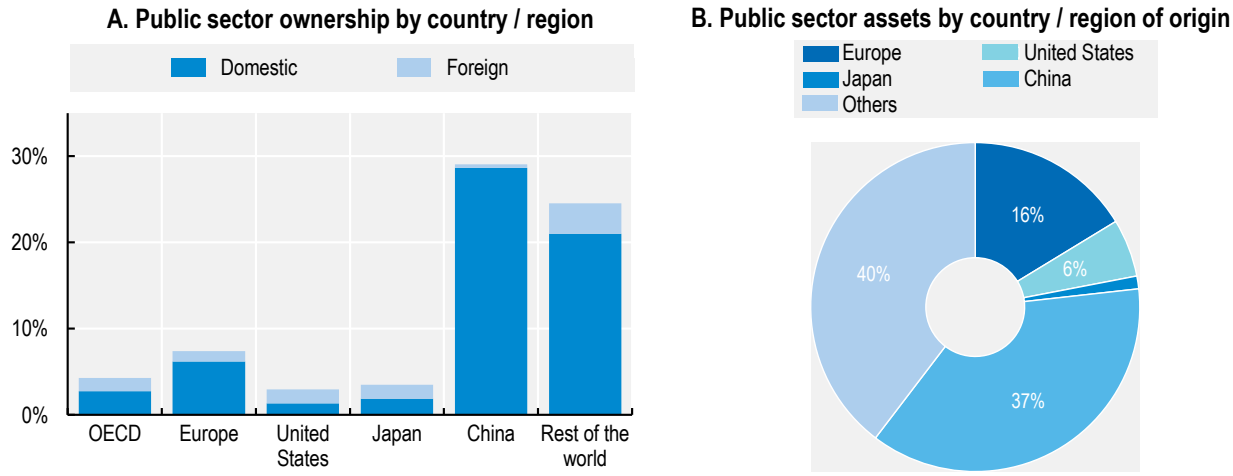
To highlight the importance of institutional investors on the ownership structure at the company level, Panel B in Figure 2.34 shows the average combined holdings of the largest 3, 10 and 20 institutional investors

at the company level in each market. In China and the rest of the world the holdings of the largest 20 institutional investors, on average, do not surpass 10% of the listed equity at the company level. In Japan, the average combined holdings of the three largest institutional investors is 8%. In Europe the average combined holdings of the 3 largest institutional owners is 16%. Notably, in the United States the top 3 (20) largest institutional investors own on average 24% (47%) of the equity in US listed companies.

2.4.3. The role of governments as owners

The public sector is an important owner in listed companies in several markets. In many of these markets, in their privatisation efforts governments have been left with significant stakes in listed companies. Public sector ownership refers here to investments by central and regional governments, public pension funds, SOEs and SWFs. Overall, the public sector owns USD 10.73 trillion of listed equity, which amounts to 10% of the global market capitalisation. Chinese listed companies show the largest presence of public sector owners, where the public sector holds 29% of the listed equity. The public sector is also an important investor in the rest of the world. Notably, most of these public sector investments are domestic.

Figure 2.35. Public sector ownership, as of end 2020



Notes: Others refer to the 92 markets included in the universe excluding Europe, United States, Japan, and China.
Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

Table 2.2. Public sector portfolio origin and investments, as of end 2020

	Public investor country / region				
Investee company country / region	Europe	United States	Japan	China	Others
Europe	**56.9%**	3.2%	4.1%	0.6%	2.9%
United States	26.4%	**95.6%**	1.7%	0.1%	1.5%
Japan	5.2%	0.0%	**94.1%**	0.0%	0.1%
China	1.3%	0.0%	0.0%	**88.3%**	0.5%
Others	10.4%	1.2%	0.0%	11.0%	**95.0%**
Public investors' portfolio (USD trillion)	**1.75**	**0.61**	**0.13**	**3.99**	**4.25**

Notes: Others refer to the 92 markets included in the universe excluding Europe, United States, Japan and China.
Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

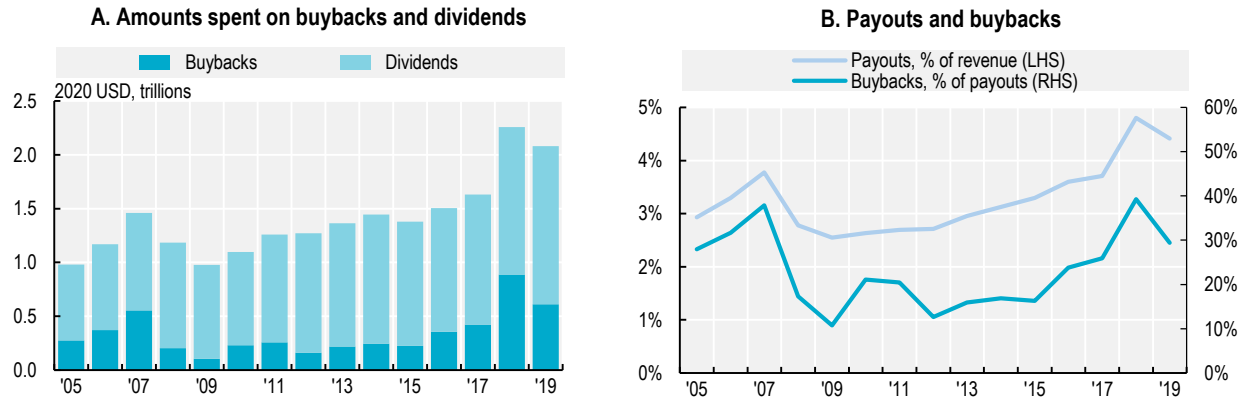
From the investor perspective, the largest public sector investor is China, which accounts for 37% of all public sector investment in listed equity (Figure 2.35, Panel B). The Chinese public sector is not only a

large owner in the domestic market, but also in other markets. In fact, 11% of its portfolio is invested in other, mostly Asian, markets (Table 2.2). Europe, which is the second largest public sector investor, has about 57% of its portfolio invested domestically and 26% in the United States.

2.5. Trends in dividends and share buybacks

Since 2005, the average ratio of total payouts (dividends and buybacks) to revenue globally for those companies distributing payouts has been 3.3%, reaching 4.4% in 2019. Although payments through dividends still make up the majority of total payouts, share buybacks have increased in importance in recent years. Notably, in response to the 2018 corporate tax reform in the United States the amount spent on share buybacks increased significantly. As a result, in 2018 share buybacks made up 39.3% of total payouts globally, compared to an average of 23.2% during the 2005-2019 period. Of the total value of share buybacks in 2018, approximately 83% was attributable to US corporations. In 2019, total share buybacks in the OECD countries amounted to USD 599 billion, over twice the amount of new equity issuance (IPO and SPO) on the corresponding exchanges. The amount spent on share buybacks has exceeded the amount of equity raised through IPOs and SPOs in OECD countries in 5 of the 15 years since 2005. This happened in 2007 and in every year from 2016-2019.

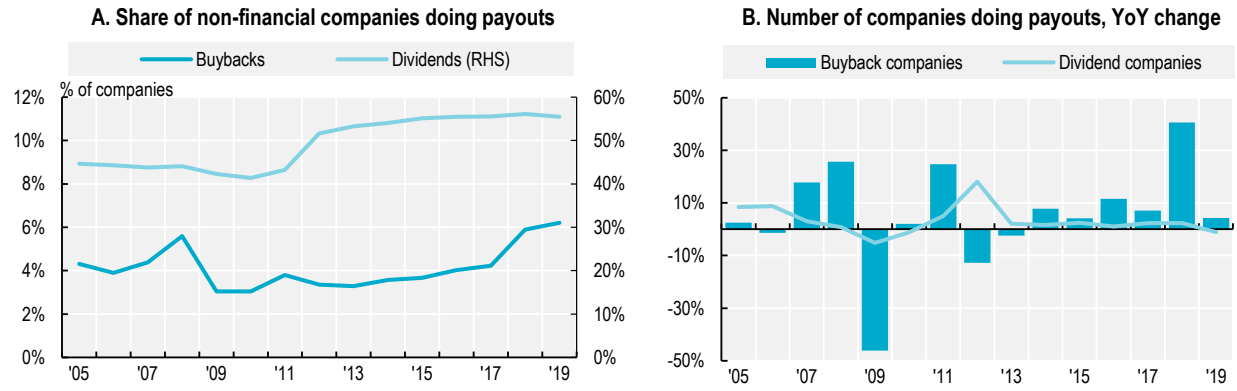
Figure 2.36. Payout developments for non-financial corporations globally



Note: Payouts as a share of revenue refers to the revenue base only of those companies doing payouts (i.e. either distributing dividends, undertaking buybacks, or both).
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

However, when looking at the number of companies doing share buybacks as a portion of the total number of non-financial companies, it was generally lower in the period following the 2008 crisis than in the earlier years. However, in 2018 and 2019 the share passed its pre-crisis peak. Dividends, on the other hand, have grown more evenly over the period, in particular since 2012, reaching 56% of companies in 2019 (Figure 2.37, Panel A). The fact that dividend policies are typically considered more permanent commitments than share buyback programmes is reflected in the much higher year-on-year volatility in the number of companies doing buybacks as compared to the change in companies paying dividends (Figure 2.37, Panel B).

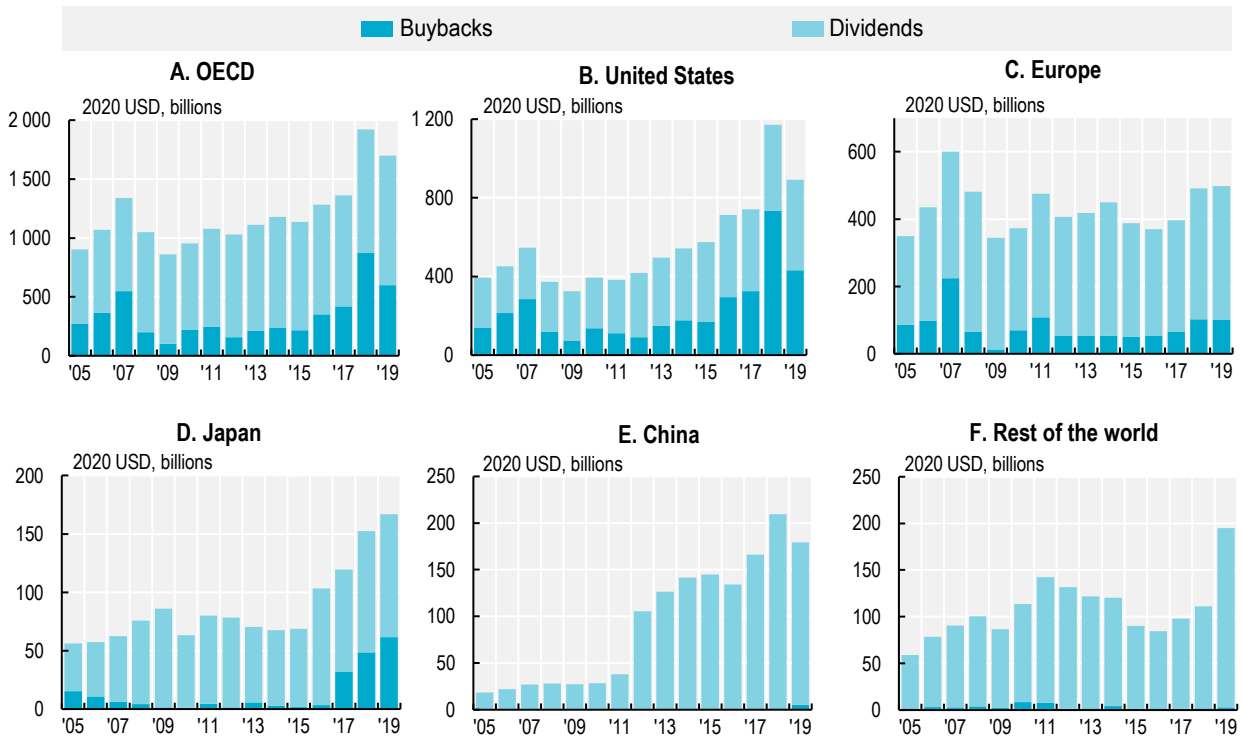
Figure 2.37. Changes in total number of companies doing payouts



Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

As seen in Figure 2.38, share buybacks constitute a fairly modest portion of total payouts in most regions other than the United States and to some extent in Japan over the recent years. Notably, even though dividends still make up the largest share of payouts around the world, the average share of buybacks in total payouts during the past 3 years was higher than the historical average of the 2005-2019 period in all regions except for the rest of the world category. Further, most countries have seen a steady increase in the amount of total payouts during the last 10 years.

Figure 2.38. Payouts by non-financial companies



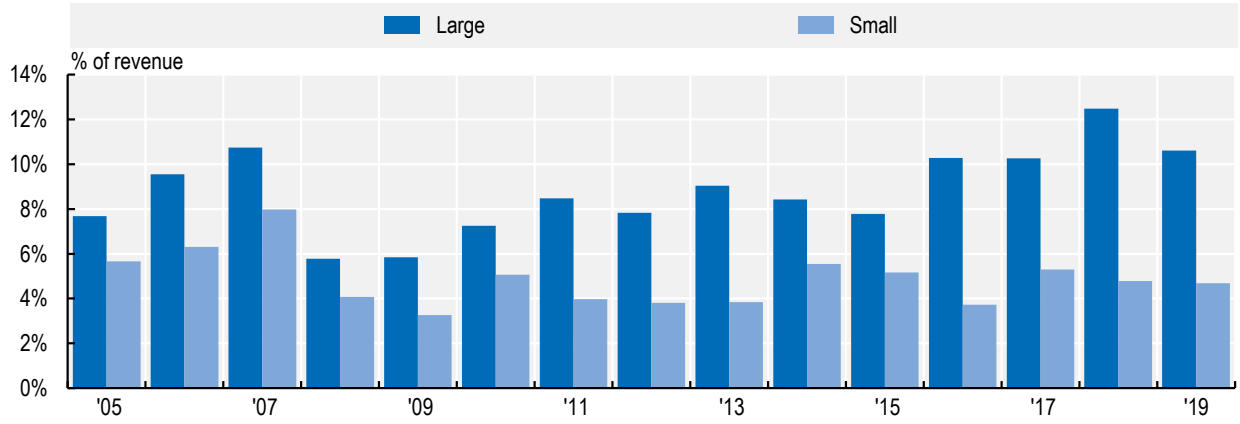
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

As is clear from the previous two figures, share buybacks are more volatile than dividends both in terms of the number of companies doing them and in terms of annual amounts. Plausibly, some of the observed

differences and sudden changes over time in buybacks can be attributed to the regulatory framework. One example is the surge in US share buybacks following the 2018 tax reform which provided a tax holiday for US companies that repatriated cash from overseas. Another example is the new buyback rules that were introduced in Japan in 2003 and which led to a surge in the amount of shares repurchased the same year.

One important difference with respect to firm characteristics and payouts is company size. As seen in Figure 2.39, larger firms typically spend relatively more on payouts to their shareholders as a share of revenues than smaller firms do. On average, large listed companies paid out funds equivalent of 8.8% of their revenues annually between 2005 and 2019. The corresponding figure for small firms was 4.9%.

Figure 2.39. Payouts by large and small non-financial companies

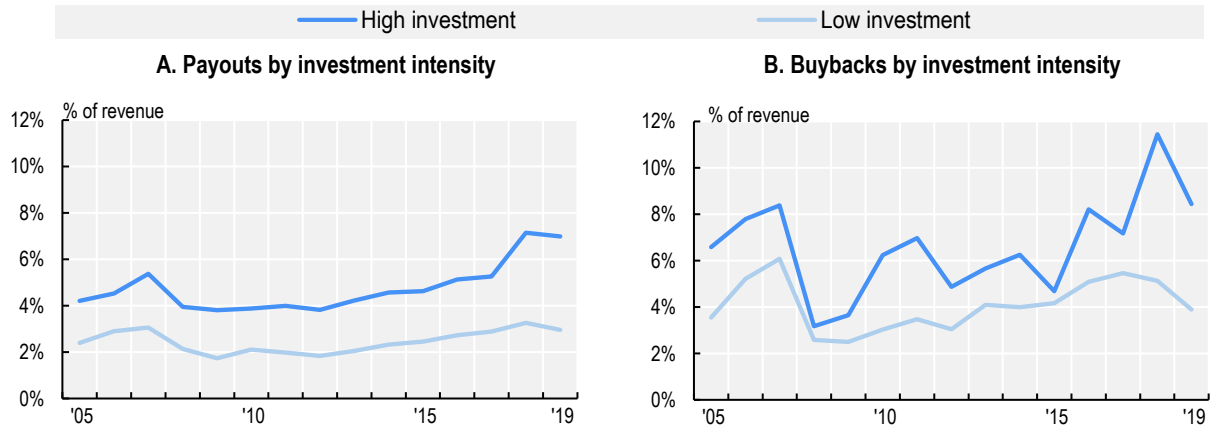


Note: Large (small) companies are defined as those with a market capitalisation above (below) the median. The revenue base refers only to those companies doing payouts (i.e. either distributing dividends, undertaking buybacks, or both).
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

2.5.1. Payouts and corporate investment

A much debated issue is whether shareholder payouts are made at the expense of new productive investment. In reality, when splitting companies by investment intensity and looking at payouts as a share of revenues, the data indicate that most of the firms that spend relatively more on payouts are also the most investment-intensive firms. On average since 2005, investment-intensive companies spent the equivalent of 4.8% of their revenues on payouts, compared to 2.5% for firms that invest less. In 2019, investment-intensive companies spent more than twice as much of their revenues on payouts as low-investment companies (Figure 2.40, Panel A). The issue of corporate investment and payouts has been particularly controversial when it comes to share buybacks. Panel B of Figure 2.40 therefore shows the same data specifically for buyback companies. The results are similar, investment-intensive companies on average spent the equivalent of 6.6% of their revenues on buybacks between 2005 and 2019, compared to 4.1% for firms that invest less.

Figure 2.40. Payouts by non-financial companies, by investment intensity



Note: High (low) investment companies are defined as those with a share of investment over revenues above (below) the sample median. The revenue base refers only to those companies doing payouts (i.e. either distributing dividends, undertaking buybacks, or both) for Panel A and only those companies doing buybacks for Panel B.
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

The general picture shown in Figure 2.40 is also true at the industry level. The industries in which companies spend the most on payouts typically also rank high in terms of investment spending. Table 2.3 shows how the nine industries covered in this analysis rank in terms of amounts spent on payouts and investment as a share of revenues between 2005 and 2019.

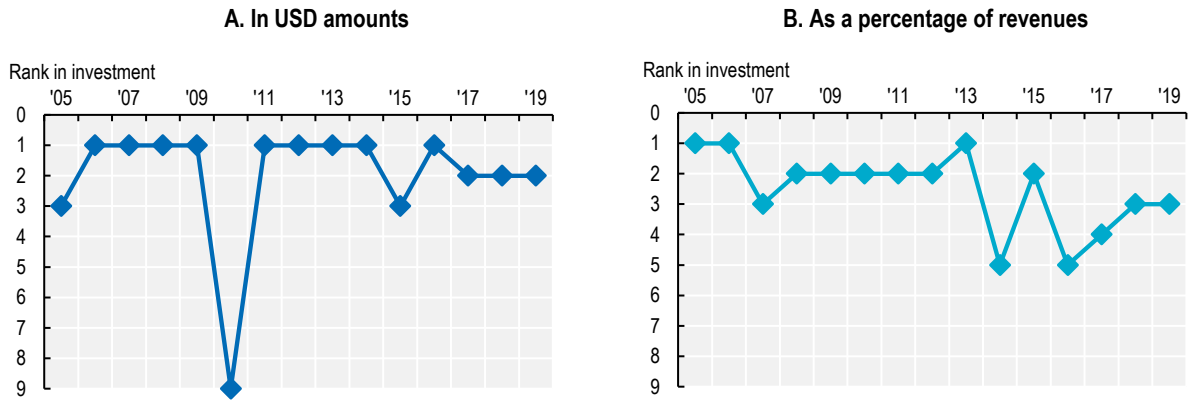
Table 2.3. Industry ranking for payouts and investment, 2005-2019

Economic sector	Rank payouts	Rank investment
Telecommunications	1	2
Healthcare	2	4
Technology	3	3
Utilities	4	1
Basic materials	5	6
Energy	6	5
Consumer non-cyclicals	7	9
Industrials	8	8
Consumer cyclicals	9	7

Note: Payouts are measured as the amount spend on distributing dividends, undertaking buybacks, or both, as s share of revenues. Investment is also measured as a share of revenues.
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

Figure 2.41 offers a more detailed way of looking at the link between payouts and investment at the industry level. It plots the investment ranking of the industry that ranked highest in terms of payouts the same year. Panel A is based on absolute amounts whereas Panel B uses payouts and investment as shares of revenues. Looking at absolute numbers, the industry which spent the most on payouts was also the one that spent the most on investment in 9 of the 15 years between 2005 and 2019. It was either first or second in 12 and among the top 3 in as much as 14 of the 15 years covered in the analysis. The corresponding figures when using investment and payouts as shares of revenues are 3, 9 and 12 of 15 years, respectively. Taken together, the empirical analysis does not confirm that payouts necessarily come at the expense of investment intensity. An alternative explanation that may follow is that companies that already have a high investment intensity are facing a decline in marginal returns and that the shareholders prefer to receive and reallocate the abundant free cash flow to investments in other ventures with higher potential returns.

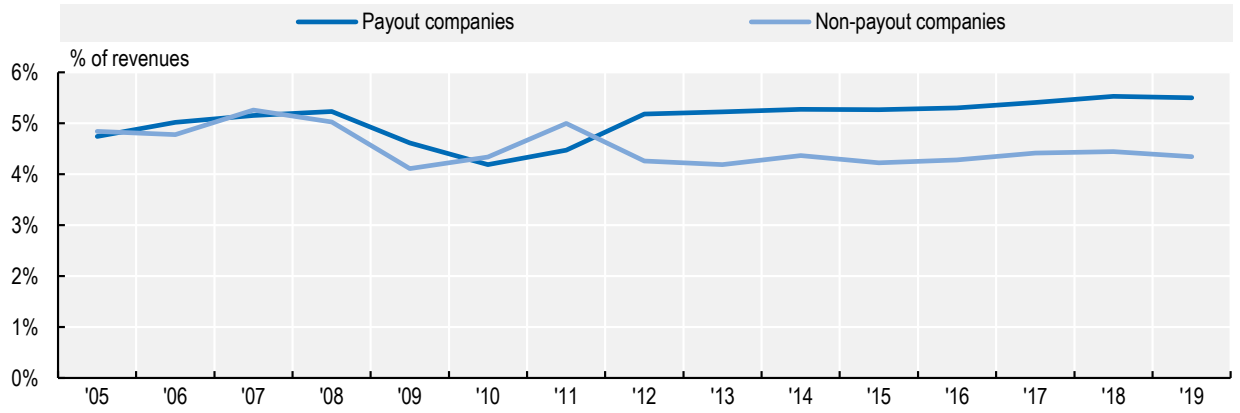
Figure 2.41. Investment ranking for the industry with the highest payout ranking



Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

The analysis thus far has been constrained to company payouts. While it shows that most of the firms that spend relatively more on payouts are also the most investment-intensive firms, it may be argued that in an alternative scenario where they did not spend any money on payouts, their investments would have been even higher. Since such a counterfactual cannot be observed, it is not possible to test this argument. However, it is possible to compare the investment levels of companies doing payouts to those not doing any payouts at all. Figure 2.42 shows the median level of investment as a share of revenues for payout companies and non-payout companies. There was effectively no difference up until 2012, after which a slight divergence can be observed. The gap has remained more or less constant since then, indicating that the median payout company has devoted moderately more of its revenues to investment than the median non-payout company.

Figure 2.42. Investment as a share of revenues, by company groups

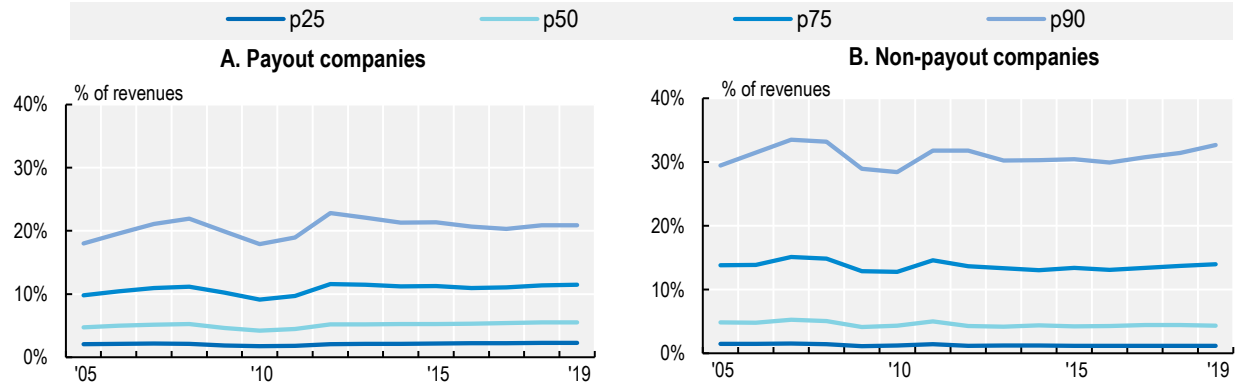


Note: A payout company is defined as a company either paying dividends or doing share buybacks, or both, in any given year. The classification applied individually to each year in the analysis, i.e. a payout company in one year can be a non-payout company the next year and vice versa. Companies for which investment as a share of revenues exceeds 100% or is below 0% (negative investment or sales) are excluded from the analysis.
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

However, taking a more detailed approach reveals relatively sharp differences in distributions across the two groups. While the median payout company spends relatively more on investment than the median non-payout company, the opposite is true for higher percentile groups, particularly the 90th percentile. Non payout companies at the right hand side of the tail of the distribution seem to be devoting a significantly

larger share of their revenues to investment than the same group of payout companies (Figure 2.43). The high-percentile groups drive the aggregate figures, so that when comparing the aggregate share of investment to revenues between payout companies and non-payout companies (as Figure 2.42 does for median numbers), the latter category has a higher share in recent years.

Figure 2.43. Investment as a share of revenues, by company groups and percentiles



Note: A payout company is defined as a company either paying dividends or doing share buybacks, or both, in any given year. The classification applied individually to each year in the analysis, i.e. a payout company in one year can be a non-payout company the next year and vice versa. Companies for which investment as a share of revenues exceeds 100% or is below 0% (negative investment or sales) are excluded from the analysis.
Source: OECD Capital Market Series dataset, Bloomberg, see Annex for details.

A point which bears mentioning that a common metric for looking at the extent to which companies use their earnings for payouts, the payout ratio - defined as buybacks and dividends as a share of net income - may give a distorted view of the trade-off between payouts and investment. The reason for this distortion is twofold. Firstly, regarding the denominator, net income has already deducted some investment spending (R&D), meaning the payout ratio gives a share of earnings from which some critical investments have already been deducted, thus concealing the actual total amount spent on investment. Even a firm that has a 100% payout ratio may have made investments. Secondly, regarding the numerator, the sum of dividends and buybacks is a gross number since it does not adjust for new direct and indirect equity injections. When adjusting for these two factors, the payout ratio for S&P500 companies between 2007 and 2016 is reduced significantly, from 96% of net income to 41% (Fried and Wang, 2019[16]).

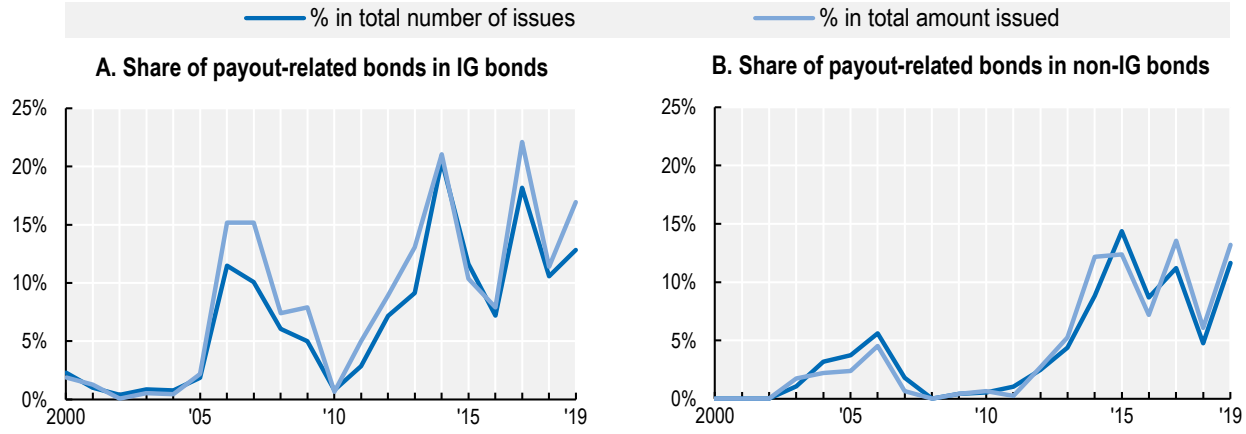
It is sometimes argued that managers in markets of which a large portion of executive compensation is directly linked to earnings per share (EPS) are more likely to engage in share buyback operations. Some studies have suggested that EPS considerations may indeed impact the timing of a share buyback, but that the actual level is driven by earnings.

2.5.2. Monetary policy, corporate debt and share buybacks

Developments with respect to share buybacks cannot be decoupled from monetary policy. This link is particularly important in the current low interest environment, which greatly affects the relative cost of debt and equity. The higher the cost of equity compared to debt, the greater the incentive for a company to reduce its equity base. In addition, low interest rates may drive increases in corporate debt issuance as a way to finance share buybacks (as opposed to using earnings). Indeed, the increase in share buybacks in recent years follows the increase in corporate bond issuances, which in turn has been supported by lower costs of debt. Expansionary monetary policy initiatives such as the ones undertaken in many OECD countries after the 2008 financial crisis and the COVID-19 pandemic may directly affect developments in payout policy and adjustments in the companies' capital structures.

It is worth noting that even if this is the case at the firm level, depending on how the sellers of the shares reallocate the proceeds, share buybacks need not necessarily decrease investment and employment spending at a macro level. Still, debt-financed share buybacks may be driving increasing leverage in the economy, potentially posing a threat to financial stability. Indeed, the share of corporate bonds that disclose share buybacks or dividends among their intended uses has increased considerably since the 2008 financial crisis. Figure 2.44 reports this share both as a percentage of the total number of bond issues and as a percentage of the total amount issued, separately for the two categories of investment and non-investment grade bonds. According to Panel A, in the early 2000s, less than 2% of investment grade bonds were intended to be used for dividends or buybacks. After a strong increase prior to the 2008 financial crisis and a decline back to negligible levels during the crisis, the share of payout-related investment grade issues increased again in the post-2008 period. Over the past 5 years, payout-related bonds constituted, on average, 14% of total investment grade issuance and 12% of the total number of investment grade bonds. According to Panel B, a similar path was followed in the non-investment grade category, although at lower levels. Over the 2015-2019 period, payout-related non-investment grade issuance constituted, on average, 11% of total non-investment grade issuance and 10% of the total number of non-investment grade bonds. As a result, in the past 5 years, payout-related investment and non-investment grade bonds reached a total amount of USD 464 billion and USD 117 billion, respectively.

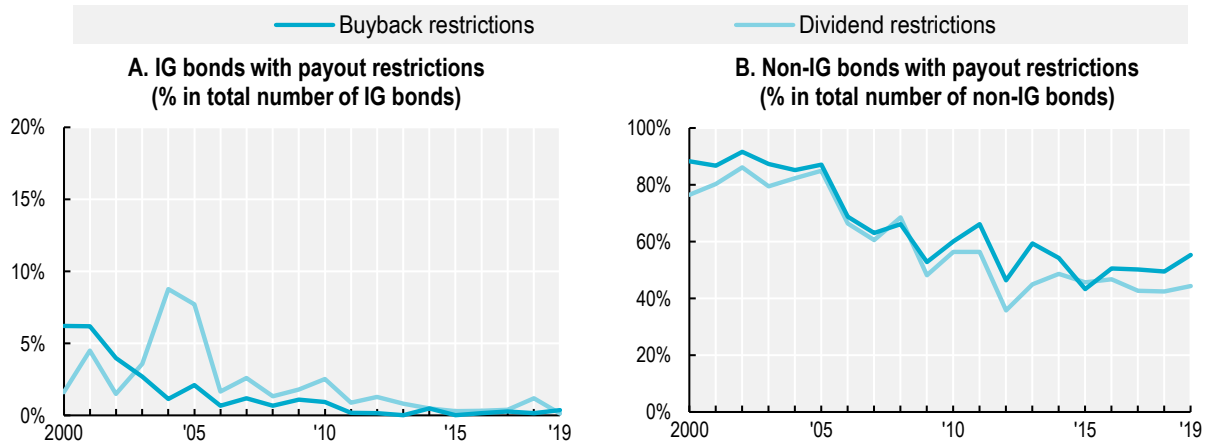
Figure 2.44. Share of corporate bonds intended for dividend and share buyback financing



Note: The percentages are calculated based on the subsample of corporate bond issues, which have available an intended use for the bond proceeds other than the non-specific reason of "General Corporate Purposes".
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Another development in the corporate bond market is a decline in the use of dividend- and share buyback-related restrictions in bond contracts. Figure 2.45 reports the percentage of bond issues with covenants that restrict issuers' payments to shareholders in the form of dividends and share buybacks. According to Panel A, such covenants have always been rare in the investment grade category and in recent years they have almost disappeared. On the other hand, Panel B indicates that dividend and share buyback restrictions were important components of bondholder protection in the non-investment grade category in early 2000s. Over the 2000-2004 period, on average, 81% of non-investment grade corporate bond issues had a dividend restriction and 88% had a share buyback restriction. In contrast, over the 2015-2019 period, dividend- and share buyback-related covenants were present in 44% and 50% of non-investment grade bonds, respectively.

