

Global Debt Report 2026

Sustaining Debt Market Resilience Under Growing Pressure



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GROWING PRESSURE



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Foreword

This is the third edition of the OECD's annual Global Debt Report. It analyses global sovereign and corporate bond market trends, using a combination of OECD datasets and surveys, as well as public and commercial market data. This edition includes two standing chapters on sovereign borrowing (Chapter 1, the Sovereign Borrowing Outlook) and corporate debt markets (Chapter 2), alongside a thematic chapter on the investor base for government and corporate bonds (Chapter 3). The report does not cover supranational or sub-sovereign bond markets.

Chapter 1 analyses sovereign bond market developments from 2007 to 2026 with a focus on OECD countries. It looks at borrowing requirements and funding strategies; debt-to-GDP ratio dynamics; borrowing costs and yield curve shapes; interest payments and refinancing risks; and market liquidity. This chapter draws on responses to the OECD 2025 Survey on Primary Market Developments, the OECD 2025 Survey on Liquidity in Government Bond Secondary Markets, and the 2025 annual survey on the borrowing needs of OECD governments. It also benefits from the contributions of members of the OECD Working Party on Debt Management.

Chapter 2 studies developments in global corporate debt markets (bonds, syndicated loans, and private credit) for both financial and non-financial companies. The chapter focuses on explaining the drivers of movements in corporate credit spreads, the impact of the AI expansion on corporate debt markets, and whether recent developments have made corporate debt markets more equity-like in character.

Chapter 3 analyses the investor base for sovereign and corporate bonds from 2007 to 2026. It looks at changes in holdings at an aggregate and regional level, the drivers of these changes, and the implications for issuers and broader market dynamics. The chapter draws on responses to the OECD 2025 Survey on Liquidity in Government Bond Secondary Markets and the OECD 2025 Questionnaire on Pension Fund Holdings of Debt Securities. It also benefits from the contributions of members of the OECD Working Party on Debt Management.

Comments and questions should be addressed to the Capital Markets and Financial Institutions Division of the OECD Directorate for Financial and Enterprise Affairs by e-mail at GlobalDebtReport@oecd.org.

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Chapter 1 is an activity of the OECD Working Party on Debt Management (WPDM) and was prepared by Luca Policino, Sam Foxall and Jakob Shida, with the support of Ayşe Beril Kocamanoğlu and Finn-Jona Loddock, under the supervision of Fatoş Koç, Head of the Financial Markets Unit. Input was provided by the following members of the WPDM: Grahame Johnson (Chair, WPDM & Advisor to the Governor of the Bank of Canada); Anthony Linehan (Vice-Chair WPDM & Deputy Director, Funding and Debt Management, National Treasury Management Agency, Ireland); Anna Hughes (Chief Executive, Australian Office of Financial Management); Jonas Vervoort (Deputy Director, Treasury and Capital Markets, Belgian Debt Agency); Antoine Deruennes (Director General, Agence France Trésor); Tammo Diemer (Managing Director, German Finance Agency); Davide Iacovoni (Director General, Ministry of Economy and Finance, Italy); Hirokazu Ando (Director for Debt Management and JGB Investor Relations, Financial Bureau, Ministry of Finance, Japan); Ivo Specker (Economist, Dutch State Treasury); Klas Granlund (Head of Debt Management, Swedish National Debt Office); and Jessica Pulay (Chief Executive Officer, UK Debt Management Office).

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Editorial

Global debt markets are navigating a difficult terrain. Geopolitical tensions, trade disputes, and the prospect of further macroeconomic headwinds are adding pressure to already stretched markets. So far, the debt landscape is not clearly reflecting these developments, showing few signs of strain. Volatility has moderated, liquidity is improving, sovereign spreads in several emerging markets have tightened, and corporate credit spreads are near historic lows. Debt markets have been remarkably resilient to a series of shocks in recent years, including the unusual co-occurrence of high deficit and elevated yields.

This surface-level stability, however, masks deeper structural developments that may be adding to risks which could crystallise suddenly if current macro-trends continue. Borrowing levels – public and private – remain elevated and are set to increase further as sovereign funding needs grow and as the corporate sector increasingly taps debt markets to finance the enormous capital needs of the artificial intelligence expansion. This funding will increasingly be supplied by a more price-sensitive investor base as central banks have reduced their bond holdings and as traditional long-term buyers increasingly operate alongside shorter-term investors, sometimes with significant leverage. On the one hand, these investors bring much-needed liquidity and diversity to global debt markets. On the other hand, it may render issuers more exposed to shocks and greater price movements, calling into question the stability of the world's USD 109 trillion sovereign and corporate bond markets.

This is taking place in a world in which borrowing costs continue to increase, especially at longer maturities, fuelled by a structural decrease in long-term demand and concerns about fiscal trajectories. Governments and companies are responding by skewing their issuance towards shorter maturities which, while mitigating the impact of increasing interest expenditures, also exposes them to greater refinancing risk.

The current landscape is also characterised by complexities that make traditional signals more difficult to interpret. For example, because investors have different incentives and liability structures, shifts in the investor base can change yields at some maturities more than others. That makes it difficult to pin down what yield increases reflect changes in risk perception as opposed to structural shifts in demand. Similarly, low corporate credit spreads may be driven more by improvements in liquidity than enhanced fundamental credit quality. Distinguishing technical and fundamental factors is critical to informed policymaking, but increasingly difficult given the number of moving parts in today's markets.

The resilience debt markets have shown in the face of major pressures should not be taken for granted. It rests on a foundation of rigorous monetary policy frameworks, serious commitments to sound fiscal policy, and trust in the integrity of the institutions governing these markets.

Through a deep dive into recent market developments, my hope is that the 2026 edition of the Global Debt Report can help equip policymakers with the knowledge they need to safeguard that resilience, a prerequisite for long-term investment and growth.



Carmine Di Noia,

Director for Financial and Enterprise Affairs, OECD

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Abbreviations and acronyms

AOFM	Australian Office of Financial Management
ATM	Average term-to-maturity
AUM	Assets Under Management
BIS	Bank for International Settlements
BoJ	Bank of Japan
BTP	Buono del Tesoro Poliennale
CDS	Credit Default Swap
COVID-19	Coronavirus disease
CPI	Consumer Price Index
DB	Defined Benefit
DC	Defined Contribution
DMO	Debt Management Office
EC	European Commission
ECB	European Central Bank
EMDEs	Emerging Market and Developing Economies
ESG	Environmental, Social and Governance
ETF	Exchange Traded Fund
EU	European Union
EUR	Euro
FSB	Financial Stability Board
FRN	Floating Rate Note
FX	Foreign exchange
G7	Group of Seven
GBP	Great Britain pound
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GPU	Graphic Processing Units
G-SIBs	Global Systemically Important Banks
HHI	Herfindahl-Hirschman Index
HICs	High-income countries
HM Treasury	His Majesty's Treasury
HQLAs	High-Quality Liquid Assets
IMF	International Monetary Fund
ISIN	International Securities Identification Number
JGB	Japanese government bond
JPY	Japanese yen
KPI	Key Performance Indicator
LAC	Latin America and the Caribbean
LBO	Leveraged Buyout
LICs	Low-income countries
LMICs	Lower-middle income countries
LLC	Limited Liability Company

LSEG	London Stock Exchange Group
MENA	Middle East and North Africa
MFI	Monetary Financial Institutions
MMF	Money Market Fund
NA	OECD National Accounts
NBFIs	Non-bank Financial Institutions
NGEU	Next Generation EU
NPISHs	Non-Profit Institutions Serving Households
OATs	Obligations Assimilables au Trésor
OECD	Organisation for Economic Co-operation and Development
OEF	Open-Ended Fund
PDM	Public debt management
PE	Private equity
PEPP	Pandemic Emergency Purchase Programme
PSPP	Public Sector Purchase Programme
PTFs	Principal Trading Firms
RFQ	Request for Quote
QE	Quantitative Easing
QT	Quantitative Tightening
RIC	LSEG Identification Code
SDRs	Special Drawing Rights
SLR	Supplementary Leverage Ratio
SNA	System of National Accounts
SNG	Subnational government
SSA	Sub-Saharan Africa
SPV	Special Purpose Vehicles
SURE	Support to mitigate Unemployment Risks in an Emergency
T-bill	Treasury bill
TBAC	Treasury Borrowing Advisory Committee
TRBC	The Reference Data Business Classification
UK	United Kingdom
UMICs	Upper-middle income countries
UN	United Nations
US	United States
USD	United States dollar
WPDM	OECD Working Party on Debt Management
YTM	Yield-to-maturity

ISO Codes

ARG	Argentina	EST	Estonia	JPN	Japan	SAU	Saudi Arabia
AUS	Australia	FIN	Finland	KOR	Korea	SVK	Slovak Republic
AUT	Austria	FRA	France	LVA	Latvia	SVN	Slovenia
BEL	Belgium	DEU	Germany	LTU	Lithuania	ZAF	South Africa
BRA	Brazil	GRC	Greece	LUX	Luxembourg	ESP	Spain
CAN	Canada	HUN	Hungary	MEX	Mexico	SWE	Sweden
CHL	Chile	ISL	Iceland	NLD	Netherlands	CHE	Switzerland
CHN	China	IND	India	NZL	New Zealand	THA	Thailand
COL	Colombia	IDN	Indonesia	NOR	Norway	TUR	Türkiye
CRI	Costa Rica	IRL	Ireland	PER	Peru	GBR	United Kingdom
CZE	Czechia	ISR	Israel	POL	Poland	USA	United States
DNK	Denmark	ITA	Italy	PRT	Portugal		

Executive summary

Global debt markets proved resilient in 2025, despite borrowing levels reaching historic highs. Volatility has remained limited and corporate credit spreads neared record lows. However, shifts in the investor base are transforming these markets. More price-sensitive investors are providing much needed liquidity but may be increasing market sensitivity to shocks. Governments and companies have been shifting their issuance towards shorter maturities to mitigate the impact of rising long-term interest rates, increasing refinancing risks. These risks must be carefully managed to ensure that sovereign and corporate bond markets, with a combined size of USD 109 trillion, continue to provide stable financing to governments and corporations. This is especially important as they are set to play an increasing role in funding AI investment and defence spending, at a time when decisions on monetary policy, public debt and pension fund asset allocation are coming under growing pressure.

Governments and corporations are expected to borrow USD 29 trillion from markets in 2026, USD 4 trillion or 17% more than in 2024.

Central government borrowing in OECD countries continued to grow in 2025, reaching USD 17 trillion, up from USD 12 trillion in 2022, and is expected to rise by a further USD 1 trillion in 2026. Outstanding sovereign bond debt now stands at a record USD 61 trillion, up from USD 55 trillion in 2024. Central government debt relative to GDP in OECD countries was stable at 83%, but is projected to rise to 85% in 2026, 39 percentage points higher than in 2007, before the global financial crisis. In emerging markets, sovereign bond issuance reached a record USD 3.4 trillion in 2025, 21% higher than in 2024, bringing the total debt stock to a record USD 12.1 trillion.

Much of the increase in borrowing is to refinance existing debt. In 2025, sovereign refinancing requirements in the OECD amounted to a record of around USD 13.5 trillion – near 80% of gross borrowing. This is up from USD 12 trillion in 2024, with projections for a further USD 1 trillion increase in 2026. At around USD 3.5 trillion, net borrowing requirements were stable in 2025 but remain substantially above pre-pandemic levels, and are projected to grow in 2026 to the highest level since 2020.

Private borrowing is also increasing. Corporate borrowing from markets reached its highest level ever in real terms in 2025 at about USD 13.7 trillion (USD 6.8 trillion in corporate bonds and USD 7 trillion in syndicated loans). Outstanding amounts reached USD 59.5 trillion at the end of the year, with USD 36.4 trillion in bonds and USD 23.1 trillion in syndicated loans. Given the scale of capital expenditure required to finance the expansion of AI, corporate borrowing needs are expected to continue increasing substantially.

Over the past five years, sustainable bonds have also become a more important source of capital market financing. Globally, the total amount issued through sustainable bonds was three times larger in 2021-2025 than in 2016-2020 for both the official and corporate sectors. Worldwide, companies issued USD 531 billion in sustainable bonds in 2025, while the official sector issued USD 486 billion. This represented a slight decline of 6% compared with the previous year, but was still more than 50% higher than in 2020.

Sovereign borrowing costs are elevated, and higher interest rates are beginning to impact the corporate debt stock.

The post-2022 increase in interest rates continues to impact global debt markets. While shorter-term rates stabilised in OECD countries in 2025, 30-year yields rose significantly across most countries to a median of 4.1%, underpinned by elevated real yields. Concerns about fiscal trajectories are a key driver, but continued high bond issuance and a decline in demand for long-term assets have also pushed up longer-term yields. The expected excess cost of issuing longer-term bonds, which began rising in 2022, continued to increase. At the end of 2025, the average estimated 10-year term premium in the OECD reached 0.84%, the highest level in over a decade.

Sovereign and corporate borrowers have responded to the increase in longer-term interest costs by shifting their issuance towards shorter maturities. The share of issuance with a maturity over 10 years reached its lowest point since 2009 for sovereigns and the lowest on record for corporates in 2025. Another component of this adjustment is a heavier reliance on Treasury bills for funding. Treasury bill issuance continued to account for roughly 48% of total borrowing in 2025, close to a record high, and is projected to remain at this level in 2026.

While lowering current interest costs, the shift to shorter maturities increases refinancing risks. This pressure is particularly acute in emerging markets, where more than a third of the outstanding bond stock is set to mature within the next three years. Low-income countries face an even greater refinancing burden, with more than half of their bonds maturing over the same period.

Interest expenditures for corporates, which have more flexibility to adjust their issuance strategies depending on financing conditions, have not increased as much. However, the shift towards greater interest spending is also clear in this sector. The gap between the lower effective cost of outstanding debt and higher cost of issuing new debt has narrowed substantially. Consequently, for the first time since 2016, securities with an interest rate above 4% made up half of investment grade bonds at the end of 2025. As near-term refinancing needs primarily reflect maturing low-cost debt, this trend is set to continue.

The investor base has changed significantly, and more price-sensitive and leveraged investors could make markets more vulnerable to shocks.

Central banks remain the largest domestic holders of government debt in many OECD countries, but as many major central banks have continued to shrink their balance sheets, the market is increasingly dependent on more price-sensitive investors, including hedge funds, households and certain foreign holders. This transition away from price-insensitive demand, in many ways a normalisation of the investor composition, could increase market volatility.

Corporate bond markets have seen a parallel shift in investor composition following the post-2008 regulatory overhaul, with open-ended investment funds, exchange-traded funds (ETFs) and, more recently, principal trading firms, playing an increasingly important role. Changes in the sovereign investor base reverberate in the corporate market. Investors willing to hold riskier securities at a time of lower yields may rebalance their portfolios as central banks withdraw, leaving the growing new corporate issuance to be absorbed by a smaller investor base.

Corporate credit spreads are historically low, but this does not primarily reflect increased credit quality.

Despite record levels of borrowing and significant geopolitical uncertainty, corporate credit spreads remain near historical lows. Although fundamental indicators are positive – cash levels are high, earnings prospects are strong, and expected defaults are falling – tight credit spreads do not appear to be mainly driven by improvements in corporate credit quality. Part of the reason is a disproportionate increase in

benchmark sovereign yields, with some companies even trading at negative spreads to their sovereign equivalents. An improvement in liquidity is another important factor. A significant part of the reduction in spreads since 2013 is the result of decreased liquidity premia, as technological advances and more liquidity-friendly investors have entered the market. Increased investor risk-willingness has also contributed significantly to the decline, but default risk compensation has not decreased. Consequently, expected default losses now account for the largest share of corporate credit spreads by far.

As they shift to external funding to finance the capital-intensive AI expansion, technology companies are set to become ever larger issuers in debt markets.

The technology sector has traditionally relied more on internally generated funds and less on external financing than most other sectors. The AI race is changing that dynamic. AI leaders – predominantly US technology firms – are tapping markets, from corporate bonds to private credit, to finance the expansion of the technology, notably for data centres. In 2025, nine major players commonly known as “hyperscalers” together raised USD 122 billion from bond markets, accounting for nearly half of all technology firm issuance globally.

Capital expenditure projections indicate that this is just the beginning. Cumulatively, these nine companies alone have forecasted capital expenditures of USD 4.1 trillion between 2026 and 2030 – about 36% more than total capital expenditure by all non-financial US companies in 2025. If half of these investments were financed through bond markets, these nine companies would account for 15% of historical annual average issuance by non-financial companies globally.

These developments may be setting corporate debt markets on course to become more equity-like. At 12% of global market capitalisation, these nine companies are already a core part of global equity markets. Given their current generally low levels of leverage and massive upcoming financing needs, they are shaping up to make a growing imprint on debt markets as well. Combined with the enormous AI-related financing needs of other sectors, from energy providers to construction companies, AI financing is set to transform these markets.

As pressures mount, sustaining the resilience of debt markets is essential for long-term growth.

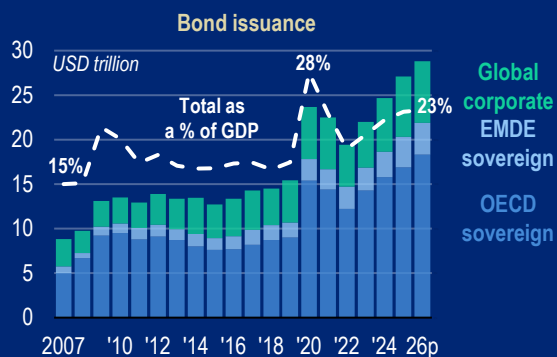
Debt markets have functioned with relative calm in 2025 despite growing pressures. The macro-economic environment is characterised by higher tariffs, heightened geopolitical tensions, and significant policy uncertainty. There are also internal pressures. The long-term stability and resilience of debt markets ultimately depend on governments and companies ensuring the sustainability of their debt.

Stronger efforts to promote fiscal prudence and to enhance the efficiency of public sector spending would not only help manage the current elevated debt burdens, but also create space for investment in infrastructure, digitalisation, and defence. It would also reduce the risk of crowding out corporate access to financing, which will be critical at a time when investment in AI is set to absorb a substantial share of corporate debt flows.

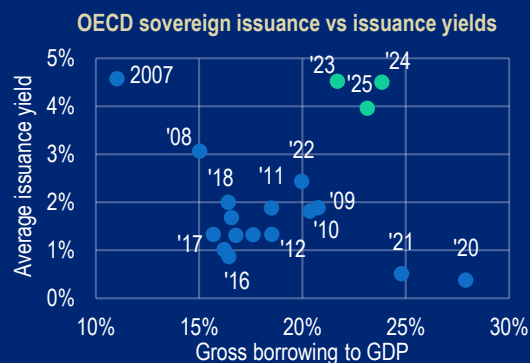
Debt markets are key to enabling investment in long-term growth. They have proved resilient to challenges thus far, but their resilience is not guaranteed. A strong and credible monetary policy framework, along with effective public debt management, has provided an essential foundation. Preserving that foundation will be crucial for maintaining investor confidence and ensuring the continued smooth functioning of these markets.

Infographic 1. Key facts and figures

Sovereign and corporate bond issuance reached a record in 2025, with USD 29 trillion projected for 2026

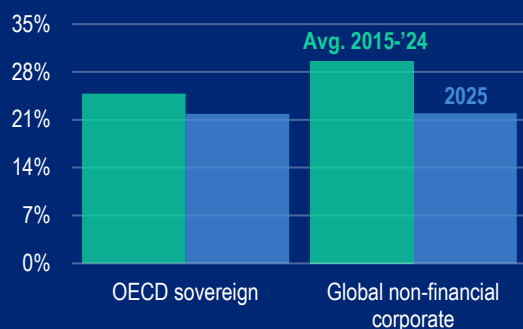


Higher borrowing needs have been accompanied by higher yields since 2023



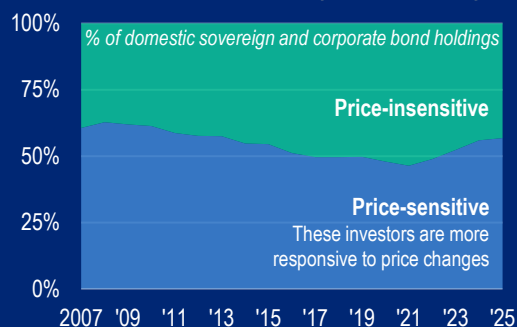
The share of longer-term issuance reached its lowest point since 2009 in 2025

Share of bond issuance with maturity higher than 10 year



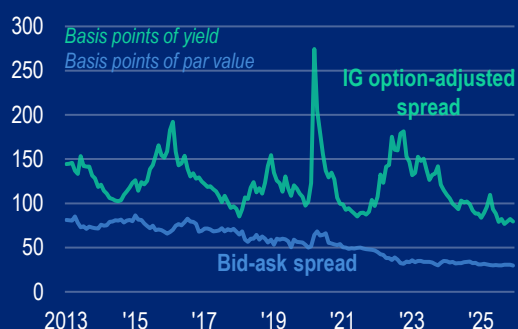
With record issuance and central banks stepping back, the investor base is becoming more price-sensitive

Domestic bond holders by price-sensitivity



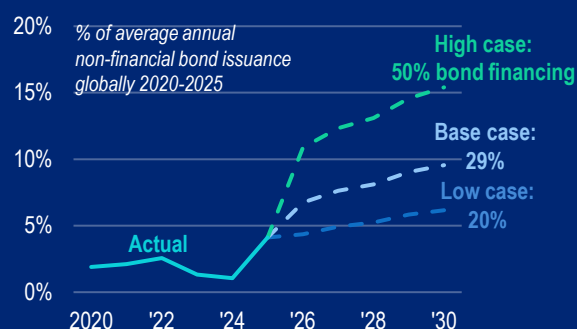
Greater liquidity, not credit quality, appears to have been the major driver of corporate spread compression

Corporate bond spreads (IG) and bid-ask spreads



All borrowing is set to have significant impact on corporate debt markets going forward

Nine frontier firms' projected bond issuance based on % of capex financed with bonds



1 Sovereign borrowing outlook

Sovereign bond issuance and the outstanding volume reached record highs in the OECD area in 2025, with refinancing requirements accounting for most of the gross borrowing. Elevated borrowing requirements, combined with decreasing demand for long-term bonds and heightened risk perceptions, have contributed to higher term premia and steeper yield curves. In response, many countries are rebalancing their issuance towards shorter maturities to limit exposure to higher long-term borrowing costs, although this increases refinancing risks. Meanwhile, rising interest payments, persistent budget deficits, and falling inflation are expected to push the OECD area debt-to-GDP ratio higher in 2026. Despite this challenging environment, sovereign bond markets have continued to function effectively, supported by improved liquidity, and have smoothly absorbed the record volumes of supply. However, the combination of record issuance, the growing role of leveraged market participants, and elevated policy uncertainty increases the vulnerability of markets to episodes of heightened volatility.

Key findings

- **Gross borrowing in OECD countries reached a record USD 17 trillion in 2025, up from nearly USD 16 trillion in 2024, and is projected to rise to around USD 18 trillion in 2026.** As a share of GDP, gross borrowing decreased by almost 1 percentage point (p.p.) to 23% but is projected to rise again to 24% in 2026.
- **Refinancing requirements hit a new high of around USD 13.5 trillion in 2025, accounting for near to 80% of gross borrowing.** Net borrowing remained stable in 2025 but is projected to climb to nearly USD 4 trillion in 2026, the second highest level on record.
- **Outstanding sovereign bond debt in OECD countries reached an all-time high of USD 61 trillion in 2025, up from USD 55 trillion in 2024.** This was the largest annual increase since the pandemic, partly driven by US dollar depreciation. Relative to GDP, sovereign bond debt remained stable at 83% between 2024 and 2025, but is projected to climb to 85% in 2026, the highest since 2021.
- **Sovereign bond debt in non-OECD EMDEs reached a record USD 12.1 trillion in 2025, equivalent to around 30% of GDP, the highest level since before 2007.** While spreads tightened for most larger issuers, low-income countries in particular face a challenging financing environment.
- **Interest expenditures remain high, at 3.3% of GDP for the aggregate OECD area, close to the peak from the previous ten years of 3.4%.** For the average OECD issuer, they remained close to 2%, just below the 2015 peak of 2.1%.
- **The impact of higher interest payments is set to outweigh that of falling inflation on the aggregate OECD debt-to-GDP ratio in 2026.** Interest payments are projected to increase the ratio by 2.5 p.p. in 2026, while inflation is projected to decrease it by 2.4 p.p.
- **Long-term government bond yields continued to rise in 2025, while short- to medium-term yields have stabilised.** This yield curve steepening has been driven by factors including increased supply, lower structural demand for long-term bonds, and higher risk perceptions.
- **Increased term premia have prompted issuers to reduce the share of long-term bond issuance.** In 2025, the ratio of fixed-rate bonds with maturities of at least 30 years compared to those with 1-5 year maturities was the lowest since at least 2008. While this adjustment is viewed as cost-efficient ex-ante, it may exacerbate near to medium-term refinancing risks.
- **Treasury bills have become an increasingly important source of financing,** surpassing fixed-rate bonds in terms of issuance volume, and now accounting for 15% of the debt stock.
- **Liquidity in bond and repo markets mostly improved,** with higher trading volumes and the greater availability of collateral supporting the smooth absorption of record issuance.
- **Volatility continued to decline, with occasional bouts of turbulence** often triggered by (geo-)political events and amplified by the increased presence of leveraged market participants.

This chapter presents developments in sovereign debt in OECD countries since 2007, including 2025 estimations and 2026 projections as of December 2025. Debt analysed here refers to central government marketable securities (Box 1.1). Topics covered include borrowing needs, debt trends, issuance strategies, market pricing, borrowing costs, and liquidity in sovereign bond and repo markets. It draws mainly on responses from Debt Management Offices (DMOs) to surveys on central governments' marketable debt, and on primary and secondary government bond markets. The methodology can be found in Annex 1.A.

Borrowing requirements and outstanding debt trends

Both the stock and flow of borrowing remain on an upward trajectory

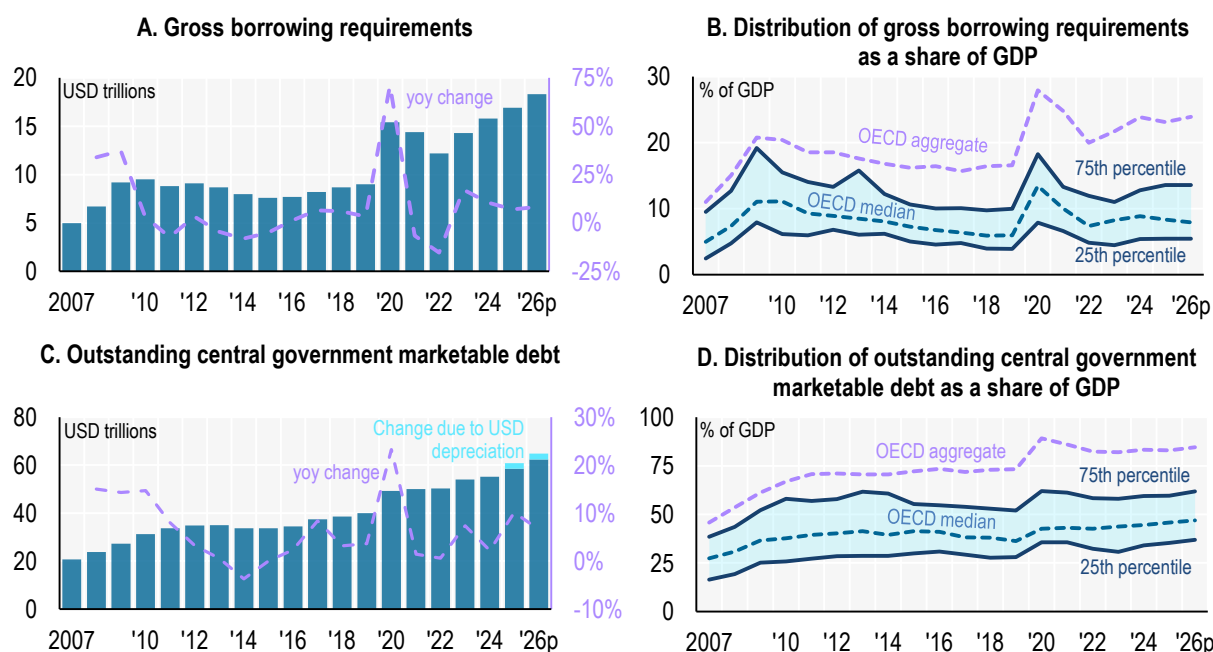
The gross borrowing requirements of central governments in the OECD area continued the upward trajectory that began in 2023. This followed decreases in 2021 and 2022 after the large spike in issuance in 2020 at the onset of the COVID-19 pandemic (Figure 1.1, Panel A). Borrowing increased by 7% in 2025, rising from around USD 16 trillion in 2024 to a record USD 17 trillion, and it is projected to reach around USD 18 trillion in 2026. As a share of GDP, gross borrowing decreased by almost 1 p.p. to 23% in 2025, but it is projected to rise again to 24% in 2026 (Figure 1.1, Panel B).

The aggregate OECD trend is driven by the largest issuers and is not always representative of developments in individual countries. Gross borrowing for the OECD median issuer was 9% of GDP in 2025, well below the 23% for the aggregate OECD area. This figure is projected to decrease to 8% in 2026, against an increase to 24% for the aggregate. Moreover, a few issuers, including Estonia, Greece and Ireland, reported that lower borrowing needs were a key challenge in 2025.

The stock of outstanding debt in the OECD area experienced its largest annual increase in 2025 since the COVID-19 pandemic, with roughly one-third of this increase due to US dollar depreciation against the euro and the British pound.¹ Central governments' bond debt increased from USD 55 trillion to USD 61 trillion. Keeping exchange rates constant, the 2025 figure would amount to USD 59 trillion, which would still be a record level (Figure 1.1, Panel C).

Figure 1.1. Gross borrowing requirements and outstanding debt levels

Gross borrowing and outstanding debt reached record highs in nominal terms in 2025, but as a share of GDP, fell and remained stable, respectively



Note: 2025 values are estimates and '26p denotes projections. The OECD aggregate in panel B and D refers to the sum of all OECD countries' borrowing requirements and outstanding central government marketable debt divided by the sum of OECD countries' GDP.

Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG; national authorities' websites; and OECD calculations.