Figure 2.45. Share of corporate bonds with covenants restricting payouts



Source: Mergent FISD, authors' calculations, see Annex for details.

References

Almeida, H., V. Fos and M. Kronlund (2016), "The real effect of share repurchases", *Journal of Financial Economics*, Vol. 119/1, pp. 168-185. [11]

De La Cruz, A., A. Medina and Y. Tang (2019), "Owners of the World's Listed Companies", *OECD Capital Market Series, Paris*, http://www.oecd.org/corporate/Owners-of-the-Worlds-Listed-Companies.htm. [7]

ECB (2018), "Business investment in EU countries", *Occasional Paper Series - Working Group on Econometric Modelling, No. 2015,* October 2018, http://www.ecb.europa.eu/pub/pdf/scpops/ecb.op215.en.pdf. [3]

EY and EC (2020), "Study on directors' duties and sustainable corporate governance", https://op.europa.eu/en/publication-detail/-/publication/e47928a2-d20b-11ea-adf7-01aa75ed71a1/language-en. [9]

Feldman, N. et al. (2018), "The Long and Short of It: Do Public and Private Firms Invest Differently?", *Federal Reserve Board Finance and Economics Discussion Series*, http://www.federalreserve.gov/econres/feds/files/2018068pap.pdf. [6]

Fried, J. and J. Wang (2019), "Short-Termism and Capital Flows", *The Review of Corporate Finance Studies*, Vol. 8(1), pp. 207-233. [16]

Gutiérrez, G. and T. Philippon (2017), "Declining Competition and Investment in the U.S.", *NBER Working Paper Series*, http://www.nber.org/system/files/working_papers/w23583/w23583.pdf. [8]

Gutiérrez, G. and T. Philippon (2016), "Investment-less Growth: An Empirical Investigation", *NBER Working Paper Series*, http://www.nber.org/system/files/working_papers/w22897/w22897.pdf. [5]

Haldane, A. and R. Davies (2011), "The short long", *Speech at the 29th Société Universitaire Européene de Recherches Financières Colloquium on 'New Paradigms in Money and Finance?*, http://www.bis.org/review/r110511e.pdf. [1]

Kalemli-Özcan, S., L. Laeven and D. Moreno (2019), "Debt Overhang, Rollover Risk, and Corporate Investment: Evidence from the European Crisis", *ECB, Working Paper Series* No: 2241, February 2019, http://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2241~cbea165b30.en.pdf. [4]

Lazonick, W. (2014), "Profits Without Prosperity", *Harvard Business Review*, https://hbr.org/2014/09/profits-without-prosperity. [10]

MIS (2020), "Past recessions indicate potential paths for default rate in current downturn", *26 August 2020, Moody's Investors Service, New York*. [12]

Nathan, C. and K. Goldberg (2019), "The Short-Termism Thesis: Dogma vs. Reality", *Harvard Law School Forum on Corporate Governance*, https://corpgov.law.harvard.edu/2019/03/18/the-short-termism-thesis-dogma-vs-reality/. [2]

OECD (2019), "Pension Markets in Focus", http://www.oecd.org/daf/fin/private-pensions/pensionmarketsinfocus.htm. [14]

OECD (2017), "Common Ownership by Institutional Investors and its Impact on Competition", https://one.oecd.org/document/DAF/COMP(2017)10/en/pdf. [15]

OECD (2015), "G20/OECD Principles of Corporate Governance", *OECD Publishing, Paris*, http://dx.doi.org/10.1787/9789264236882-en. [13]

Notes

[1] Alibaba Group IPO in Hong Kong (China) is a secondary listing as the company was already listed in the United States.

[2] According to Moody's a distressed exchange occurs when a distressed company offers "creditors new or restructured debt, or a new package of securities, cash or assets, that amounts to a diminished financial obligation relative to the original obligation."

[3] The index assigns a score of 1 to a bond if it has the lowest credit quality rating and 21 if it has the highest rating. The corporate bond rating index is then calculated by taking a weighted average of individual bond scores, using issue amounts as weights.

3 Corporate sector COVID-19 measures by OECD and G20 governments

This chapter provides an overview of the measures taken by OECD and G20 governments in response to the pandemic concerning the corporate sector, both in terms of regulatory changes and financial support. This offers a comparative perspective on how the crisis has been addressed in different countries and helps to identify both similarities and differences between government responses in a range of policy areas. It also gives an indication of the scale of the withdrawal of support (and restrictive) measures as many COVID-19 related initiatives are viewed as temporary in nature and will eventually be terminated.

The COVID-19 crisis has put many companies and entire industries under severe financial pressure. As a consequence of extraordinary circumstances beyond their control, otherwise sound businesses often found it difficult to meet their obligations, for example with respect to payments and disclosure. To help corporations navigate through the crisis, all countries adopted a range of measures spanning from regulatory adjustments to both indirect and direct financial support. Government fiscal support has been crucial and underpins the recovery from the crisis. Appropriately, such support measures have been and continue to be large. In particular, the USD 1.9 trillion support set out in the United States' American Rescue Plan will significantly affect economic growth, both in the United States and globally. The American Rescue Plan is estimated to boost world GDP growth by more than a percentage point (OECD, 2021[1]). Companies themselves have also put in place measures to cope with the situation and to respond to requests from shareholders and stakeholders.

Several of these measures are considered temporary in nature and introduced for the purpose of mitigating the immediate impact of the crisis. However, some of these measures may also have a long-term and lasting impact on how companies are governed, their capital and ownership structure and how they manage their relationship with their shareholders and stakeholders. Certain measures may also affect the day-to-day activities of the companies with respect to corporate reporting practices and the procedures for decision-making, including shareholder meetings.

This chapter provides an overview of regulatory and financial support measures related to corporate governance and corporate finance. The information is summarised in a set of tables with comparative information covering OECD and G20 countries. The commentary to the tables primarily illustrates different principal approaches to support measures and related initiatives from shareholders and companies. It is important to note that, as circumstances evolve, countries continue to consider adjustments of policies and regulations.

3.1. Government support programmes

Policy makers around the globe have introduced fiscal support packages to the corporate sector to alleviate the effects of the pandemic and to stimulate the economy. Some countries have provided general support whereas others have focused their efforts on the most affected industries. These government support programmes are classified as indirect support measures and direct support measures.

The majority of indirect measures are to alleviate and ease the liquidity needs of corporations. To this end, authorities have provided payment deferral for tax obligations or simply lowered the tax ratios. Indeed, 34 countries introduced a deferral in corporate income taxes and/or VAT payments (Table 3.1). Twenty countries also allowed a deferral for social security contributions. Argentina, China, the Czech Republic, Hungary, the Slovak Republic and Spain went further by waiving social security contributions paid by companies. Others, including Norway, Russia and Sweden lowered the social security contributions instead, whereas Poland provided a subsidy for social security contributions.

Another 11 countries introduced provisions for faster tax refunds or changes in corporate income tax calculations to provide companies with more liquidity. For example, France, Greece, Ireland, Israel and Mexico established an accelerated refund process of tax credits. Some countries also established a carry back loss system allowing companies to use 2020 losses and carry them back against previous years' profits. This is the case in the Czech Republic, Ireland, New Zealand, Norway, Poland and the Slovak Republic. Others, including Chile, allowed COVID-19 related expenses to be deducted from corporate tax income filing and immediate depreciation for investments in fixed assets.

Tax exemptions related to payroll taxes and/or property taxes have been used in 10 countries to improve the liquidity conditions in the corporate sector. In Australia, Colombia, the Slovak Republic, Sweden and the United States, either a deferral, payment relief or a subsidy for payroll taxes has been introduced. The

Czech Republic, Israel and the United Kingdom helped companies by alleviating the property tax payments. In 14 economies, banks were advised or required to extend a debt payment moratorium to companies. Some countries introduced a 3-month moratorium period while others extended it until the end of 2020 to reduce the short-term financial pressure on companies. With respect to penalties, only five countries mentioned waiving or reducing the penalties from late payments that could result or have resulted because of the pandemic.

In some countries, measures that support companies with rent and utility payments have been used to facilitate continuity. Canada, the Czech Republic, Japan and the Slovak Republic provided a rent subsidy for affected corporations, whereas Greece reduced rent payments and Ireland suspended rent increases during the COVID-19 emergency. Spain adopted a mechanism for renegotiations and deferment of rent payment. Similarly, Israel introduced a deferral in utility payments, Slovenia reduced the price of electricity and Saudi Arabia provided subsidies for electricity.

Governments have also provided different kinds of direct support to companies (Table 3.2). The most common measures have been loans and government loan guarantees. Fifteen countries[1] established a guarantee scheme covering large companies, whereas another nine countries[2] and the European Union expanded their credit programmes to allow them to grant loans or credit lines to corporations. Similarly, a further 16 countries[3] extended guarantees while increasing the amounts available for loans and/or credit lines at the same time. Canada and Russia extended forgivable loans whilst Estonia granted special loans for investment and Japan extended concessional loans.

Table 3.1. Indirect state support measures

	Deferral or lowering of tax payments	Deferral, waiver or lowering of social security contributions	Provision of faster tax refunds or carry back losses on CIT	Tax exemptions related to payroll taxes or property taxes	Debt service moratorium	Waiving penalties	Subsidies for rent and utility payments
Argentina	○	●	○	○	○	○	○
Australia	○	○	○	●	●	○	○
Austria	●	○	○	○	○	○	○
Belgium	●	●	○	○	●	○	○
Brazil	○	○	○	○	○	○	○
Canada	●	○	○	○	○	○	●
Chile	●	○	●	○	○	○	○
China	●	●	○	○	○	○	○
Colombia	●	●	○	●	○	○	○
Czech Rep.	●	●	●	●	●	●	●
Denmark	●	○	○	○	○	○	○
Estonia	○	●	○	○	○	○	○
EU	○	○	○	○	●	○	○
Finland	●	●	○	○	○	○	○
France	●	○	●	○	○	○	○
Germany	●	○	○	○	○	○	○
Greece	●	●	●	●	○	○	●
Hungary	●	●	○	○	●	○	○
Iceland	●	○	○	○	○	○	○
India	○	○	○	○	○	●	○
Indonesia	●	○	○	○	○	○	○
Ireland	●	○	●	○	○	●	●
Israel	●	○	●	●	●	○	●
Italy	●	○	○	○	○	○	○

	Deferral or lowering of tax payments	Deferral, waiver or lowering of social security contributions	Provision of faster tax refunds or carry back losses on CIT	Tax exemptions related to payroll taxes or property taxes	Debt service moratorium	Waiving penalties	Subsidies for rent and utility payments
Japan	●	●	○	○	○	○	●
Korea	○	○	○	○	○	○	○
Latvia	○	○	○	○	○	○	○
Lithuania	○	○	○	○	○	○	○
Luxembourg	●	●	○	○	○	○	○
Mexico	○	○	●	○	○	○	○
Netherlands	●	○	○	○	○	○	○
New Zealand	●	○	●	○	●	○	○
Norway	●	●	●	○	○	○	○
Poland	●	●	●	●	●	○	○
Portugal	●	●	○	○	●	○	○
Russia	●	●	○	○	○	○	○
Saudi Arabia	●	○	○	○	●	●	●
Slovak Rep.	●	●	●	●	○	○	●
Slovenia	●	●	○	○	●	○	●
South Africa	○	○	○	○	●	○	○
Spain	○	●	○	○	●	●	●
Sweden	●	●	○	●	○	○	○
Switzerland	●	●	○	○	○	○	○
Turkey	●	○	○	○	●	○	○
United Kingdom	●	○	○	●	○	○	○
United States	●	○	○	●	○	○	○

Source: (IMF, 2020[2]), (OECD, 2020[3]), Web search.

With respect to grants, the Czech Republic, Hungary, Russia and Slovenia have provided grants to specific industries such as agriculture, automakers and tourism among others. The EU has allocated EUR 390 billion from the Next Generation EU (NGEU) recovery fund to grants. Other countries, including Israel, Luxembourg, Norway, Sweden and the United Kingdom have extended temporal grants to businesses. Another form of support to companies has been to subsidise the interest rate paid for loans. This is the case in Argentina where subsidised loans were extended for construction-related industries and in Greece, Hungary, Indonesia, Latvia and Poland where interest rates have been subsidised for all businesses.

Some countries have decided to provide capital injections to certain strategic companies. At the EU level, this was made possible by a Temporary Framework which allows member states to provide recapitalisations and subordinated debt to companies in need. In Germany, the Economic Stabilisation Fund (WSF) and KfW Development Bank have created facilities for public equity injection into firms with strategic importance. Similarly, Finland allocated EUR 700 million for share acquisitions by the state. France has allocated resources for equity investments or nationalisation of companies in difficulty. Indonesia and Sweden have set aside resources to inject capital into state-owned enterprises and Turkey has announced a plan to inject EUR 2.8 billion capital into 3 state-owned banks. Slovenia is also supporting corporate liquidity through equity purchases.

The airline industry is one of the industries that has been hit particularly hard by the COVID-19 pandemic. Many airlines are partially or fully state-owned, and are sometimes considered of national interest. They have been given special direct support in 17 countries and the European Union. In some cases the support came in the form of capital injections. This is the case in Italy, where the government decided to nationalise

Alitalia by injecting EUR 3.2 billion into the company. The Danish and Swedish governments agreed on a plan to contribute up to EUR 1 billion to the recapitalisation of Scandinavian Airlines. The Portuguese government increased its stake in TAP Air Portugal from 50% to 72.5%. Other countries provided support through loans and guarantees instead of injecting capital. Belgium and the United Kingdom provided state loans to Brussel Airlines and EasyJet respectively, and France extended loan guarantees and a state loan to Air France. Similarly, Norway provided loan guarantees (conditional on a debt to equity swap) to Norwegian Air. In addition, Norway provided subsidies to domestic air routes, similar to Russia which established subsidies for domestic airlines and airports. Finland extended a state guarantee for EUR 600 million to Finnair while New Zealand approved a NZD 0.9 billion debt funding agreement (convertible to equity) for Air New Zealand. Similarly, Korea, Latvia and Switzerland provided support to airlines and/or aviation-related businesses. In North America, the United States provided grants, redeemable loans and warrants to the airline industry; and Canada provided support for air transportation by waiving ground lease rents from March through December 2020 for 21 airport authorities that pay rent to the federal government.

Table 3.2. Direct state support measures

	Loans and government guarantees	Grants	Subsidies	Capital injections	Businesses support fund	Airlines support	Industry targeted measures	Green, technology, research investment
Argentina	●	○	●	○	○	○	●	○
Australia	○	○	○	○	●	●	●	●
Austria	●	○	○	○	○	○	●	○
Belgium	●	○	○	○	○	●	○	○
Brazil	●	○	○	○	○	○	○	○
Canada	●	○	○	○	○	●	●	●
Chile	●	○	○	○	○	○	○	○
China	●	○	●	○	○	○	○	○
Colombia	●	○	○	○	○	○	●	●
Czech Rep.	●	●	○	○	○	○	●	○
Denmark	●	○	○	○	○	●	○	○
Estonia	●	○	○	○	○	○	○	○
EU	●	●	○	●	○	●	●	●
Finland	●	○	○	●	○	●	●	●
France	●	○	○	●	○	●	●	●
Germany	●	○	○	●	○	○	●	●
Greece	●	○	●	○	○	○	○	○
Hungary	●	●	●	○	○	○	●	○
Iceland	●	○	○	○	○	○	●	○
India	●	○	○	○	○	○	●	○
Indonesia	●	○	●	●	○	○	○	○
Ireland	●	○	○	○	○	○	●	●
Israel	●	●	○	○	○	○	●	●
Italy	●	○	○	○	○	●	●	○
Japan	●	○	○	○	●	○	○	○
Korea	●	○	○	○	●	●	●	●
Latvia	●	○	●	○	●	●	●	○
Lithuania	●	○	○	○	●	○	●	●
Luxembourg	●	●	○	○	○	○	●	●
Mexico	●	○	○	○	○	○	○	○
Netherlands	●	○	○	○	○	○	●	○
New Zealand	○	○	○	○	○	●	●	○
Norway	○	●	○	○	●	●	●	●

	Loans and government guarantees	Grants	Subsidies	Capital injections	Businesses support fund	Airlines support	Industry targeted measures	Green, technology, research investment
Poland	●	○	●	○	○	○	●	○
Portugal	○	○	○	○	○	●	○	○
Russia	●	●	●	○	○	●	○	○
Saudi Arabia	●	○	○	○	○	○	●	○
Slovak Rep.	●	○	○	○	○	○	○	○
Slovenia	●	●	○	●	○	○	●	●
South Africa	●	○	○	○	○	○	○	○
Spain	●	○	○	○	●	○	●	●
Sweden	●	●	○	●	●	●	●	○
Switzerland	●	○	○	○	○	●	●	○
Turkey	●	○	○	●	○	○	○	○
United Kingdom	●	●	○	○	○	●	●	●
United States	●	○	○	○	○	●	○	○

Source: (IMF, 2020[2]), (OECD, 2020[4]), (OECD, 2020[3]), Web search.

In addition to the airline industry, countries have put in place measures to support key industries and/or local economies that depend on a particularly affected activity. In 29 countries and the European Union, a specific industry or activity has been targeted for dedicated support. The tourism industry has been hit hard by travel restrictions and 18 countries have implemented specific measures targeting tourism. Industry-specific support has also been given to agriculture (nine countries), construction (five countries) and to the "export sector" (four countries).

Some countries have established funds or increased the amount available in existing funds in order to buy securities issued by companies. Japan for example, increased the annual pace of Bank of Japan's purchases of ETFs and Japan-Real Estate Investment Trusts. Similarly, Korea is using a bond market stabilisation fund to purchase corporate bonds, commercial papers and financial bonds. Korea also has an equity market stabilisation fund that invests in companies that are included in the KOSPI 200 index. In Latvia, the government set up a EUR 150 million fund that provides subsidised debt and recapitalisation instruments for large enterprises. Lithuania has in place a fund to provide liquidity to medium and large businesses through direct loans or investments in equity and debt securities. Norway introduced a similar mechanism by reinstating the Government Bond Fund that is mandated to help improve liquidity and provide capital in the bond market by purchasing securities issued by companies on market terms. Spain provided a temporary authorisation for Instituto de Crédito Oficial to participate in the purchase of new commercial papers issued on the alternative fixed income market (MARF) of the stock exchange.

There are also cases where pension funds have been used as a tool to provide additional capital to companies. In Finland, the State Pension Fund purchased commercial papers. Sweden introduced changes in the investment regulation of the First, Second, Third and Fourth National Pension Funds. The largest possible share the funds can own in a single company, has been temporarily increased from 10% to 15%, allowing them to participate in new share issues in Swedish companies that need capital as a result of the pandemic.

Countries have also used their direct assistance to promote specific objectives, for example with respect to environment and digitalisation. Eleven countries[4] and the European Union directed support to green initiatives that would contribute to a more sustainable and environmentally friendly recovery. Another six countries[5] established specific support for further development of technology and digitalisation of their economies. Slovenia directed resources to support R&D and innovation.

3.2. Regulatory measures

3.2.1. Annual general meeting

Listed companies are typically required to hold an annual general meeting within 3 to 6 months after the end of their financial year. With restrictions on social gatherings, border controls and travel restrictions, 2020 annual general meetings (AGMs) were either delayed or held in different formats. As presented in Table 3.3, 28 out of the 45 countries extended the deadline to hold the AGMs.

The most common measure has been for public authorities to temporarily allow all companies to hold shareholder meetings through remote participation, even in cases where there is a legal provision stating that the company bylaw should have authorised the remote participation. Indeed, all jurisdictions lifted previous prohibitions for virtual/hybrid annual general meetings to allow remote participation (Table 3.3). While a virtual AGM means that the meeting takes place exclusively online through the internet or other communication means, a hybrid AGM is an in-person meeting that also permits shareholders to participate remotely.

The *G20/OECD Principles of Corporate Governance* recognise participation in general shareholder meetings as a fundamental shareholder right and encourage efforts by companies to remove any artificial barriers to participation in the meetings. In parallel to the global trend since the early 2000s to empower shareholders in corporate decision making and monitoring processes, such as the approval of related party transactions, the organisation of and participation in shareholder meetings has been greatly facilitated through information technology in many jurisdictions. This is confirmed by relatively high participation ratios at shareholder meetings, even in countries with a predominantly dispersed ownership structure such as the Netherlands, the United Kingdom and the United States (OECD, 2015[5]).

Out of necessity, the crisis has provided an opportunity for jurisdictions to advance or clarify their regulatory frameworks for remote participation in shareholder meetings. For example, Chile and Latvia have taken the opportunity to advance their current regulatory framework for remote participation in AGMs, and the voting process in shareholders meetings, including requirements for the certification of the identity of investors and for the secrecy of their votes. Germany and the Netherlands have clarified some requirements for shareholder meetings that take place exclusively through remote means, such as giving all shareholders an opportunity to watch or listen to the meeting on-line and to pose questions to corporate officers.

3.2.2. Disclosure practices

Thirty-three countries allowed for extensions in the preparation of quarterly and annual financial statements and related accounting documents (Table 3.3). Both Argentina and Chile, for example, granted an extension of 15 to 20 days for submission. Likewise, the Netherlands granted a five-month extension for private and public limited companies. China introduced a financial reporting extension for companies severely affected by the pandemic. The European Securities and Markets Authority (ESMA) released a public statement in March 2020 introducing actions to mitigate the impact of COVID-19 on the EU financial markets regarding the publication deadlines under the Transparency Directive. The ESMA statement stressed that the pandemic generated important challenges for issuers and auditors. As a consequence, it was recommended that National Competent Authorities do not undertake supervisory actions against listed entities regarding annual and half-yearly financial reports for a period of two months following the Transparency Directive deadline, but instead apply a risk-based approach in the exercise of their day-to-day supervisory powers.

Table 3.3. Annual general meeting, disclosure practices and foreign investment measures

	Annual general meeting		Disclosure practices		Tightening in FDI screening mechanisms
	AGM deadline extension	Permission to hold virtual/ hybrid AGMs	Defer presentation of their financial statements	Disclose material facts, guidance and estimates related to COVID-19 risks	
Argentina	○	●	●	○	○
Australia	●	●	●	●	●
Austria	●	●	●	●	●
Belgium	●	●	●	○	○
Brazil	●	●	●	●	○
Canada	●	●	●	●	○
Chile	○	●	●	●	○
China	○	●	●	○	○
Colombia	●	●	○	●	○
Czech Rep.	●	●	●	○	●
Denmark	●	●	●	○	○
Estonia	●	●	○	○	○
Finland	●	●	○	○	○
France	●	●	●	●	●
Germany	●	●	○	○	●
Greece	●	●	●	●	○
Hungary	○	●	●	○	●
Iceland	○	●	○	○	○
India	●	●	●	●	●
Indonesia	●	●	●	○	○
Ireland	●	●	●	○	●
Israel	○	●	●	●	○
Italy	●	●	○	●	●
Japan	●	●	●	●	●
Korea	●	●	●	○	○
Latvia	○	●	●	○	○
Lithuania	○	●	○	○	○
Luxembourg	●	●	●	○	○
Mexico	○	●	●	○	○
Netherlands	●	●	●	○	○
New Zealand	○	●	●	○	○
Norway	○	●	○	○	○
Poland	○	●	●	○	●
Portugal	●	●	○	●	●
Russia	●	●	●	○	●
Saudi Arabia	○	●	●	○	○
Slovak Rep.	○	●	○	○	○
Slovenia	○	●	●	○	●
South Africa	○	●	●	○	○
Spain	●	●	●	○	●
Sweden	●	●	○	○	○
Switzerland	●	●	○	○	○
Turkey	●	●	●	○	○
United Kingdom	●	●	●	●	●
United States	○	●	●	●	○

Source: (OECD, 2020[6]), Web search

Fifteen countries introduced new requirements to disclose material facts, guidance and estimates related to COVID-19 risks. For instance, in countries such as France, Greece and India, issuers have been required to incorporate a quantitative and qualitative description of the main COVID-19 related risks and uncertainties to which they are exposed, and the potential measures taken to mitigate the economic exposure to the pandemic. Similarly, Portugal established recommendations concerning the adoption of sustainability principles and transparency regarding crisis management policies in the medium-term. Additionally, both Austria and Japan established working groups addressing the COVID-19 implications in reporting and auditing to support stakeholders' further engagement and have a proper information sharing process.

The International Accounting Standards Board (IASB) has provided some financial reporting guidance on how to continue applying IFRS Standards under extraordinary circumstances. Since the purpose of reporting information is to allow users to understand the extent to which the financial results can help them to make predictions about the future, it is key that financial statements are up-to-date during the crisis period. The high uncertainty in companies' prospects is not sufficient reason to freeze forward looking statements at pre-COVID-19 levels and, despite the difficult environment, they need to be revised regularly. The users of financial statements expect that the assumptions used are in line with the management views and the operating environment. Moreover, it is highlighted that these assumptions should be based on reasonable information available to management and that users expect transparency about key assumptions that are made.

3.2.3. Limits on foreign ownership

As some companies have experienced price distortions and significant declines in their valuations, they have become vulnerable to unsolicited foreign takeovers. Moreover, there have been concerns about the foreign ownership in sectors that are critical to support the pandemic response, in particular health-related industries and associated supply chains. Prior to the COVID-19 crisis, several countries already had mechanisms to protect certain domestic strategic assets from foreign acquisition. As a response to the pandemic, policy makers have adjusted their screening mechanisms and control rules for foreign direct investments (FDI) in order to prevent potential acquisitions of strategic assets (see Table 3.3).

The European Commission has published guidance to Member States to improve the screening mechanisms of FDI and avoid any loss of critical assets and technology, especially in the healthcare and related industries. The guidance also encourages countries to introduce such screening mechanisms if they do not have them in place. In response, 12 European countries tightened their FDI review frameworks. For example, France, Germany, Hungary and Italy decreased the thresholds in terms of the deal value for the application of their screening mechanisms and also expanded the number of public interest sectors for which screening applies. Spain and the United Kingdom also broadened the sectors falling under the definition of public interest. Ireland and Slovenia introduced a brand new mechanism for the screening of the FDI as suggested by the European Commission.

Japan lowered the value of deals that triggers FDI reviewing mechanisms and modified further the associated procedural rules. Australia decided to review all the proposed FDI transactions by removing entirely the existing value threshold for screening. India broadened the list of countries by mandating government approval for all FDI inflows from countries that share land borders with India. Contrarily, for debt investments, China has instead moved towards allowing more foreign investment, lifting the restriction on foreign debt quotas that normally apply to Chinese enterprises in order to enhance liquidity (White and Case, 2020[7]).

Countries have also taken specific actions for investments by companies owned, controlled or linked to foreign governments. Spain now requires pre-approval for investments regardless of the sector in which Spanish companies operate when the potential foreign investor is directly or indirectly government-controlled, including sovereign funds or state bodies of a third country. Hungary and Slovenia

underlined their view that a state-owned acquirer is an additional risk factor during this time. The share of OECD countries that now single out state-owned acquirers in the context of FDI screening has grown from eight to fourteen since the beginning of 2020 (OECD, 2020[8]).

3.2.4. Access to capital markets

For corporations, continued access to capital markets is a crucial component during the crisis that can help alleviate the fiscal pressure on governments as capital markets offer a direct link between companies seeking capital and investors supplying it. Capital markets can also complement, and reduce the dependence on, bank lending on the road to recovery. Further, by enabling its transmission, capital markets also complement monetary policy actions. Therefore, a number of countries have launched initiatives aimed at facilitating the use of both debt and equity capital markets in addition to other more direct support measures.

A notable example is the European Commission's EU Capital Markets Recovery Package, which is part of the broader Capital Markets Union initiative. The package includes a proposal to create a new temporary short-form prospectus for secondary equity issuances during 18 months. The standardised short-form prospectus of a maximum of 30 pages is estimated to cost half that of a regular prospectus and would be available for issuers that have been listed for at least 18 months on a regulated or an SME Growth market. It also includes a proposal to temporarily (18 months) double the lower limit for which no prospectus is needed for credit institutions that issue non-equity securities from EUR 75 million to EUR 150 million over 12 months. Additionally, it suggests extending the timing for issuing supplementary information about significant new factors to a prospectus from the same working day to one working day. It is considered that this increased time limit is suggested to be a permanent adjustment. Further, the package includes proposed amendments to the MiFID II framework to increase the amount of investment research on small and mid-cap companies[6] to increase the liquidity in their stocks. Specifically, it proposes an exception from the "unbundling rule" which mandates separation of research and execution costs (EC, 2020[9]).

In the United States, the Securities and Exchange Commission (SEC) provided temporary relief for companies raising funds through Regulation Crowdfunding.[7] The temporary rules are intended to expedite the offering process by providing conditional relief from certain requirements related to the timing of the offering and the availability of required financial statements (SEC, 2020[10]). To promote investment in SMEs, the SEC also provided temporary relief to business development companies (BDCs) which channel capital to smaller companies that might otherwise not access capital markets. The initiative provides BDCs with greater flexibility to issue senior securities in order to provide capital to such companies (SEC, 2020[11]).

Other significant examples are the measures taken by Australia and India to facilitate rights offerings that give existing shareholders an opportunity to purchase additional shares in a company at a discount to market price. The Australian Securities and Investment Commission (ASIC) has made available "low doc" offers for rights offers and private placements, as well as share purchase plans, for companies that do not meet all regulatory requirements. Similarly, the Securities and Exchange Board of India (SEBI) has temporarily eased the requirements for rights issues with regard to market capitalisation (from INR 2.5 billion to INR 1 billion), the minimum listing period (from 3 years to 18 months) and the minimum subscription share of the total offer required (from 90% to 75%). Additionally, broker and filing fees for rights issues, public issues and share buybacks have been reduced. The validity of the approval of such issues expiring between 1 March and 30 September 2020 has also been extended by six months (IMF, 2020[2]).

With a view to facilitating the issuance of new share capital by listed companies, the Financial Conduct Authority (FCA) in the United Kingdom expanded its capacity to review prospectuses and highlighted existing possibilities for using shorter form prospectuses. Further, the approach to working capital statements has been amended and temporary modifications have been made to the requirements related

to the general shareholder meetings under the Listing Rules on a case by case basis. In Italy, temporary measures have been put in place to waive the supermajority requirement for equity issuance by listed companies. In the case of related party transactions aimed at increasing equity capital, the pre-existing exemption for urgency matters has been made temporarily available even in the absence of the necessary opt-in. In China, the China Securities Regulatory Commission (CSRC) has removed the minimum requirement for profitability and leverage, and relaxed the pricing framework required to do secondary equity offerings aiming to facilitate capital access to listed companies.[8]

Focusing on bond issuances, the Chinese National Development and Reform Commission (NDRC) has launched a "Bond Issuance Optimisation Circular" which aims to support the issue of bonds in order to finance challenges related to the pandemic, including rollovers of old debt. Bond issuance procedures have also been simplified, with an extended validity period of approval documents (White and Case, 2020[7]). Further, a COVID-19 bond label was introduced at the beginning of February 2020, allowing for a faster registration process for bonds where at least 10% of the proceeds are used for pandemic containment and control measures (Wall Street Journal, 2020[12]). In Chile, the Financial Market Commission (CMF) has promoted a series of initiatives to facilitate access to finance for companies raising capital through the securities market. Importantly, in January 2021, the automatic registering of any short or long-term debt security was established to streamline the debt securities issuance process.

Table 3.4. Regulatory measures to increase capital market access

	Debt	Equity	Instrument(s)
Australia	●	●	Rights offers, placements and share purchases
Chile	●	○	Debt securities
China	●	●	Bonds, secondary equity issuances
EU	●	●	Secondary equity issuances, bonds (fixed income)
India	○	●	Rights offers, public issues, share buybacks
United Kingdom	○	●	Secondary equity issuances
United States	●	●	Crowdfunding, BDC senior securities

Source: National regulators, Web search, (IMF, 2020[2]).

3.2.5. Insolvency

To ensure that viable firms have sufficient opportunities to survive the major disruptions caused by the COVID-19 crisis without going bankrupt or becoming insolvent, many countries have introduced adjustments to their regulatory framework with respect to insolvency procedures and restructuring. As seen in Table 3.5, policy makers in 10 jurisdictions have used a temporary extension of thresholds to file for or respond to bankruptcy/insolvency notices. For example, Australia increased the minimum amount of debt required before a creditor can initiate an involuntary bankruptcy or insolvency proceedings against a debtor. The country also raised the timeframe threshold for debtors to respond to a bankruptcy or an insolvency notice.

In countries where a pre-insolvency framework does not exist or where policy makers are aware that the judiciary system does not have the capacity to deal efficiently with an unusually large number of debt-related processes, a temporary moratorium on debt payments has been introduced to ease the financial pressure on businesses. The most widely used measure, taken in 23 countries (Table 3.5), is a moratorium on debt payments as regulators simply suspended the creditor's initiation of insolvency proceedings for a limited time period and/or suspended the debtor's obligation to file for bankruptcy or insolvency. The moratorium is sometimes subject to certain conditions. For instance, in the Slovak Republic, only SMEs are allowed to benefit from the moratorium and, in Spain, only mortgage payments are included in the scope of the moratorium.