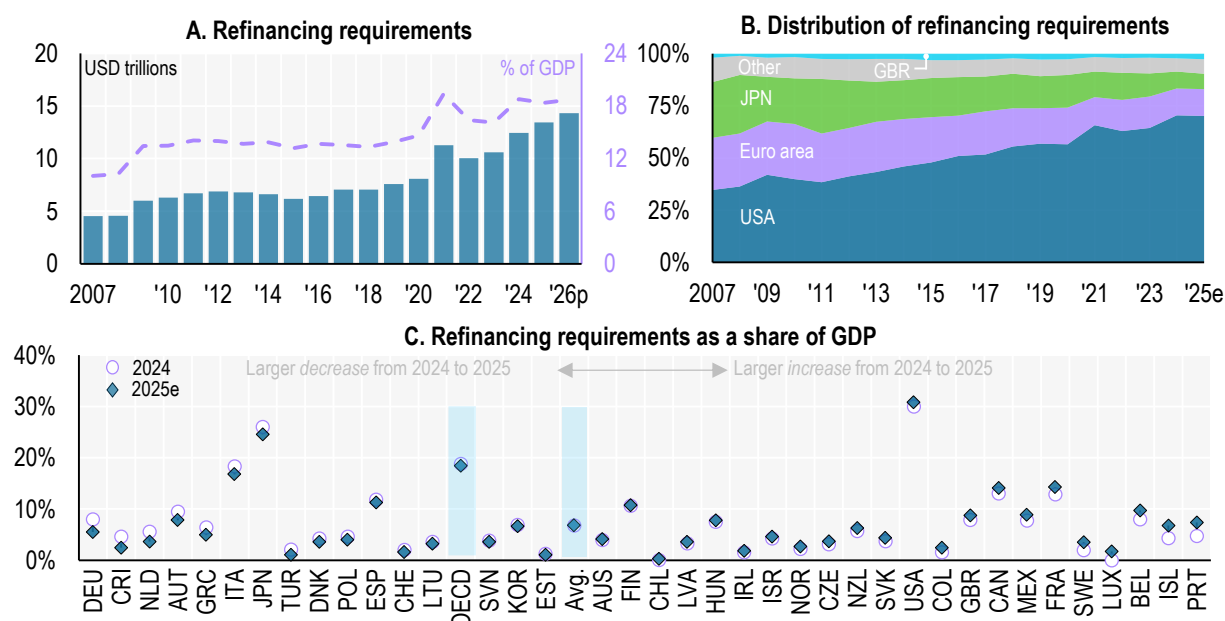
Despite the increase in nominal terms, sustained output growth resulted in the debt stock as a share of GDP in the OECD area remaining stable at 83% in 2025, but it is projected to increase to 85% in 2026 (Figure 1.1, Panel D). This increase would bring the ratio to within 4 p.p. of the 2020 peak. A similar trend is observable by looking at the OECD median issuer.

Annual refinancing requirements reached a record high in nominal terms in 2025, but declined as a share of GDP. They are projected to rise by both measures in 2026 (Figure 1.2, Panel A). Refinancing requirements increased by almost 1 trillion from around USD 12 trillion in 2024 to around USD 13.5 trillion in 2025 and are projected to increase further to USD 14 trillion in 2026. Thus, annual refinancing requirements are set to reach 19% of the OECD area GDP, close to the record reached in the immediate aftermath of the COVID-19 pandemic in 2021.

A few large issuers account for the majority of refinancing requirements in the OECD area, with the United States and Japan representing close to 80% of the total (Figure 1.2, Panel B). However, while the share accounted for by Japan declined from 16% in 2020 to 7% in 2025, that of the United States increased from 57% to 70%.

Figure 1.2. Refinancing requirements

Refinancing requirements reached record levels in 2025 and are projected to keep increasing in 2026



Note: 2025 values are estimates, and '26p denotes projections. In Panel B, Euro area includes only Euro area countries which are part of the OECD. The OECD in Panel C refers to the sum of all OECD countries' refinancing requirements divided by the sum of OECD countries' GDP. Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

Refinancing requirements were stable as a share of GDP for the average OECD issuer from 2024 to 2025, at around 7%, but eight countries experienced increases of at least 1 p.p. (Figure 1.2, Panel C). Belgium, Iceland and Portugal experienced the largest increases. These countries are adopting different measures to face these higher refinancing requirements. Belgium has increased syndication volumes, Iceland has increased the number of outstanding bond lines, and Portugal has increased the number of lines outstanding as well as the number and size of auctions.² The increase in operation sizes, in particular the use of syndications to raise large sums of cash in a single transaction, can support redemption management, with issuers often planning these supply events around redemption dates.

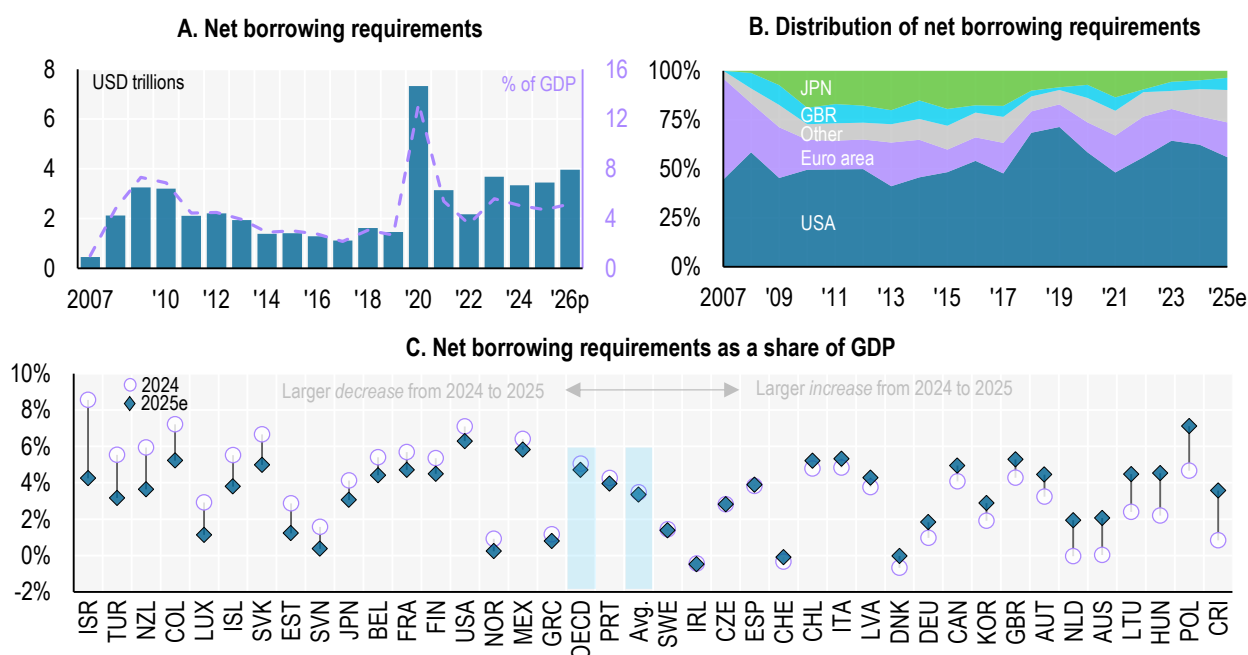
Annual net borrowing requirements in the OECD area remained broadly stable in 2025 but are projected to reach the second highest level ever in 2026 (Figure 1.3, Panel A). They remained at around USD 3.5 trillion in 2025 and are projected to reach close to USD 4 trillion in 2026, the highest on record after 2020, when they amounted to near USD 7 trillion. Net borrowing has consistently accounted for around 5% of GDP every year since 2023, 2 p.p. above the 2015-2019 pre-pandemic average.

The level of OECD net borrowing requirement remained stable in 2025 despite changing trends across larger issuers (Figure 1.3, Panel B). In 2025, Japan's share decreased from 5% to 4% amid an improving fiscal balance.³ The Euro area share increased by 3 p.p., largely driven by Germany and the Netherlands. The German fiscal stance is expected to be strongly expansionary in 2026. Dutch net borrowing requirements turned positive in 2025 amid an increased budget deficit-to-GDP ratio. The United States has accounted for around half to two-thirds of total net borrowing requirements in the OECD area since 2007.

As a share of GDP, net borrowing remained stable between 2024 and 2025, but still substantially above pre-pandemic levels. These aggregate figures pointing to stability in net borrowing requirements as a share of GDP mask sizeable differences across countries (Figure 1.3, Panel C). Net borrowing requirements as a share of GDP remained stable for both the OECD area as a whole (5%) and for the average OECD issuer (3%), but for only eight OECD countries.⁴ The largest increases in 2025 are estimated for Costa Rica, Hungary and Poland.⁵

Figure 1.3. Net borrowing requirements

Net borrowing requirements as a percentage of GDP remained stable in 2025 but are projected to reach the second-highest level ever in 2026



Note: 2025 values are estimates and '26p denotes projections. In Panel B, Euro area includes only Euro area countries which are part of the OECD. The OECD in Panel C refers to the sum of all OECD countries' net borrowing requirements divided by the sum of OECD countries' GDP. Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

Higher net borrowing requirements have resulted in some of the smallest issuers in the OECD making structural changes to their issuance strategies. For instance, Estonia introduced a Commercial Paper

Programme in 2023 and a Domestic Bond Programme in 2024 to meet rising financing needs (Ministry of Finance of Estonia, 2024^[2]). Moreover, Luxembourg has become a more regular issuer, having been largely inactive in terms of issuance in the preceding decades outside of economic crises.

Overall, gross and net borrowing did not significantly increase in 2025 as a share of GDP. However, they increased in nominal terms, remaining structurally higher than in the pre-pandemic period. In some cases, these increases were unexpected, contributing to changes in annual funding plans, as Debt Management Offices (DMOs) strove to achieve the right balance between minimising risks and costs.

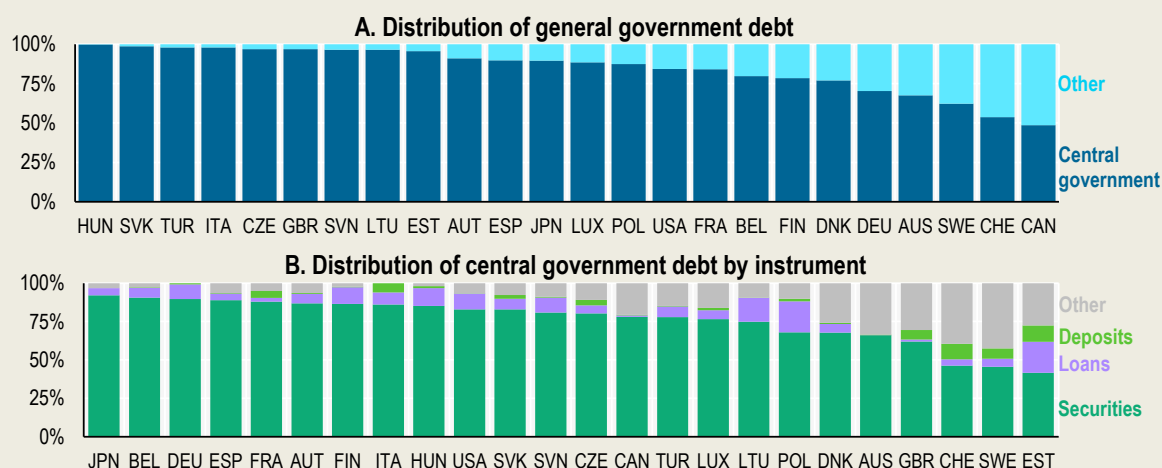
Box 1.1. Data coverage of the Sovereign Borrowing Outlook

The Sovereign Borrowing Outlook analyses statistics on central government marketable debt, which is part of the more comprehensive measure of general government debt. This allows for clearer comparisons across countries and computation of relevant statistics for public debt management.

The central government is part of the general government sector, which consists of central, state, and local governments, as well as the social security funds they control. The central government covers all bodies classified under general government, which are agencies or instruments of the central authority of a country, except for separately organised social security funds or extra-budgetary funds.

Despite its narrower definition, central government debt accounts for 85% of the aggregate general government debt of the 24 OECD countries considered in this box. Looking at individual countries, central government debt is on average 85% of general government debt, accounting for at least 80% in 17 countries (Figure 1.4, Panel A). Among G7 countries, the exceptions are Canada (49%) and Germany (70%), reflecting the relatively high levels of federalism in these countries.

Figure 1.4. General government debt of selected OECD countries



Notes: Data as of Q4 2024. OECD countries for which data are available. Deposits include currency. Japanese currency and deposits are in "Other".

Source: OECD (2026^[3]), Quarterly Public Sector Debt, consolidated; and OECD calculations.

In terms of instruments, the Sovereign Borrowing Outlook focusses on marketable debt, defined as financial securities and instruments that trade in the secondary market, excluding instruments used for cash management. Other debts include currency and deposits; loans; insurance, pensions, and standardised guarantee schemes; and other accounts payable. Focusing on marketable debt allows

for a more consistent analysis of public debt management topics such as portfolio composition, investor preferences, and market conditions, as well as computing measures such as duration.

Marketable debt securities account for 91% of the aggregate central government debt of the 24 OECD countries considered in this box. Looking at individual countries, debt securities are on average 76% of central government debt, accounting for more than 70% in 17 countries (Figure 1.4, Panel B). The only exception among G7 countries is the United Kingdom (62%), where insurance, pension and standardised guarantee schemes account for almost 30% of total central government debt.

Changed borrowing needs and shifts in demand required recalibrations of issuance

Fourteen central governments changed their issuance profile in 2025 compared to their original funding plans, mainly due to changed financing needs and shifting demand dynamics. On the financing side, nine issuers cited higher net borrowing, while four pointed to higher refinancing needs. On the demand side, most of the 14 issuers cited changed demand or changed demand expectations reported by primary dealers.

The most common change in issuance profile concerned the volume share of fixed-rate bonds with tenors between one and seven years (Figure 1.5, Panel A). For instance, Spain introduced a new seven-year line in 2025, while Germany reintroduced its seven-year line due to increased funding needs.⁶

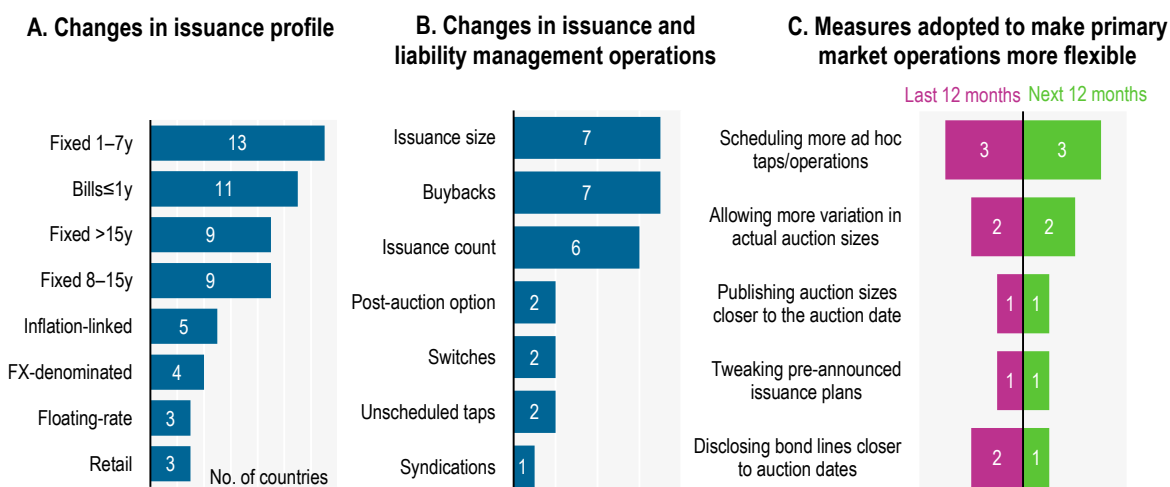
Changes in the volume share of T-bills were the second most cited revision to issuance profiles. T-bills are commonly used to absorb unexpected shocks to funding needs, given the higher capacity of the market to absorb low-duration instruments. For instance, T-bill issuance increased in Belgium and the United Kingdom due to higher borrowing needs. In the United Kingdom, a planned increase in the T-bill stock accounted for virtually all the new net financing requirement that emerged from the in-year revision in April. Conversely, T-bill issuance was reduced in Denmark and Portugal in response to lower borrowing needs. Denmark decreased the number of monthly T-bill auctions.⁷

Many DMOs also changed the size and number of issuance operations, often due to a change in financing needs (Figure 1.5, Panel B). For example, the United Kingdom introduced programmatic gilt tenders at the start of its 2025-2026 financing year.⁸ Meanwhile, some issuers are making greater use of syndications as a strategic complement to auctions (Box 1.3). Since the pandemic, Finland introduced an additional syndication per year to launch bonds with a maturity of less than 10 years. Conversely, in 2025, Lithuania reduced the number of syndications in response to lower borrowing needs.

Uncertain borrowing requirements and shifts in demand highlight the importance of having flexible issuance strategies, while continuing to operate within a regular and predictable framework. Flexibility is already embedded as one of the core principles of DMOs' borrowing strategies (OECD, 2024^[4]). Six countries further increased the flexibility of their primary market operations in 2025. The most adopted measures were scheduling more ad hoc taps/operations and allowing more variation in auction sizes compared to initial plans (Figure 1.5, Panel C). Other examples include Belgium, which increased its flexibility regarding the announcement dates of syndicated transactions by announcing auctioned bond lines one day later; and Poland, which tapped more off-the-run bonds.

Figure 1.5. Changes related to 2025 funding plans and flexibility in primary market operations

Changes to the issuance of short-term bonds, and the size and frequency of operations, were the most common examples of issuers altering their plans in response to changed funding needs or demand conditions



Note: In Panel A, Retail refers to debt instruments dedicated to retail investors.

Source: 2025 OECD Survey on Primary Market Developments.

Issuance by instruments and maturity

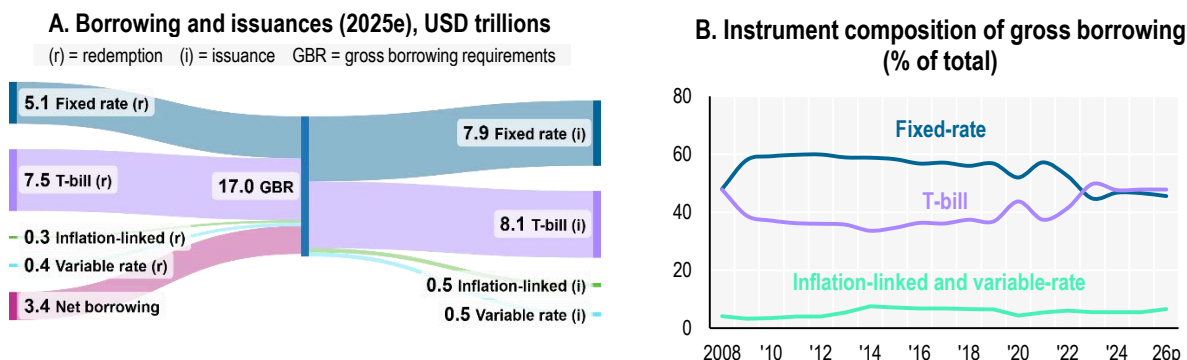
Treasury bills have remained an important source of financing, and have accounted for a higher share of issuance volume in every year since 2023

The instrument composition of gross borrowing in the OECD area in 2025 marks a continuation of the post-pandemic trend characterised by a higher share of T-bill issuance. Following the COVID-19 pandemic, the share of T-bill issuance began increasing and surpassed that of fixed-rate bonds in 2023. Since then, the two shares have both fluctuated at around 47% of total borrowing, with the share of T-bills remaining slightly higher than that of fixed-rate bonds (Figure 1.6). They are projected to stay at this level in 2026. A higher share of T-bill issuance increases short-term refinancing needs and related risks.

The share of inflation-linked bonds remained stable at 3% in 2025, despite the introduction of new inflation-linked bond lines and cases of increased re-openings of existing ones. Eight countries introduced new inflation-linked instruments in 2025 or are planning to introduce them.⁹ Among them, Iceland issued inflation-linked bonds to settle liabilities of the country's inflation-linked housing finance fund, which is currently being wound down (Icelandic Parliament, 2025^[5]). Australia is planning to issue bonds linked to monthly inflation prints, in addition to those it currently issues, which are linked to quarterly prints. Meanwhile, the United States increased the auction sizes of inflation-linked bonds during the year.

Figure 1.6. Instrument composition of gross borrowing

Treasury bills have accounted for a higher share of borrowing than fixed-rate instruments in the last few years



Note: "2025e" denotes estimations, 2026 data are projections.

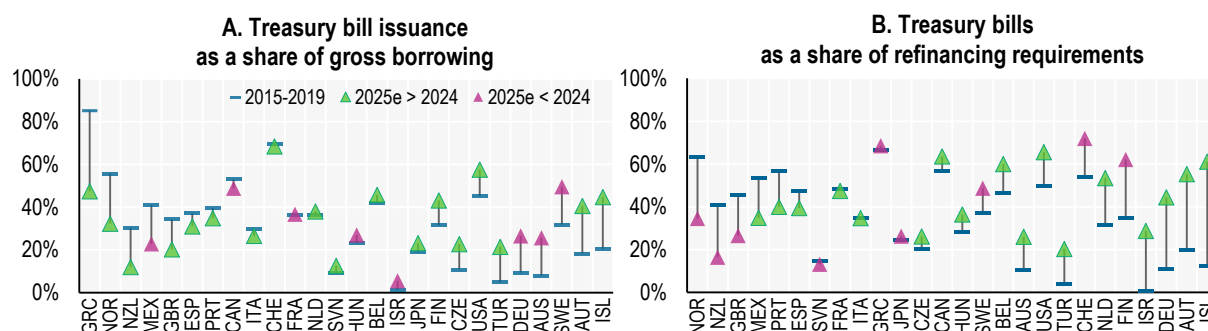
Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

The increased reliance on T-bills is also evident when considering individual countries.¹⁰ Sixteen out of 26 regular OECD T-bill issuers had a higher share of T-bill issuances in 2025 compared to pre-pandemic averages (Figure 1.7, Panel A). Moreover, the majority of these 16 countries issued a higher share of T-bills in 2025 compared to 2024. Austria, Iceland, and Sweden are the countries relying most heavily on T-bill issuance compared to pre-pandemic practices, and their T-bill issuance share kept increasing in 2025. Austria and Iceland are also among the countries with the highest T-bills as a share of redemptions compared to the pre-pandemic period (Figure 1.7, Panel B).

Only two regular T-bill issuers, Canada and Mexico, reduced their T-bills share of gross borrowing compared to both the pre-pandemic average and in 2024. However, T-bills accounted for two-thirds of redemptions in Canada and around one-third in Mexico. The United Kingdom's share of T-bill issuance is lower than pre-pandemic level but increased in 2025 compared to 2024, while the UK DMO is exploring how to promote retail investments in T-bills, signalling a willingness to deepen this market in the near future (HM Treasury, 2026^[6]).

Figure 1.7. Treasury bill issuance and refinancing requirements

The importance of Treasury bills in issuance strategies since the COVID-19 pandemic varies across countries



Notes: The figure only includes countries regularly issuing T-bills.

Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

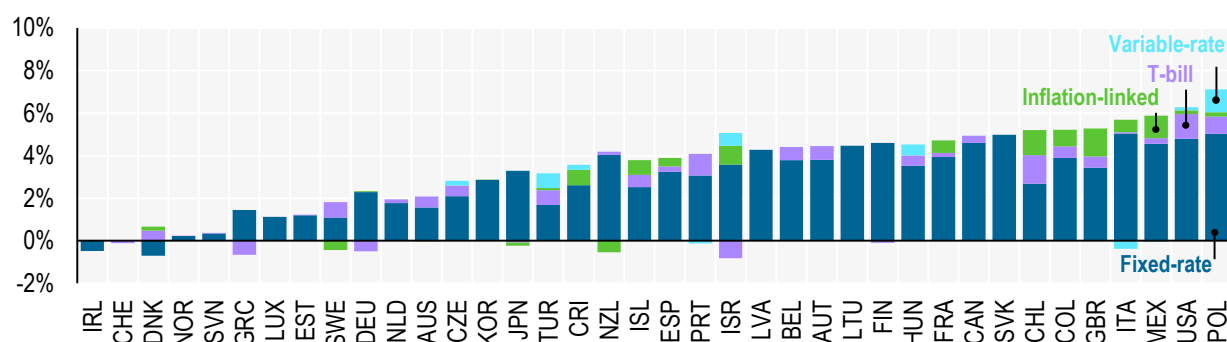
In many cases, the high level of T-bill issuance in 2025 was implemented in the context of a similarly high level of T-bill refinancing. In 36 out of 38 OECD countries, net issuance of T-bills remained negligible in 2025 when compared to the size of the economy, at no more than 1% of GDP (Figure 1.8). The only exceptions are Chile and the United States, which, in net terms, issued T-bills equivalent to slightly more than 1% of GDP. The United States transitioned six-week bills from cash management bills to benchmark status in February 2025. This change followed positive feedback from market participants (US Treasury, 2024^[7]; 2025^[8]).¹¹

Other evolutions in issuance strategies around T-bills are noteworthy. Poland issued T-bills in 2025 for the first time in four years. Among supranational issuers, the European Union's issuance of T-bills reached a record high in 2025 (Box 1.2).

When looking at net borrowing for all instrument classes, fixed-rate debt still accounts for the highest share in OECD countries, equal to 3% of GDP on average (Figure 1.8). Denmark and Ireland were the only countries with negative net fixed-rate issuance in 2025. A few other countries, including Israel and Poland, also issued non-negligible volumes of variable-rate and inflation-linked debt, in net terms, in 2025 (Figure 1.8).

Figure 1.8. Net borrowing by instrument as a share of GDP (2025e)

Fixed-rate bond issuance still accounts for the vast majority of net borrowing in most OECD countries



Note: The figure presents estimations for 2025.

Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

Box 1.2. The European Commission as an issuer on behalf of the European Union

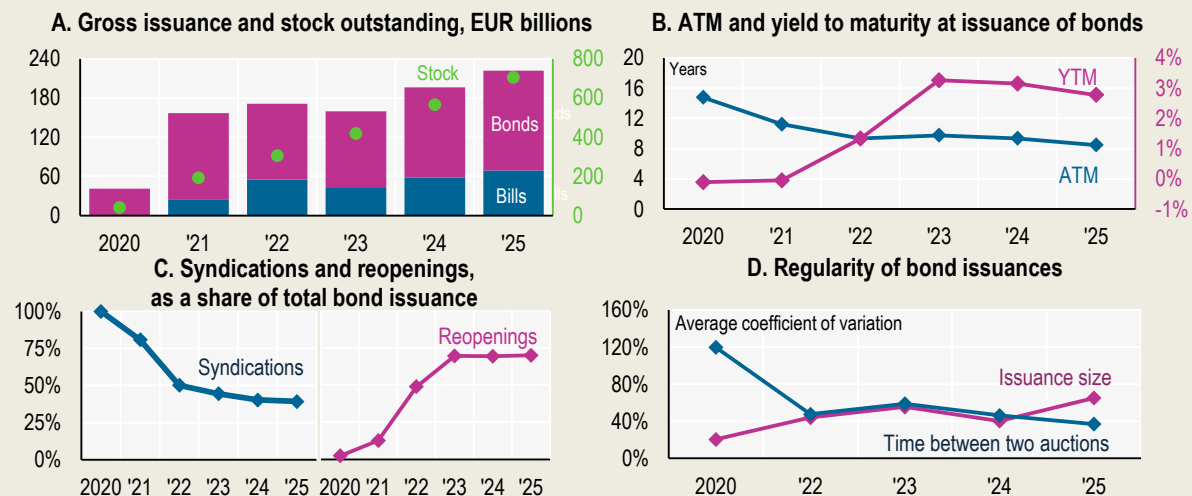
The European Commission (EC)'s issuance of bonds and bills on behalf of the European Union (EU) increased fivefold from EUR 40 billion in 2020 to more than EUR 200 billion in 2025, taking the outstanding stock to EUR 700 billion (Figure 1.9, Panel A). T-bills were introduced in September 2021 and accounted for around 30% of gross issuance since 2022. Most borrowing funded the SURE and NGEU programmes, and support for third countries. While the SURE programme is completed, NGEU will be ongoing in 2026, and the EC will begin borrowing to fund SAFE, an instrument to boost defence capabilities. The stock of EU bonds and bills is expected to reach EUR 1 trillion by the end of 2026.

The evolution of borrowing costs and average term-to-maturity (ATM) at issuance since 2020 is in line with developments in Euro area sovereigns. The average yield to maturity at issuance of EU bonds increased from around 0% in 2020 to around 3% in 2025, while the ATM at issuance decreased from close to 15 years to 8 years (Figure 1.9, Panel B). The Commission stated that, in the first half of 2026, it will issue benchmark maturities between 3 and 30 years, focussing on 20 years or less. At the same time, the EC plans to rely more on T-bill issuance, given uncertainty in precise funding needs.

The characteristics of EU bond issuance reflect an effort to build a liquid curve, launching new lines via syndications and deepening their liquidity via re-openings (Figure 1.9, Panel C). In 2020-2021, almost all issuances were made via syndications, and reopening volumes were low. In 2022-2023, the EC increased the volume of re-openings and conducted proportionately more auctions. Since then, re-openings represent almost two-thirds of annual issuance. However, syndications still account for almost half and are used to open new and tap existing bond lines in roughly equal proportion.

The EU issuance strategy is becoming more regular and predictable when looking at issuance frequency, but less so when looking at issuance sizes (Figure 1.9, Panel D). Maintaining a regular and predictable issuance strategy is important to boost market confidence and support investor demand. The relatively higher variation of issuance size may be driven by evolving and less certain funding needs linked to policy programmes that are limited in time and scope.

Figure 1.9. Characteristics of European Commission borrowing



Notes: Figures show data from June 2020. In Panel D, 2021 is missing due to the insufficient number of auctions conducted that year.
Source: European Commission and OECD calculations.

The maturity of issuance has shortened for most countries

A shift towards shorter maturities in the OECD area can also be observed when focussing on the maturity structure of fixed-rate bond issuance (Figure 1.10, Panel A). The volume of issuance with maturities higher than 15 years has declined in 2024 and 2025 relative to those with maturities lower than five years. For instance, the ratio of bonds with maturities of at least 30 years to that of 1-5 year bonds fell to 6% in 2025, the lowest level since at least 2008.

The proportionally higher issuance of bonds with shorter maturities over the last few years may appear consistent with the rise in term premium since 2022, which is discussed later in this chapter. However, it is important to account for the differences in issuance strategies of individual OECD issuers. Panel B of Figure 1.10 groups countries by the evolution of the ATM of issuance before the COVID-19 pandemic (2015-2019), during (2020-2022), and after (2023-2025).

A relative majority of OECD issuers increased their ATM of issuance during the pandemic and decreased it afterwards. These countries included the largest issuers, such as Japan and the United States, which drove the aggregate OECD trend. Japan, for instance, modified its long-term funding strategy in 2025 by decreasing the issuance share of 20, 30 and 40 year bonds. Countries following a similar trend include Belgium, which conducted fewer syndicated transactions and auctions for longer tenors in 2025, due to less explicit demand for them. Moreover, in Spain, the steepening of the yield curve was a reason for a lower share of longer-dated issuance in 2025.

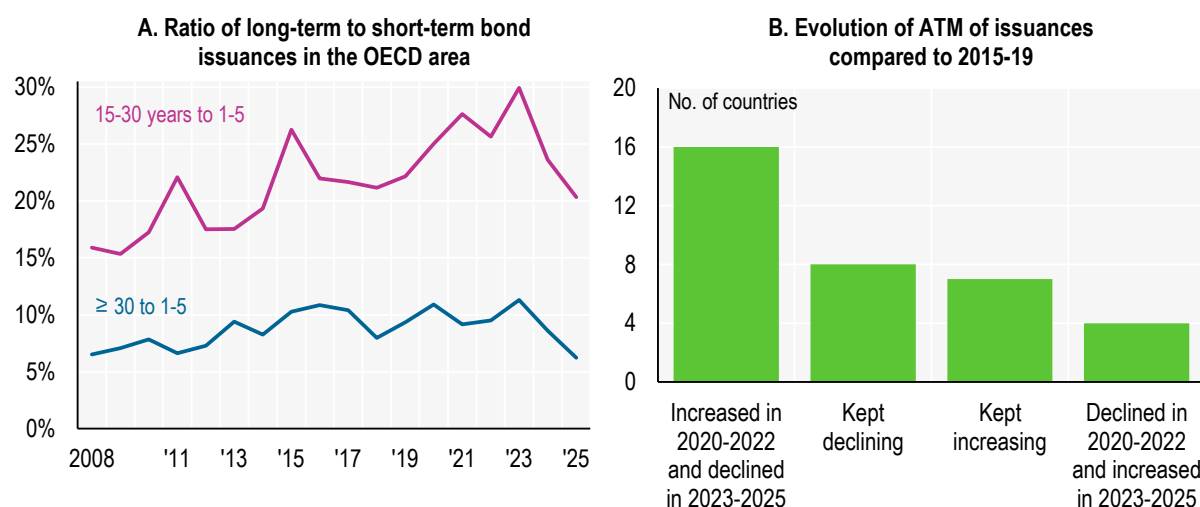
Four smaller issuers adopted the opposite approach: Australia, Costa Rica, Czechia and Poland. The ATM of issuance by these countries decreased during the pandemic and increased afterwards. Costa Rica was one of only two countries, along with Iceland, that reported a material increase in the ATM of issuance in 2025 compared to 2024.