Table 3.5. Insolvency and bankruptcy regulatory measures

	Extension of thresholds to respond / file bankruptcy/insolvency notice	Suspension to file for bankruptcy/insolvency	Temporary relief for directors from duty to prevent insolvent trading
Argentina	○	○	○
Australia	●	○	●
Austria	●	○	○
Belgium	○	●	○
Brazil	○	○	○
Canada	○	○	○
Chile	○	○	○
China	○	○	○
Colombia	○	○	○
Czech Rep.	○	●	○
Denmark	○	○	○
Estonia	○	●	○
Finland	○	●	○
France	●	●	○
Germany	○	●	●
Greece	○	○	○
Hungary	●	●	○
Iceland	○	○	○
India	●	●	○
Indonesia	○	●	○
Ireland	○	○	○
Israel	●	○	○
Italy	●	●	○
Japan	○	○	○
Korea	●	○	○
Latvia	○	●	○
Lithuania	○	●	○
Luxembourg	○	●	○
Mexico	○	●	○
Netherlands	○	○	○
New Zealand	○	○	●
Norway	○	○	○
Poland	○	●	○
Portugal	○	●	○
Russia	○	●	○
Singapore	●	○	●
Saudi Arabia	○	○	○
Slovak Rep.	●	●	○
Slovenia	○	●	○
South Africa	○	○	○
Spain	○	●	○
Sweden	○	○	○
Switzerland	○	●	○
Turkey	○	●	○
United Kingdom	○	●	●
United States	○	○	○

Source: (OECD, 2020[6]), Web search.

Some jurisdictions have provided temporary suspension of directors' duties with respect to wrongful trading. In a number of countries, directors that continue to carry on business trading while the enterprise becomes insolvent are normally considered personally liable for wrongful trading. While such wrongful trading laws may be important during normal times to protect the interests of creditors, this suspension is intended to allow company directors to keep trading without the threat of personal liability while options to rescue or restructure a struggling business are explored. Several countries with wrongful trading laws have therefore introduced an exemption from personal liability for wrongful trading during the outbreak (Australia, Germany, New Zealand, Singapore and the United Kingdom).

While insolvency laws in China are unchanged, the authorities have issued new bankruptcy guidance. Bankruptcy courts are now expected to encourage restructuring and settlement processes before liquidating a company. They are supposed to actively guide negotiation between creditors and debtors by means of instalment payments, extensions of the performance period for liabilities and changes of contract price. Similarly, Colombia created two new out of court bankruptcy mechanisms. In the first one, debtors will be able to negotiate their obligations with all or part of their creditors within three months. Subsequently, the bankruptcy judge will confirm the plan if it meets the requirements in the insolvency law. Under the second mechanism, chambers of commerce will offer a regulatory framework within which debtors and creditors, accompanied by an expert called mediator, during a three-month period may solve their controversies and negotiate a plan.

In the same manner, Norway adopted a new temporary act to support the successful restructuring processes for viable companies. The new act allows early initiation of the restructuring process, requires lower majority requirement for adopting a restructuring plan, and broadens the range of tools available within the framework of a restructuring plan. The act also opens up the possibility to adopt a temporary exception for the public preferential right in relation to tax and value added tax, allows for a certain prioritised security on loans related to financing during reconstruction, and strengthens the debtors' protection against bankruptcy and individual enforcement actions during restructuring negotiations.

3.2.6. Payout policy

To receive public support and ensure that corporations, in particular from the financial sector, have adequate capital buffers to stand the crisis and continue their activities, many governments and regulators have taken measures to limit or stop payouts during the pandemic. Further, governments may require companies that benefit from publicly funded support programmes to use that money for certain purposes, e.g. to limit layoffs or to maintain investment. In some countries, such government support has also been made contingent on restrictions with regard to payout policies. This type of conditional restriction applies in France and Korea. In Switzerland, the restriction on dividends and similar distributions applies to capital released as an effect of a capital relaxation by FINMA to ease banks' leverage ratio.

It should be noted that, while most countries took initiatives to restrict buybacks, some took measures to facilitate them during the crisis, with a view to providing liquidity for investors who may be dependent on such payouts. This includes India, Indonesia, Korea and Russia.

The IMF has called for banks to stop buybacks and dividends to allow for adequate cash buffers during the recovery period (IMF, 2020[13]). Similarly, ECB Banking Supervision has recommended a temporary stop of bank payouts until January 2021 to increase their resilience (ECB, 2020[14]). Table 3.6 offers a summary of actions taken in different OECD and G20 countries related to payout policies. As the table indicates, measures to restrict payouts have primarily targeted financial institutions, and banks in particular. In addition, measures put in place to ease the coverage and/or leverage ratios, as well as reduced weightings of risky assets for credit institutions, have a dual purpose to strengthen their ability to absorb potential future losses and extend credit.

Table 3.6. Payout policy measures

	Bans/restrictions on dividends for:		Bans/restrictions on share buybacks for:	
	Banks/financial institutions	Other companies	Banks/financial institutions	Other companies
Argentina	●	○	○	○
Australia	●	○	○	○
Austria	○	○	○	○
Belgium	●	○	●	○
Brazil	●	○	●	○
Canada	●	○	●	○
Chile	○	○	○	○
China	○	○	○	○
Colombia	○	○	○	○
Croatia	●	○	○	○
Czech Rep.	○	○	○	○
Denmark	●	○	●	○
Estonia	○	○	○	○
Finland	●	○	○	○
France	●	●	●	●
Germany	●	○	●	○
Greece	○	○	○	○
Hungary	○	○	○	○
Iceland	●	○	●	○
India	●	○	○	○
Indonesia	○	○	○	○
Ireland	●	○	●	○
Israel	●	○	○	○
Italy	●	○	●	○
Japan	○	○	○	○
Korea	○	●	○	●
Latvia	○	○	○	○
Lithuania	○	○	○	○
Luxembourg	●	○	○	○
Malaysia	○	○	○	○
Mexico	●	○	●	○
Netherlands	●	○	●	○
New Zealand	●	○	●	○
Norway	●	○	●	○
Poland	●	○	○	○
Portugal	●	○	○	○
Russia	●	○	○	○
Saudi Arabia	○	○	○	○
Singapore	●	○	●	○
Slovak Rep.	○	○	○	○
Slovenia	●	○	●	○
South Africa	●	○	○	○
Spain	●	○	●	○
Sweden	●	○	○	○
Switzerland	●	○	●	○
Turkey	●	●	○	○
United Kingdom	●	○	●	○
United States	●	○	●	○

Note: For countries where certain banks are under ECB Banking Supervision, listed measures apply to those banks not directly covered by the Single Supervisory Mechanism. For New Zealand, the buyback restriction is to halt the redemption of non-tier 1 equity.
Source: National Regulators; (IMF, 2020[2]), (BIS, 2020[15]), (OECD, 2020[16]), Web search.

3.3. Shareholder engagement and conditionalities

In several cases, public support and shareholder engagement during the pandemic have been coupled with conditions and expectations with respect to corporate actions. The European Union has tied its financial support to the condition that the use of the funds must benefit employees and that recipient firms must refrain from awarding bonuses to management, tax evasion, paying out dividends or offering share buyback schemes for as long as they receive the support. Some governments have also made access to support conditional on companies meeting specific requirements. The Korean Development Bank has stated that supported businesses need to maintain employment and limit executive compensation, dividends and share benefits. Likewise, the Polish Development Fund confirmed that up to 70% of financing to businesses would be non-returnable as long as the firms maintain employment and continue the business activity.

Table 3.7. Conditionality of state support programmes

	Measures
Hungary	*Government:* Wage subsidy program for new hires conditional on companies keeping these workers for at least nine months.
Korea	*Korea Development Bank:* As conditions for accessing support, businesses will be required to maintain employment, limit executive compensation, dividends, and other pay-outs, and share benefits from business normalisation in the future.
Poland	*Polish Development Fund:* Up to 70% of the financing may be non-returnable, upon fulfilling the relevant conditions related to maintaining employment, continuing business activity.
Slovenia	*Government*: Companies that claim reimbursement of personnel costs for short-time work may: not distribute profits in 2020, not distribute any profit in subsequent years of retained profits of the period 2020, not acquire own shares or not pay the management any bonuses or success bonuses with tax benefits in 2020 or for the period 2020.

Source: (IMF, 2020[2]).

Aside from measures aimed at employment stability and financial resilience, a number of governments have taken action to link their recovery strategies to the transition to greener economies. These efforts have primarily focused on the energy and surface transport sectors, while other environmentally important sectors such as industry, agriculture, forestry and waste management have been less targeted. Some countries included explicit environmental conditionality for support measures, e.g. in the aviation sector (OECD, 2020[17]).

A number of global institutional investors have expressed the expectation that their investee companies pay increased attention to ESG issues while confronting the crisis. In this respect, eight investors, including BNP Paribas Asset Management, DWS and Comgest Asset Management, announced that tackling global warming must continue to be a priority for public companies despite the pandemic. Principles for responsible investment (PRI) supported by the United Nations published a guidance for investors including a set of questions with ESG-related issues to ask investee companies - at annual general meetings (AGMs) and in follow-up engagements - about their responses to the COVID-19 crisis. Legal & General, the UK's largest asset manager announced that it will take action if investee companies fail to show good corporate practices during the crisis with respect to sustainability, good governance and the fair treatment of employees.

With respect to compensation policies, some companies have announced that they will decrease director or executive pay or make adjustments to their bonus plans and annual compensation programmes that include changes to metrics, performance targets and measurement periods. The proxy advisor Institutional

Shareholder Services (ISS) has published a guidance on how ISS U.S. Benchmark Research may approach the pay decisions by companies. They announced that adjustments regarding the changes in the annual compensation schemes and bonus plans should be complemented with necessary justifications and clear disclosure of rationales so that the resulting outcomes appear reasonable.

3.3.1. Anti-takeover measures

In the early days of the pandemic, companies expressed widespread concerns that investors could take advantage of temporary undervaluations to make unsolicited takeover bids. In response to these concerns, an increasing number of US companies have adopted shareholder rights plans. These plans give shareholders the right to buy more shares at a discount to the market price if one shareholder buys above a certain percentage of a company's shares. During the stock market downturn at the start of the pandemic, 27 US listed companies adopted such shareholder right plans.[9] Sixteen of these plans were short-term, for a duration of one year or less, which suggests that their adoption was caused by concerns about unsolicited bids in the near future. As industries such as travel and retail industries are most impacted by the pandemic, most shareholder rights plans are concentrated in these industries.

In the meantime, proxy advisers have updated their policy guidance regarding the adoption of these plans, taking into consideration a company's rationale for adopting them, requiring that they are limited in time and that the ownership triggers need to be above a certain threshold.[10] As these shareholder rights plans can reduce management accountability because they limit the opportunities for corporate takeovers, proxy advisers claim that they apply a case-by-case approach in examining the plans while taking the guidance mentioned above into consideration.

References

BIS (2020), "Banks' dividends in Covid-19 times", http://www.bis.org/fsi/fsibriefs6.htm. [15]

EC (2020), "EU Capital Markets Recovery Package - Commission Staff Working Document", https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020SC0120. [9]

ECB (2020), "Dividend payouts and share buybacks of global banks", *Financial Stability Review*, https://www.ecb.europa.eu/pub/financial-stability/fsr/focus/2020/html/ecb.fsrbox202005_05~d3679873d3.en.html. [14]

IMF (2020), "Global Financial Stability Update - June 2020", http://www.imf.org/en/Publications/GFSR/Issues/2020/06/25/global-financial-stability-report-june-2020-update. [13]

IMF (2020), "Policy Tracker", *Policy Responses to COVID-19*, http://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19. [2]

OECD (2021), "Liquidity shortfalls during the Covid-19 outbreak: assessment and policy responses", *OECD Economics Department Working Papers,* No. 1647, https://doi.org/10.1787/581dba7f-en. [1]

OECD (2020), "COVID-19 and responsible business conduct", *OECD Policy Responses to Coronavirus (COVID-19) Series*, http://www.oecd.org/coronavirus/policy-responses/covid-19-and-responsible-business-conduct-02150b06/. [16]

OECD (2020), "Equity injections and unforeseen state ownership of enterprises during the COVID-19 crisis", *OECD Policy Responses to Coronavirus (COVID-19) Series*, http://www.oecd.org/coronavirus/policy-responses/equity-injections-and-unforeseen-state-ownership-of-enterprises-during-the-covid-19-crisis-3bdb26f0/. [4]

OECD (2020), "Making the Green Recovery work for jobs, income and growth", https://www.oecd.org/coronavirus/policy-responses/making-the-green-recovery-work-for-jobs-income-and-growth-a505f3e7/. [17]

OECD (2020), "National corporate governance related initiatives during the Covid-19 crisis", http://www.oecd.org/corporate/National-corporate-governance-related-initiatives-during-the-covid-19-crisis.pdf. [6]

OECD (2020), "OECD country policy tracker", https://www.oecd.org/coronavirus/country-policy-tracker/. [3]

OECD (2020), "OECD Interim Economic Assessment - Coronavirus: Living with Uncertainty", *OECD Publishing, Paris*, https://doi.org/10.1787/34ffc900-en. [8]

OECD (2015), "G20/OECD Principles of Corporate Governance", *OECD Publishing, Paris*, http://dx.doi.org/10.1787/9789264236882-en. [5]

SEC (2020), "SEC Provides Temporary, Conditional Relief for Business Development Companies Making Investments in Small and Medium-sized Businesses", http://www.sec.gov/news/press-release/2020-84. [11]

SEC (2020), "Temporary Amendments to Regulation Crowdfunding; Extension", http://www.sec.gov/rules/interim/2020/33-10829.pdf. [10]

Wall Street Journal (2020), "China Opens a Coronavirus Bond Spigot, and Companies Rush In", *Wall Street Journal, March 4th 2020*, http://www.wsj.com/articles/china-opens-a-coronavirus-bond-spigot-and-companies-rush-in-11583323208. [12]

White and Case (2020), "COVID-19: Chinese Government Financial Assistance Measures", http://www.whitecase.com/publications/alert/covid-19-chinese-government-financial-assistance-measures. [7]

Notes

[1] Austria, Chile, Czech Republic, France, Germany, Greece, Indonesia, Ireland, Italy, Netherlands, Slovak Republic, South Africa, Russia, Spain and Turkey.

[2] Argentina, Brazil, China, Colombia, Finland, India, Lithuania, Mexico and Saudi Arabia.

[3] Belgium, Canada, Denmark, Estonia, Hungary, Iceland, Israel, Korea, Latvia, Luxembourg, Poland, Slovenia, Sweden, Switzerland, United Kingdom and United States.

[4] Australia, Finland, France, Germany, Ireland, Korea, Lithuania, Luxembourg, Norway, Spain and the United Kingdom.

[5] Canada, Colombia, Germany, Israel, Korea and Spain.

[6] Companies with a market capitalisation of under EUR 1 billion over a 12-month period.

[7] A capital raising method where the issuer, up to USD 1.07 million, is exempt from the registration requirements with the SEC that applies to regular securities.

[8] To be eligible for an SPO on ChiNext, companies were required to be profitable for the last two years and have a debt-to-assets ratio above 45%. These two requirements were cancelled in the new regulation. Moreover, the pricing base date and lock-in periods became more flexible when the company targets strategic investors.

[9] According to deal point data, 27 US listed companies have adopted the poison pills during 15 February 2020 to 12 April 2020.

[10] International Shareholder Services' official position is that defensive pills should have a trigger no lower than 20%.

4 Capital market financing during the COVID-19 crisis

Looking at both public equity and corporate bond markets, this chapter studies how capital markets were able to respond to the COVID-19 pandemic throughout 2020 and the extent to which the non-financial corporate sector had access to market-based financing. Following an initial contraction at the onset of the crisis, the use of capital markets increased significantly overall compared to historical averages and with notable differences between both countries and industries. The chapter also examines the extraordinary monetary policy measures taken by central banks around the world to respond to the crisis, in particular with regard to corporate bond purchase programmes.

Access to capital market-based financing in the immediate wake of the 2008 financial crisis gave many corporations the financial resilience that helped them overcome a temporary downturn and still meet their obligations to employees, creditors and suppliers. When the COVID-19 pandemic broke out in 2020, it was also of pressing importance that corporations had access to capital markets to mitigate liquidity shortages and avoid defaults and bankruptcies. In a longer-term perspective, structural policies that facilitate efficient and affordable market-based financing of viable companies will be key to strengthen companies' long-term resilience and help them endure future shocks of a similar nature.

When discussing long-term implications of the current crisis, it is important to understand how capital markets were able to react to the COVID-19 shock and how related central bank policies affected their functioning. This chapter provides some key indicators on the non-financial corporate sector's use of public equity and corporate bond markets throughout 2020. It analyses the short-term impact of the COVID-19 crisis and provides an overview of central bank policies related to corporate bond markets.

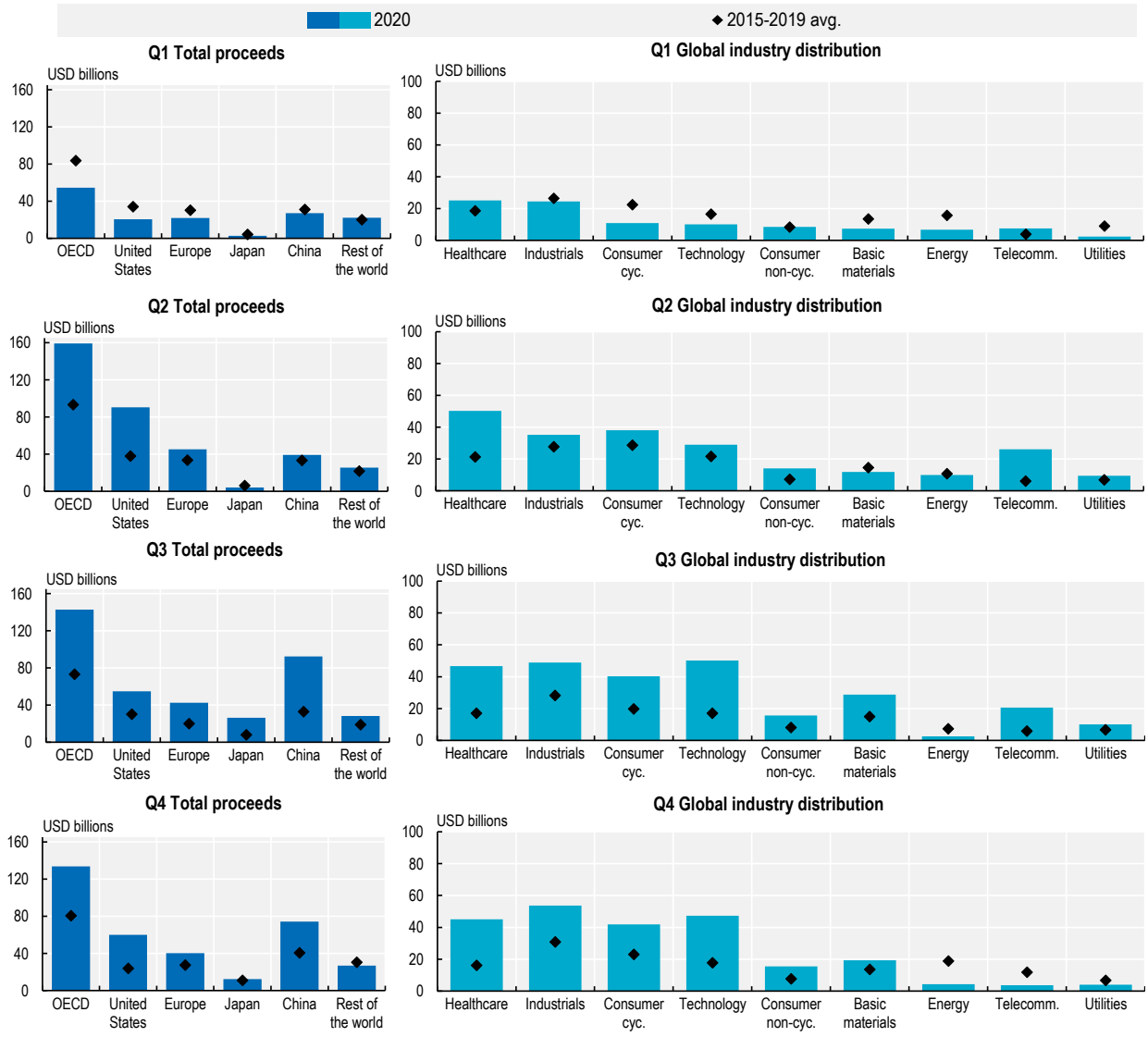
4.1. Public equity markets

In 2020, the total amount of capital raised by non-financial companies through initial public offerings (IPOs) and secondary public offerings (SPOs) - follow-on offerings by already listed companies - reached its highest value since 1990 at USD 826 billion. However, during the first quarter of 2020, as the COVID-19 outbreak resulted in high market volatility and multiple uncertainties, the non-financial corporate sector's use of primary public equity markets decreased. The total amount of capital raised by companies during the first quarter of 2020 was considerably lower than the previous 5-year average (Figure 4.1). This downturn was reversed during the second quarter when the activity in equity markets rebounded. The third quarter of 2020 saw a peak in capital-raising activity compared to the previous 5-year average, mainly driven by SPOs.

At a country and regional level, the first quarter decline was most pronounced in the United States, where the total amount of equity raised fell by 40% to USD 20 billion compared to the USD 34 billion average for the same period over the previous five years. The decline for Europe was also substantial, at 27%, while Chinese capital raising activity was affected to a lesser extent with a decline of 13% during the same period. Conversely, in the second quarter of 2020, activity in the United States more than doubled compared to the same period over the previous 5-year average, reaching USD 90 billion worth of equity raised through IPOs and SPOs. In Europe and China, the trend was also reversed following the second quarter, with Chinese capital raising activity reaching USD 92 billion in the third quarter of 2020. Over the entire year, non-financial companies from China, the United States and Europe raised equity capital totalling USD 232 billion, USD 225 billion and USD 150 billion respectively. In particular, companies from the United Kingdom accounted for 26% of total European proceeds, at USD 39.5 billion. Japanese, Brazilian and Australian companies were also important actors raising USD 45.3 billion, USD 29.3 billion and USD 28.7 billion, respectively.

With respect to industries, the total proceeds raised during the first quarter of 2020 were lower for all sectors, except for healthcare, consumer non-cyclicals and telecommunication services. The largest contraction in fundraising through public equity markets was in the utilities, energy and consumer cyclicals industries. By contrast, in the second quarter, all industries except for energy and basic materials, raised significantly more capital than the previous 5-year average. Notably, the healthcare industry raised USD 50 billion globally in the second quarter, compared to an average of USD 21 billion over the 2015-2019 period. In the third quarter every industry, except energy, raised more capital than in the previous five years. In the fourth quarter, six out of nine did.

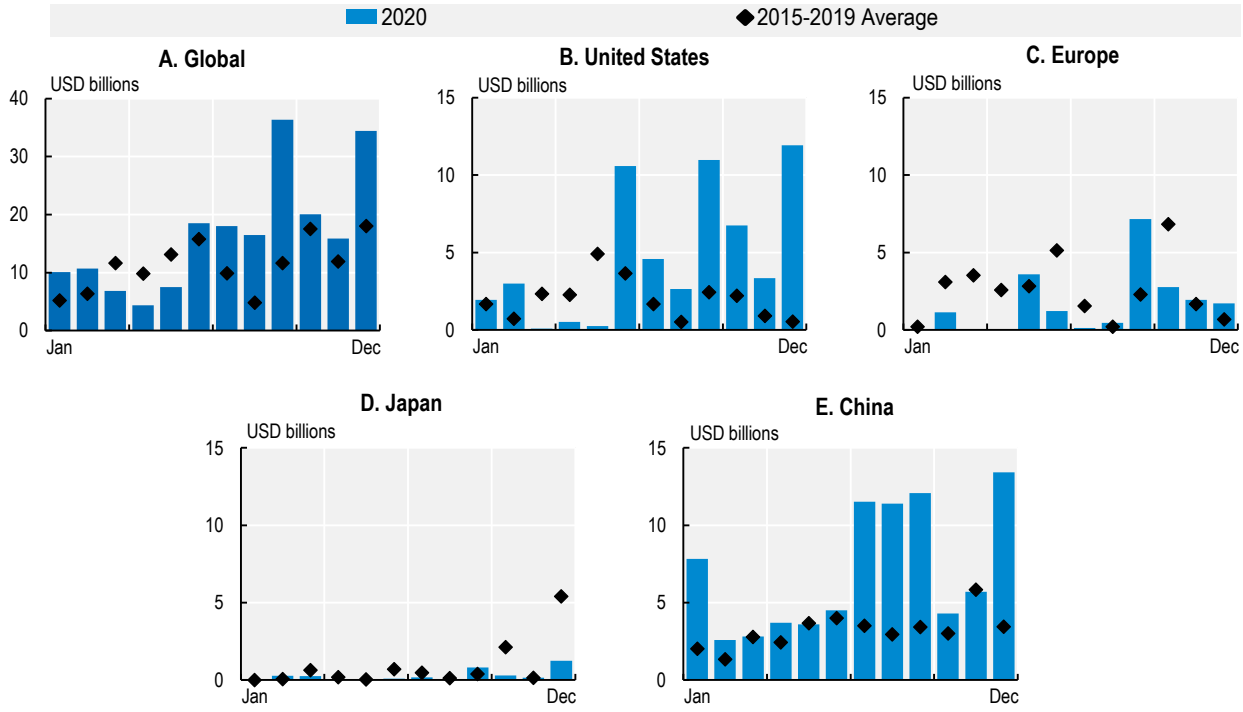
Figure 4.1. Total amount of capital raised by non-financial companies in public equity markets in 2020



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

A closer look at developments on a monthly basis shows that the IPO activity almost came to a halt in March 2020, when only six European companies and one US company went public, amounting together to a modest USD 100 million (Figure 4.2). By contrast in China, 29 non-financial companies raised USD 2.8 billion of funds, accounting for 41% of global equity raised in March 2020. In May, the IPO activity in Europe returned to normal with a total amount of USD 3.6 billion. In the United States, the rebound was particularly strong in June 2020 when 19 non-financial IPOs raised a record amount of USD 10.6 billion. Chinese non-financial companies showed a more stable trend in IPO activity during the first six months of 2020. Globally, in the second half of 2020, the IPO activity peaked and was almost twice as the 2015-2019 average. This trend was particularly marked in China and the United States. In December 2020 alone, companies from those countries raised an exceptional USD 13.4 billion and USD 11.9 billion through IPOs, respectively. Importantly, while IPO activity in Japan throughout 2020 was weak, in December 2020, 26 companies went public raising USD 1.2 billion.

Figure 4.2. Initial public offerings (IPOs) by non-financial companies in 2020

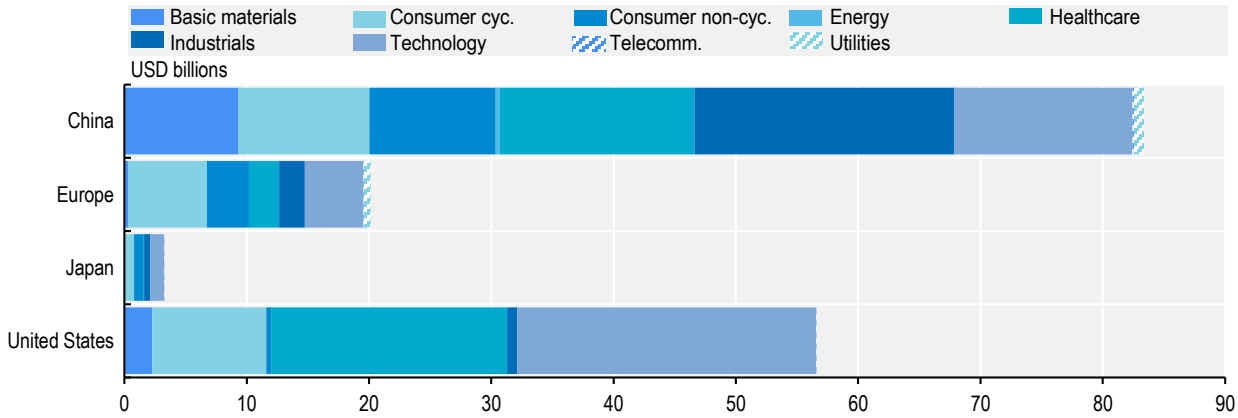


Source: OECD Capital Market Series dataset, see Annex for details.

Overall in 2020, technology and healthcare were the two industries in which companies raised the most capital, accounting for 24% and 23% of the total amount raised through IPOs respectively (Figure 4.3). US technology companies raised a record amount of USD 24.4 billion, accounting for over half of the global proceeds raised by technology companies. Chinese technology companies followed, raising USD 14.6 billion, corresponding to 30% of the global proceeds. Similarly, US and Chinese healthcare companies raised USD 19.3 billion and USD 15.9 billion respectively. Moreover, industrials companies raised a global amount of USD 35.5 billion during 2020, of which Chinese industrials companies accounted for 60%.

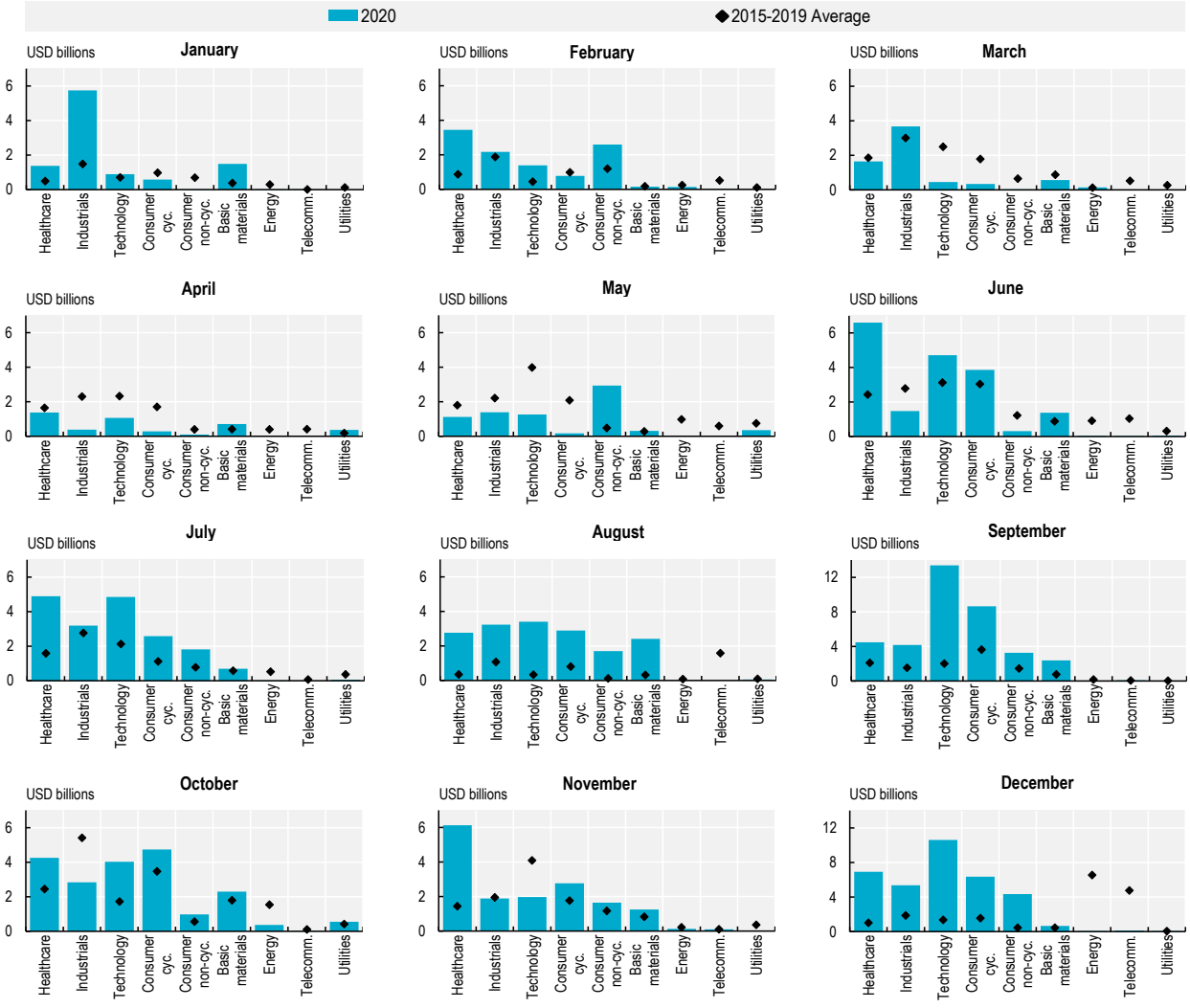
Focusing on monthly IPO activities, in the first two months of 2020, healthcare companies raised more equity through public equity markets than the January and February averages of the previous five years. As a matter of fact, the amount of equity capital raised by healthcare companies almost tripled in January and almost quadrupled in February compared to their 5-year averages. However, in March 2020 no industry, except for industrials and energy, reached their 5-year average (Figure 4.4). In June 2020, the healthcare, technology, consumer cyclicals and basic materials industries surpassed the 2015-2019 averages. For instance, healthcare IPOs raised a total amount of USD 6.6 billion compared to the June average of USD 2.4 billion over the 2015-2019 period. Furthermore, in the second half of 2020, given the global steady growth in company IPOs, all industries except for energy, telecommunications services and utilities, surpassed their 5-year averages by large margin. Notably, in September 2020, USD 13.4 billion were raised by technology companies, compared to the USD 2 billion average over the 2015-2019 period.

Figure 4.3. IPOs by non-financial companies in 2020 by country and industry



Source: OECD Capital Market Series dataset, see Annex for details.

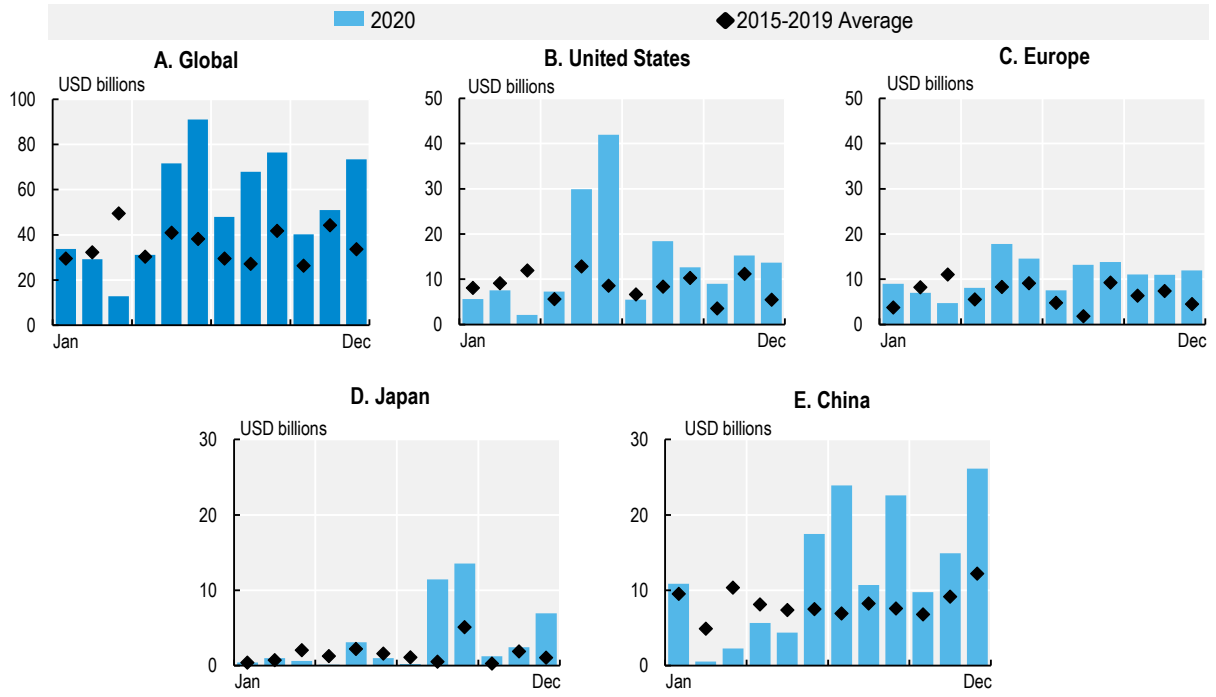
Figure 4.4. Industry distribution of IPOs by non-financial companies



Source: OECD Capital Market Series dataset, see Annex for details.

In the period immediately following the 2008 financial crisis, already listed non-financial companies extensively used public equity markets to raise additional equity capital through secondary offerings (SPOs). This pattern seemed to repeat itself in 2020, when already listed non-financial companies raised a total of USD 626 billion via SPOs , the highest amount of the last three decades (Figure 4.5). Half of that amount was raised by US and Chinese non-financial companies, which raised USD 169 billion and USD 149 billion respectively. Similarly, European non-financial companies raised about USD 130 billion through SPOs. The monthly distribution of the proceeds reveals that in March 2020, the proceeds raised through SPOs globally were well below the past 5-year average, while the monthly amount of capital raised, on average almost doubled the 5-year averages between May and December 2020. Globally, more than 80% of the total capital raised through SPOs was between May and December 2020.

Figure 4.5. Secondary public offerings (SPOs) by non-financial companies in 2020

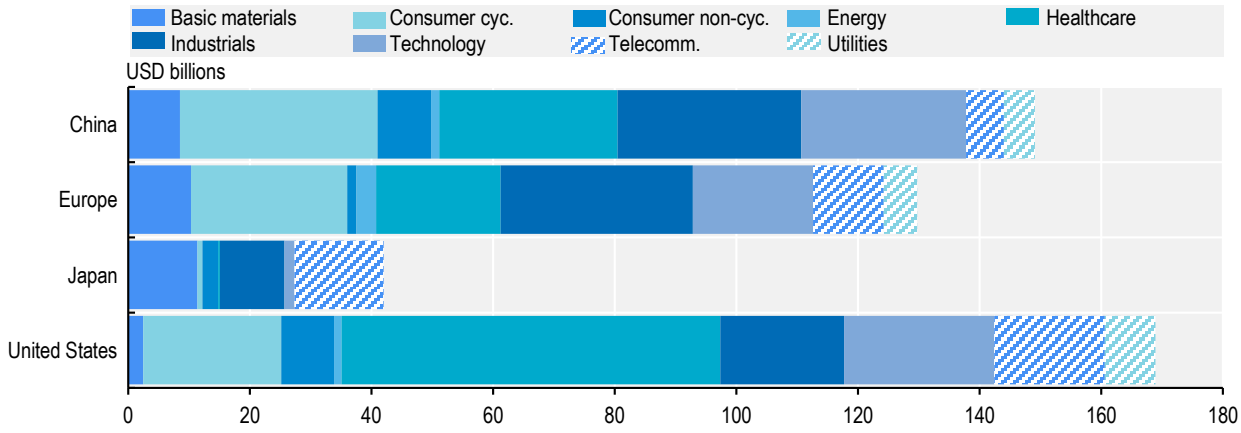


Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Globally, the healthcare, industrials, technology and consumer cyclicals industries together accounted for almost 70% of all the SPO proceeds in 2020 (Figure 4.6). In the United States, healthcare and technology were the top two industries raising most of the equity capital through SPOs, with shares corresponding to 37% and 15%, respectively. The most active industries in Europe and China were industrials and consumer cyclicals, respectively, with a share around 20% each.

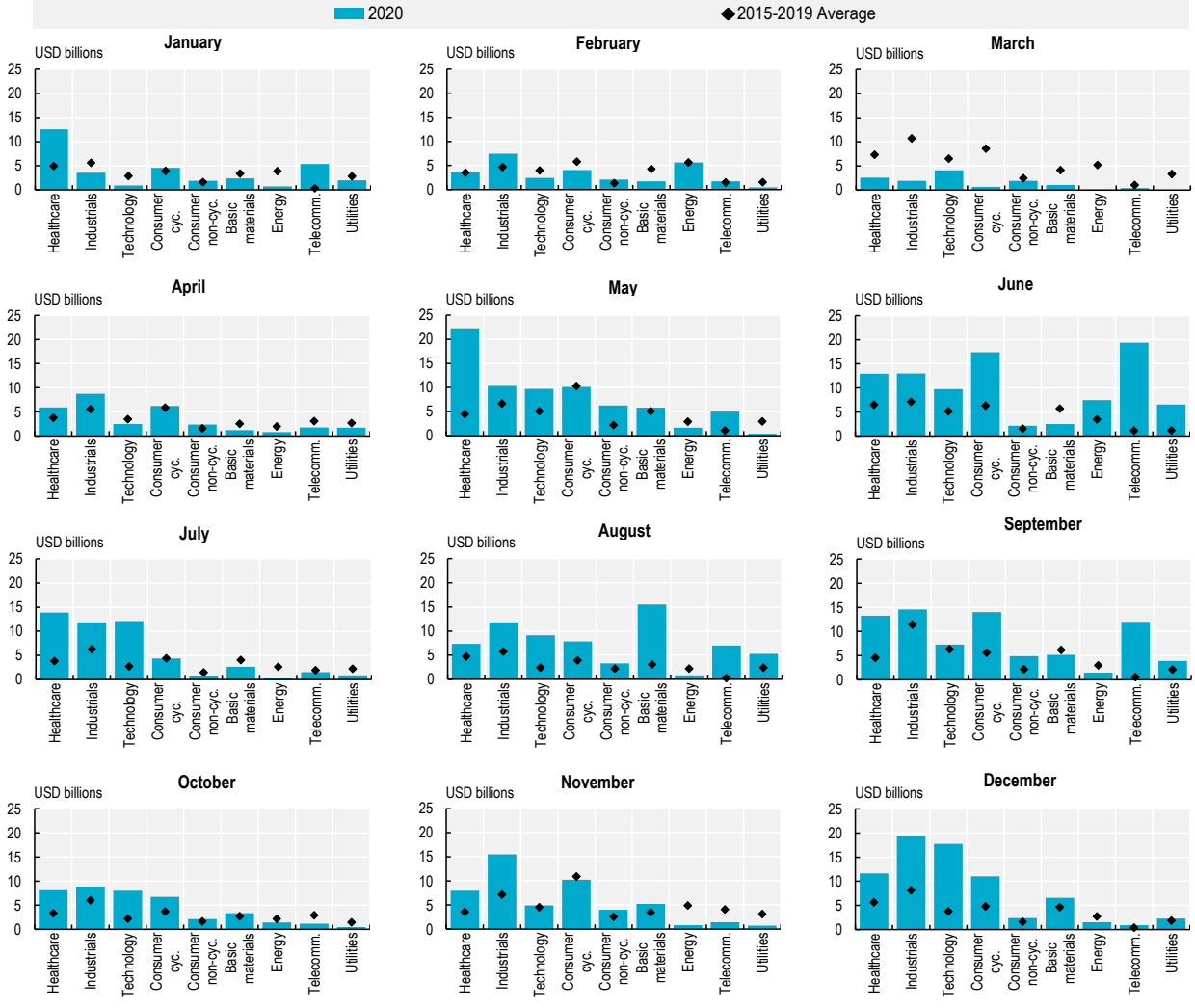
Further, the comparison between SPOs monthly distribution with the 5-year averages shows that the global SPO proceeds in May 2020 were primarily driven by increases in the healthcare, industrials and technology industries and, in June 2020, by telecommunications services and consumer cyclicals. Moreover, in December 2020, the capital raised by technology companies was almost five times the previous 5-year average (Figure 4.7).

Figure 4.6. SPOs by non-financial companies in 2020 by country and industry



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Figure 4.7. Industry distribution of SPOs by non-financial companies



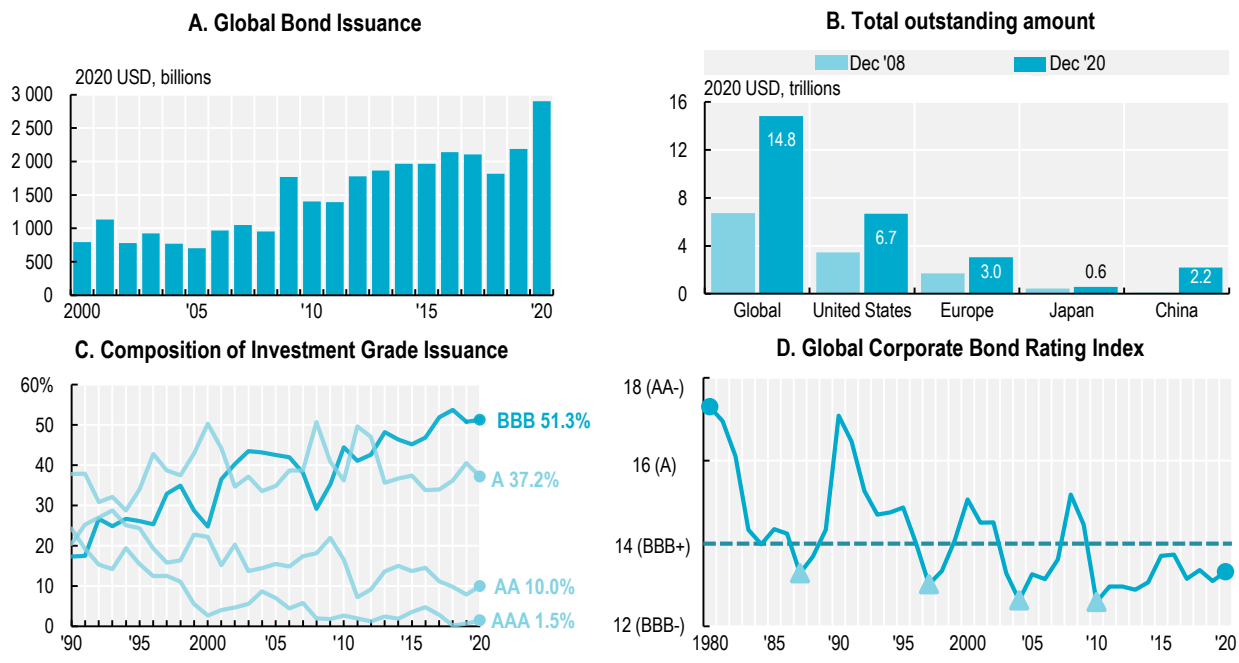
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

4.2. Corporate bond markets

Since the 2008 financial crisis, non-financial companies have raised an exceptionally large amount of debt in the form of corporate bonds compared to the previous decade. Figure 4.8 in Panel A presents the total amount of proceeds that non-financial companies received through corporate bond issues in each year over the past two decades. Since the 2008 financial crisis there is a significant and lasting increase in the issuance of corporate bonds. Globally, annual corporate bond issuance doubled from an average of USD 890 billion before the 2008 financial crisis since 2000 to an average of USD 1.87 trillion in the period between 2008 and 2020. Notably, 2020 recorded a peak in terms of amount issued, USD 2.9 trillion.

As a result of a decade-long build-up of corporate bond debt since the 2008 global financial crisis, the world closed 2020 with a record level of USD 14.8 trillion in outstanding debt in the form of corporate bonds (Figure 4.8, Panel B). Of this amount, USD 6.7 trillion was issued by US companies, USD 3.0 trillion by European companies, USD 2.2 trillion by Chinese companies and USD 0.6 trillion by companies in Japan. Together, these countries made up 84% of the global outstanding stock of corporate bonds. In addition to the record volumes, the decline in the overall corporate bond quality in 2020 continued to be significant. Indeed, the share of BBB rated bonds, which is the lowest quality of bonds that are included in the investment grade category, remained high in 2020 at 51.3% (Figure 4.8, Panel C). Similarly, the corporate bond index continued to show signs of deterioration. Using information for all rated bonds that have been issued by non-financial companies worldwide, Panel D plots the overall quality index for each year since 1980. The index showed a slight improvement in 2020, however, it still remained under 14, which corresponds to a BBB+ rating. This means that in 2020, the average corporate bond issued had a rating of approximately BBB.

Figure 4.8. Global corporate bond landscape

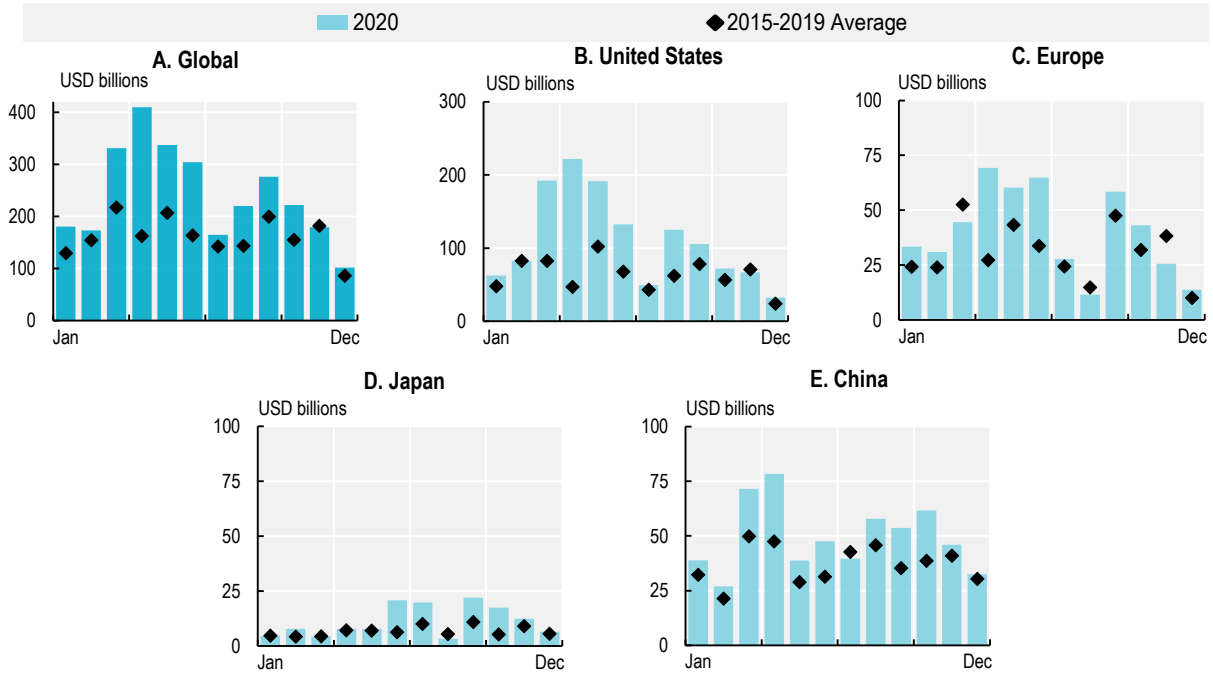


Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Figure 4.9 presents corporate bond issuance amounts for each month in 2020 at the global and regional levels. It also provides a comparison with the 2015-2019 issuance average for the corresponding months. During the first two months of 2020, across all four regions, bond issuance by non-financial companies

remained in line with their monthly averages over the past five years. In March 2020, as lockdowns began to be implemented, economic uncertainty increased sharply and companies faced liquidity challenges, and as a result, many companies turned to the corporate bond market. This was not only motivated by a need to meet immediate cash flow obligations but also by a wish to build a cushion for future economic uncertainty and to push out debt maturities.

Figure 4.9. Corporate bond issuance by non-financial companies in 2020, by country/region



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

During March 2020, global corporate bond issuance increased to USD 331 billion, significantly higher than the previous 5-year average for March of USD 217 billion. Notably and in real terms, this was the highest monthly global issuance of corporate bonds in the past two decades. The increase was driven mainly by US non-financial companies who issued an unprecedented monthly amount of USD 192 billion of corporate bonds, more than double the previous 5-year average for March. Although from a lower level, the issuance by Chinese companies also increased significantly by 44% in March 2020, compared to the previous 5-year average. In sharp contrast, however, issuance by non-financial European companies in March 2020 fell below the average issuance during the previous 5 years (Figure 4.9, Panel C).

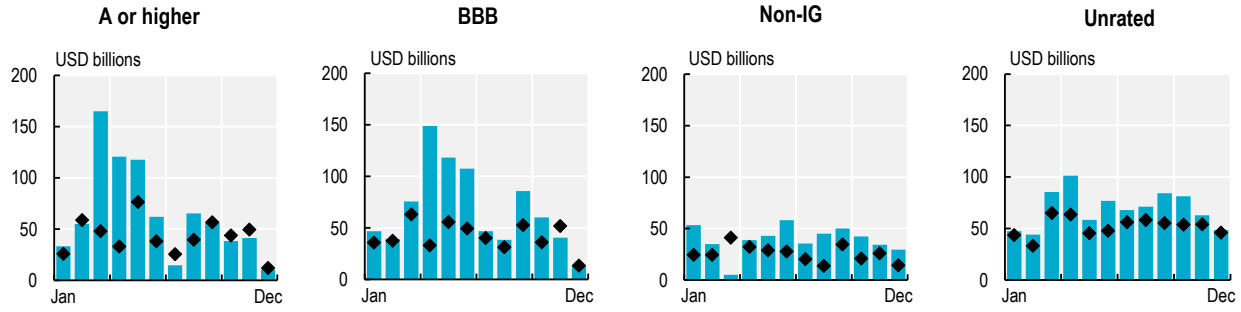
From March 2020, and in addition to the expansion of corporate bond purchase programmes by major central banks outlined below, the US Federal Reserve and the Bank of England (BoE) lowered their interest rates to address some of the effects of the pandemic. The US Federal Reserve lowered its interest rates by 50 basis points on 3 March 2020 and by a further 100 basis points on 15 March 2020 to between 0 and 0.25% (Federal Reserve, 2020[1]); (Federal Reserve, 2020[2]). The BoE reduced its policy rate from 0.75% to an all-time low of 0.1% in two steps on 11 and 19 March 2020 (BoE, 2020[3]); (BoE, 2020[4]). As the impacts of the central bank policies became more tangible in the second quarter, corporate bond issuance rose above the previous 5-year average in all markets reported in Figure 4.9. In April 2020, the global and US issuance records set in March 2020 were exceeded once again. As a result, a total amount of USD 1.74 trillion of corporate bond debt was raised globally in the first half of 2020. In the second half of 2020, corporate bond issuance remained at higher levels than the 2015-2019 averages, although to a lesser extent compared to the sustained activity observed in the second quarter of 2020. Proceeds raised

during the July-December 2020 period totalled USD 1.16 trillion compared to an average of USD 907 billion during the previous five years. As a result of this surge in corporate bond issuance, the global outstanding stock of non-financial corporate bonds reached USD 14.8 trillion by the end of 2020, up from USD 13.7 trillion at the end of 2019.

Although the general picture in Figure 4.9 above suggests that overall, corporate bond markets continued financing companies during the health crisis, a look at the credit ratings of corporate bond issuance in Figure 4.10 points to some challenges. It is important to note that these are partly related to central bank responses to the pandemic, and the fact that eligibility for central bank corporate bond purchases typically requires having an investment grade rating either at the time of purchase or at a certain cut-off date at the onset of the pandemic.

With the announcements by major central banks in March 2020 that they would buy large amounts of corporate bonds from the primary and secondary markets, Figure 4.10 shows that companies with A or higher ratings issued a record amount of USD 165 billion in March 2020. This was more than three times the average amount of A and higher rated corporate bonds issued in the same month during the past five years. BBB rated issuance, on the other hand, saw only a modest increase of 20% in March 2020 relative to the past 5-year average, reaching a total amount of USD 76 billion. As a whole, investment grade issuance stayed robust in the second quarter of 2020, always far exceeding the historical monthly averages. During the third and fourth quarters of 2020, although BBB rated corporate bonds totalled USD 286 billion against an average of USD 226 billion in the 2015-2019 period, A or higher rated ones remained at similar levels compared to the previous 5-year average, at around USD 227 billion.

Figure 4.10. Corporate bond issuance by non-financial companies in 2020, by credit quality



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

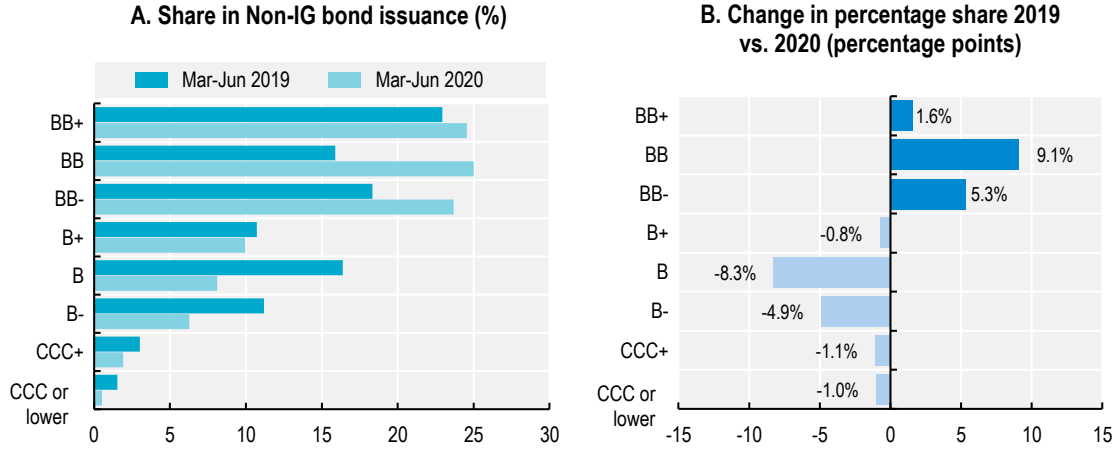
In stark contrast to the high levels of investment grade issuance, the total issuance by non-investment grade companies decreased sharply in March 2020. In total, only USD 5 billion was raised, corresponding to less than 13% of the historical average. However, with the help of subsequent central bank support measures addressed specifically at this segment, non-investment grade issuance reverted back to its average in April and exceeded it in the rest of 2020. Specifically, following the announcement of the US Federal Reserve on 9 April 2020 regarding the inclusion of fallen angels (companies that have lost their investment grade rating) into the scope of the Primary Market Corporate Credit Facility (PMCCF) and Secondary Market Corporate Credit Facility (SMCCF) and the inclusion of ETFs which invest in US high-yield corporate bonds into the SMCCF, US non-investment grade non-financial issuers were able to raise USD 37 billion in April 2020. Moreover, on 22 April 2020, the ECB announced that it would also accept fallen angel bonds that had lost their investment grade credit rating after 7 April 2020 as collateral until September 2021, as long as their rating remained at or above BB (ECB, 2020[5]). This move was an important stimulus as non-investment grade issuers from Europe issued only USD 196 million in March 2020 and USD 216 million in April 2020. Following the ECB's announcement, issuance by European

non-investment grade companies reached amounts comparable to historical averages for May and June 2020.

As a result of this rebound in non-investment grade issuance in the second quarter, globally the total amount of non-investment grade issuance in the first half of 2020 surpassed the previous 5-year average. However, the share of lower quality non-investment grade issuers within the non-investment grade category dropped markedly compared to previous years. BB rated bonds, which is the highest bond quality included in the non-investment grade segment, accounted for a record 67.5% of the total non-investment grade issuance in the first half year of 2020, which was significantly higher than even the 58.4% peak reached in 2019.

Figure 4.11 provides further details on the changing composition of the non-investment grade segment. It compares the rating distribution of non-investment grade issuance in the four months from March to June 2020 with its distribution in the same four months of 2019. As shown in Panel A, the share of BB+ rated corporate bond issues in total non-investment grade issuance increased from 22.9% in the period from March to June 2019 to 24.6% in the same four months of 2020. The portion of BB rated bonds increased more sharply from 15.9% to 25.0% and BB- rated bonds increased from 18.3% to 23.7%.Conversely, the share of corporate bonds rated B+ or lower decreased with B rated bonds experiencing the largest drop from 16.4% to 8.1%. Similar trends can be seen when issuance in the first two months of 2020 is compared to issuance in the subsequent 4-month period (Rennison, 2020[6]). The observations from Figures 4.10 and 4.11 seem to suggest that the support from central banks has helped the non-investment grade bond market recover, but that it remained reserved primarily for the highest quality issuers within the non-investment grade segment over the first several months.

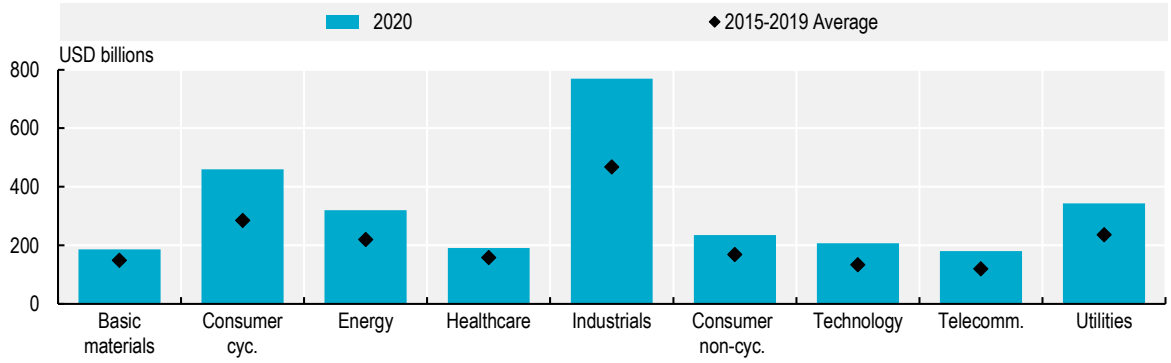
Figure 4.11. Composition of issuance in non-investment grade category



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

With respect to the industry distribution of corporate bond issuance, Figure 4.12 reports that all industries have continued to access the bond market after the pandemic hit and have reached issuance amounts that surpassed those of the past 5 years. The industrials, consumer cyclicals, technology and telecommunications industries experienced considerable increases in 2020. The industry with the lowest increase in comparison to its historical average was the healthcare industry. Due to the relative resilience of this industry to a health crisis, it is possible that healthcare companies, in contrast to companies in other industries, did not feel pressured to issue bonds to mitigate potential earnings losses. Also, the healthcare companies were among the most active issuers of equity capital, raising USD 167 billion through IPOs and SPOs during 2020 well above the 5-year average.

Figure 4.12. Corporate bond issuance by non-financial companies in 2020 by industry



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

4.2.1. Increase in corporate bond purchases by central banks

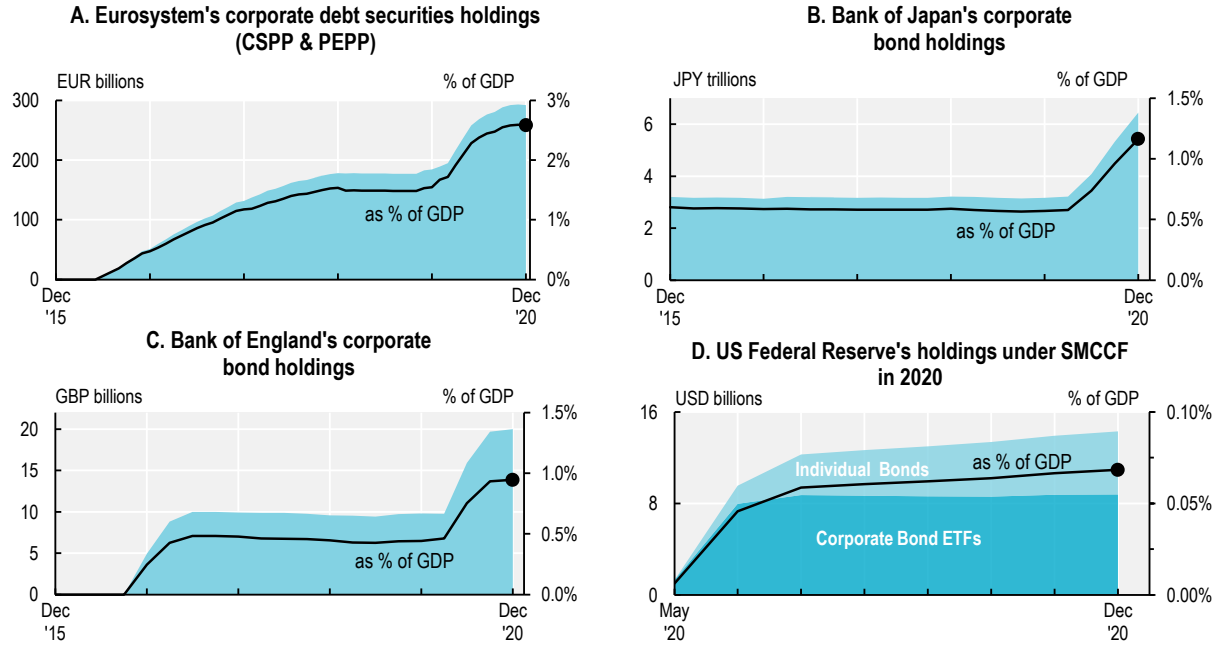
In response to the pandemic, the European Central Bank (ECB), the Bank of England (BoE) and the Bank of Japan (BoJ) have all expanded their corporate bond purchase programmes and the US Federal Reserve has launched a corporate bond purchase programme for the first time. Figure 4.13 shows the evolution of the corporate bond holdings of leading central banks.

The ECB started buying corporate bonds in June 2016 under its "Corporate Sector Purchase Programme" (CSPP). As part of this programme, selected central banks in the Eurosystem can purchase investment grade euro-denominated bonds issued by non-bank corporations established in the euro area (ECB, 2016[7]). The net purchases under the CSPP came to an end in December 2018, and as seen in the figure, the outstanding amount of corporate bonds held through the CSPP levelled off at around EUR 178 billion in 2019, representing around 1.5% of GDP. In November 2019, the ECB resumed its purchases, which were later accelerated and expanded in response to the pandemic. Specifically, on 12 March 2020, the ECB decided on a temporary envelope of additional net asset purchases of EUR 120 billion, to be used until the end of the year (ECB, 2020[8]). Shortly thereafter, on 18 March 2020, the ECB introduced its EUR 750 billion Pandemic Emergency Purchase Programme (PEPP), an asset purchase programme of private and public sector securities, initially intended through end-2020. Eligible issuers were defined according to the same criteria as under the CSPP (ECB, 2020[9]). On 4 June 2020, the size of the PEPP was expanded by EUR 600 billion to EUR 1.35 trillion and the duration of the programme was extended to at least June 2021 (ECB, 2020[10]). On 10 December 2020, the size of the PEPP was further increased to EUR 1.85 trillion and the horizon for net purchases under the programme was extended to at least the end of March 2022 (ECB, 2020[11]). As of the end of July 2020, EUR 17.6 billion of corporate bonds and a further EUR 34.8 billion of commercial papers had been purchased under the PEPP. This was in addition to the corporate bond and commercial paper holdings under the CSPP, which increased from EUR 195 billion in February to EUR 224 billion in July 2020 and to further EUR 250 billion by December 2020. By the end of the year, PEPP and CSPP holdings together reached to around EUR 292 billion - accounting for 2.6% of GDP.