In other countries, the ATM of issuance kept evolving according to the same trend during and after the pandemic (Figure 1.10, Panel B). The ATM of issuance kept increasing in seven countries. Among them, Iceland kept increasing the ATM of issuance in 2025 due to the increased issuance of inflation-linked bonds, which are generally issued at longer maturities on average, than fixed-rate bonds.

The ATM at issuance of the remaining eight countries kept decreasing across these periods. Among them, the United Kingdom has experienced one of the sharpest decreases in the ATM of issuance, although it still has the longest ATM in the G7. This continued in 2025 as the UK DMO kept adapting to lower demand for long and ultra-long maturities, which had previously been a much larger feature of the UK sovereign bond market compared to other G7 issuers.

Figure 1.10. Maturity of fixed-rate issuances

In 2025, long-term bonds accounted for the smallest share of fixed-rate issuance in the OECD area in more than a decade



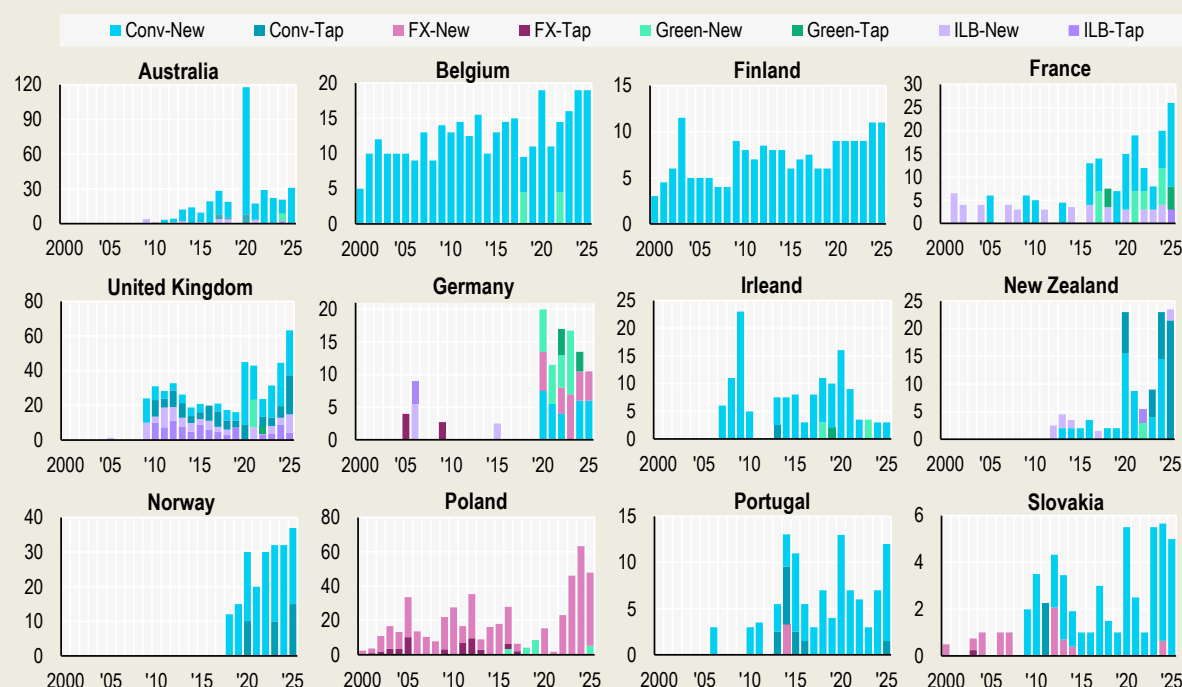
Notes: In Panel B, Latvia and Greece are excluded as outliers; Estonia is excluded because of insufficient data availability. T-bills are excluded.
Source: LSEG; OECD calculations.

Box 1.3. Syndications as a strategic complement to auctions

In recent decades, syndications have become an increasingly important complement to auctions in sovereign debt management. In a syndication, a small group of banks (the syndicate) directly places a bond with its investor client base. As a result, the bonds are not warehoused by primary dealers and therefore do not require primary dealer balance sheet capacity as is the case at auctions. While the regular and highly standardised auctions are generally regarded as cost-efficient, syndications offer several advantages as a strategic complement (AOFM, 2019^[9]). They are, however, costly due to the fees paid to the syndicate and require greater operational administration by the issuer.

According to the OECD Survey on Central Government Marketable Debt and Borrowing, 87% of issuers make use of syndications, typically conducting a low single-digit number of transactions per year. As shown in Figure 1.11 for a sample of issuers, most syndications are used to introduce new securities. Due to the direct placement with investors, a stronger marketing effect, and greater timing flexibility, syndications allow issuers to place larger volumes than in auctions, immediately enhancing liquidity and investor diversification in the new bond. They also support price discovery through direct engagement with investors, making them particularly well-suited for yield curve extensions and the issuance of non-standard instruments.

For several issuers, the volume of syndications spiked at the onset of the COVID-19 pandemic, underscoring their importance as a flexible tool for scaling up issuance in periods of sharply elevated funding needs (Figure 1.11). While conventional bonds account for the largest share of syndicated issuance in absolute terms, issuers rely more heavily on syndications for non-standard instruments when measured relative to their respective total issuance volumes.

Figure 1.11. The use of syndications by selected OECD sovereign issuers


Notes: Values are in billions of national currency. *Conv* (conventional) are fixed-rate non-ESG bonds as well as floating-rate bonds. *FX* are foreign-currency bonds. *Green* includes green conventional, green inflation-linked and green FX bonds. *ILB* are inflation-linked bonds. *New* are newly issued bonds. *Tap* are re-openings of existing bonds. Missing data points before the beginning of the countries' respective time series cannot be ruled out due to potentially limited data availability.

Source: Issuer websites, LSEG and OECD calculations.

Notably, the two largest OECD issuers, Japan and the United States, do not conduct syndications, and Germany, the benchmark issuer of the Euro area, only began using them on a regular basis in 2020. This suggests that the larger an issuer's investor base is, and the more standardised and liquid its debt instruments are, the less advantage there is to complement auctions with syndications. Germany's decision to introduce regular syndications in 2020 was driven, first, by the historically sharp increase in borrowing requirements during the COVID-19 pandemic following a long period of low issuance, and second, by the launch of green bonds as a new product segment.

In addition to being an alternative issuance method, syndications can play an important role in the relationship between issuers and their primary dealers. For primary dealers, receiving a syndication mandate is highly attractive, both because of the fees earned and also because it improves their rankings in so-called league tables, thereby attracting future business. Issuers typically select banks for running syndications based on their performance in auctions and secondary market trading.

The prospect of being mandated for a syndication, therefore, incentivises primary dealers to participate actively in both auctions and secondary markets, effectively making syndications a reward mechanism. Empirical evidence shows that announcements of upcoming syndications lead to higher bidding volumes and higher bidding prices at bond auctions (Shida, 2023^[10]). The possibility of achieving higher prices at auctions can, in turn, at least partially offset the syndication fees paid by the issuer. Due to this and the services provided by the syndicate, the fees may be considered a worthwhile investment (World Bank, 2015^[11]).

There are, however, several potential disadvantages associated with conducting syndications. First, due to their non-standardised nature, they require substantial and time-consuming operational efforts on the side of the issuer. Second, because syndications offer limited transparency – especially regarding the selection of mandated primary dealers and the price-setting process – they may entail reputational risks for the issuer. Third, their incentivising effect may lead particularly strong primary dealers to dominate auctions through aggressive bidding. This, in turn, may result in a narrower bidder base if other primary dealers become discouraged from participating. These factors explain why sovereign issuers treat syndications as a complement to auctions and generally limit their use to a few transactions per year.

Source: AOFM (2019^[9]), *Bond issuance methods – tenders versus syndications*, Australian Office of Financial Management, <https://www.aofm.gov.au/investors/wholesale-investors/investor-insights/bond-issuance-methods-tenders-versus-syndications>; Shida, J. (2023^[10]), “Primary Market Demand for German Government Bonds”, *Journal of International Money and Finance*, Vol 137, <https://doi.org/10.1016/j.jimonfin.2023.102909>; World Bank (2015^[11]), “Domestic Syndications: Background Note”, <https://doi.org/10.1596/24087>.

Outstanding debt trends

The composition of the outstanding debt reflects the shift towards higher Treasury bill issuance since the pandemic

The instrument composition of the record-high OECD debt stock in 2025 remained roughly the same as in 2024 and 2023 (Figure 1.12, Panel A and B).¹² During the last three years, fixed-rate bonds accounted for around 76% of the outstanding stock, followed by T-bills (around 15%), inflation-linked debt (around 8%) and variable-rate debt (around 2%).¹³ Fixed-rate debt remains the largest type of debt outstanding also when looking at individual countries. On average, fixed-rate debt accounted for 84% of OECD countries’ debt outstanding in 2025.

Only a few countries have a relatively low share of fixed-rate debt in 2025 (Figure 1.12, Panel C). The fixed-rate share of outstanding debt is lower than 70% in only seven countries. Among them, T-bills account for 22% of the debt of the United States and 15% in Sweden. Moreover, variable-rate accounts for one-fifth of outstanding debt in Türkiye and one-tenth in Mexico. Lastly, inflation-linked bonds account for 43% of Iceland’s debt and around 30% in Chile, Israel and Mexico.¹⁴

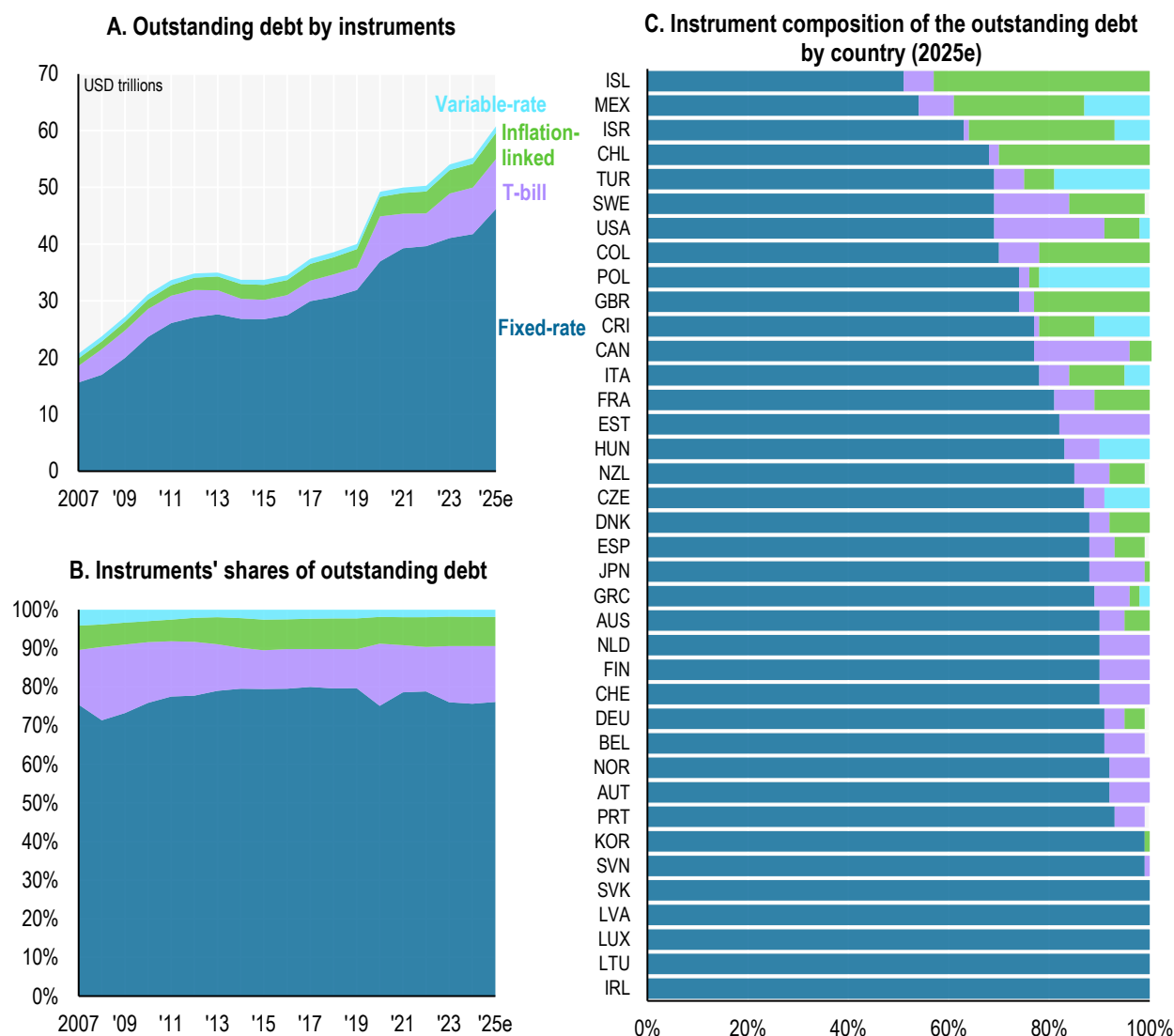
The fact that the instrument composition of the debt stock in 2025 is roughly the same as the last two years represents the consolidation of a shift that happened during the COVID-19 pandemic, when the share of T-bills increased while that of other debt instruments decreased. More precisely, the 15% share of T-bills in 2025 is almost 5 p.p. higher than the 2015-2019 average (Figure 1.13, Panel A). At the same time, the share of fixed-rate, 76%, is around 4 p.p. lower.

Issuing T-bills provides debt managers with operational flexibility, enabling rapid funding in response to uncertainty and temporary shocks. In periods of heightened uncertainty or elevated borrowing needs, investor demand tends to shift toward safer, more liquid assets. On the supply side, these instruments allow governments to better match uncertain and often uneven revenues and expenditures and to repay more quickly if conditions improve (OECD, 2024^[4]).

T-bills have acted as shock absorbers during the global financial crisis and the onset of the COVID-19 pandemic in 2020 (Figure 1.13, Panel B). However, in the case of the financial crisis, the share of T-bills returned to pre-crisis level two years after the shock, in 2010. In the case of the COVID-19 pandemic, the share of T-bills initially decreased but started increasing again in 2023 and is now at a level well above the pre-pandemic average.

Figure 1.12. Instrument composition of outstanding debt

The instrument composition of outstanding debt in the OECD area remained largely stable in 2025, consolidating the post-pandemic shift characterised by a higher T-bill share

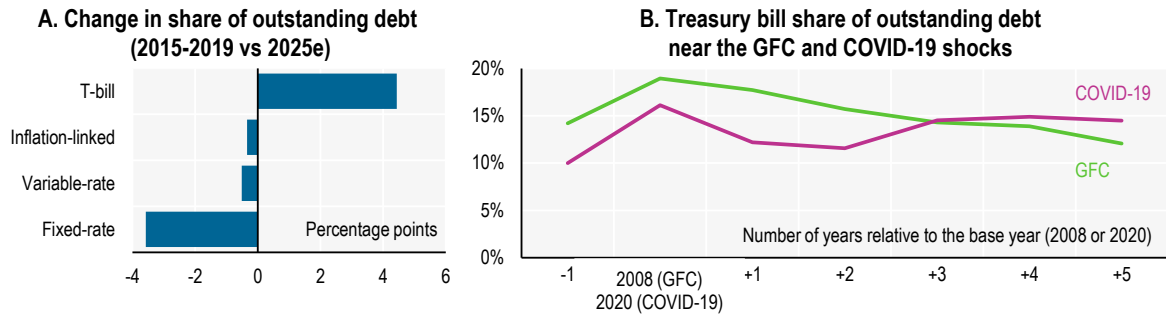


Notes: "2025e" denotes estimations.

Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

Figure 1.13. Treasury bill share of OECD debt stock

The Treasury bill share of the OECD debt stock increased following the COVID-19 pandemic but did not decrease thereafter, unlike in the post 2008 period



Notes: "2025e" denotes estimations. In Panel B, 2025 data are estimates.

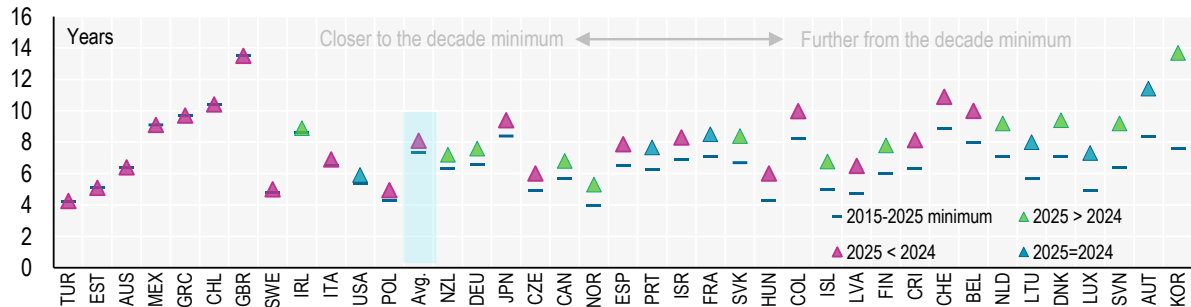
Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

The average ATM of debt stocks in the OECD was 8 years in 2025, but single countries' ATMs ranged from 4.25 years (Türkiye) to 13.7 years (Korea) (Figure 1.14). The higher relative share of T-bills contributed to the ATM of debt stocks decreasing or remaining stable in most OECD countries from 2024 to 2025. Amongst G7 issuers, the ATM decreased in Germany, Italy, Japan, and the United Kingdom, while it was unchanged in France and the United States, and increased in Germany.

In seven countries, the ATM reached the lowest level in a decade. The United Kingdom is amongst these but still has the second-highest ATM among all OECD countries, at 13.5 years. In other countries, the ATM is just above the decade low, these include Italy and the United States.

Figure 1.14. Average term to maturity of the outstanding debt stock

For a majority of issuers, the ATM was lower in 2025 compared to 2024, and in some cases fell to the lowest level in a decade



Notes: "Avg." represents the simple average. Annex 1.A provides country-specific definitions of ATM. Data for Portugal is an estimation. "2015-2025 minimum" refers to the minimum value between 2015 and 2025.

Source: national authorities; and OECD calculations.

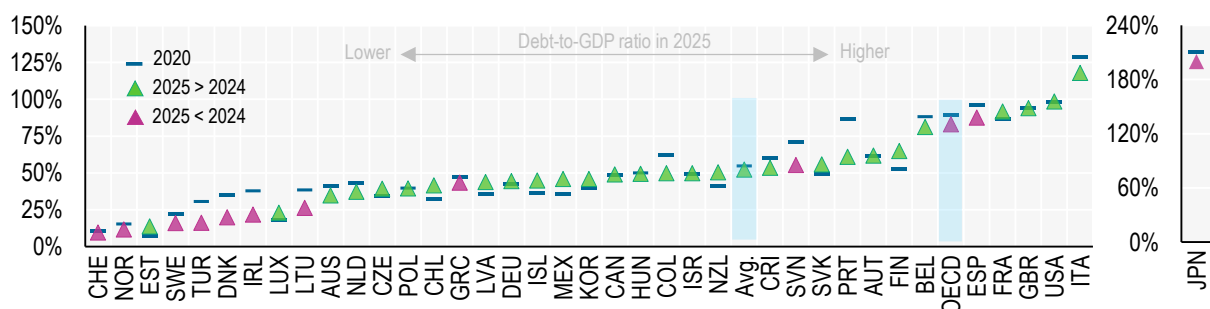
The debt-to-GDP ratio increased in most countries in 2025

Debt-to-GDP ratios increased in 27 OECD countries in 2025 compared to 2024, in some cases nearing or surpassing the level reached during the COVID-19 pandemic in 2020.¹⁵ Among G7 issuers, the ratios in Canada, the United States and the United Kingdom were the same as in 2020. In France and Germany, the ratios were 5 p.p. and 2 p.p. higher, respectively. Italy has the second-highest debt-to-GDP ratio in the OECD area, but in 2025 the figure was 11 p.p. below the pandemic peak.

Nominal GDP grew faster than the debt stock in the remaining 11 OECD countries in 2025, pushing the debt-to-GDP ratio down compared to 2024. Japan was the only G7 country amongst these, and the increase there was largely due to inflation. Japan was the country where inflation pushed the debt-to-GDP ratio down the most across all OECD countries in 2025.¹⁶ Japan also experienced a pickup in real GDP growth from -0.2% in 2024 to 1.1% in 2025.¹⁷ Denmark, Ireland, Portugal, Slovenia and Türkiye have seen the largest falls in debt-to-GDP since 2020.

Figure 1.15. Debt-to-GDP ratio by country

By the end of 2025 the debt-to-GDP ratio in many OECD countries was close to the highest level in the past decade



Note: The OECD represents the sum of the outstanding marketable debt of the central government divided by the sum of GDP. 2025 data are estimates.

Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG; national authorities' websites; and OECD calculations.

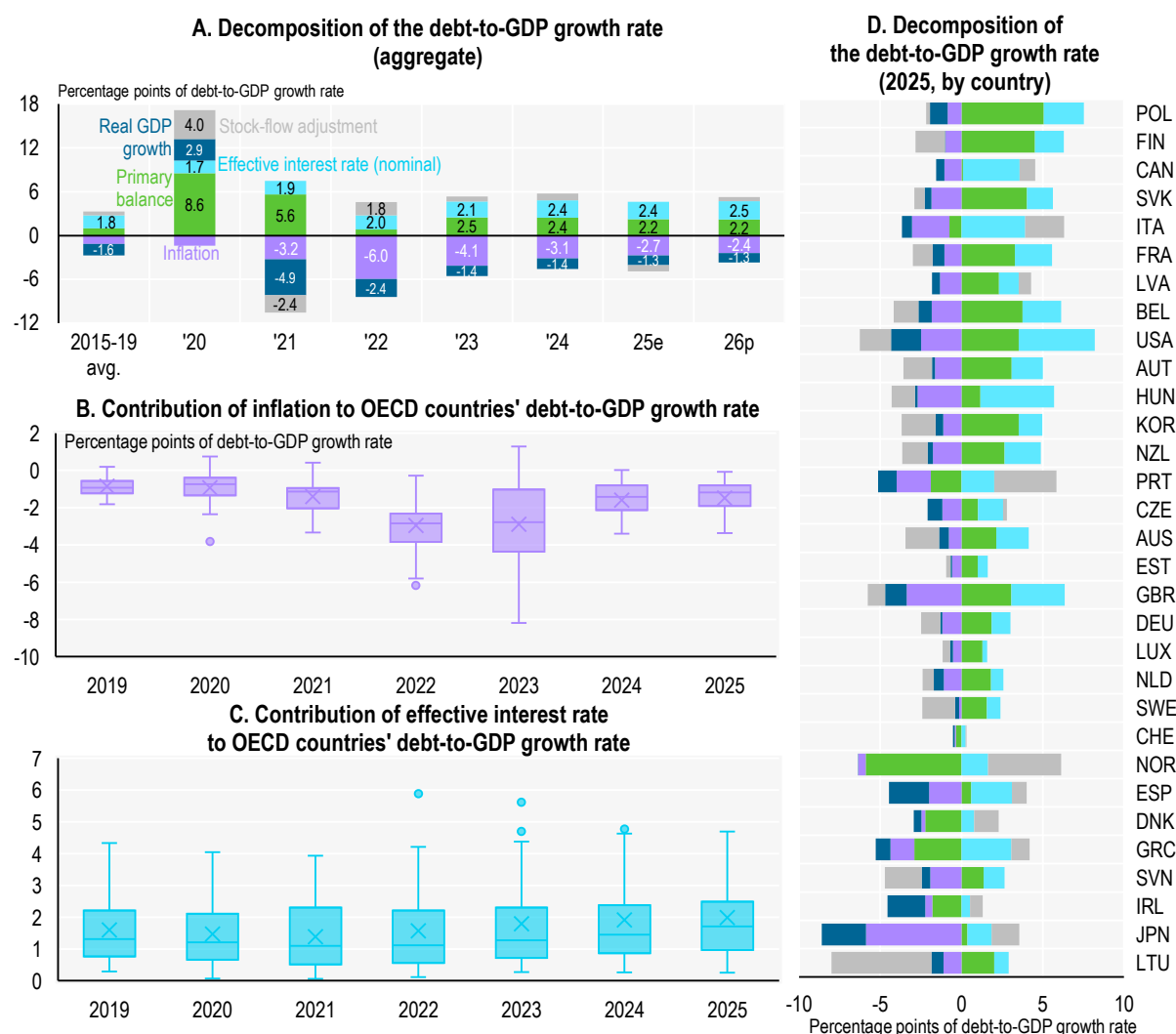
Interests payments and inflation have been the main drivers of the evolution of the OECD area debt-to-GDP ratio during the last few years, on the back of roughly stable contributions from real GDP growth (Figure 1.16, Panel A). The downward pressure of inflation on the OECD area debt-to-GDP ratio has outweighed the upward pressure of higher interest payments since 2021. However, these two factors have been diverging, with inflation decreasing and interest payments increasing. In 2026, interest payments are projected to outweigh inflation in terms of the impact on debt-to-GDP, contributing to an increase from around 83% in 2025 to 85%.

The downward pressure from inflation on debt-to-GDP ratios across OECD countries is dissipating. Inflation pushed debt ratios down by only 1.5 p.p. in the average OECD country in 2024-2025, compared to 3 p.p. in 2022-2023 (Figure 1.16, Panel B). During 2022-2023, inflation decreased debt ratios by more than 5 p.p. for larger issuers such as Japan, Italy, the United States and the United Kingdom.

The effect of higher interest payments on debt-to-GDP ratios has grown over the last few years, pushing debt ratios up by 2 p.p. in the average OECD country in 2025, from 1.6 in 2019 (Figure 1.16, Panel C). Interest payments were a particularly important driver of the rise in debt to GDP ratios in Hungary and the United States in 2025, pushing their debt ratios up by around 4.5 p.p. (Figure 1.16, Panel D). Only Ireland and Japan experienced enough real economic growth to outweigh the effect of higher interest payments.

Figure 1.16. Decomposition of the debt-to-GDP growth rate

The effect of inflation on lowering the debt-to-GDP ratio in the OECD area is fading, while rising interest payments are having a greater effect in pushing it up



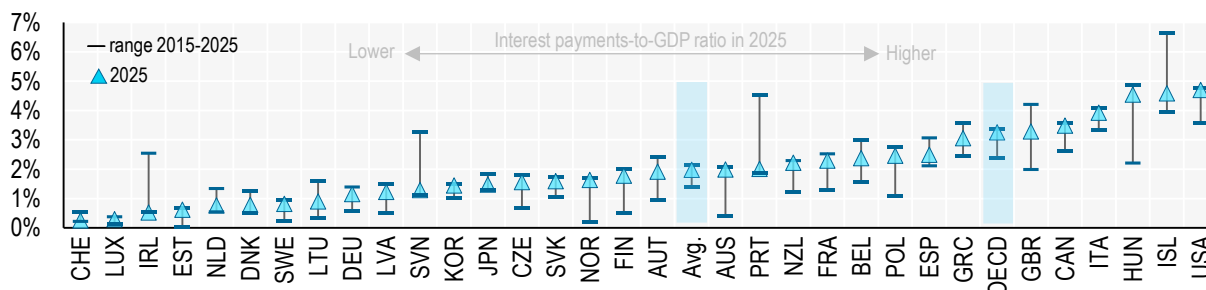
Note: The decomposition of debt-to-GDP ratios combined central and general government information and only includes countries with the necessary data available in the OECD Economic Outlook for computations. Details can be found in Annex 1.A. Iceland has been removed from panel B because of a very high value for stock-flow adjustments.

Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG, national authorities' websites; and OECD calculations.

Interest expenditures as a share of GDP remained at high levels in 2025 compared to the last decade (Figure 1.17). The aggregate OECD interest-to-GDP ratio in 2025 is 3.3%, also close to the 3.4% peak from the previous ten years. For the average OECD issuer, it remained close to 2%, just below the 2015 peak of 2.1%. Interest payments to GDP increased in 22 out of the 32 OECD countries for which data are available in 2025. As issuance yields follow market pricing, the trajectory for interest payments relates closely to secondary market developments, which are analysed in the next section.

Figure 1.17. Interest expenditures as a share of GDP

Interest expenditure as a share of GDP was close to the highest level of the last decade in the OECD area and in many individual countries in 2025



Note: The figure displays only the countries with available data. The OECD aggregate represents the total general government interest payments divided by the total GDP of these countries.

Source: OECD (2025_[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; and OECD calculations.

Box 1.4. Sovereign debt trends in emerging market and developing economies (EMDEs)

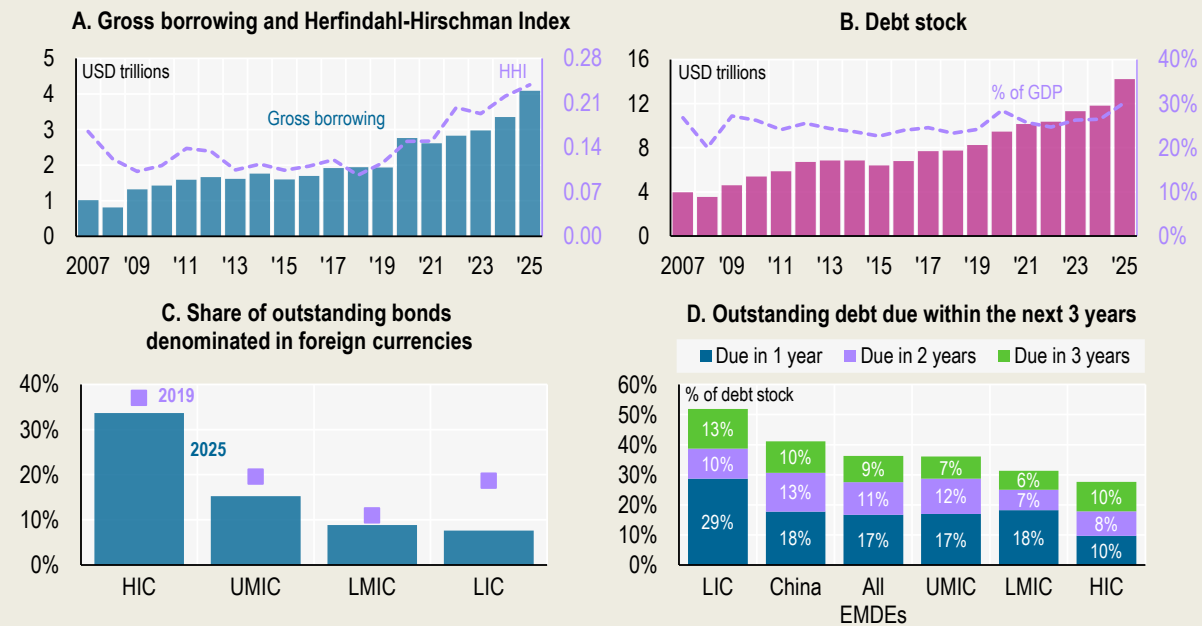
Gross borrowing by central governments in EMDEs, including OECD EMDEs, crossed USD 4 trillion in 2025, a significant increase from around USD 3 trillion in 2024. Borrowing has become more concentrated as measured by the Herfindahl-Hirschman Index (HHI), increasing from 0.1 in 2019 to 0.2 in 2025 (Figure 1.18, Panel A). This trend was predominantly driven by the top five borrowers, who represented 78% of the total in 2025: the People's Republic of China (hereafter 'China'), India, Brazil, Egypt and Argentina.