The Bank of Japan (BoJ) has a longer history of corporate bond purchases. A corporate bond purchase programme that was introduced in February 2009 and ran until December 2009 was later resumed under the "Asset Purchase Program" which was launched in October 2010. Under this programme, investment grade corporate bonds were deemed eligible for purchase (BoJ, 2010[12]). In April 2013, the BoJ announced its decision to purchase and continuously hold up to JPY 3.2 trillion worth of corporate bonds and JPY 2.2 trillion in corporate papers (BoJ, 2013[13]). As seen in Figure 4.13, this level was sustained up to March 2020. In reaction to the COVID-19 outbreak, on 16 March 2020 the BoJ decided to enhance monetary easing through, among other measures, facilitating corporate financing by increasing the upper limit for holding commercial papers and corporate bonds by JPY 2 trillion to JPY 7.4 trillion in total (BoJ,

2020[14]). On 27 April 2020, the BoJ decided to further increase the corporate bond and commercial paper purchase facility to a total of about JPY 20 trillion (BoJ, 2020[15]). As of the end of June 2020, BoJ holdings of corporate bonds stood at JPY 4.1 trillion or 0.74% of GDP, and increased further to JPY 6.4 trillion or 1.2% of GDP in December 2020. The central bank intends to conduct additional corporate bond and commercial paper purchases until the end of September 2021 with an upper limit on the amounts outstanding of JPY 20 trillion (BoJ, 2020[16]).

Figure 4.13. Central banks' holdings of corporate debt securities



Note: The holdings under PEPP are not disclosed monthly. Based on the months for which data were disclosed, the other months' data were estimated using linear interpolation.
Source: ECB, Bank of Japan, Bank of England, US Federal Reserve, OECD Statistical Data, World Bank, US Bureau of Economic Analysis.

The BoE was also engaged in a corporate bond purchase programme prior to the pandemic, albeit for a shorter period and with a smaller dedicated budget compared to the BoJ and the ECB. The purchases under BoE's "Corporate Bond Purchase Scheme" (CBPS) began in September 2016. Eligible corporate bonds for this scheme had to be issued by companies that make a material contribution to the UK economy, be denominated in GBP and rated investment grade. The purchases under CBPS ceased when the GBP 10 billion target was reached in April 2017, after which time this level was sustained by reinvesting the cash received from maturing bonds (BoE, 2016[17]); (BoE, 2017[18]). In March 2020, the bank decided to increase its holdings of UK government bonds and sterling non-financial investment grade corporate bonds by GBP 200 billion to a total of GBP 645 billion. In November 2020, it was decided to maintain the stock of corporate bond purchases at GBP 20 billion (BoE, 2020[4]); (BoE, 2020[19]). As seen in the figure above, the corporate bond holdings of the BoE also increased, from GBP 9.8 billion in March to GBP 15.9 billion at the end of June 2020 and to GBP 20 billion by December 2020 reaching 0.95% of GDP.

The US Federal Reserve launched a corporate bond purchase programme for the first time on 23 March 2020 in response to the COVID-19 crisis. Specifically, it announced the establishment of two facilities to support credit to large employers: (i) the Primary Market Corporate Credit Facility (PMCCF) to purchase new bonds and loans from investment grade companies and (ii) Secondary Market Corporate Credit Facility (SMCCF) to purchase corporate bonds in the secondary market issued by investment grade US companies and US-listed ETFs whose investment objective is to provide exposure to US investment grade

corporate bonds (Federal Reserve, 2020[20]). Importantly on 9 April 2020, the scope of the PMCCF and SMCCF was broadened to include corporate bonds issued by companies that had lost their investment grade rating after 22 March 2020 but which continued to be rated at least BB-. Furthermore, SMCCF could also invest in those ETFs whose primary investment objective is exposure to US high-yield corporate bonds. The combined size of PMCCF and SMCCF would be up to USD 750 billion (Federal Reserve, 2020[21]); (Federal Reserve, 2020[22]). ETF and corporate bond purchases under SMCCF began on 12 May 2020 and 16 June 2020, respectively. As of 31 December 2020, the Federal Reserve's holdings of corporate bond ETFs and of individual corporate bonds under the SMCCF amounted to USD 8.78 billion and USD 5.54 billion, respectively. The corporate credit facilities ceased purchasing assets as of 31 December 2020 (Federal Reserve, 2021[23]).

The one common eligibility criterion that the BoJ, the ECB and the BoE all adopt is the requirement that the corporate bonds have an investment grade rating. Only the US Federal Reserve has taken the unprecedented step of also investing in high-yield corporate bond ETFs and purchasing corporate bonds that have become fallen angels. The SMCCF followed an indexing approach, whereby its corporate bond purchases are made based on a broad, diversified market index, which includes all the bonds that have been issued by US companies and that satisfy the facility's criteria, for example with respect to rating and maturity. As of 31 December 2020, BB rated issuers made up 3.1% of the total corporate bond holdings of the US Federal Reserve (Federal Reserve, 2020[20]); (Federal Reserve, 2021[24]).

References

BoE (2020), "Bank of England measures to respond to the economic shock from Covid-19", *11 March 2020*, http://www.bankofengland.co.uk/news/2020/march/boe-measures-to-respond-to-the-economic-shock-from-covid-19. [3]

BoE (2020), "Monetary Policy Summary and minutes of the Monetary Policy Committee meeting", *5 November 2020*, http://www.bankofengland.co.uk/monetary-policy-summary-and-minutes/2020/november-2020. [19]

BoE (2020), "Monetary Policy Summary for the special Monetary Policy Committee meeting on 19 March 2020", https://www.bankofengland.co.uk/monetary-policy-summary-and-minutes/2020/monetary-policy-summary-for-the-special-monetary-policy-committee-meeting-on-19-march-2020. [4]

BoE (2017), "Bank of England Asset Purchase Facility Fund Limited Annual Report and Accounts 1 March 2016-28 February 2017", *Bank of England, London*, https://www.bankofengland.co.uk/-/media/boe/files/asset-purchase-facility/2017/annual-report-2017.pdf. [18]

BoE (2016), "Corporate bond purchase scheme: Eligibility and sectors", *12 September 2016*, http://www.bankofengland.co.uk/news/2016/september/corporate-bond-purchase-scheme-eligibility-and-sectors. [17]

BoJ (2020), "Enhancement of Monetary Easing", *27 April 2020*, http://www.boj.or.jp/en/mopo/mpmdeci/state_2020/k200427a.htm. [15]

BoJ (2020), "Enhancement of Monetary Easing in Light of the Impact of the Outbreak of the Novel Coronavirus (COVID-19)", *16 March 2020*, http://www.boj.or.jp/en/mopo/mpmdeci/state_2020/k200316b.htm. [14]

BoJ (2020), "Statement on Monetary Policy", *18 December 2020*, https://www.boj.or.jp/en/mopo/mpmdeci/state_2020/k201218a.htm. [16]

BoJ (2013), "Introduction of the quantitative and qualitative monetary easing", *4 April 2013*, http://www.boj.or.jp/en/announcements/release_2013/k130404a.pdf. [13]

BoJ (2010), "Establishment of principal terms and conditions for the asset purchase program", *28 October 2010*, http://www.boj.or.jp/en/announcements/release_2010/mok1010f.pdf. [12]

ECB (2020), "ECB announces €750 billion Pandemic Emergency Purchase Programme (PEPP)", *18 March 2020*, https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200318_1~3949d6f266.en.html. [9]

ECB (2020), "ECB takes steps to mitigate impact of possible rating downgrades on collateral availability", *22 April 2020*, http://www.ecb.europa.eu/press/pr/date/2020/html/ecb.pr200422_1~95e0f62a2b.en.html. [5]

ECB (2020), "Monetary policy decisions", *12 March 2020*, http://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200312~8d3aec3ff2.en.html. [8]

ECB (2020), "Monetary policy decisions", *4 June 2020*, http://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp200604~a307d3429c.en.html. [10]

ECB (2020), "Monetary policy decisions", *10 December 2020*, https://www.ecb.europa.eu/press/pr/date/2020/html/ecb.mp201210~8c2778b843.en.html. [11]

ECB (2016), "ECB announces details of the Corporate Sector Purchase Programme (CSPP)", *21 April 2016*, http://www.ecb.europa.eu/press/pr/date/2016/html/pr160421_1.en.html. [7]

Federal Reserve (2021), "Periodic report: Update on outstanding lending facilities authorized by the Board under Section 13(3) of the Federal Reserve Act", *9 January 2021*, https://www.federalreserve.gov/publications/files/pdcf-mmlf-cpff-pmccf-smccf-talf-mlf-ppplf-msnlf-mself-msplf-nonlf-noelf-01-11-21.pdf. [23]

Federal Reserve (2021), "SMCCF transaction-specific disclosures", *11 March 2021*, https://www.federalreserve.gov/monetarypolicy/smccf.htm. [24]

Federal Reserve (2020), "Federal Reserve announces extensive new measures to support the economy", *23 March 2020*, https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323b.htm. [20]

Federal Reserve (2020), "Federal Reserve issues FOMC statement", *3 March 2020*, http://www.federalreserve.gov/newsevents/pressreleases/monetary20200303a.htm. [1]

Federal Reserve (2020), "Federal Reserve issues FOMC statement", *15 March 2020*, http://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm. [2]

Federal Reserve (2020), "Term Sheet: Primary Market Corporate Credit Facility", *9 April 2020*, http://www.federalreserve.gov/newsevents/pressreleases/files/monetary20200409a5.pdf. [21]

Federal Reserve (2020), "Term Sheet: Secondary Market Corporate Credit Facility", *9 April 20*, http://www.federalreserve.gov/newsevents/pressreleases/files/monetary20200409a2.pdf. [22]

Rennison, J. (2020), "Riskiest US companies are left behind in rush to buy debt", *Financial Times, 26 June 2020*. [6]

5 The implications of COVID-19 for the corporate sector and emerging policy issues

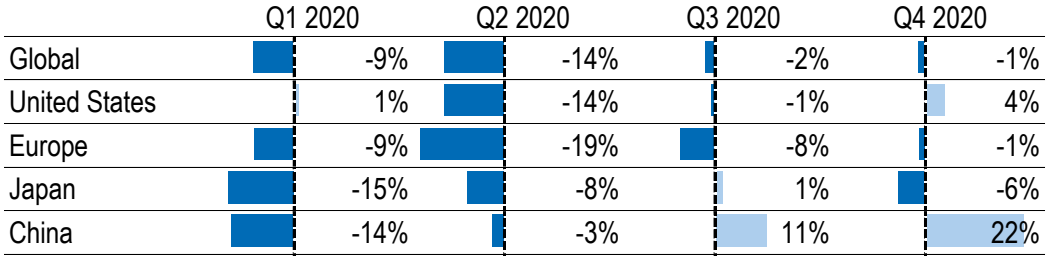
This chapter focuses on potential long-term implications of the COVID-19 pandemic on corporate governance and capital markets more generally. It discusses a number of structural weaknesses in both the stock market ecosystem and corporate bond markets. This provides the basis for a discussion about the role that capital markets can and should play in the post-crisis recovery. Based on this, and drawing from the findings in previous chapters, it identifies a range of corporate governance policy issues that may need to be addressed as the crisis subsides. This is followed by an analysis of insolvency systems across countries and out-of-court restructuring practices in corporate bond markets.

5.1. The erosion of corporate equity capital

The coronavirus pandemic and related measures implemented to tackle the health crisis led to an unprecedented slowdown in economic activity worldwide. As a result, most companies and industries have experienced a sharp contraction in sales. At the global level, the aggregate sales of the 10 000 largest non-financial listed companies fell 9% in the first quarter of 2020 compared to the same period in 2019 (Figure 5.1). China and Japan experienced the largest declines in the first quarter, with a drop of 14% and 15% respectively. Listed companies in the United States were the only group that saw a slightly positive sales growth of 1% during the first quarter. With aggregate sales declining 14% worldwide in the second quarter compared to the same period in 2019, all regions experienced a double-digit drop with the exception of China and Japan where sales of listed companies dropped by 3% and 8%. Particularly, the corporate sector in Europe was hit hard in the second quarter by severe falls in sales reaching 19%.

The third and fourth financial statements show a relative improvement in the year-over-year sales growth rates compared to what reported in the second quarter. The aggregate sales at the global level have shown a 2% and 1% drop compared to the previous quarters. At the country and regional level, China was the main outlier with an 11% and 22% increase in sales for the third and fourth quarter respectively. Despite a rebound of economic activity in the second half of 2020 compared to the previous quarters, companies from Europe saw an 8% and 1% drop respectively for the third quarter and fourth quarter.

Figure 5.1. The COVID-19 impact on sales of the listed corporate sector, YoY change by country/region



Note: Sales in the figure are aggregated by country/region using the revenues reported by companies in the interim quarterly reports. The analysis covers the largest 10 000 non-financial listed companies worldwide. The information for the fourth quarter was available for around 75% of the companies by the end of March 2021.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

The impact of the COVID-19 crisis on aggregate sales was particularly harsh in some industries. Figure 5.2 shows that, after a fall of almost 50% in sales during the second quarter of 2020, the energy industry again saw a 27% and 26% decline in the third and fourth quarters compared to the same periods in 2019. Other industries severely impacted by the pandemic have been consumer cyclicals and industrials, which experienced two-digit drops in both the first and second quarters. At the same time, corporations providing goods and services in non-cyclical industries experienced a modest fall in the second quarter only. Corporations in the healthcare and technology industries actually recorded positive growth rates in all quarters.

Figure 5.2. The COVID-19 impact on sales of the listed corporate sector, YoY change by industry

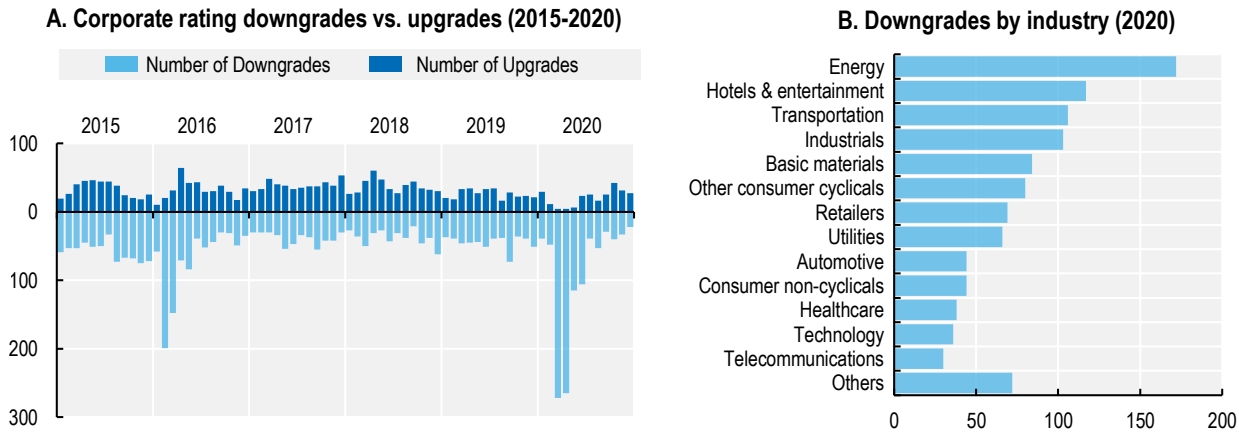
	Q1 2020	Q2 2020	Q3 2020	Q4 2020
Basic materials	-10%	-8%	2%	6%
Consumer cyclicals	-15%	-21%	1%	-1%
Consumer non-cyclicals	1%	-3%	3%	5%
Energy	-18%	-44%	-27%	-26%
Healthcare	5%	0%	7%	8%
Industrials	-11%	-13%	-3%	-4%
Technology	0%	2%	11%	11%
Telecommunications	-4%	2%	5%	8%
Utilities	-8%	-1%	-3%	-4%

Note: Sales in the figure are aggregated by industry using the revenues reported by companies in the interim quarterly reports. The analysis covers the largest 10 000 non-financial listed companies worldwide. The information for the fourth quarter was available for around 75% of the companies by the end of March 2021.
Source: OECD Capital Market Series dataset, Thomson Reuters Datastream, see Annex for details.

5.1.1. The COVID-19 impact on credit rating

The changes in credit ratings are another important indicator of the impact of the COVID-19 crisis on the corporate sector. Despite the decline in overall bond credit quality in recent years, both the default rates and downgrade ratios have remained stable at low levels compared to historical averages. An important reason is that the unprecedented low interest rates since 2008 have improved the ability of non-financial companies to cover their interest obligations. However, as the COVID-19 outbreak caused sharp reversals in earnings expectations for companies, their interest coverage and profitability ratios significantly weakened. This has resulted in higher downgrade ratios. Panel A of Figure 5.3 presents the monthly rating downgrades and upgrades starting from January 2015. Except for a few months around early 2016, the number of rating downgrades in a single month never exceeded 100, averaging 50 per month throughout the 2015-2019 period. However, in March 2020 alone there were 272 downgrades of non-financial companies. The number of rating upgrades was down to just 4, which is far below the historical monthly March averages of 39 for the last five years. Although the total number of downgrades declined somewhat in May and June, it remained above 100. According to Panel B of Figure 5.3, the highest number of downgrade events in 2020 were related to the energy, hotels and entertainment, and transportation industries.

Figure 5.3. Corporate rating changes

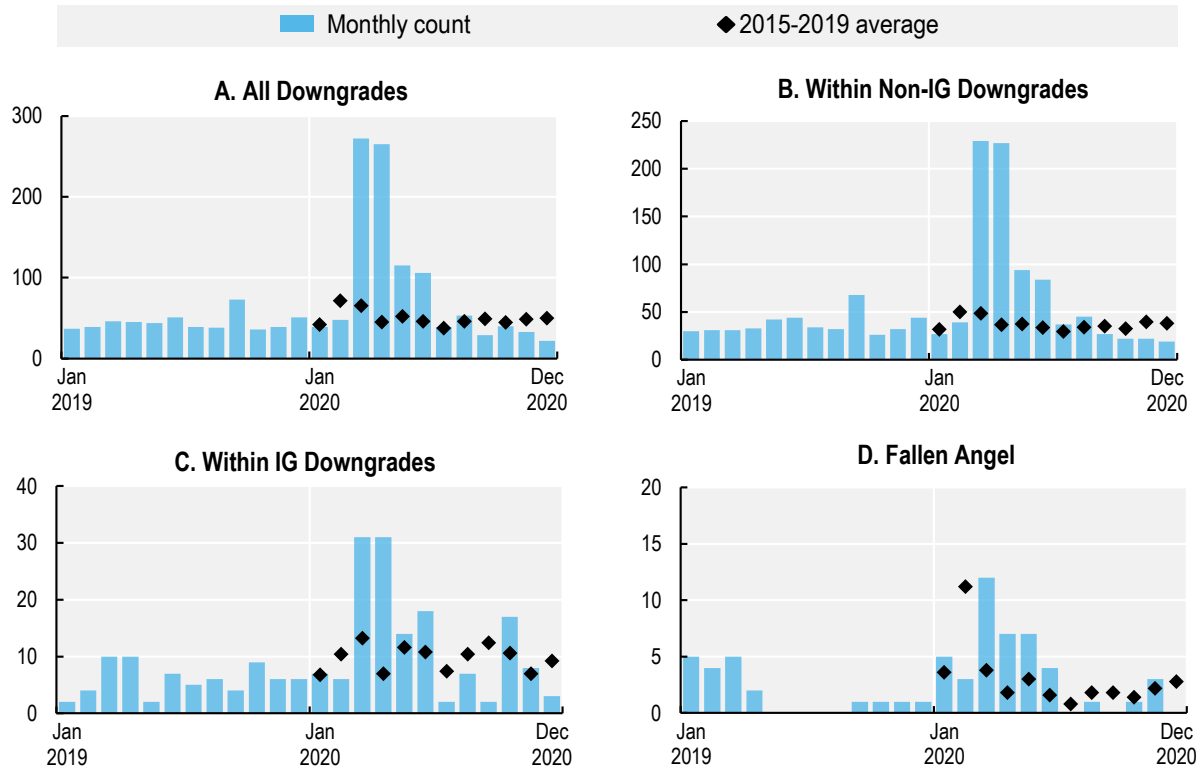


Note: Each company is matched to a single credit rating agency for any given period and only the actions, if any, of that agency are taken into account in downgrade counts. If a company is rated by more than one agency in a given time, matching priority is given to Moody's ratings, followed by Fitch. Only long-term local-currency ratings are considered.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Among the different rating categories, non-investment grade issuers experienced the majority of the downgrades since the outbreak of the COVID-19 pandemic (Figure 5.4, Panel B). There were 229 downgrades (84% of all downgrades) within the non-investment grade category in March, followed by 227 downgrades (86% of all downgrades) in April. These numbers were 5 to 6 times higher than the corresponding previous 5-year averages (48 and 36, respectively). Between May and August, the number of downgrades within the non-investment grade category was lower compared to March and April but still significantly higher than historical averages. However, from September to December 2020, the number of monthly downgrades were on average 14 less than the historical average. Downgrades within the non-investment grade category are noteworthy because a move down the rating ladder in the non-investment grade category can disproportionately change investors' willingness to lend to the company, especially in times of crisis. Panel C of Figure 5.4 shows downgrades within the investment grade category. In March and April 2020, 31 companies in each month were downgraded within the investment grade category, which far exceeded the historical averages for these months, which were 13 and 7, respectively. Although the number of downgrades within the investment category declined in May and June 2020, they remained elevated compared to the previous 5-year average. For the rest of the year, except October and November, the number of downgrades were lower than their 5-year averages.

As BBB is the lowest rating in the investment grade category, the significant increase in issuance at this rating in recent years has caused concern about the impact of potential downgrades on the non-investment grade segment. In the first half of 2020, 38 investment grade companies with 12 only in March 2020 were downgraded to non-investment grade status. This was more than the total number of such downgrades in 2018 and 2019 combined. In June 2020, there were 4 fallen angels, which was lower than the numbers recorded in March, April and May 2020 (Figure 5.4, Panel D).

Figure 5.4. Corporate bond downgrades of non-financial companies by rating category



Note: Each company is matched to a single credit rating agency for any given period and only the actions, if any, of that agency is taken into account in downgrade counts. If a company is rated by more than one agency in a given time, matching priority is given to Moody's ratings, followed by Fitch. Only long-term local-currency ratings are considered. "Fallen angels" refer to investment grade companies that move into the non-investment grade category.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

5.1.2. The risks of debt overhang and zombification in the corporate sector

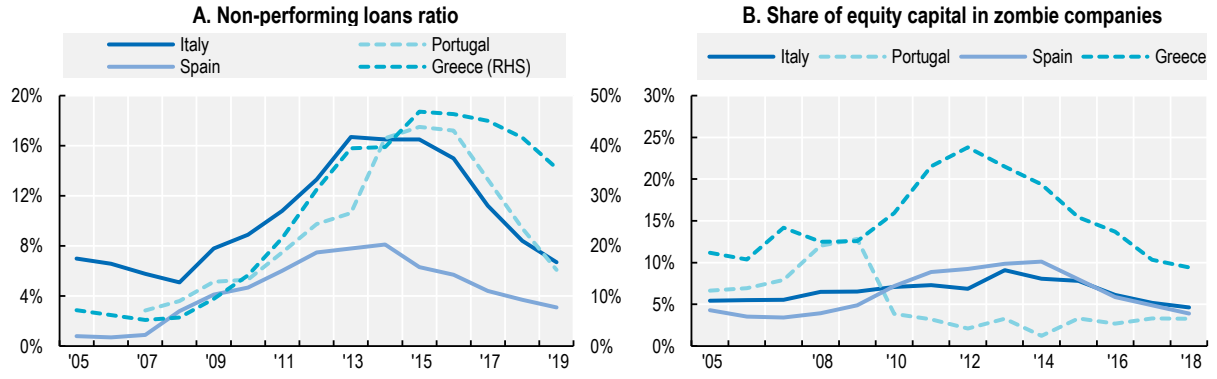
High levels of leverage can significantly constrain a company's investment capacity and growth. In particular, highly leveraged firms are more vulnerable to macroeconomic shocks and more susceptible to tightened credit conditions. High debt levels can affect corporate investment and growth in different ways, for example through increased debt service during deleveraging periods and declining capacity to obtain new loans due to balance sheet deterioration (OECD, 2021[1]). Rollover risks also significantly increase in crisis periods, especially for firms with a large portion of short-term loans (Kalemli-Özcan, Laeven and Moreno, 2019[2]).

A recent example is the developments in Europe after the 2008 financial crisis and the subsequent euro area debt crisis. In the aftermath of the crisis, the ratio of non-performing loans (NPL) to total lending increased steadily in many European economies at least for a 5-year period. Although the stock of non-performing loans in the banking system declined from its peak, it was still relatively high in some EU economies by the end of 2019 (Figure 5.5, Panel A). High levels of NPLs not only decrease the resilience of the banking system, but also hampers the efficient re-allocation of capital in the economy and the ability of the banking sector to support investment growth.

The persistent decline in corporate investment in Europe after the 2008 financial crisis was also associated with the rise of so-called non-viable zombie firms, defined as mature companies that are consistently incapable of covering their interest payments (Adalet McGowan, Andrews and Millot, 2017[3]). Underperforming firms, that in a competitive market would have exited the market, remain alive, causing

an increasing misallocation of resources in the economy and preventing new, more productive entrants. As shown in Panel B of Figure 5.5, the share of total equity capital sunk in non-viable firms in most European economies remained elevated several years after the crisis. For example, in Spain and Italy the share of total equity in these firms doubled from around 5% in 2007 to 10% in 2013. The large amount of resources sunk into these firms protected the survival of low-productivity firms at the expense of investments in more productive ones.

Figure 5.5. Non-performing loans and zombie firms in selected European economies



Note: For Panel A, data from 2014 onwards comes from the ECB. Prior years use national central bank data when available, and World Bank when national data are unavailable.
Source: European Central Bank, National Central Banks, World Bank, OECD-ORBIS Corporate Finance dataset.

Due to substantial losses in revenues across industries and economies, the COVID-19 crisis will inevitably lead to an increased share of under-capitalised companies worldwide. In order to prevent a long-lasting debt overhang problem in the corporate sector, it would be of particular importance to ensure that fundamentally sound businesses will have effective access to long-term market-based finance to strengthen their balance sheets. This is particularly important for growth companies - larger mid-sized companies - that have high growth potential and under the right circumstances would be able to benefit from raising capital in the market. Despite the critical role they play in innovation, productivity and net job creation by challenging established corporations and stimulating new entrepreneurs, their expansion is sometimes constrained by lack of access to affordable risk capital or concerns about losing their independence through an acquisition by private equity investors or a larger potential competitor. Addressing these constraints and making sure that risk capital is not tied up in non-viable businesses will be vital for unleashing corporate investments in the aftermath of the crisis and creating a more dynamic business sector that will underpin a sustainable recovery.

5.2. Structural weaknesses in the stock market ecosystem

Public equity markets could play a key role on the road to recovery from the COVID-19 crisis by supporting the recapitalisation of the corporate sector and preventing an aggravated debt overhang problem. Indeed, experiences from the 2008 financial crisis demonstrate that for already listed non-financial companies, raising equity capital through new stock offerings was a major source of capital. In 2009 alone, publicly listed non-financial companies raised a historical record of USD 511 billion of new equity through the stock market. The ability of markets to allocate capital to viable companies from underperforming firms with limited prospects to survive can further support long-term resilience of the corporate sector.

As shown in Chapter 2, there has been a long-term decline in the use of public equity markets in many advanced markets. One main driver of this development has been the increased number of companies

that have delisted from the stock markets outside of Asia. Globally, since 2005, over 30 000 companies have delisted from the public stock market. In particular, there were almost 8 000 delistings from the European companies over the 2005-2019 period, over 5 000 delistings of US companies and around 1 300 of Japanese companies. For the United States and Europe, these delistings have not been matched by the number of new listings, which resulted in a net loss of listed companies in every single year between 2008 and 2019.

Moreover, there has also been a substantial fall in some advanced markets in listings of smaller growth companies, defined as companies that raise about USD 100 million in an IPO. In the United States, for example, the portion of growth company listings was around 50% between 2009 and 2019, compared to 77% during the period 1995-1999. This trend has continued in 2020 with only 26% of listings made up by growth companies. Likewise, in Germany the share of growth company listings declined from 77% of all listings over the 1995-1999 period to 50% in 2020. An important consequence of the overall decline in listed companies is that several thousand fewer companies during the COVID-19 crisis have been able to use the stock market for secondary equity issuance, which in the wake of the 2008 financial crisis helped many firms to overcome financial difficulties.

Many suggestions have been offered to explain the decline of IPOs in advanced economies. From the demand of public equity capital perspective among companies and entrepreneurs, these include lower cost of debt financing and better access to private capital. Some of the structural impediments are discussed below. However, it has also been suggested that acquisitions by large existing firms have contributed to drying up the pipeline of smaller company IPOs. Especially, it has been argued that active acquisition strategies by large technology companies have encompassed growth companies and transformed the global capital market. While the choice of going public rests with the company, a vibrant public equity market is also one of the few possibilities for ordinary households to use their savings for directly or indirectly participating in corporate wealth creation.

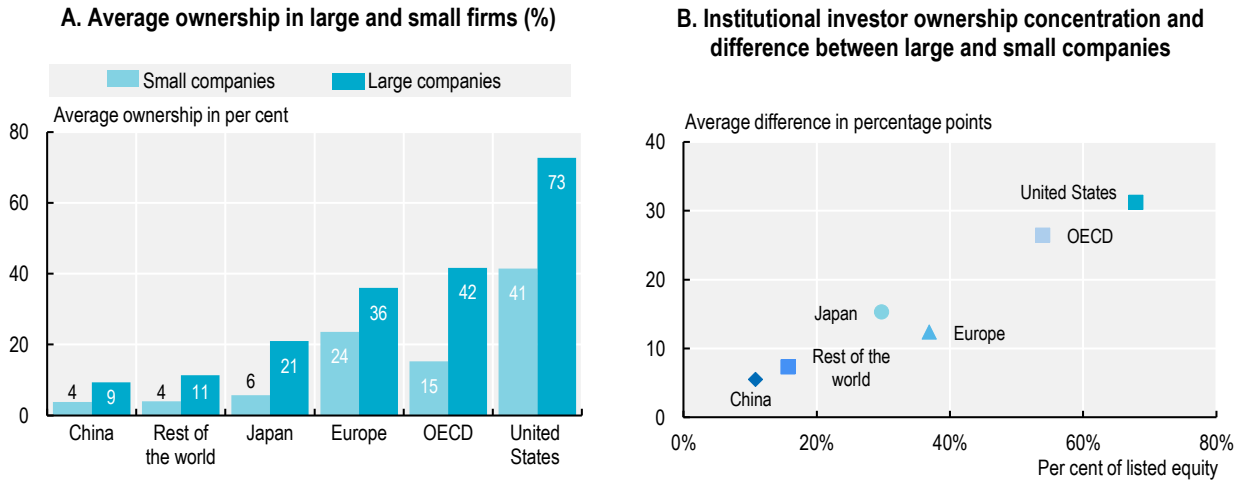
5.2.1. The role of institutional investors in capital allocation

Institutional investors have come to make up the largest category of owners in stock markets, holding 43% of the global market capitalisation. These are mainly profit-maximising intermediaries that invest on behalf of their ultimate beneficiaries. The most important ones are mutual funds, pension funds and insurance companies. It has been argued that the shift from direct retail investments to institutional investors has created a bias that favours large companies in public equity markets. For example, a US Treasury report on capital markets states that smaller public companies have expressed concerns that they are being overlooked by institutional investors (U.S. Department of the Treasury, 2017[4]). Further, in the section where the report discusses why there are fewer listed companies and IPOs in the United States today, it is also noted that institutional investors have historically favoured large public companies over smaller ones.

In order to examine the institutional ownership of large and small listed corporations respectively, Figure 5.6 compares the average portion of capital held by institutional investors in large companies - those with market capitalisation above the median level for the region - and small companies - those with market capitalisation below the median level for the region. The data show that in all markets, the average share of institutional ownership in large listed companies was significantly higher than their ownership in smaller companies. In the United States, for example, on average 73% of all shares in large listed companies were held by institutional investors by the end of 2020 while the same ratio for smaller listed companies was around 41% (Figure 5.6, Panel A). Even in Japan, where institutional investors hold a relatively low portion of large companies' capital, their average share of ownership in large companies is more than three times that in smaller companies. In addition, there is a positive correlation between the share of equity in the hands of institutional investors and the average difference in the holdings between large and small

companies. In other words, a higher presence of institutional investors in a market widens the difference between the average institutional holdings of large versus small companies (Panel B of Figure 5.6).

Figure 5.6. Institutional ownership in small and large companies



Note: Small (Large) companies are those with a market capitalisation below (above) the median of the country/region. Panel B shows the share of listed companies' equity owned by institutional investors (x-axis), and the average difference in their holdings between large and small companies (y-axis).
Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

5.2.2. The changing business models of stock exchanges

Stock exchanges play a critical role in matching companies that need access to external equity capital with investors that are in search of investment opportunities. They also serve other key functions that are in the public interest. These include ensuring an efficient price discovery process, certain regulatory functions, supervision and sometimes enforcement responsibilities.

Since the mid-1990s, the stock exchange industry has experienced profound structural changes. In advanced economies, stock exchanges were traditionally established as member-owned organisations, government institutions or special statutes. Since the mid-1990s, however, most stock exchanges have been transformed into privately owned for-profit corporations. Today, all major stock exchange operators in advanced economies have their shares listed and traded on their exchanges, while the mutual form based on brokers' membership has almost disappeared.

During this transformation, there have been a large number of mergers and acquisitions (M&A) in the stock exchange industry, involving companies from sectors such as electronic trading platforms, financial information providers, financial index providers, data management and asset management. The changes in the ownership structure of stock exchanges, as well as the structural changes that followed from M&A activities have been accompanied by a shift in stock exchanges' revenue structures. As shown in the OECD report "Changing business models of stock exchanges and stock market fragmentation", the share of revenues from listing new companies and issuer services, which consists of new listing fees - including from exchange-traded funds (ETFs) - and fees paid by existing listed companies dropped from 14% in 2004 to 8% in 2014. During the same period, the share of revenues from derivatives trading and over-the-counter (OTC) markets increased by almost half and represented 22% of total revenues in 2014. This makes income from trading (cash, capital markets, derivatives and OTC) the largest source of revenue with a total share of 48% in 2014.

Together with the emergence of new investment techniques and instruments, such as ETF and high-frequency trading (HFT), it can be said that the new stock market structure encourages a focus on

large liquid company stocks. As a result, investor attention has been diverted away from potential growth companies, which in turn have been discouraged from going public. The lack of interest in smaller companies in the stock market is illustrated by the fact that in most markets trading volume is highly concentrated to large companies. The share of total trading volume attributed to the largest 10% of companies in terms of market capitalisation was over 70% in most markets, such as the United States, the United Kingdom, Germany and France. In Japan, for example, about 75% of the total trading volume is attributed to the trading of shares in the 10% largest companies. Similarly, about 25% of all trading in Japan is in the shares of the largest 1% of companies, as measured by market capitalisation (OECD, 2016[5]).

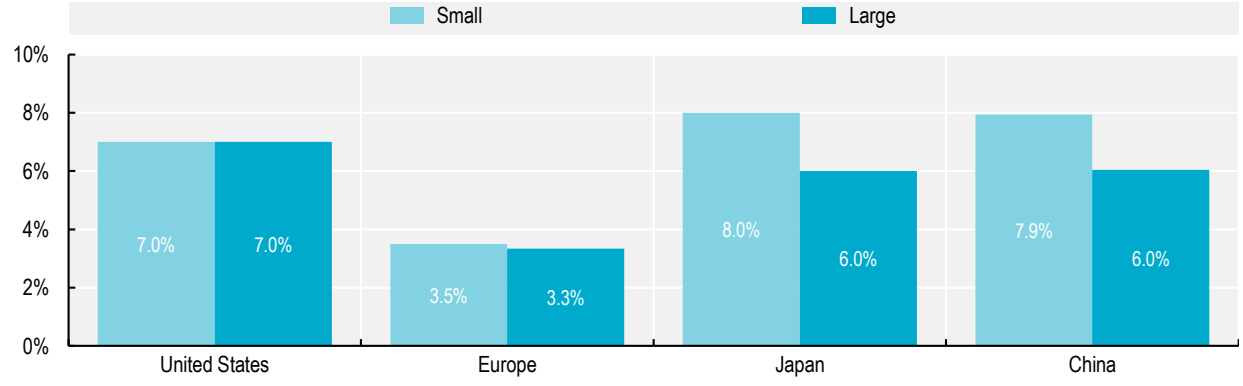
5.2.3. High underwriting fees and the cost of listing

The underwriters in capital markets, principally investment banks, underwrite debt/equity issuances and syndicated loans, as well as provide advisory services in M&A transactions. The underwriting process mainly consists of origination, distribution, risk bearing and certification. During the process, the underwriter advises the issuing firm on the type, timing and pricing of the securities, prepares the required documentation and forms a banking syndicate which markets and distributes the securities to investors.

An important feature of investment banking services is that they are fairly concentrated at the global level. OECD research illustrates that with respect to public equity, investment grade corporate bonds, syndicated loans and M&A activities, the market share of the 20 largest banks varied between 63% and 75% of total global transaction value in 2016. The non-investment grade corporate bond market, which was the smallest market segment in terms of total transaction value in the same year, had the highest degree of concentration with 85% of total value attributed to the top 20 banks (OECD, 2017[6]).

Traditionally, there was one underwriter who used to assume a leading role in public equity offerings, assuming greater responsibility and coordinating the transaction with other investment banks. This “lead underwriter” also received the lion’s share of the underwriting fee paid by the company. However, since 2000, the traditional “one-lead underwriter” model has, in the US market, successively shifted towards a model that relies on a consortium of multiple underwriters. During the last few years, about half of all equity offerings have three or more lead underwriters. Another key feature of the US capital markets has been the “one-fee” model, particularly for smaller issues. In all years since 2000, the median underwriter fee paid by US companies for an initial public equity offering was always 7% of the total proceeds. Japan also has a “one-fee” model, but at a somewhat higher level of 8% for initial public equity offers (OECD, 2017[6]).

Figure 5.7. Underwriting cost of median initial public offerings as a share of total proceeds, small versus large companies, 2020



Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Underwriting fees constitute, by far, the largest direct cost of an IPO. Figure 5.7 provides the underwriting cost for small and large company equity issues in the United States, Europe, Japan and China in 2020. For IPOs below USD 100 million, the underwriting cost is between 3.5% and 8% of total proceeds. Importantly, underwriting fees for secondary public offerings by smaller companies that are already listed in the United States and Japan have been over 5% in recent years. Hence, already being listed and widely traded does not result in any significant reduction in underwriting costs.

Another important aspect of listing costs is the costs associated with the discounts that investment banks apply to companies' valuations before the public offerings. Underwriters argue that a discount is required to ensure investor participation, the stock's upside potential and the oversubscription of the issuance. Since large companies tend to use international investment banks as underwriters, who in most cases work in a consortium of multiple underwriters, sizeable discounts may particularly discourage them from joining public markets. Despite the availability, although limited, of market-based financing options with comparatively lower underwriting fees, there has been a very limited number of large companies that have listed in Europe over the recent years. An important illustration, with respect to concerns about the costs of listing, is the listing of the Swedish company Spotify, which completed a direct listing in the United States without raising any capital. As expressed by the company's chief financial officer (CFO), by not doing a traditional IPO the company not only avoided paying excessive underwriting fees but, above all, they avoided a substantial IPO discount (OECD, 2020[7]).

5.2.4. Lack of research and analyst coverage

An important prerequisite for visibility in stock markets is that the company is subject to market research and analyst coverage. By supporting market liquidity, market research improves both the attractiveness of listing for smaller companies and the attractiveness of smaller growth companies as an investment. In light of its importance, there have been concerns that market research covering smaller companies has significantly declined over the recent years in most markets. In particular, it has been claimed that following the regulatory changes related to separating research costs in MiFID II ("unbundling"), asset managers' demand for research has substantially declined in Europe. This has been particularly true for smaller listed companies (CFA Institute, 2019[8]). In order to mitigate the impact of such changes on smaller companies, some countries have created programmes to provide research coverage on smaller companies. For instance, in Spain the stock exchange has introduced a programme to provide research on smaller listed companies in a standardised format.

5.3. Emerging corporate governance policy issues

The *G20/OECD Principles of Corporate Governance* were developed with an understanding that corporate governance policies have an important role to play in achieving broader economic objectives with respect to investor confidence, capital formation and allocation (OECD, 2015[9]). The quality of corporate governance affects the cost for corporations to access capital for growth. However, it is not only the total amount of investment that is important for creating a dynamic business sector. The efficiency with which the capital is allocated among competing ends and how the use of this capital is monitored must also be considered. These are also three main corporate governance functions: raising capital, allocating capital and monitoring its use.

To tackle the challenges posed by the COVID-19 crisis, fulfilling these tasks is more important than ever. Corporate governance policies and regulations that can effectively support markets to perform these functions will be key in creating a more resilient and dynamic business sector that will underpin a sustainable recovery from the crisis. In addition to this report, the Corporate Governance Committee and its Regional Corporate Governance Roundtables have since 2015 documented and analysed a number of

relevant developments in corporate practices, ownership structures and capital markets structures that may call for an adaptation of corporate governance policies and regulations.

5.3.1. Increased leverage and excessive risk taking

The COVID-19 crisis has caused a sharp contraction in economic activity and corporate revenues around the world. It has also changed the conditions for corporations to access finance and the range of investment opportunities. However, not all firms, even those in the same industry and operating in the same economy, have been affected to the same degree or in the same way. The varying impact of the crisis at the firm level is to an extent related to underlying pre-conditions that have made some companies more vulnerable to financial shocks, such as high leverage levels.

It is the management and the board who have the mandate to decide on the optimal capital structure of a company. In doing so, they should consider the best interest of the company and ensure its financial soundness. However, the extended borrowing over the past decade by companies with lower quality ratings and increased leverage levels has raised major concerns that there has been excessive risk taking in some parts of the corporate sector. One example has been the use of corporate bond markets by non-investment grade companies to finance share buyback operations, which ultimately reduces the company's capital base and contributes to increasing leverage in the economy. Since the 2008 crisis, the share of corporate bond offering documents that disclose share buybacks or dividends among the intended uses has increased considerably. In the early 2000s, less than 2% of non-investment grade bonds were intended to be used for corporate payouts. Over the period from 2015 to 2020, payout-related non-investment grade issuance constituted, on average, 11% of total non-investment grade issuance and 11% of the total number of non-investment grade bonds. As a result, in the past 6 years, payout-related non-investment grade bonds reached a total amount of USD 173 billion.

The increase in corporate borrowing has been consistent with the policy objectives of expansionary monetary policy and the related unconventional measures by major central banks in the form of quantitative easing implemented after the 2008 financial crisis. The OECD report "Corporate bond market trends, emerging risks and monetary policy" showed that compared with previous credit cycles, the pre-COVID-19 crisis stock of outstanding corporate bonds had lower overall credit quality, higher payback requirements and inferior covenant protection. It also emphasised that these features may amplify the negative effects that an economic downturn would have on the non-financial corporate sector and the overall economy. As described in Chapter 4, these effects were seen in the immediate aftermath of the outbreak as the total issuance of low quality non-investment grade bonds almost vanished. The non-investment grade market where highly leveraged companies borrow additional debt only reverted back in April following massive support measures introduced by central banks to address this segment of the market.

5.3.2. Disclosures related to debt financing conditions

As a growing portion of non-financial companies across industries and economies have become more leveraged in recent years, they also became more prone to default in case of a sudden downturn in economic activity. The failure to service debt obligations or the violation of a covenant starts a chain of events which often leads to bankruptcy or out-of-court restructuring of the company. As discussed in section 5.6 below, creditors or debt holders typically incur significant losses in both scenarios and shareholders, with their residual claim, also suffer.

Although companies periodically have to inform creditors and debt holders about their standing on each covenant in the debt contract, they do not have such an obligation towards shareholders, who may, in turn, remain unaware of an imminent covenant violation until it is too late. At the same time, the *G20/OECD Principles* recommends the disclosure of reasonably foreseeable material risks (OECD, 2015[9]). This would mean that companies that are moving closer towards their covenant thresholds, are supposed to

give their shareholders prior notice if the risk of covenant breach is material. Consistent with this approach, in its guidance regarding the disclosures that companies should consider with respect to business and market disruptions related to COVID-19, the US Securities and Exchange Commission explicitly advised companies to address whether they are at material risk of not meeting their covenants. Furthermore, companies were also asked to inform investors about whether their financing arrangements contained terms (e.g. senior debt restrictions, negative pledge covenants, etc.) that would limit their ability to obtain additional funding and whether these terms could result in liquidity challenges that would make the company unable to maintain current operations (SEC, 2020[10]).

It should be noted that given the complexity or ambiguity of some covenants, having basic information about them does not always result in a full understanding of the possible adverse actions that can be taken by the company in case of financial distress. There is anecdotal evidence of wealth transfers from a group of creditors of a company to another debtholder group, despite the fact that both groups have full access to the related debt contract in the first place. For instance, using a loophole in their debt contracts, two retailers in 2016 managed to move some of their valuable intellectual property assets, such as brand names and trademarks, out of the reach of existing debtholders by creating new subsidiaries to hold those assets, which were then used as collateral to back new debt. Existing debtholders who did not participate in the new financing saw their investment depreciate in value but their attempt to block the deal failed (Orr, 2017[11]).

Another recent practice is to agree with a subgroup of existing debtholders to take part in a new loan, which has higher priority than the debtholders that are intentionally left out of the deal (Bakewell, 2020[12]). Given that bondholders in their search for higher yields have accepted weaker covenants, such practices may become more prevalent in the future as more companies try to overcome their financial difficulties. Although the left-out debtholders may not be able to legally block the deal since it is structured in a way that complies with the debt contract, transferring benefits to one group of investors at the expense of another may adversely affect the amount, type and terms of credit available to a firm in the future. Short-term benefits of favouring one group over another may have long-term consequences with respect to the company's access to finance.

5.3.3. Duties and responsibilities of boards in times of crisis

Since the onset of the pandemic, corporate boards have been under intense pressure due to the uncertainty around the health crisis, the fast-changing regulatory landscape, and the wide variety of risks and challenges, including, but not limited to, employees' and customers' health and safety, business disruption, liquidity, regulatory compliance and cybersecurity. In this difficult setting, discontent about some actions of companies gradually began to be voiced by shareholders and other stakeholders through lawsuits. Interestingly, in the second quarter of 2020, average prices of insurance premiums paid to protect directors and senior corporate officials from lawsuits increased by around 60% in the United States and more than doubled in the United Kingdom, as COVID-19 raised premiums, which were already on the rise because of an increase in lawsuits filed against companies (Williams-Alvarez, 2020[13]). The cost of insurance remained high in the second half of 2020 and put more pressure on companies, some of which had to decrease their coverage. Concerns were raised by business leaders about high insurance costs having a profound effect especially on smaller businesses (Thomas, 2021[14]).

Some shareholders have sued companies for understating or not properly disclosing pandemic-related risks and the known negative impact of the pandemic on company's business and operations. One such litigation listed in the Stanford Law School's Securities Class Action Clearinghouse Database is against a cruise company, which allegedly made a series of false and misleading statements about the company's adherence to health and safety protocols and about the number of COVID-19 cases on its ships in the wake of the pandemic. Similarly, a software company was sued for allegedly failing to disclose material

information on the impact of the pandemic on its business and financial performance when such a financial distress could result in the cancellation of a pending merger agreement.

Another common reason for litigation is related to providing an overly optimistic picture of a company's prospects for profiting from the coronavirus outbreak. According to the Stanford Database, in the United States, ten companies, nine of which are operating in the healthcare industry, are defendants in such lawsuits. Among them is a company which was sued by its shareholders for allegedly falsely claiming that the company's vaccine development efforts were highly promising and would receive major government funding. Such announcements led to an artificially inflated stock price, in response to which corporate insiders sold their shares. Indeed, senior executives and board members from 11 healthcare companies, most of them smaller firms which were highly dependent on the success or failure of a single drug, are reported to have sold shares worth well over USD 1 billion between March and the end of July (Gelles and Drucker, 2020[15]). Companies have also been sued by employees for not following official guidance to prevent the spread of the virus.

Amid such developments, securities regulators warned investors about frauds involving claims that a company's products or services will be useful in detecting, preventing and curing COVID-19. Microcap stocks were viewed as especially vulnerable to such fraudulent actions due to having limited publicly-available information. The US SEC, for instance, temporarily suspended trading on a total of 39 companies in the first year of the pandemic, if information about the company was evaluated to be inaccurate or unreliable (Canadian Securities Administrators, 2020[16]) (SEC, 2021[17]). Apart from the trading suspensions, the US SEC also took enforcement actions against companies that failed to properly disclose the effect of the pandemic on their business or against companies that falsely claimed to have a promising product or service to help end the pandemic.

Although most coronavirus-related lawsuits are yet to be concluded, their general focus on inaccurate or misleading disclosures, stock price manipulation, insider trading and noncompliance with emerging health regulations can provide an overall idea of the main governance weaknesses up to now. Assuming good faith on the part of directors, one reason for boards' failure to effectively monitor management and prevent these adverse actions could be a lack of adequate information flow from management to directors at the beginning of the pandemic, leading to the late involvement of the board in the first place. Secondly, the unprecedented nature of the pandemic has likely made it more difficult for directors to act on a fully-informed basis as there was too much information to digest in too little time. The time pressure could be especially high for directors serving on too many boards. Indeed, recently, one board member's suitability for his duties was scrutinised by an investment management company because he was allegedly devoting his full time to one of his other board engagements in a company that was severely troubled due to the pandemic (Prnewswire, 2020[18]). Thirdly, it is unlikely that all directors possess the technical expertise to fully grasp the medical and regulatory developments surrounding the pandemic.

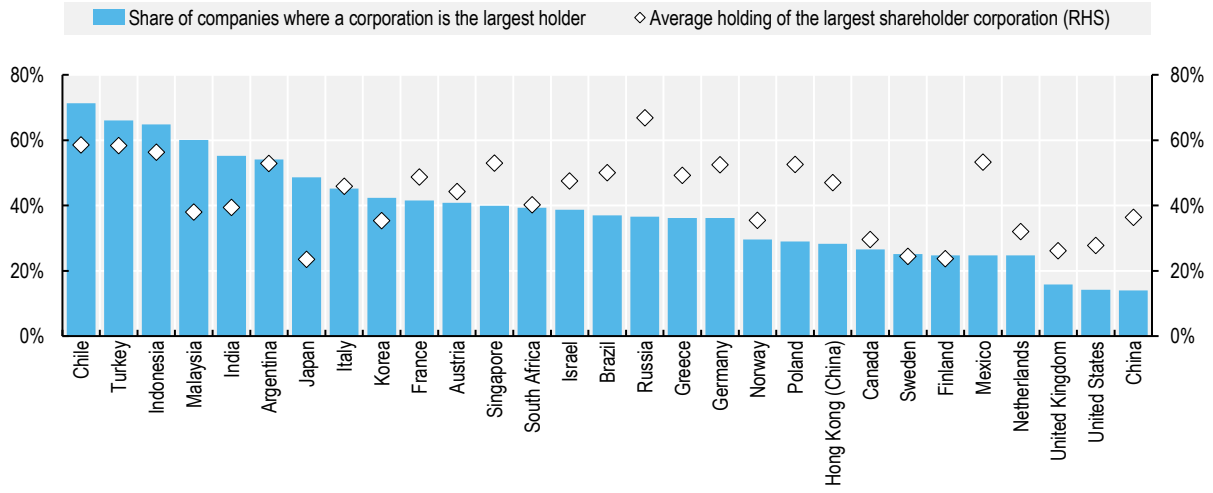
In addition to the events that led to litigation, boards are subject to challenges in several other areas, including executive remuneration, cybersecurity and insolvency. Firstly, given that many companies made lay-offs or put employees on short-time working schemes during the pandemic, executive remuneration has become a key area of scrutiny. Although some companies have announced temporary reductions in executive pay, many have already taken steps to reverse this measure. Still others are changing executive bonus plans, switching performance metrics and ignoring missed targets so that executives do not suffer a big drop in pay as a result of the pandemic (Temple-West, 2020[19]). Secondly, remote working arrangements for employees can increase cybersecurity risks since employees' home computers and networks are typically less protected against cyberattacks. Thirdly, in an event of financial distress, it is becoming increasingly evident that the board should have the capacity to regularly evaluate and communicate how a crisis impacts their ability to meet upcoming debt maturities under different scenarios and different strategic alternatives to maintain business continuity.

5.3.4. The prevalence and challenges of company group structures

An important global development with respect to corporate ownership structures is the increase in ownership concentration at the company level. While this is a global development, the OECD report "Owners of the World's Listed Companies" shows that there are important country and regional differences with respect to the different categories of shareholders that make up the largest shareholders at the company level; differences that again have implications for the focus of regulatory considerations and priorities. In a number of markets, company groups is the common and sometimes dominant pattern of shareholding. In several Asian economies for example, including India, Indonesia and Singapore, and in some other emerging markets such as Chile and Turkey, private corporations and holding companies hold more than 30% of the total equity capital in publicly listed companies. In other Asian economies, including Japan, Korea, Malaysia and Hong Kong (China) and several European markets, including Austria, France, Italy, Germany and Greece, private corporations on average hold between 18 to 34% of the capital.

To broaden the perspective, Figure 5.8 shows the share of companies where one private corporation or a holding company is the largest holder as well as the average size of its holding. The figure covers almost 22 000 listed companies from 29 jurisdictions with information by the end of 2020, of which 7 072 (32%) have another corporation as their largest shareholder. For example, 41% of companies in France have another corporation as the largest shareholder, holding on average 49% of the capital. Corporate ownership is quite strong also in Argentina, Chile, India, Indonesia, Malaysia and Turkey, where more than half of the companies have a corporation as the largest shareholder. These data seem to confirm the presence of private corporations and holding companies as an important category of owners in listed companies, and in many cases, also the presence of group structures that include one or several listed companies.

Figure 5.8. Corporations as the largest shareholders in 2020



Source: OECD Capital Market Series dataset, FactSet, Thomson Reuters Eikon, Bloomberg, see Annex for details.

Against this background, the OECD Corporate Governance Committee's "Peer Review on Duties and Responsibilities of Boards in Company Groups" (OECD, 2020[20]), while noting the important advantages and benefits associated with carrying out entrepreneurial activity through affiliated but legally separate companies, also concluded that domination of an economy by groups, may slow the development of broader, deeper and more efficient national capital markets. From a corporate governance policy perspective, company groups present the same agency problems that face stand-alone companies with defined control. Notably, parent companies may attempt to appropriate undue private benefits of control.

Since cooperation in pursuit of synergies is a key rationale for company groups, groups typically engage in frequent related-party transactions. The more complex the structure of a group, the greater the opportunity for such transactions to be carried out in a less transparent fashion, which may unduly benefit some group companies at the expense of others. The peer review sheds light on aspects of the framework for board duties and responsibilities in company groups where the framework does not address or remains unclear around policy issues of relevance to company groups. This includes the inadequacies in disclosure related to capital and control structures and shareholdings of directors; and, the divergence with respect to the requirements for the parent company board oversight of key risks, including compliance risks.

The *G20/OECD Principles* state that "it is also a key principle for board members who are working within the structure of a group of companies: even though a company might be controlled by another enterprise, the duty of loyalty for a board member relates to the company and all its shareholders and not to the controlling company of the group" (OECD, 2015[9]). However, the COVID-19 crisis put additional pressure on listed companies that are part of a group structure. Since not all sectors and economies are affected equally by the crisis, group companies that are in relatively stronger positions may be expected to play a key role in supporting the parent company or other companies in the group, in particular with respect to intra-group financing.

5.3.5. Institutional investors as large owners and passive investing

On-going changes in the global equity market landscape and the functioning of capital markets have translated into changes also in the ownership structures of the world's listed companies. One of the most important developments in this respect is the increase in institutional ownership, which was analysed and addressed during the 2015 review of the *G20/OECD Principles*. Since then, however, two major concerns have been voiced about their role in capital markets.

First, the overall increase in assets under management by institutional investors has also influenced their presence as owners in individual companies. While assets under management by institutional investors have increased during the last 15 years, many companies in OECD economies have left public equity markets. As discussed above in section 4.2, there has also been a decline in the number of newly listed companies during the same period. The result of these opposite trends is that an increasing amount of money has been allocated to a diminishing number of companies. Consequently, large passive institutional investors are today significant owners of sizeable listed corporations worldwide. This development has been particularly prominent in the United States, which is by far the largest public equity market in terms of market capitalisation globally. In the United States, the 3 largest institutional investors own on average 24% of the equity in a listed company. In Europe and OECD countries the average combined holdings of the 3 largest institutional owners is 16% and 14%, respectively.

The second concern is the influence on shareholder scrutiny and small growth company listings that comes with increased passive institutional ownership. When large institutional investors mainly practice passive index-based investing, it may be quite rational that they pay little attention to risks and opportunities in individual companies. As a consequence, insufficient resources may be spent on one of the capital markets' key functions, namely to scrutinise individual corporate performance and allocate capital in a way that new companies can grow and develop as independent enterprises.

5.3.6. The management of ESG risks

The COVID-19 pandemic has brought increased attention to the importance of identifying systemic risks and unexpected shocks. At the heart of a dynamic economy is a corporate sector that is willing and able to assume risk. Consequently, as new types of risks emerge or become more salient, companies, their shareholders and society at large all have an interest in the proper identification, management and disclosure of these risks.

As discussed in the *2020 OECD Business and Finance Outlook* (OECD, 2020[21]), lack of credible risk assessments not only increases uncertainty about expected performance and the long-term viability of individual companies, it also leads to inefficient allocation of economic resources, adversely impacting corporate and economy-wide resilience. The need for robust structures and procedures for risk management and high-quality disclosure, including environmental and social issues, is well articulated in the *G20/OECD Principles* (OECD, 2015[9]). As the current pandemic brings new experiences at the company level, companies may for example be in need of new types of expertise, additional information channels, better analytical tools, and novel internal policies and practices specifically tailored to assessing the company's ESG risks.

At the same time, material information related to ESG risks that may shed light on the future performance of the company should be disclosed to the public. For the scope of information disclosure, many jurisdictions apply the concept of materiality, which can be defined as information whose omission or misstatement could influence decisions taken by the users of the information. The *G20/OECD Principles* recognise that material information can also be defined as information that a reasonable investor would consider important in making an investment or voting decision (OECD, 2015[9]). They also point to the usefulness or obligation to provide information on issues that may have a significant impact on employees and other stakeholders.

As fiduciaries of the company and its shareholders, the board and its senior management are responsible for ensuring that the company has in place a comprehensive and robust approach to risk. According to the *OECD Corporate Governance Factbook 2019* (OECD, 2019[22]), at least 90% of the 49 OECD and non-OECD jurisdictions surveyed now require or recommend the establishment of an enterprise-wide internal control and risk management system that goes beyond ensuring high quality financial reporting.

According to the *G20/OECD Principles*, it is the board of directors that should set the company's risk appetite, specifying the types and the degree of risk that a company is willing to accept (OECD, 2015[9]). In order for board members to meet their fiduciary duties, they must ensure that the company's internal policies, structures and procedures for risk management are up to the task of identifying, measuring and monitoring risks that could have a material impact on the company's performance. The board should also ensure that the company's approach and the system for managing ESG risks are aligned with the company's business model and its value proposition. Importantly, directors should also ensure that their own board structure, composition and procedures accommodate the consideration of ESG risk within the firm's overall risk appetite and approach to risk management.

5.3.7. Adoption of flexibility and proportionality in corporate governance frameworks

The decrease in listed companies and the lack of new listings in several markets have given rise to a discussion about the adequacy and relevance of the regulatory framework and administrative costs that listed companies are subject to compared to privately held companies. To be effective in promoting capital formation through the use of public equity markets, regulations must be designed to meet new and varying needs of companies and entrepreneurs. For that reason, the *G20/OECD Principles* state that when new experiences accrue and business circumstances change, the different provisions of the corporate governance framework should be reviewed and, when necessary, adjusted (OECD, 2015[9]).

Policy makers have been already following this approach for a very long time by allowing flexibility and proportionality mechanisms in their corporate governance frameworks. Regulators' motivation for applying flexibility and proportionality has been to continue to stay relevant for companies from different sizes, sectors and listing status among others, as one-size-fits-all regulation may make it hard to achieve the desired regulatory outcomes. The OECD Corporate Governance Committee's "Peer review on flexibility and proportionality in corporate governance" provides useful examples of criteria for flexibility and proportionality across seven policy areas (OECD, 2018[23]).

5.4. Structural challenges in the corporate bond market

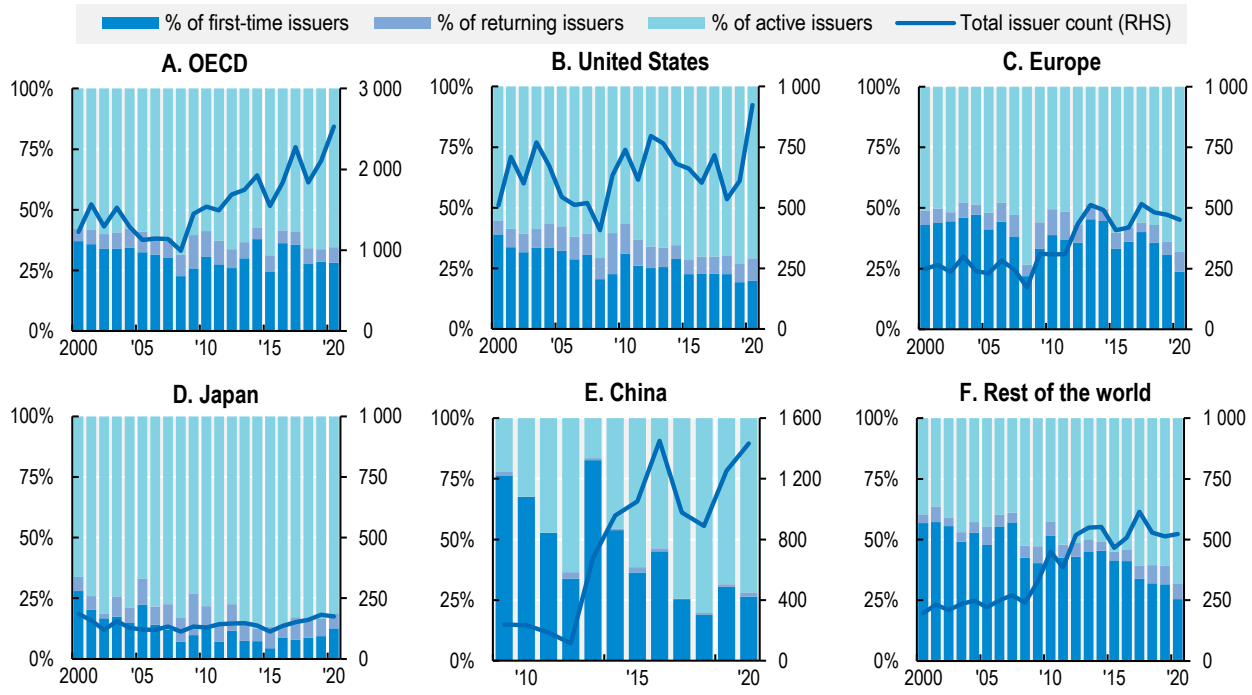
The trends observed in Chapter 4 on corporate bond issuance activity since the outbreak of the COVID-19 crisis show that globally, the bond market continued to be a significant source of capital for non-financial companies, although less so for non-investment grade issuers, especially those with lower ratings. However, there are also some structural challenges in the functioning of the market and in the credit rating system that may require further attention going forward.

5.4.1. The dominance of active issuers

In assessing the bond market's viability as an alternative source of finance in times of crisis, it is important to consider whether the market remains readily accessible also to those companies with no or limited prior experience in this market. Having emergency access to the bond market and hence to an alternative creditor base other than banks can be critical for the financial health of a company, especially in times when banks shift towards lower risk tolerance.

For each year in the period between 2000 and 2020, Figure 5.9 provides a breakdown of corporate bond issuers based on their prior experience in the bond market. A company is defined as a first-time issuer if it never issued a bond or the issue in a given year is its first since 1980. A "returning issuer" is a company that made its previous bond issue more than 5 years ago. If a company has issued bonds in at least one of the past 5 years, it is defined as an "active issuer".

Figure 5.9. Number and distribution of different types of corporate bond issuers



Note: A company is defined as a first-time issuer if its bond issue in a given year is its first issue since the start of the series (January 1980). A "returning issuer" is a company that made its last bond issue more than 5 years ago. If a company has issued bonds in at least one of the past 5 years, it is defined as an "active issuer". Panel E starts from 2009 since prior to that year bond issuance by Chinese companies was limited.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Both at the global scale and across all markets that are reported in Figure 5.9, the share of first-time issuers among the total number of corporate bond issuers has declined over recent years. For example, the share

of active issuers in the United States increased from 55% to over 70% during the period from 2000 to 2020. Importantly, the decline in first-time issuers was particularly marked with the start of the pandemic in 2020. While "active issuers" constituted 66% of the total number of companies issuing bonds worldwide in 2019, their share increased to 68% in 2020. The share of "returning issuers" also increased from 4% to 5%. This occurred at the expense of "first-time issuers", which saw their share decrease from 30% to 27%. The drop in first-time issuers' share was especially sharp in March and April, when they constituted only around 15% of issuers. The increased dominance of active issuers in the corporate bond market is even more pronounced when considering their share of the total amount issued, where they captured an unprecedented 83% of all the money raised in 2020, while first-time issuers accounted for only 12% of total issuance.

Observations above from the global financial crisis and the COVID-19 pandemic suggest that having an active, established relationship with the corporate bond market provides an advantage, especially in the immediate period after a crisis hits. However, in the second half of 2020, dedicated monetary policy to support corporate bond issuances enabled the share of first-time issuers to return to the pre-crisis levels in the OECD area, particularly in the United States, while Europe, China and rest of the world experienced a decline of four to seven percentage points.

5.4.2. Bond market access by growth companies

With the start of the pandemic, some major central banks broadened the scope of their monetary policy interventions to include also companies that recently lost their investment grade rating but still hold a rating of at least BB. This focus on highly rated companies is a reasonable choice as it provides a simple proxy to distinguish otherwise viable companies from companies that are less likely to survive the current crisis. However, the rule can be over-simplistic and is likely to leave out growth companies that have viable business models but lack access to long-term capital for expansion.