As a result of this sustained borrowing activity, the outstanding central government marketable debt of EMDEs continued to increase in 2025, both in nominal terms and relative to GDP (Figure 1.18, Panel B). The total stock increased by close to USD 2 trillion compared to 2024, to around USD 14 trillion. This stock corresponds to 30% of GDP, the highest share since at least 2007.

Outstanding EMDE marketable debt is characterised by a lower share of foreign currency debt in 2025 compared to 2019 (Figure 1.18, Panel C). Moving away from foreign currency debt reduces vulnerability to exchange rate risk and can support the development of the local currency bond market. However, this is sometimes forced, as some countries can lose access to international capital markets, or can only access them at prohibitively high costs. This shift accelerated as rising global interest rates and prohibitive sovereign spreads made international borrowing costlier and limited market access for some issuers. This is particularly prevalent for low-income countries, where the share of foreign currency-denominated debt decreased from 18.7% in 2019 to 7.6% in 2025.

In terms of maturity profiles, around 36% of the outstanding EMDE bond stock matures within three years (Figure 1.18, Panel D). This can be a critical indicator of refinancing risk, as it determines the volume of debt that must be rolled over in the near term. Low-income countries face an exceptionally heavy schedule with 52% of their outstanding bonds maturing by 2028, and 29% just by the end of 2026. To address these pressures, some low-income issuers are taking measures. For example, Uganda issued a record-size 25-year domestic bond in August 2025 to extend its maturity profile.

Figure 1.18. Trends in the issuance and stock of sovereign bonds in EMDEs



Note: The figures include EMDEs that are also OECD countries. HHI is a concentration index ranging from 0 to 1, where, in this case, higher values indicate greater concentration among fewer borrowers. Annex 1.C provides a detailed methodology. In Panel C and D, China is excluded from UMIC.

Source: LSEG; and OECD calculations.

Despite the rising debt stock, market sentiment has improved concerning certain, mostly larger, EMDEs in 2025, reflected in tightened USD-denominated EMDE bond spreads (Figure 1.19, Panel A). Spreads tightened the most in Türkiye (-57 bps), Brazil (-53 bps) and Mexico (-44 bps). This trend was largely driven by interest rate cuts in many key jurisdictions and, in some cases, plans for fiscal consolidation, such as in Brazil and Mexico.

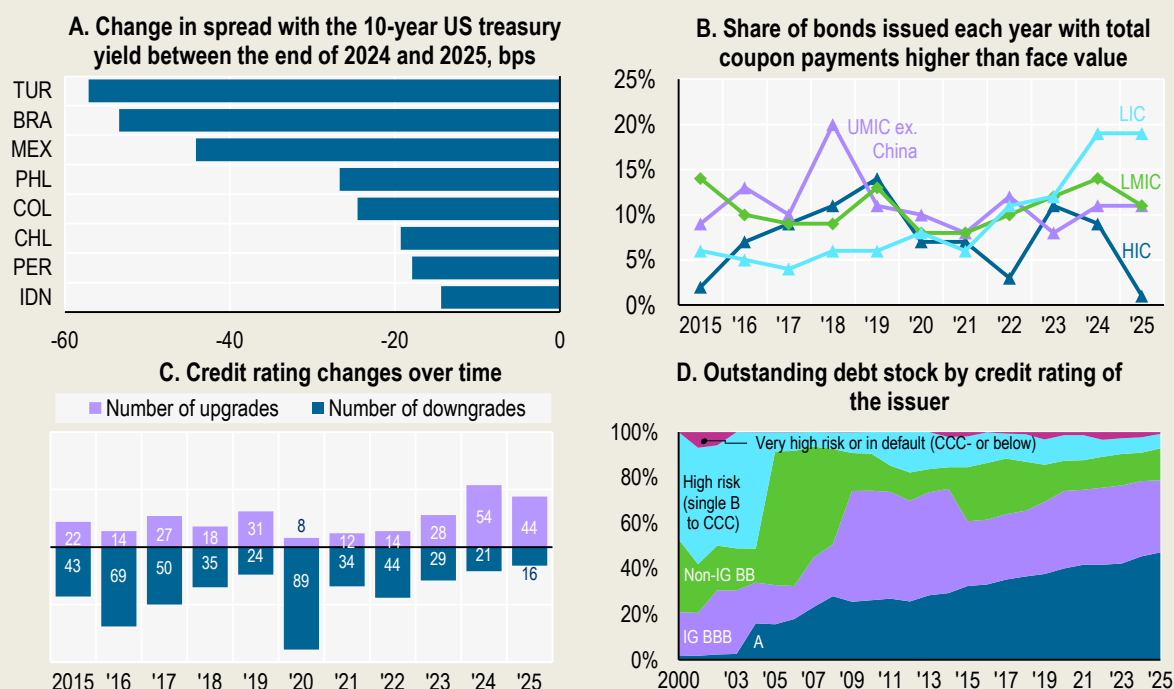
There was a steep divergence in financing conditions for low-income groups compared to other EMDEs in 2025 (Figure 1.19, Panel B). This is reflected in the share of bonds issued where total interest payments will exceed the principal amount. For low-income issuers this share jumped from 6% in 2019 to almost 20% in 2024 and 2025. Some countries in the other income groups were able to adjust their issuance strategies to avoid locking in higher rates. For example, Colombia decreased the average maturity of its newly issued bonds from around 14 years in 2024 to nearly 7 in 2025. This was done in response to higher long-term rates (Scotiabank, 2025^[12]).

Despite elevated debt levels, the overall credit outlook improved in 2025, with EMDEs receiving 44 upgrades versus 16 downgrades (Figure 1.19, Panel C). Most rating changes occurred within the non-investment grade category, rather than between investment and non-investment grade categories. Egypt was a notable case, receiving its first upgrade since 2018. Only one low-income country received an upgrade, Zambia, exiting default through debt restructuring; and one downgrade, Mozambique, due to increased liquidity pressures following post-election unrest (Fitch Ratings, 2025^[13]). Other factors that contributed to this overall improved trend were rebuilt foreign exchange reserves and greater fiscal transparency.

The composition of EMDE sovereign bond debt by the credit rating of the issuer predominantly reflects the greater volume of borrowing by larger, higher-rated economies. Bonds issued by investment grade

countries dominated the stock in 2025, accounting for nearly 79% of the total outstanding (Figure 1.19, Panel D). Bonds issued by very high risk or in default countries represented just 1% of the total.

Figure 1.19. Borrowing costs and credit risk for EMDEs sovereigns



Note: The figures include EMDEs that are also OECD countries. Panel A displays all countries for which a 10-year USD yield index is available on Bloomberg. Values in Panels C and D are computed using the long-term Issuer Ratings (Foreign) assigned by Moody's, Fitch and S&P. Annex 1.C provides a detailed methodology.

Source: Bloomberg; LSEG; and OECD calculations; Fitch Ratings (2025_[13]), "Fitch Affirms Mozambique at "CCC"", <https://www.fitchratings.com/research/sovereigns/fitch-affirms-mozambique-at-ccc-01-08-2025>; LSEG and OECD calculations; Scotiabank (2025_[12]), Colombia – Financing Strategy Recap and the Market's Reaction, Scotiabank Global Economics, <lataminsights20251010.pdf>.

Secondary market developments and their impact on borrowing costs

Issuing record volumes at higher costs

Sovereign issuers have adjusted their issuance strategies to face the challenging environment of record-high funding needs and interest rates that are persistently elevated compared to the pre-pandemic period. This situation may represent the new normal for the foreseeable future, given that neither a significant fiscal consolidation nor a return to the low-interest-rate environment of the 2010s seems likely (OECD, 2025_[1]).

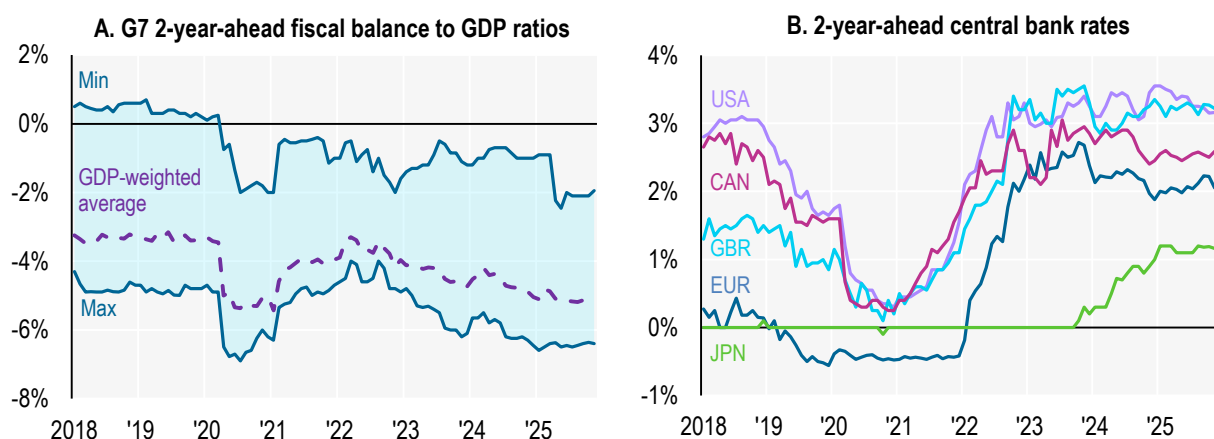
The gross borrowing needs of OECD sovereign issuers stand at record high levels and are expected to remain so in the coming two years. As shown in Panel A of Figure 1.20, the GDP-weighted average of G7 countries' two-year-ahead budget deficits surged sharply during the COVID-19 pandemic outbreak. Although it improved over the subsequent two years, it has since begun to rise again and now stands at a level previously reached only in 2020. The same pattern emerges when looking at the minimum and maximum deficits across countries, which stand at levels similar to those in 2020. For sovereign debt

markets, this implies that there is currently little reason to expect a decline in issuance volumes in the years ahead.

In contrast to historical patterns, the expectations of sizeable fiscal deficits in the next two years are not accompanied by an accommodative monetary policy stance. Despite the recent easing of monetary policy by major central banks, two-year-ahead policy rate expectations have stabilised at elevated levels across all major markets (Figure 1.20, Panel B). In addition, central banks' quantitative tightening (QT) has increased the amount of bonds to be absorbed by markets, putting upward pressure on longer-term bond yields (see also Chapter 3). While some central banks – for example, in the United Kingdom and the United States – are expected to ease policy further through rate cuts in the near future, others, such as in Australia, Canada and Japan, are expected to tighten monetary policy in 2026. In contrast, the ECB is projected to maintain its policy rate at its current level, as expected inflation has stabilised close to the 2% target rate.

Figure 1.20. Medium-term expectations of fiscal balances and central bank rates

In contrast to historical patterns, high deficits are currently not accompanied by accommodative interest rates



Note: Data are based on median analyst expectations collected by Bloomberg. GDP refers to full-year values and central bank rates to end-of-year levels. When full-horizon data are unavailable, the furthest available observation is used. GDP weights are calculated using current-year nominal GDP in USD from the OECD Economic Outlook 118.

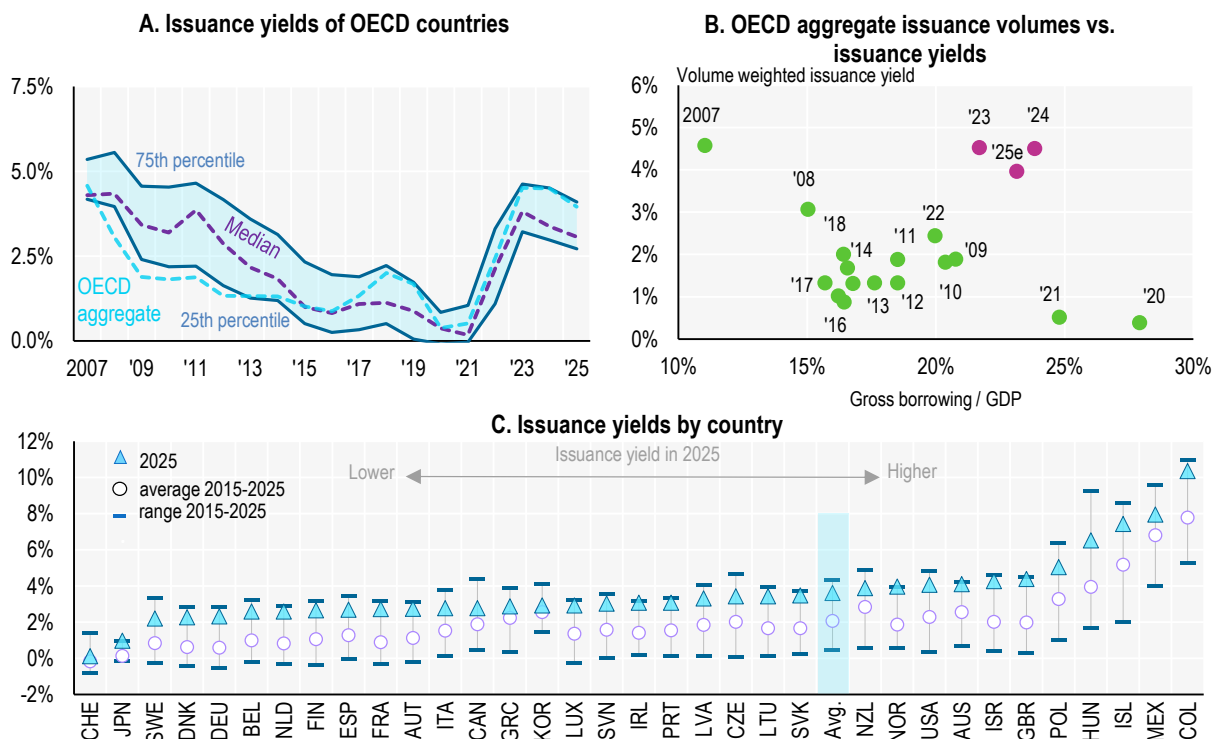
Source: Bloomberg; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; and OECD calculations.

Similar to central bank rates, issuance yields of government debt securities stand at elevated levels when compared to the pre-pandemic period. The volume-weighted aggregate OECD issuance yield of fixed rate bonds and T-bills stood at around 4% in 2025, decreasing slightly from 2023 and 2024, but still corresponding to a level last reached in 2007 (Figure 1.21, Panel A). At the individual country level, volume-weighted issuance yields are also close to their highest values since 2015 in almost all OECD countries (Figure 1.21, Panel C). Outside the OECD area, the cost of borrowing has also remained elevated, with the greatest impact occurring in low-income countries (Box 1.4).

While issuance yields remain high, bond issuance relative to GDP stands at an elevated level (Figure 1.21, Panel B). Historically, episodes of higher borrowing needs have tended to occur in periods characterised by accommodative monetary policy and low yields. Since 2023, both issuance volumes and issuance yields are at unusually high levels, even as issuers have been skewing their issuance to shorter segments to limit the effect of high long-term yields on interest expenditure. This combination of high market yields and record borrowing needs places sovereign issuers in a challenging position.

Figure 1.21. Issuance yields

High issuance volumes at high costs put issuers in a challenging position



Note: Volume-weighted issuance yields of fixed-rate bonds and T-bills. T-bills are additionally weighted by their time to maturity at issuance, with one year having a weight of one, to control for intra-year refinancing. Country coverage depends on data availability. In Panel C, Türkiye is not displayed due to scaling problems, but it is included in the calculation of the average.