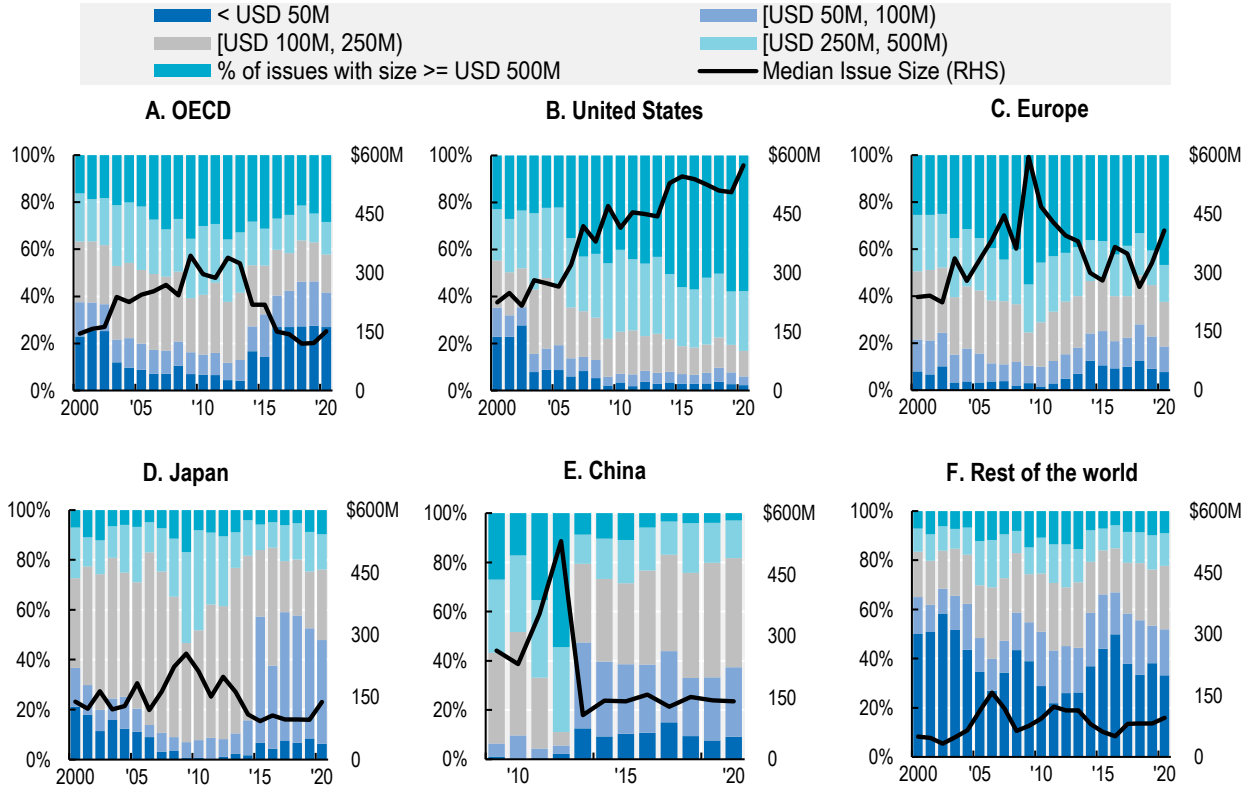
Figure 5.10 reports how the size of a typical corporate bond issue and the percentage of small issues in the total number of issues have evolved over the past two decades across different groups of countries. The distribution of issue sizes is examined across 5 issue size brackets. It is reasonable to expect that for growth companies, the two lower issue size brackets, which correspond to less than USD 100 million, are the most attainable. Indeed, according to the previous 5-year issuance data by issuers with a relatively small asset size of less than USD 1 billion, 69% of the issues fall into the smallest issue size bracket and 17% fall into the second size bracket. Hence, the share of small issues in a given market provides a good proxy for the ability of that market to serve growth companies.[1]

Looking only at data from the OECD region, Panel A shows that over time, the median issue size experienced a jump in 2009, and started to decline after reaching USD 338 million in 2012. Since then, the median issue size stayed relatively stable in an interval between USD 119 to 151 million in the past five years. This decline has been accompanied by an increase in the share of small issues. Over the past five years, issues with a size smaller than USD 50 million accounted for 27% of the total number of issues, on average. Issues smaller than USD 100 million on average accounted for 43% of all issues during the past five years. With the pandemic, the median issue size increased by 25% from USD 121 to 151 million and the share of issues in the smallest size bracket remained stable at 27%.

However, a look at individual markets (Panels B-F) reveals that this is not a general trend. Notably, in the United States, the median issue size has instead increased successively and since 2014 remained above USD 500 million annually. Moreover, in the past decade the percentage of issues that are smaller than USD 50 million (USD 100 million) has never exceeded 4% (10%). Strikingly, in the first six months of 2020, the median issue size in the United States increased significantly to USD 600 million and issues greater than or equal to USD 500 million constituted 60% of all issues. Out of the 708 issues that have taken place in the first six months of 2020, only 13 were smaller than USD 50 million. This trend normalised to some extent for the full year 2020 data, the median issue size decreased to USD 574 million which is still 13%

above of the 2019 median amount and the share of issuances with size greater than or equal to USD 500 million decreased to its 2019 value of 58%.

Figure 5.10. Median issue size and the distribution of issue sizes in the corporate bond market



Note: Panel E starts from 2009 since prior to that year bond issuance by Chinese companies was limited.
Source: OECD Capital Market Series dataset, Thomson Reuters Eikon, see Annex for details.

Europe saw a decline in the median issue size from 2009 to 2018 when 12% of issues made by European companies had a size smaller than USD 50 million and an additional 16% were between USD 50 and 100 million. However, similar to the case in the United States, the median issue size in Europe jumped sharply in the first half of 2020 to USD 540 million and the corporate bond market became strongly dominated by large issues. Full year 2020 median issue size decreased to USD 407 million that is still 26% higher than that of 2019. Panels D to F show that median issue sizes are much lower in other markets.

An important factor for companies' access to the corporate bond market is their credit ratings. In order to reach the large pool of institutional bond investors, a company's bond issue needs to be rated by at least one of the established rating agencies. These external ratings obviously reduce the costs for diversified investors to assess the quality of each and every bond issue that they need to acquire. This begs the question of whether the size of the bond issuer has any impact on its credit rating and thereby access to the bond market.

Indeed, the scale of a company is typically an important factor for its credit rating. For instance, out of the five factors that Moody's uses in its scorecard to determine the rating of a company, the "scale" factor, which is proxied by metrics such as total assets, total sales, fixed assets, etc., has a median weight of 20% in the final scorecard-indicated rating of a company.[2] Moody's combines the scale factor with 4 other factors, which are (i) leverage and coverage, (ii) profitability, (iii) business profile and (iv) financial policy.

Hence, even if one risk factor indicates a low rating category, this can be compensated by another risk factor that indicates a higher rating category, resulting in a final rating between the two rating categories.

Holding other factors constant, a larger company size is associated with a higher rating. For instance, according to Moody's rating methodology for the restaurant industry, which is one of the most severely affected industries by the pandemic, the weight of the scale factor is 20%. Within this factor, there are 3 sub-factors that proxy for size: revenues (10%), number of system-wide restaurant units (5%) and revenue by geographic region (5%). According to the rating methodology published in 2011 for the restaurant industry, the minimum number of restaurant units required to receive an investment grade score (Baa) was 3 000 and the threshold for total revenues required for an investment grade rating was USD 3 billion. With the 2015 update to the methodology, the threshold for the number of restaurant units was increased to 5 000 and that for total revenues was increased to USD 5 billion, both changes re-enforced the importance of size in credit ratings.

Another possible barrier for smaller growth company issuers are the fees associated with obtaining a rating. This fee is paid by the issuing company and can sometimes be quite a significant cost. According to S&P Global Ratings' disclosure of ratings fees in 2020,[3] a fee of up to 7.1 basis points of the transaction value is charged for most transactions involving US corporations, with a minimum fee of USD 110 000. This means that for any issue of less than USD 155 million, the effective fee will be higher than 7.1 basis points. While this fee structure may constitute an entry barrier for smaller companies, larger companies may instead benefit from discounts. S&P, for example, states in its disclosure that it will consider "alternative fee arrangements for volume issuers and other entities that want multi-year ratings services agreements", which is likely to further benefit frequent and larger issuers.

The empirical evidence presented above shows that although there has been a global tendency towards a relative increase in the number of smaller issues, this tendency does not hold for all markets. Moreover, the crisis has triggered a sharp move towards larger issues and issuer sizes in many parts of the world, provoking questions about the market's ability and the effectiveness of related policies to equally serve mature and established large companies as well as smaller and less established growth companies.

5.4.3. Credit rating stability

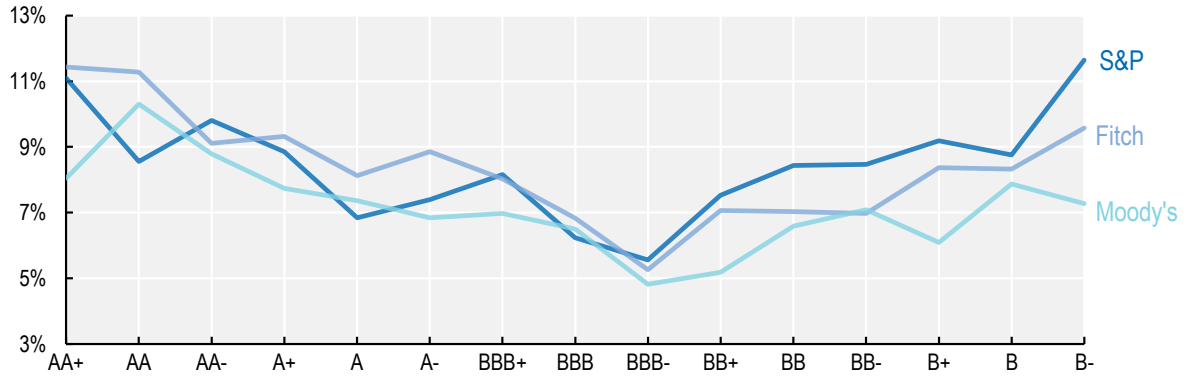
External credit ratings play a pivotal and increasingly important role in the corporate bond market by influencing the investment decisions and asset allocation of financial and non-financial institutions in a number of different ways. One is through regulations that use external credit ratings to define quantitative limits and risk-based capital requirements. Frequently, credit ratings also dictate investment choices through self-defined policies that focus exclusively or primarily on buying investment grade bonds, as in the case of central banks (e.g. BoE, BoJ and ECB) and non-financial corporations. Importantly, large bond investors, such as investment funds are typically bound by rating-based indexes and investment mandates that are defined with reference to ratings. This includes, cross-border investments in corporate bonds, which now constitute a significant share of the market, which are also likely to follow rating- or index-based strategies.

Supported by a low-interest-rate environment, the mechanics of the credit rating system have allowed companies to increase their leverage ratios and still maintain a BBB rating - the lowest rating in the investment grade category - which has come to dominate the investment grade category. Between 2017 and 2020, BBB rated bonds made up 52% of all new investment grade bonds issuance. The worsening of within-rating median leverage ratios during the past decade appears to be offset by simultaneous increases in median interest coverage and profitability ratios. The improvement in interest coverage ratios can be partly attributed to the unprecedentedly low levels of interest rates.

Despite the significant increase of BBB rated bonds, there was a declining number of downgrades relative to upgrades up to the COVID-19 outbreak, which may suggest that credit rating agencies (CRAs) are

mindful of downgrading BBB issuers due to their special status just above the non-investment grade category. Figure 5.11 clearly shows that for all CRAs, the one-year 1-notch downgrade probability is lowest for bonds rated BBB-, which is the lowest rating before crossing the line to non-investment grade. The probability of a 1-notch downgrade within a year ranges between 8 to12% for the AA category; between 7 to10% for the A category and falls below 5.6% for BBB- rated issuers. The probability jumps back to above 7% for BB+ rated issuers in the case of S&P and Fitch and moves up less sharply in the case of Moody's. These patterns stay the same if the probability of multiple-notch downgrades is considered and irrespective of whether moving to default is considered as a downgrade event or not.

Figure 5.11. Historical average one-year 1-notch downgrade probability from a given rating



Note: The data are based on the average one-year transition matrix of all global corporate issuers over the 1983-2018 period for Moody's, 1990-2018 period for Fitch and 1981-2018 period for S&P.
Source: Fitch Ratings 2018 Transition and Default Studies, Moody's 2018 Annual Default Study, S&P Global Ratings 2018 Annual Global Corporate Default and Rating Transition Study.

If rating agencies are extra cautious to re-rate bonds that are in the vicinity of the investment / non-investment grade boundary as is suggested by Figure 5.11, one might expect that the 1-notch upgrade probability is lowest for the BB+ category. However, for S&P and Moody's, the probability of an upgrade within a year is actually highest for BB+ rated issuers. Although for Fitch-rated issuers, the one-year 1-notch upgrade probability is the highest for B- rated issuers followed by B+ and then by BB+ rated issuers. It should be noted that issuers rated BB+ by Fitch have a higher 1-notch upgrade probability compared to those rated BB+ by S&P and Moody's (13.6% vs. 11.5% and 10.2%, respectively) (Çelik, Demirtaş and Isaksson, 2020[24]).

In addition to concerns among credit rating agencies, the downgrade/upgrade probability pattern may also reflect that companies with BBB status pay extra close attention to their rating metrics in order to maintain their rating status and borrowing costs. Similarly, highly-rated non-investment grade issuers actively seek to improve some key rating factors in order to move up the rating ladder to reach the investment grade level. Such efforts to actively keep or improve the credit rating may take different forms. It may for example include steps to improve those financial ratios that most significantly influence credit ratings (e.g. leverage) and work closely with the rating agency to ensure that all the necessary information is effectively communicated. It may also include discussions with the credit rating agency to communicate non-financial factors that would warrant a favourable credit evaluation.

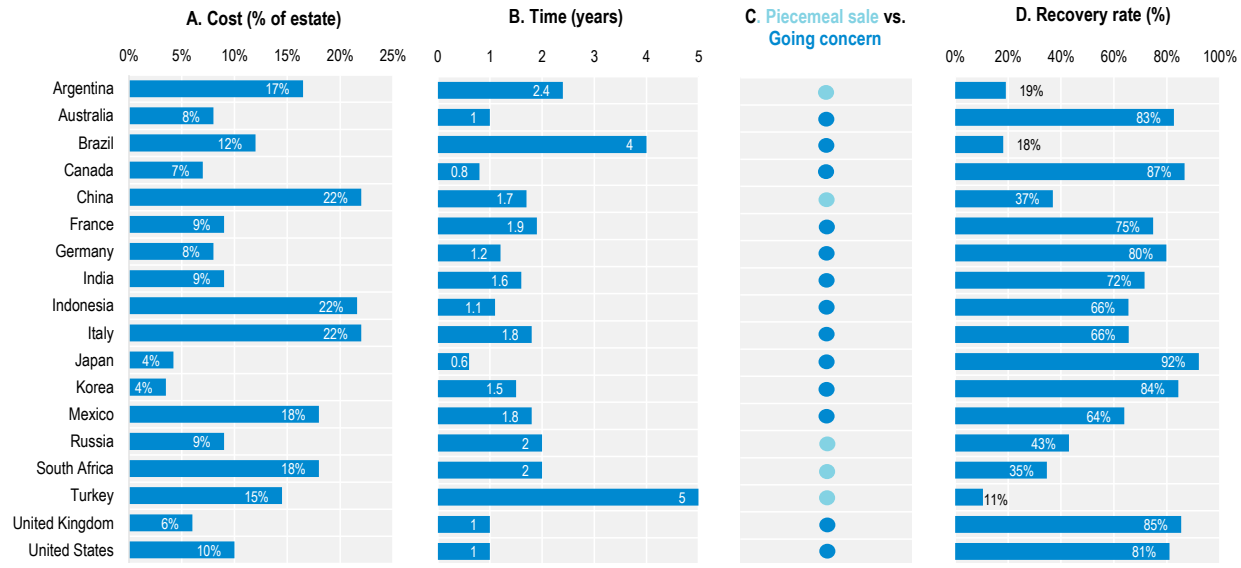
5.5. The importance of efficient insolvency systems for recovery

As a first response to the sharp decline in company incomes and the liquidity challenges that followed, governments and central banks around the world provided generous support to a broad range of

companies. Given that the impact of the pandemic is not likely to be short-lived and as liquidity challenges are likely to eventually turn into solvency problems for some companies, distinguishing between viable and non-viable companies is becoming increasingly important for a better allocation of available resources. Under such circumstances, an insolvency regime that lays the foundation for an efficient and swift exit of non-viable companies and successful restructuring of viable companies is crucial. The differences in insolvency regimes across countries will likely affect how companies and investors in different countries navigate the pandemic.

A country's insolvency regime and its level of enforcement are likely to affect, among other things, costs incurred during and the length of the insolvency process, whether a company emerges from the proceedings as a going concern or whether its assets are sold piecemeal, and as a result, the ultimate recovery rates. A cross-sectional comparison of the average performance of countries' insolvency frameworks with respect to these measures is not straightforward since the typical bankruptcy case could vary widely across countries. To overcome this problem and allow a reliable cross-sectional comparison, a survey of insolvency practitioners from 88 countries studied the most likely outcome in their country of a hypothetical insolvency case involving a defaulted hotel, whose financial conditions were clearly detailed in the survey (Djankov et al., 2008[25]). The survey was later adopted by the World Bank and has ever since been updated annually as part of its Ease of Doing Business research. Figure 5.12 shows the most recent data from this survey for G20 countries except for Saudi Arabia for which 2019 data are not available.[4]

Figure 5.12. Insolvency outcomes for an identical hypothetical case across countries



Source: Retrieved from https://www.doingbusiness.org website. The data was collected in 2019 by the World Bank.

According to the figure, insolvency procedures are, on average, time-consuming, costly and lead to low recovery rates, with some significant variation across countries. The cost of the proceedings is reported in Panel A as a percentage of the value of the debtor's estate and includes court fees and government levies, fees of insolvency administrators, auctioneers, assessors and lawyers and all other related fees and costs. Across the 18 countries, the average cost is 12.1% with Japan and Korea at the lowest end (4% each) and China, Italy, and Indonesia at the highest end (22% each). Furthermore, it takes an average of 1.8 years for creditors to recover their claims for the given hypothetical case, again with a wide variation across countries (5 years in Turkey and less than a year in Canada and Japan). In the hypothetical case that is defined in the survey, the efficient outcome is to keep the defaulted hotel as a going concern instead of selling its assets piecemeal. However, 5 countries (Argentina, China, Russia, South Africa and Turkey) out

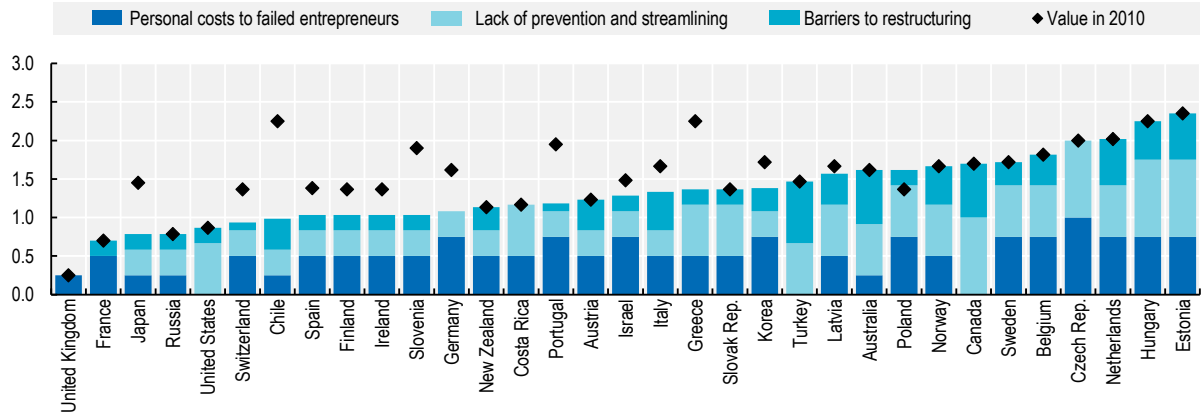
of 18 fail to achieve this preferred outcome. The ultimate recovery rate, which is calculated as a function of the costs, time to resolution and the outcome (piecemeal sale vs. going concern) of the proceedings, has an average of 61%. Australia, Canada, Japan, Korea, the United Kingdom, and the United States reach recovery rates higher than 80%. In contrast, Argentina, Brazil and Turkey have the lowest recovery rates ranging from 19 to 11%.

Naturally, a distressed company's and its debt investors' choice of restructuring process (out-of-court versus through bankruptcy) will be a function of their expectations about these outcomes. Becker and Josephson (2016) argue that poorly functioning bankruptcy procedures may force viable but insolvent companies to restructure out of court, where banks tend to have a bargaining advantage over other creditors (Becker and Josephson, 2016[26]). Consistent with this argument, they find that inefficient bankruptcy procedures in a country, as proxied by measures of bankruptcy recovery, are related to less bond issuance by higher risk borrowers. They also find that improvements in the bankruptcy process are associated with increases in the bond share of corporate debt, especially for high-risk firms. Hence, inefficient insolvency regimes may be one important reason for the near absence of corporate bond markets in many countries.

In addition to ensuring favourable outcomes with respect to the different dimensions reported in Figure 5.12, it is also important to design an insolvency regime in a way that facilitates an orderly exit or restructuring of a distressed firm. It should also give creditors, debtors and other investors the right incentives to take appropriate actions promptly after financial difficulties arise, thereby enhancing the likelihood of a successful restructuring. Although insolvency regimes vary significantly between different countries, several international best practices have emerged. The main elements of these best practices for corporate insolvency regimes include: (i) a clear trigger to induce either the debtor or the creditor to initiate insolvency proceedings; (ii) the possibility to choose between an efficient liquidation and an opportunity to rehabilitate, depending on which one of the two options maximises firm value; and (iii) a design that discourages debtors and debtholders' strategic behaviour that would result in suboptimal overall outcomes (Adalet McGowan and Andrews, 2018[27]).

Based on these best practices, Adalet McGowan and Andrews (2018) built a composite indicator to provide an aggregate measure of the key features of insolvency regimes that may impact the timely initiation and resolution of insolvency proceedings (Adalet McGowan and Andrews, 2018[27]). The indicator was formed using responses to an OECD questionnaire and is available for two years, 2010 and 2016. On a scale of 0-3, the lower the score the more efficient is the insolvency regime with respect to personal costs to failed entrepreneurs, better mechanisms to aid prevention and streamlining and lower barriers to restructuring. According to Figure 5.13, which plots this indicator for 33 countries for which complete data are available for both years, the cross-country differences in the design of insolvency regimes are significant and the countries widely vary both with respect to the aggregate indicator and its three subcomponents. As of 2016, the United Kingdom, France, Japan, Russia, and the United States had the lowest values, indicating that their insolvency regimes performed well in all three subcomponents analysed. In contrast, the Czech Republic, Estonia, Hungary and the Netherlands were on the other end of the spectrum with scores exceeding 2 out of 3.

Figure 5.13. OECD indicator of insolvency regimes



Source: (Adalet McGowan and Andrews, 2018[27])

The figure shows that 14 of the 33 countries have improved their insolvency regimes from 2010 to 2016. The countries that experienced the biggest improvements were Chile, Germany, Greece, Japan, Portugal and Slovenia. However, there remains a large scope for reform in many countries. Recent research shows that such reforms to insolvency regimes may reduce the share of capital sunk in "zombie" firms, which in turn facilitates the reallocation of capital to more productive firms (Adalet McGowan, Andrews and Millot, 2017[3]). Furthermore, using this insolvency regime indicator for 11 European countries, Andrews and Petroulakis (2017) show that improvements in bank health are more likely to be associated with a reduction in zombie congestion in countries where insolvency regimes do not unduly impede corporate restructuring (Andrews and Petroulakis, 2017[28]). These positive effects could be especially relevant during the COVID-19 crisis, as there is already some evidence of a steep increase in 2020 in the share of unviable companies (Rennison, 2020[29]).

Although reforms to improve insolvency frameworks are desirable, the actual performance of an insolvency framework is greatly dependent on the efficiency of the judicial system within which it applies. In addition to the cross-country differences that may exist, the efficiency of the judicial system may temporarily be overloaded due to an extraordinary surge in default cases that need to be resolved. In particular, it has been noted that the efficiency of the judicial system has a significant impact on the costs of the financial distress and the outcome of the bankruptcy. In the case that the bankruptcy courts are busy, time constraints might limit the effective handling of the cases, therefore leading to higher costs. Moreover, the smaller firms tend to be liquidated more than the larger firms in the case of busy courts rather than restructured (Iverson, 2018[30]). Therefore, inefficiency in the judicial system leads to liquidation of a higher number of viable firms than desired, more important is that smaller companies are more adversely affected in this process. Indeed, leading bankruptcy scholars in the United States addressed a letter to the US Congress in May 2020, strongly recommending that the capacity of the bankruptcy system should be strengthened to prepare for what the scholars feared could be "a flood of large corporate bankruptcies arising out of this pandemic". In particular, the scholars suggested appointing additional temporary bankruptcy judges and increasing the budgets of bankruptcy courts so that they can recall retired judges, and employ additional clerks together, with other necessary personnel needed to enhance the capacity of the bankruptcy system.[5] If such legal bottlenecks occur due to the pandemic, this may increase the costs of formal bankruptcy proceedings and push companies and investors more towards out-of-court arrangements such as distressed exchanges even if such arrangements are not the optimal choice for their specific case.

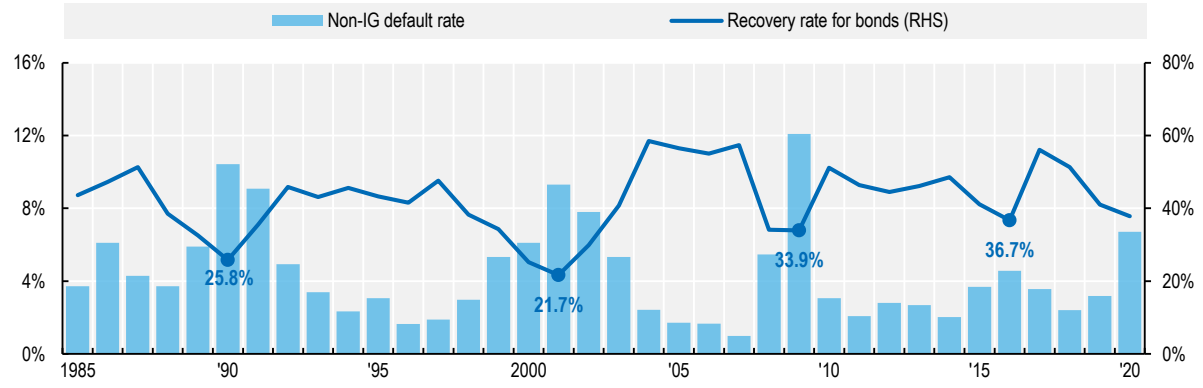
As described in Chapter 3, many jurisdictions made temporary changes to their insolvency practices. These temporary changes were helpful in protecting otherwise-viable companies from filing for insolvency

due to the difficulties arising from extraordinary health measures associated with the coronavirus outbreak. However, if such temporary changes remain in force for an unnecessarily long time, they may undermine one of the most significant aims of insolvency regimes, which is to ensure a timely initiation of insolvency proceedings. Such delays in the initiation of insolvency processes can, in turn, increase costs, erode the final value of the firm and make it less likely that viable firms are successfully restructured. The decision to retain, remove or change the scope of such measures and the timeframe to do so should take into account these potential distortions.

5.6. Corporate bond debt, recovery and distressed exchanges

As the rising number of rating downgrades and default since the start of the COVID-19 outbreak are likely to stay elevated, it is increasingly important to understand the determinants of recovery rates and to consider how recovery rates may evolve during this default cycle. A well-documented characteristic of recovery rates is their negative correlation with default rates. Figure 5.14 plots annual default rates in the non-investment grade category and bond recovery rates in each year from 1985 to 2020. There is a strong negative correlation (-0.75) between the two series with recovery rates reaching their lowest values in years when default rates are the highest.

Figure 5.14. Historical non-IG default rate and bond recovery rate (%)



Source: (MIS, 2021[31]).

A number of factors may influence the inverse relationship between default and recovery rates. First, default and recovery rates are likely to depend on the same systematic factor so that an adverse macroeconomic condition that causes default rates to increase will also depress recovery rates. Second, when there is a surge in corporate defaults, the amount of distressed debt securities in the market exceeds the absorbing capacity of investors who are interested in distressed debt, leading to a decline in secondary market prices (Altman et al., 2005[32]). Third, industry-wide distress typically lowers the economic value of a defaulting company's real assets and may also trigger fire sales, which further decrease recovery rates. Particularly low valuations may occur when the most likely bidders for a defaulting company's real assets are its competitors, which are also in financial distress when industry conditions are poor (Acharya, Bharath and Srinivasan, 2007[33]).

5.6.1. The length of the default cycle and recovery rates

According to Figure 5.14, the highest annual rate of default for the non-investment grade category (12.1%) was reached during the 2008 financial crisis. Assuming that the trailing 12-month global non-investment grade default rate follows paths comparable to those in prior default cycles, Moody's on August 2020

announced that in February 2021 this rate would likely range between the peaks of the previous recessionary default cycles which is 9.7% and 13.3% and that the absolute number of issuers that will default is expected to be similar to the number in the prior crisis due to the larger non-investment grade universe of the recent stock (MIS, 2020[34]). However, according to the projections made in January 2021, the current default cycle is expected to peak at a lower rate than those associated with the last three recessions and therefore will be relatively mild compared to the prior recessionary default cycles. In this respect, it is projected that the rate of default of speculative-grades will peak at 7.3% in March 2021, and then will decline to 4.7% by December 2021 (MIS, 2021[31]).

Assuming default rates will follow a similar path to those in prior default cycles could be simplistic as this time the path to recovery is highly uncertain and depends on exogenous factors such as the probability of prolonged waves of infections. While the world economic output is forecast to decline by 3.4% in 2020, which is a sharper contraction than that observed during the 2008 financial crisis (OECD, 2021[35]). A slow recovery from the health crisis may prolong the default cycle, which may, in turn, exert downward pressure on recovery rates. A longer default cycle would likely mean a higher number of defaulting companies over an extended period of time, and a corresponding increase in the total amount of defaulted debt. Furthermore, initial out-of-court restructurings of defaulted debt might fail, and companies may re-default before the downturn ends and have to file for bankruptcy in a difficult environment, again leading to lower recovery rates than would be achieved in a more benign credit cycle. Evidence from three major default cycles that took place in the past 30 years shows that longer default cycles are associated with lower recovery rates (MIS, 2020[36]).

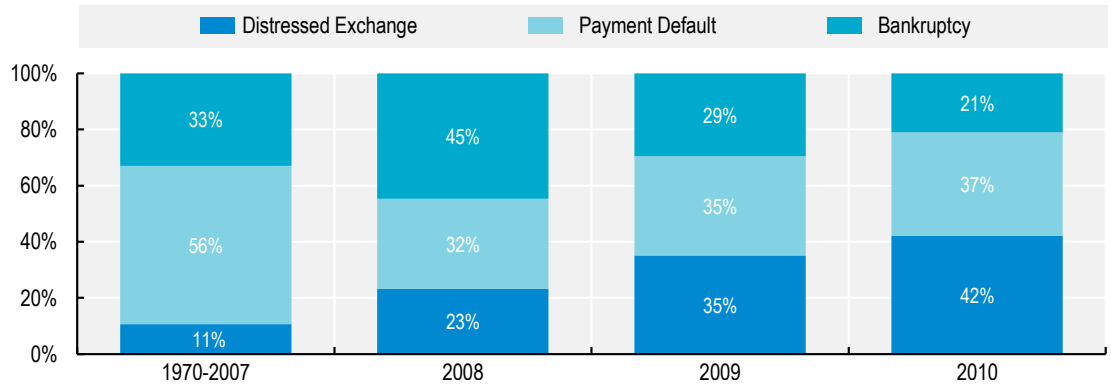
Another distinctive implication of this downturn is that a longer default cycle may have very different implications for different industries. For the industries that are most severely affected by social distancing rules, a lengthening of the cycle may cause many companies to struggle for survival. In particular, more than one-fifth of the viable firms from the sectors of accommodation and food service activities, and arts and entertainment are expected to become distressed as a result of the COVID-19 driven shock (OECD, 2021[37]). The retail, restaurant, media and entertainment sectors, which historically reached slightly lower recovery rates than the average industry both in the United States and in Europe, may see their relative recovery rates decrease even further (S&P, 2019[38]) (S&P, 2020[39]).

5.6.2. The rise of distressed exchanges

A company in default can resolve its financial distress through an out-of-court restructuring or by going through formal bankruptcy procedures. An out-of-court restructuring practice that re-emerged in the corporate bond market in 2008 and has significantly increased its prevalence in the subsequent period is the use of distressed exchanges (Altman and Karlin, 2009[40]) (MIS, 2020[41]). In distressed exchanges, an issuer offers a new or restructured debt consisting of a new package of securities, cash or assets to its creditors or bondholders, who voluntarily may accept the offer. Such exchanges have the effect of reducing the original debt burden of the issuer and hence help avoid a bankruptcy or payment default. The offer can involve a debt-for-debt, debt-for-cash or debt-for-equity exchange.

As seen in Figure 5.14 above, although the default rates surged to an all-time high in 2009, the average bond recovery rate was 33.9%, which was remarkably higher than the recovery rates observed in 2001 (21.7%) and 1990 (25.8%). The relatively high rates of recovery reached during the 2008 financial crisis are partly attributed to the increased share of distressed exchanges in the total number of defaults during that period. Figure 5.15 shows that while distressed exchanges made up only 11% of initial defaults on average in the period from 1970 to 2007, they represented 23% in 2008 and reached 42% of initial defaults by 2010. In return, the share of bankruptcy filings declined from 45% to 21% from 2008 to 2010. The share of distressed exchanges has remained elevated in the last decade and accounted for around 40% of annual number of defaults on average.

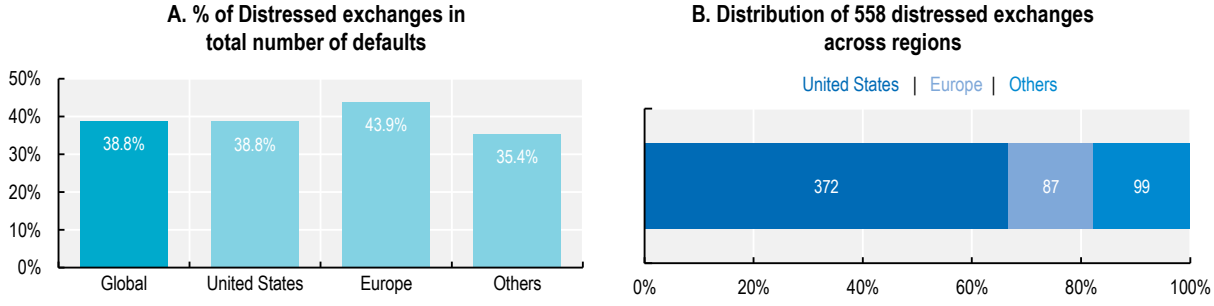
Figure 5.15. Distribution of default event types (%)



Source: (MIS, 2011[42]).

Based on corporate default data from 2008 to 2020, Panel A of Figure 5.16 shows that, globally, 38.8% of default events were settled with a distressed exchange. Calculating this same ratio for different regions shows that the frequent use of distressed exchanges is a common phenomenon. Distressed exchanges made up 38.75% of defaults by US companies, and 43.9% of defaults by European companies. On the other hand, in the rest of the economies, distressed exchanges are less frequently used. Panel B shows that a vast majority of distressed exchanges that took place between 2008 and 2020 were carried out by US (67%) and European companies (16%).

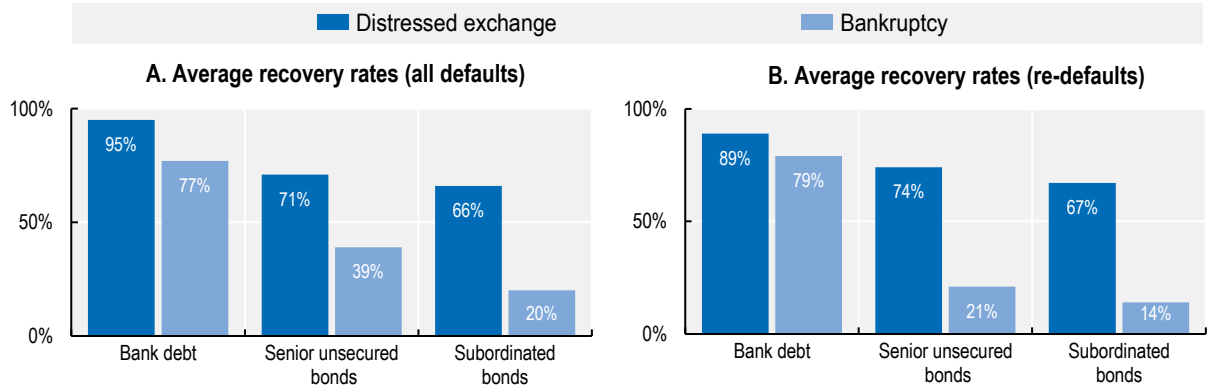
Figure 5.16. Use of distressed exchanges in different regions (2008-2020)



Source: Moody's Annual Default Studies (2008 - 2020).

Creditors and bond investors tend to agree to distressed exchanges because the recovery after a distressed exchange is likely to be greater than in a bankruptcy situation. Panel A of Figure 5.17 contrasts average recovery rates from distressed exchanges to those from bankruptcies for the period between 1987 and the first quarter of 2020. Across all three debt classes, distressed exchanges generate higher recovery rates relative to bankruptcies on average. While average recovery rates in distressed exchanges reach 71% for senior unsecured bonds and 66% for subordinated bonds, the recovery rates for these securities are only 39% and 20%, respectively, when the company goes through a bankruptcy. Also notable is that the gap between distressed exchanges and bankruptcies widens as one moves from more senior to more junior debt.

Figure 5.17. Average recovery rates: distressed exchanges vs. bankruptcies 1987-2020Q1



Note: Recovery rates in this figure are based on ultimate recovery rates, which are primarily available for default resolutions of US non-financial companies.
Source: (MIS, 2020[41]).

As distressed exchanges allow investors to recover more in the first place, investors have a tendency to postpone troubles in the hope that the economy will eventually turn and allow the distressed company to overcome its financial problems. This tendency to postpone could be especially strong during the pandemic as there exists some hope for an efficient treatment or vaccine that would then lead to a quick recovery. In general, there is no guarantee that a distressed exchange will not eventually fail and lead to a re-default later on. Indeed, according to Moody's 30-year default data, 41% of distressed exchanges led to a subsequent default, which was either a bankruptcy or another distressed exchange (MIS, 2020[36]). Panel B of Figure 5.17 reports how recovery rates change when re-defaults are concerned. Although recovery rates for distressed exchanges are almost identical when re-defaults in Panel B are compared with the rates reported in Panel A, re-defaults of bonds that result in bankruptcy generate sharply lower recovery rates. For senior unsecured bonds, 21% is recovered on average when there is a re-default into bankruptcy, and for subordinated bonds the recovery rate is a mere 14%.

Focusing on the post-2008 financial crisis era, Table 4.1 reports the distribution of re-default events based on the type of their prior default. According to the table, the most common type of re-default event is bankruptcies preceded by distressed exchanges, which constitutes 45% of the total number of re-defaults. Distressed exchanges after an initial distressed exchange constitute 29% of re-default events. Re-defaults of prior bankruptcies, on the other hand, are less common.

Table 5.1. Distribution of re-default events (Jan 2010-March 2020)

		Type of re-default	
		Distressed exchange	Bankruptcy
Type of prior default	Distressed exchange	29%	45%
	Bankruptcy	2%	24%

Source: (MIS, 2020[36]).

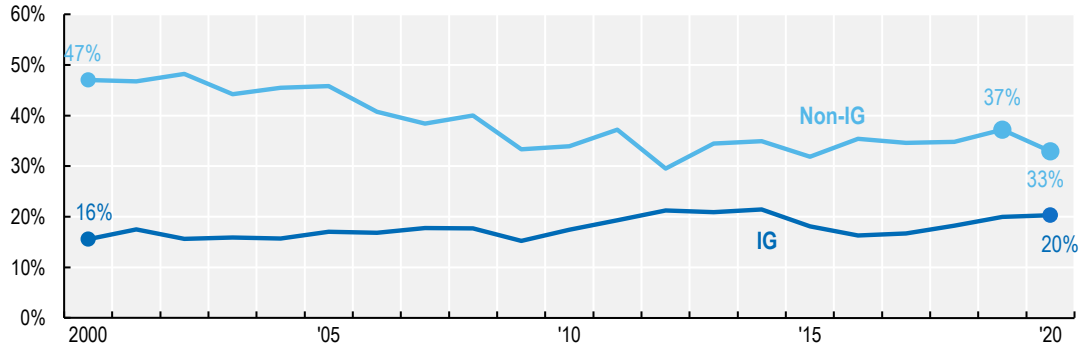
Data from Table 5.1 indicate that when a distressed exchange leads to a re-default, it ends up in bankruptcy 61% of the time. This is concerning given the low average recovery rates reported in Panel B of Figure 5.17 for re-defaults into bankruptcy. Given that the recent high levels of recovery rates are mainly supported by the frequent use of distressed exchanges, if the financing conditions for distressed exchanges deteriorate or if the frequency of distressed exchanges re-defaulting into bankruptcies increases, recovery rates could decline rapidly, with overall negative effects on resilience.

5.6.3. Weaker covenants

Covenants are clauses in a bond contract that are designed with a purpose to protect bondholders against actions that bond issuers can take at their expense. Empirical evidence indicates that they succeed in achieving this purpose since stronger covenants generally lead to higher recovery rates. In particular, it is argued that covenants that restrict an issuer's investment and financing policy protect existing bondholders against adverse management actions and lead to higher recoveries (Jankowitsch, Nagler and Subrahmanyam, 2014[43]).

In the low interest rate environment of the past decade, bond investors became increasingly willing to forego their own protection by agreeing to weaker covenants to reach higher returns. Figure 5.18 below presents the covenant protection index for bonds issued in the US market by non-financial companies. The higher the index, the stronger the covenant protection. According to the figure, the large gap that existed between the covenant protection indexes of investment- and non-investment grade bonds in the beginning of the 2000s narrowed until 2012. This was mainly due to a decline in the covenant protection index of non-investment grade bonds, which reached its lowest value at 30% in 2012, after which it began increasing, reaching 37% in 2019. This was the highest level since 2011.

Figure 5.18. Covenant protection index for bonds issued in the United States by non-financial companies



Note: The figure is based on the analysis of 17 898 corporate bond issues in the US by companies from the United States and 66 other countries. 2020 data cover January to September period.
Source: Mergent FISD, see Annex for details.

In the first 3 quarters of 2020, however, the covenant protection index for non-investment grade bonds reversed its course and experienced a rapid decline, dropping to 33%. In addition to a trade-off between bondholder protection and higher yields, this decline may partly be attributable to the increased share of higher rated bonds in the non-investment grade category. In contrast, the index for investment grade bonds remained unchanged from 2019 to 2020. As a result, the gap between the indexes of investment and non-investment grade bonds narrowed to its lowest value since 2012.

The overall impact of weaker covenants on the ultimate recovery rates during this downturn remains to be seen. One drawback of a weak covenant structure is that it may allow distressed companies to undertake actions at the expense of existing debt holders (e.g. raising more debt, distributing value to equity holders, transferring assets to subsidiaries, etc.). Extended periods with such self-serving actions are likely to affect recovery rates negatively. However, if weak covenants allow a company to defer default until a time when liquidity conditions improve, then recovery prospects may actually improve. Furthermore, the weakening in covenants would make it easier for issuers to execute distressed exchanges, which tend to obtain higher recovery rates. For instance, a negative pledge covenant is typically used to ensure that other creditors do not obtain a more senior claim over the assets of an existing debtor. The lack of this covenant type in a

senior unsecured bond indenture allows the issuer to exchange such bonds for more senior second-lien bank debt, and hence subordinating bondholders who do not participate in the exchange (MIS, 2020[41]).

References

Acharya, V., S. Bharath and A. Srinivasan (2007), "Does industry-wide distress affect defaulted firms? Evidence from creditor recoveries", *Journal of Financial Economics*, Vol. 85/3, pp. 787-821. [33]

Adalet McGowan, M. and D. Andrews (2018), "Design of insolvency regimes across countries", *OECD Economics Department Working Papers*, No. 1504, OECD Publishing, Paris, https://dx.doi.org/10.1787/d44dc56f-en. [27]

Adalet McGowan, M., D. Andrews and V. Millot (2017), "Insolvency regimes, zombie firms and capital reallocation", *OECD Economics Department Working Papers*, No. 1399, OECD Publishing, Paris, https://dx.doi.org/10.1787/5a16beda-en. [3]

Altman, E. et al. (2005), "The link between default and recovery rates: Theory, Empirical Evidence, and Implications", *The Journal of Business*, Vol. 78/6, pp. 2203-2228. [32]

Altman, E. and B. Karlin (2009), "The re-emergence of distressed exchanges in corporate restructurings", *The Journal of Credit Risk*, Vol. 5/2, pp. 43-55. [40]

Andrews, D. and F. Petroulakis (2017), "Breaking the Shackles: Zombie Firms, Weak Banks and Depressed Restructuring in Europe", *OECD Economics Department Working Papers*, No. 1433, OECD Publishing, Paris, https://dx.doi.org/10.1787/0815ce0c-en. [28]

Bakewell, S. (2020), "Apollo's Debt-Lawsuit Defeat to Reshape Wall Street Risk Models", *9 July 2020, Bloomberg*, https://www.bloomberg.com/news/articles/2020-07-09/apollo-s-debt-lawsuit-defeat-to-reshape-wall-street-risk-models. [12]

Becker, B. and J. Josephson (2016), "Insolvency resolution and the missing high-yield bond markets", *The Review of Financial Studies*, Vol. 29/10, pp. 2814-2849. [26]

Canadian Securities Administrators (2020), "Canadian Securities Regulators Warn Public of Coronavirus-Related Investment Scams", http://www.securities-administrators.ca/aboutcsa.aspx?id=1878. [16]

Çelik, S., G. Demirtaş and M. Isaksson (2020), "Corporate Bond Market Trends, Emerging Risks and Monetary Policy", *OECD Capital Market Series, Paris*, http://www.oecd.org/corporate/Corporate-Bond-Market-Trends-Emerging-Risks-and-Monetary-Policy.htm. [24]

CFA Institute (2019), "MIFID II: A New Paradigm for Investment Research - Investor Perspectives on Research Costs and Procurement", http://www.cfainstitute.org/-/media/documents/support/advocacy/mifid_ii_new-paradigm-for-research-report.ashx. [8]

Djankov, S. et al. (2008), "Debt enforcement around the world", *Journal of Political Economy*, Vol. 116/6, pp. 1105-1149. [25]

Gelles, D. and J. Drucker (2020), "Corporate insiders pocket $1 billion in rush for coronavirus vaccine", *25 July 2020, The New York Times*, https://www.nytimes.com/2020/07/25/business/coronavirus-vaccine-profits-vaxart.html. [15]

Iverson, B. (2018), "Get in Line: Chapter 11 Restructuring in Crowded Bankruptcy Courts", *Management Science*, Vol. 64/11, pp. 5370-5394, http://dx.doi.org/10.1287/mnsc.2017.2808. [30]

Jankowitsch, R., F. Nagler and G. Subrahmanyam (2014), "The determinants of recovery rates in the US corporate bond market", *Journal of Financial Economics*, Vol. 114/No:1, pp. 155-177. [43]

Kalemli-Özcan, S., L. Laeven and D. Moreno (2019), "Debt Overhang, Rollover Risk, and Corporate Investment: Evidence from the European Crisis", *ECB, Working Paper Series* No: 2241, February 2019, http://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2241~cbea165b30.en.pdf. [2]

MIS (2021), "Annual Default Study: Following a Sharp Rise in 2020, Corporate Defaults will Drop in 2021", *Moody's Investors Service, New York*. [31]

MIS (2020), "Distressed exchanges will likely rise in tandem with corporate defaults", *27 March 2020, Moody's Investors Service, New York*. [41]

MIS (2020), "Past recessions indicate potential paths for default rate in current downturn", *26 August 2020, Moody's Investors Service, New York*. [34]

MIS (2020), "Recoveries in a pandemic-driven default cycle", *20 May 2020, Moody's Investors Service, New York*. [36]

MIS (2011), "Corporate Default and Recovery Rates, 1920-2010", *28 February 2011, Moody's Investors Service, New York*. [42]

OECD (2021), "Insolvency and debt overhang following the COVID-19 outbreak: Assessment of risks and policy responses", *OECD Economics Department Working Papers,* No. 1651, https://dx.doi.org/10.1787/747a8226-en. [37]

OECD (2021), "Liquidity shortfalls during the Covid-19 outbreak: assessment and policy responses", *OECD Economics Department Working Papers,* No. 1647, https://doi.org/10.1787/581dba7f-en. [1]

OECD (2021), "OECD Economic Outlook, Interim Report March 2021", *OECD Publishing, Paris*, https://doi.org/10.1787/34bfd999-en. [35]

OECD (2020), "Duties and Responsibilities of Boards in Company Groups, Corporate Governance", *OECD Publishing, Paris*, https://doi.org/10.1787/859ec8fe-en. [20]

OECD (2020), "OECD Business and Finance Outlook 2020: Sustainable and Resilient Finance", *OECD Publishing, Paris*, https://doi.org/10.1787/eb61fd29-en. [21]

OECD (2020), "OECD Capital Market Review of Italy 2020: Creating Growth Opportunities for Italian Companies and Savers", *OECD Capital Market Series*, http://www.oecd.org/corporate/OECD-Capital-Market-Review-Italy.htm. [7]

OECD (2019), "OECD Corporate Governance Factbook 2019", http://www.oecd.org/corporate/corporate-governance-factbook.htm. [22]

OECD (2018), "Flexibility and Proportionality in Corporate Governance, Corporate Governance", *OECD Publishing, Paris*, https://doi.org/10.1787/9789264307490-en. [23]

OECD (2017), "Business and Finance Outlook 2017: Globalisation and the Level Playing Field", *OECD Publishing*, https://doi.org/10.1787/9789264274891-6-en. [6]

OECD (2016), "Changing business models of stock exchanges and stock market fragmentation", *in OECD Business and Finance Outlook 2016, OECD Publishing, Paris*, https://www.oecd.org/daf/ca/BFO-2016-Ch4-Stock-Exchanges.pdf. [5]

OECD (2015), "G20/OECD Principles of Corporate Governance", *OECD Publishing, Paris*, http://dx.doi.org/10.1787/9789264236882-en. [9]

Orr, E. (2017), "Retail's Creditors Left Grasping as Brands Move Out of Reach", *Bloomberg, 23 February 2017*. [11]

Prnewswire (2020), "Spruce Point Capital Management Exposes Additional Corporate Governance Risks At GFL Environmental Inc", https://www.prnewswire.com/news-releases/spruce-point-capital-management-exposes-additional-corporate-governance-risks-at-gfl-environmental-inc-nysetsx-gfl-301136666.html. [18]

Rennison, J. (2020), "Pandemic debt binge creates new generation of 'zombie' companies", *Financial Times, 14 September 2020*, https://www.ft.com/content/9b304e20-49cf-4fba-81a0-4d06f930d7a1. [29]

S&P (2020), "European Corporate Recoveries Over 2003-2019: The Calm Before The COVID-19 Storm", *5 August 2020, S&P Global Ratings, New York*. [39]

S&P (2019), "Default, Transition, and Recovery: U.S. Recovery Study: Distressed Exchanges Have Boosted Recent Bond Recoveries", *12 December 2019, S&P Global Ratings, New York*. [38]

SEC (2021), "Look Out for Coronavirus-Related Investment Scams - Investor Alert", https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_coronavirus. [17]

SEC (2020), "Coronavirus (COVID-19) - Disclosure Considerations Regarding Operations, Liquidity, and Capital Resources", http://www.sec.gov/corpfin/covid-19-disclosure-considerations. [10]

Temple-West, P. (2020), "US companies rewrite bonus plans to prop up executive pay", *Financial Times, 12 October 2020*, https://www.ft.com/content/a691145f-98d1-4b6c-afdf-36f2304bea0d (accessed on 12 October 2020). [19]

Thomas, D. (2021), "Cost of liability insurance for company directors soars", *Financial Times, 7 February 2021*, https://www.ft.com/content/7fd09758-ac7b-469a-9096-486a707f2915 (accessed on 7 February 2021). [14]

U.S. Department of the Treasury (2017), "A Financial System That Creates Economic Opportunities", *October 2017*, https://home.treasury.gov/sites/default/files/2018-08/A-Financial-System-that-Creates-Economic-Opportunities---Nonbank-Financials-Fintech-and-Innovation.pdf. [4]

Williams-Alvarez, J. (2020), "Cost of insuring board directors from lawsuits doubles in Covid era", *Financial Times, 16 September 2020*, https://www.ft.com/content/fa626a0f-2806-4197-a1e8-61deb08944af (accessed on 16 September 2020). [13]

Notes

[1] Using issue size as a proxy for the bond market accessibility of smaller growth companies has its limitations since large companies can also choose to make small issues. An alternative measure could be to use asset size of issuers to distinguish between small and large issuers. The drawback of using this alternative measure would be that not all issuers have their asset size information available in the dataset. Nevertheless, it should be noted that the main results continue to hold when the analyses here are reproduced by using issuer sizes instead of issue sizes.

[2] The median weight of the scale factor reported here is its weight in the median industry across 43 non-financial industries for which Moody's provides a rating methodology as of August 2020. Actually, Moody's has rating methodologies for five more non-financial industries but they are not included when calculating the median weight, because the rating factors that they use are not consistent with the other 43 industries.

[3] S&P Global Ratings U.S. Ratings Fees Disclosure disclosed on www.standardandpoors.com/usratingsfees and retrieved on August 2020.

[4] Because the estimates reported in the figure are formed based on the hypothetical and rather simple insolvency case, they should not be viewed as what the average recovery outcome would be across all bankruptcy cases in a given country. However, these estimates still provide a helpful overview of the relative rank of countries across these performance measures. The details on the hypothetical insolvency case can be found at the website www.doingbusiness.org/en/methodology/resolving-insolvency.

[5] The complete letter is available at http://blogs.harvard.edu/bankruptcyroundtable/files/2020/06/Small-Business-Letter-Final-5.26.20-pm.pdf.

Annex A. Methodology for data collection and classification

A. Balance sheet information for non-financial listed firms

The information presented in Section 2.1 of Chapter 2 is based on the Thomson Reuters Datastream. The unbalanced panel dataset contains financial statement information for non-financial listed companies between 2005 and 2019. The universe covers 49 607 companies registered in 131 countries.

Financial information cleaning

The raw financial dataset contains several firm-year observations when a company reports for different purposes. To construct a panel with a unique firm-year observation, the following steps are applied:

- Financial companies are excluded
- Firms listed on an over-the-counter (OTC) market are excluded
- Security types classified as “units” and “trust” are excluded
- Firms identified as delisted are excluded
- For firms with multiple observations but different countries of domicile, their tue country of domicile is manually checked to remove the duplicates
- Financial statements covering a 12-month period are used
- Companies with at least one observation showing negative assets or negative fixed assets are excluded
- Financial information is adjusted by annual US Consumer Price Index changes and information is reported in 2020 USD

The information presented in Section 5.1 of Chapter 5 is also based on the Thomson Reuters Datastream. The information on reported sales is collected for a representative regional sample of listed companies. Sales data reported in interim quarterly financial statements are collected for all quarters in 2019 and the ones available in 2020. Financial companies are excluded from the sample.

Industry classification

The Thomson Reuters Datastream uses Thomson Reuters Business Classification (TRBC). The economic sectors used in the analysis are the following:

Thomson Reuters Economic Sector	
Basic Materials	Industrials
Cyclical Consumer Goods / Services	Non-Cyclical Consumer Goods / Services
Energy	Technology
Financials	Telecommunications Services
Healthcare	Utilities

B. Financial information of non-financial listed and unlisted firms

The information presented in Figure 5.5 in Chapter 5 is based on the OECD-ORBIS Corporate Finance database. The extract of information presented includes financial statement information for non-financial listed and unlisted companies between 2005 and 2018.

The calculations take into account the ownership structure of companies and avoid considering companies that are already consolidated in the accounts of domestic non-financial parent companies. Thus, calculations include listed companies, large unlisted companies, small and mid-sized companies not controlled by another corporation, companies without ownership information, and companies registered in any of the four jurisdictions shown in the figure that had a foreign parent or a financial domestic parent.

C. Public equity data

The information on initial public offering (IPOs) and secondary public offerings (SPOs or follow-on offerings) presented in Chapter 2 and Chapter 4 is based on transaction and/or firm-level data gathered from several financial databases, such as Thomson Reuters Eikon, Thomson Reuters Datastream, FactSet and Bloomberg. Considerable resources have been committed to ensuring the consistency and quality of the dataset. Different data sources are checked against each other and, whenever necessary, the information is also controlled against original sources, including regulator, stock exchange and company websites and financial statements.

Country coverage and classification

The dataset includes information about all initial public offerings (IPOs) and secondary public offerings (SPOs or follow-on offerings) by financial and non-financial companies. All public equity listings following an IPO, including the first time listings on an exchange other than the primary exchange, are classified as a SPO. If a company is listed on more than one exchange within 180 days, those transactions are consolidated under one IPO. The country breakdown is carried out based on the issuer's country of domicile. In the dataset, the country of issue classification is also made based on the stock exchange location of the issuer.

It is possible that a company becomes listed in more than one country when going public. The financial databases record a dual listing as multiple transactions for each country where the company is listed. However, there is also a significant number of cases where dual listings are reported as one transaction only based on the primary market of the listing. For this reason, the country breakdown based on the stock exchange is based on the primary market of the issuer.

Currency conversion, inflation adjustment and growth company threshold

The IPO and SPO data are collected on a deal basis via commercial databases in current USD values. The information provided in Chapter 2 is aggregated at the annual frequency and in some tables, presented at the year-industry level. Issuance amounts initially collected in USD were adjusted by 2020 US Consumer Price Index (CPI).

In Chapter 2, the threshold for identifying growth company IPOs - USD 100 million - is fixed in 2010 USD adjusted by US CPI. The information provided in Chapter 4 is aggregated at the monthly frequency and in some tables, presented at the monthly-industry level and issuance amounts are collected and presented in current USD.

Industry classification

Initial public offering and secondary offering statistics are presented in this report using the Thomson Reuters Business Classification (TRBC). The economic sectors used in the analysis are the followings:

Thomson Reuters Economic Sector	
Basic Materials	Industrials
Cyclical Consumer Goods / Services	Non-Cyclical Consumer Goods / Services
Energy	Technology
Financials	Telecommunications Services
Healthcare	Utilities

Exclusion criteria

With the aim of excluding IPOs and SPOs by trusts, funds and special purpose acquisition companies the following industry categories are excluded:

- Financial companies that conduct trust, fiduciary and custody activities
- Asset management companies such as health and welfare funds, pension funds and their third-party administration, as well as other financial vehicles
- Open-end investment funds
- Other financial vehicles
- Grant-making foundations
- Asset management companies that deal with trusts, estates and agency accounts
- Special Purpose Acquisition Companies (SPACs)
- Closed-end investment funds
- Listings on an over-the-counter (OTC) market
- Security types classified as “units” and “trust”
- Real Estate Investment Trusts (REITs)
- Transactions with missing or zero proceeds

D. Ownership data

The main source of information is the FactSet Ownership database. This dataset covers companies with a market capitalisation of more than USD 50 million and accounts for all positions equal to or larger than 0.1% of the issued shares. Data are collected as of end of 2020 in current USD, thus no currency nor inflation adjustment is needed. The data are complemented and verified using Thomson Reuters Eikon and Bloomberg. Market information for each company is collected from Thomson Reuters Eikon. The dataset includes the records of owners for 25 766 companies listed on 92 markets covering 98% of the world market capitalisation. For each of the countries/regions presented in Chapter 2 and Chapter 5 the information corresponds to all listed companies in those countries/regions with available information.

The information for all the owners reported as of the end of 2020 is collected for each company. Some companies have up to 5 000 records in their list of owners. Each record contains the name of the institution, the percentage of outstanding shares owned, the investor type classification, the origin country of the investor, the ultimate parent name, among other things.

The table below presents the five categories of owners defined and used in this report. Different types of investors are grouped into these five categories of owners. In many cases, when the ultimate owner is identified as a Government, a Province or a City and the direct owner was not identified as such, ownership

records are reclassified as public sector. For example, public pension funds that are regulated under public sector law are classified as government, and sovereign wealth funds (SWFs) are also included in that same category.

Investor category	Categories of owners	
	Investor type	
Private corporations and holding companies	Business Association	Operating Division
	Employee Stock Ownership Plan	Private Company
	Holding Company	Public Company
	Joint Venture	Subsidiary
	Non-profit organisation	
Public sector	Government	Regional Governments
	Sovereign Wealth Manager	Public Pension Funds
Strategic individuals and family members	Individual (Strategic Owners)	Family Office
Institutional investors	Bank Investment Division	Mutual Fund Manager
	Broker	Other
	College/University	Pension Fund
	Foundation/Endowment Manager	Pension Fund Manager
	Fund of Funds Manager	Private Banking/Wealth Management
	Fund of Hedge Funds Manager	Private Equity Fund/Alternative Inv.
	Hedge Fund	Real Estate Manager
	Hedge Fund Manager	Research Firm
	Insurance Company	Stock Borrowing/Lending
	Investment Adviser	Trust/Trustee
	Market Maker	Umbrella Fund
	Mutual Fund-Closed End	Venture Capital/Private Equity
Other free-float including retail investors	Shares in the hands of investors that are not required to disclose their holdings. It includes the direct holdings of retail investors who are not required to disclose their ownership and institutional investors that did not exceed the required thresholds for public disclosure of their holdings.	

E. Dividends and share buybacks data

Data shown on payout developments in Section 2.5 of Chapter 2 are based on OECD calculations using data obtained from Bloomberg combined with the Thomson Reuters Datastream database.

Information on share buyback operations is gathered from company announcements as listed on Bloomberg. In the case that buyback amounts are recorded as a number of shares or a certain percentage of outstanding market capitalisation rather than in a currency amount, the data are matched with share price/market capitalisation data from Thomson Reuters Datastream database to calculate the corresponding current USD amount.

Dividend payments are collected from the Thomson Reuters Datastream database, as are all company level data (revenues, investment). Data expressed initially in current USD amount are adjusted by 2020 US Consumer Price Index (CPI) and expressed in 2020 USD.

The dataset covers observations in the period from 1 January 2000 to 31 December 2020. Regional data are based on listing location. The same exclusion criteria as for the Company financial information (see section A) apply.

F. Corporate bond data

Data shown on corporate bond issuances in chapters 2, 4 and 5 are based on OECD calculations using data obtained from Thomson Reuters Eikon that provides international deal-level data on new issues of corporate bonds, that are underwritten by an investment bank. The database provides a detailed set of information for each corporate bond issue, including the identity, nationality and sector of the issuer; the type, interest rate structure, maturity date and rating category of the bond, the amount of and use of proceeds obtained from the issue.

Convertible bonds, deals that were registered but not consummated, preferred shares, sukuk bonds, bonds with an original maturity less than or equal to 1 year or an issue size less than USD 1 million are excluded from the dataset. The analyses in the report are limited to bond issues by non-financial companies. The industry classification is carried out based on Thomson Reuters Business Classification (TRBC). The country breakdown is carried out based on the issuer's country of domicile. Yearly issuance amounts initially collected in USD were adjusted by 2020 US Consumer Price Index (CPI). Information provided in monthly frequency is collected and presented in USD.

Given that a significant portion of bonds are issued internationally, it is not possible to assign such issues to a certain country of issue. For this reason, the country breakdown is carried out based on the country of domicile of the issuer. The advanced/emerging market classification is based on IMF country classification.

Rating data

Thomson Reuters Eikon provides rating information from three leading rating agencies: S&P, Fitch and Moody's. For each bond that has rating information in the dataset, a value of 1 to the lowest credit quality rating (C) and 21 to the highest credit quality rating (AAA for S&P and Fitch and Aaa for Moody's) is assigned. There are eleven non-investment grade categories: five from C (C to CCC+); and six from B (B- to BB+). There are ten investment grade categories: three from B (BBB- to BBB+); and seven from A (A- to AAA).

If ratings from multiple rating agencies are available for a given issue, their average is used. Some issues in the dataset, on the other hand, do not have rating information available. For such issues, the average rating of all bonds issued by the same issuer in the same year (t) is assigned. If the issuer has no rated bonds in year t, year t-1 and year t-2 are also considered, respectively. This procedure increases the number of rated bonds in the dataset and hence improves the representativeness of rating-based analyses. When differentiating between investment and non-investment grade bonds, the final rating is rounded to the closest integer and issues with a rounded rating less than or equal to 11 are classified as non-investment grade.

Early redemption data

When calculating the outstanding amount of corporate bonds in a given year, issues that are no longer outstanding due to being redeemed earlier than their maturity should also be deducted. The early redemption data are obtained from Thomson Reuters Eikon and cover bonds that have been redeemed early due to being repaid via final default distribution, called, liquidated, put or repurchased. The early redemption data are merged with the primary corporate bond market data via international securities identification numbers (i.e. ISINs).

Covenant data

Covenant analyses are based on authors' original calculations performed on data obtained from Mergent Fixed Investment Securities Database (FISD), a database providing issue-level covenant data for publicly

offered bonds in the United States, issued either by US or non-US entities. The initial dataset covers observations in the period from 1 January 2000 to 30 September 2020. From this initial set, issues by non-corporate issuers, preferred shares, convertible bonds, bonds with an original maturity less than or equal to 1 year, bonds for which no covenant data have been collected and bonds with no rating data available are excluded. The analyses in the paper are limited to bond issues by non-financial companies.

Thirty-seven covenant-related data fields, each of which corresponds to a covenant type, are taken into covenant analyses. Ten of those thirty-seven covenant types are almost never used in non-investment or investment grade bonds and are therefore excluded from the covenant protection index calculations to ensure that they do not unnecessarily distort the index. For each corporate bond, binary variables denoting the presence/absence of 27 different types of covenants in the bond contract are first summed up. This sum is then divided by 27 and multiplied by 100 to create a score that ranges between 0 and 100, with 100 denoting the highest level of protection for bond investors. For any given year, the index is the average of the covenant scores of bonds issued in that year.

G. Syndicated loans data

Data shown on syndicated loans in Section 2.3 of Chapter 2 are based on OECD calculations using data obtained from Thomson Reuters Eikon that provides international deal-level data on new syndicated loans. The database provides a detailed set of information for each syndicated loan, including the identity, nationality of the issuer; maturity date and yield type category of the loan, the amount of and use of proceeds obtained from the issue.

The initial dataset covers observations in the period from 1 January 2000 to 31 December 2019. From this initial set, loans with an original maturity less than 1 year or a loan size less than USD 1 million are excluded. The analyses in the report are limited to loans of non-financial companies. The country breakdown is carried out based on the country of domicile of the issuer. Issuance amounts initially collected in USD were adjusted by 2020 US Consumer Price Index (CPI) and presented in 2020 USD.

Corporate Governance

The Future of Corporate Governance in Capital Markets Following the COVID-19 Crisis

This report provides an evidence-based overview of developments in capital markets globally leading up to the COVID-19 crisis. It then documents the impact of the crisis on the use of capital markets and the introduction of temporary corporate governance measures. Although the structural effects of the crisis on capital markets and its interplay with corporate governance remain to be fully understood, this report presents trends that can be used to shape policies that will support the recovery and formulates key policy messages that will guide the upcoming review of the G20/OECD Principles of Corporate Governance.

The report emphasises that the road to recovery will require well-functioning capital markets that can allocate substantial financial resources for long-term investments. It also highlights the need to adapt corporate governance rules and practices to the post-COVID-19 reality, particularly in areas such as increased ownership concertation; environmental, social and governance (ESG) risk management; digitalisation; insolvency; audit quality and creditor rights.

PRINT ISBN 978-92-64-59275-9
PDF ISBN 978-92-64-79616-4

9 789264 592759