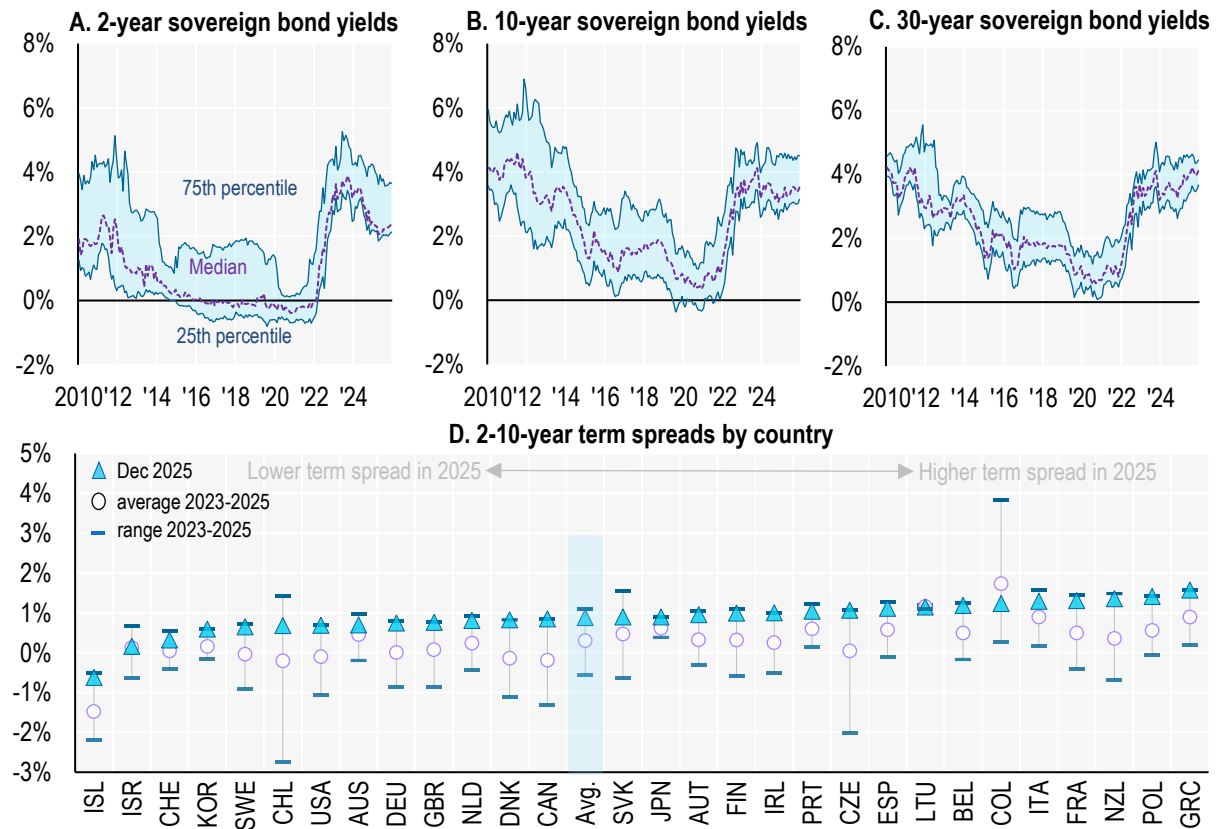
Source: 2025 OECD Survey on Central Government Marketable Debt and Borrowing; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; LSEG; and OECD calculations.

A culmination of key drivers has caused a pronounced steepening of yield curves

With major central bank rates stabilising overall, a pronounced long-end steepening of yield curves in the OECD area has become a defining feature of today's bond market landscape (Figure 1.22, Panel A, B, and C). In 2025, 2-year yields in the OECD area have been broadly stable, with the median currently standing at around 2.5%, down from nearly 4% in 2023. Similarly, the 10-year yield median moved mostly sideways in a range between 3 to 3.5% in 2024 and 2025. In contrast, in 2025, 30-year yields increased in 21 of 23 OECD countries with available data, with the median yield rising from 3.2% to 4.1% over the course of 2025.

Figure 1.22. Bond yields and term spreads

Yield curves have steepened markedly, especially at the long end



Note: Country coverage depends on data availability and differs between the panels. Annual values in Panel D refer to the average of the 12 end-of-month term spreads.
 Source: LSEG and OECD calculations.

Yield curve steepness, measured by the 2-10 years spread, was positive at end-2025 for all countries except Iceland¹⁸ (Figure 1.22, Panel D). It stood above the 2023-2025 average for all countries, reaching levels near the maximum observed in recent years. In many cases, steepness has been increasing due to both lower short-term yields and higher long-term yields. Additionally, compared with 2020-2023, the yield curves of major markets shifted markedly upwards (Annex 1.D).

The strong increase in long-end yields observed in 2024 and 2025 has been driven by a combination of various key factors working in the same direction. As markets tend to immediately react to new information, the respective mechanisms are forward-looking, i.e. market prices do not only incorporate current developments but, importantly, also expectations of future developments.

In terms of interest rate expectations, an improved economic outlook over the course of 2025 stabilised expectations of elevated future central bank rates in many countries, which in turn has exerted upward pressure on long-term yields.

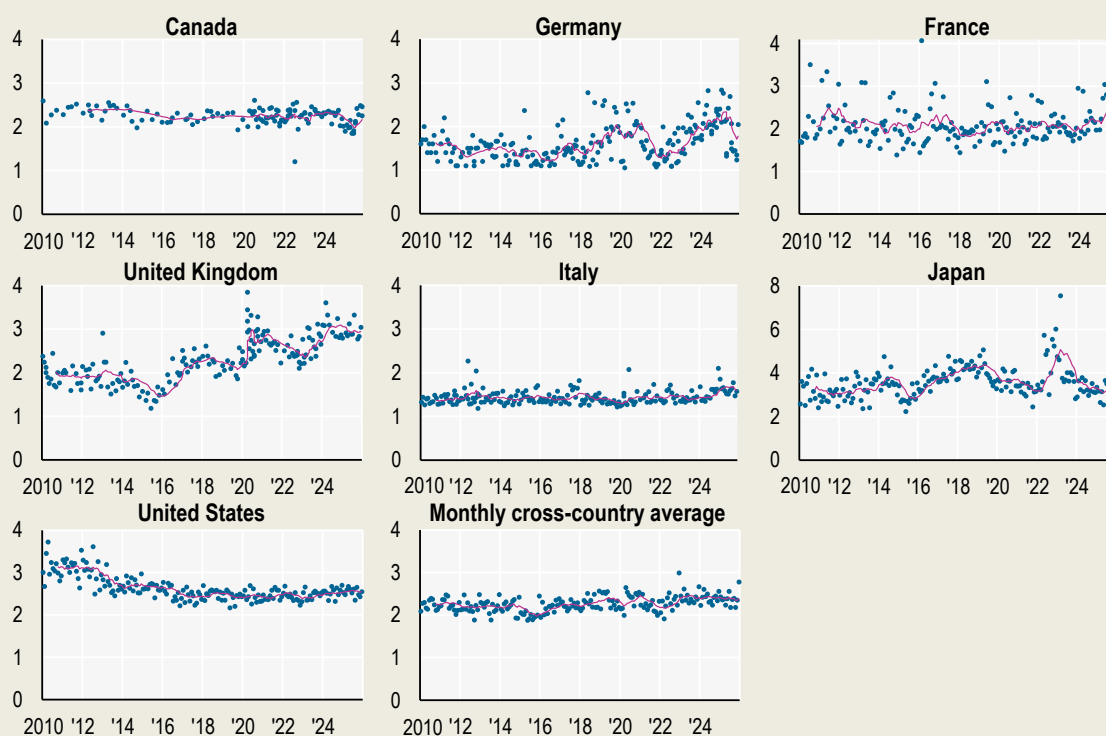
Box 1.5. The role of government bond auctions in supply absorption and price discovery

A recent side-effect of the high fiscal deficits and occasionally sharply increasing yields has been greater public focus on developments in sovereign bond markets – including debt issuance. Following a number of bond auctions in different countries with relatively low bid-to-cover ratios, some observers argued that lower bidding volumes might indicate the limits of markets' willingness to absorb additional debt (Financial Times, 2025^[14]).

The volume of bids at bond auctions is, however, not a sufficient indicator for overall market demand. While the volume that can be sold at a single primary market transaction is indeed limited, especially due to the short-term absorption capacity of financial intermediaries, it is unlikely that aggregate demand would be limited, as the price discovery mechanism ensures that liquid government bonds will attract buyers, albeit potentially at lower prices. As argued above in this chapter and in Chapter 3, this mechanism is currently visibly at work, with elevated levels of free float pushing up yields.

Figure 1.23 depicts bid-to-cover ratios, i.e. the volume of total bids relative to the allotted volume of 10-year bond auctions in G7 countries. Comparing these with the issuance volumes presented in the previous sections indicates that there is no correlation between the amount of debt to be absorbed and bid-to-cover ratios at auctions. Despite high issuance volumes, the monthly cross-country average of bid-to-cover ratios has been remarkably stable. Similarly, in the OECD Survey on Central Government Marketable Debt and Borrowing, 28 DMOs reported stable auction demand over the last year, four reported elevated demand, and only two reduced demand.

Figure 1.23. Bid-offer ratios at 10-year government bond auctions for G7 countries



Note: Each point marks an auction, the line refers to a moving average over 10 auctions.

Source: Bloomberg and OECD calculations; Financial Times (2025^[14]), "The mounting pressure on bond markets", <https://www.ft.com/content/a07d5a72-2691-4da5-ae0-4af5136f737e>.

Regarding bond supply, record issuance levels and declining central bank holdings have significantly raised the volume of bonds that need to be absorbed by markets, thereby pushing up yields (see Chapter 3). A clear example of increased supply expectations was the announcement of the German defence and infrastructure package in March 2025, which led the German 10-year government bond yield to surge by more than 50 basis points over the month (Bloomberg, 2025^[15]).

On the demand side, several forces have contributed to upward pressure on long-term bond yields. Most prominently, the structural shift from DB to DC pension schemes has reduced pension funds' appetite for long-duration assets in certain jurisdictions (see Chapter 3). In addition, structural demand for long-term bonds has weakened due to cross-term substitution (Jansen, Li and Schmid, 2024^[16]): with yields elevated across the curve, investors have partially rebalanced away from the long end toward medium maturities, increasing yield curve steepness.

Lastly, an increased investor risk perception over the course of 2025 led to lower demand in long-term bonds. Among the factors mentioned by market participants were a heightened focus on fiscal trajectories and debt-sustainability, a questioning of central bank independence and related inflation risks, and increased (geo-)political risks.

While these factors contributed to a repricing of long-term bonds, demand at government bond auctions remained reliable, with markets absorbing high issuance volumes smoothly overall (Box 1.5).

Interest rate expectations do not fully explain the rise in long-term bond yields

As argued above, a range of factors has contributed to the increase in long-term interest rates observed in recent years. Some of these factors are directly linked to expectations of higher future short-term interest rates, which are set by central banks. Other factors – particularly those related to exogenous demand and supply dynamics – in general do not influence expectations of short-term rates, at least not directly. If, for example, pension funds rebalance their portfolios due to regulatory changes, this will to some degree affect bond yields while effects on short-term rate expectations should be negligible. These factors currently exert a significant influence on the market pricing of government bond yields, pushing them well above the levels justified by interest rate expectations.

In simple theory, long-term bond yields should approximately equal the average of expected short-term interest rates over the lifetime of the respective bond. In practice, however, bond yields can deviate substantially from interest rate expectations. This difference between a bond yield and the average expected short-term rate is known as the *term premium*, which captures both risks regarding future real interest rates and inflation. Additionally, the term premium might take into account default risks. It represents the component of a bond yield that compensates investors for holding long-term securities instead of rolling over a series of short-term instruments (Cohen, Hördahl and Xia, 2018^[17]).

The term premium reflects the compensation investors require for bearing additional risk stemming from longer maturities. From a pure risk perspective, investors would typically prefer short-term instruments, as these have a lower price volatility and can be sold at any time without incurring significant capital losses.¹⁹ Long-term bonds, by contrast, can be subject to significant volatility, and investors who sell before maturity may face considerable capital losses.

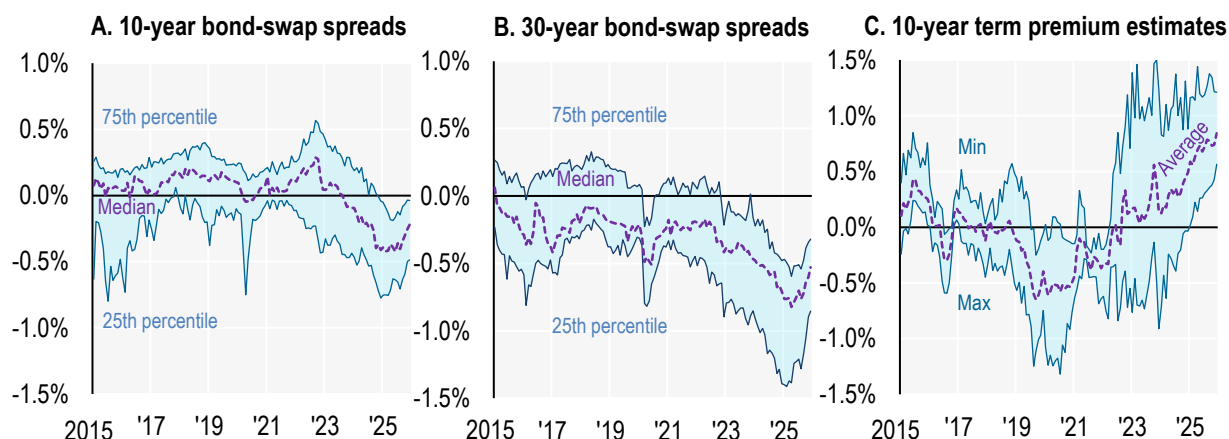
Because investors' expectations of future short-term interest rates are generally not directly observable, the term premium cannot be calculated mechanically. It can, however, be approximated by comparing bond yields with information taken from other financial instruments or estimated using econometric techniques. A simple indicator related to the term premium is the swap spread, defined as the difference between the fixed rate of an interest rate swap and the yield of a government bond with a similar maturity. A lower swap spread implies that the bond is relatively cheap compared with the swap contract (OECD, 2025^[18]).

Ten-year swap spreads were mostly positive from 2015 until 2023, indicating that government bonds benefited from the additional value associated with their use as collateral in financial transactions. Against the backdrop of rising net supply, long-term bonds subsequently cheapened markedly relative to swaps, with the median spread reaching historical lows of nearly 0.5% at the beginning of 2025. Over the course of 2025, both 10- and 30-year swap spreads recovered to some extent but still remained at exceptionally cheap levels when compared with the last decade (Figure 1.24, Panel A and B).

Similarly, 10-year term premium estimates in major OECD countries have risen sharply since 2023 (Figure 1.24, Panel C). Between 2019 and 2022, estimated term premia were mostly negative, likely driven by strong demand for duration in an environment of very low yields and by the reduction in bond supply due to quantitative easing. Term premia rose markedly in 2022 and continued to climb afterwards as inflation increased across countries and central banks tightened monetary policy. At the end of 2025, the average term premium, at 0.84%, reached its highest level in more than ten years. Taken together, falling swap spreads and rising term premia suggest that the increased supply of government bonds has led to rising yields, especially at longer maturities.

Figure 1.24. Long-term bond valuation measures for OECD countries

Rising term premia have contributed significantly to the long-end-cheapening



Note: Swap spreads are defined as the rate of the fixed leg of an interest rate swap minus the yield of a bond with similar maturity. An increasing swap spread therefore means that the bond gets *more expensive* relative to the swap. A rising term premium, in contrast, means that the respective bond *cheapens* relative to interest rate expectations. Panels A and B are based on countries with sufficient data availability. Panel C is based on data for AUS, Euro area, JPN, GBR and USA. For the Euro area, the term premium refers to the average of DEU, FRA, ITA and ESP. The estimated Euro area risk-neutral expectation of short-term rates has been provided by the ECB. It is based on the overnight index swap rates and is an average across three model results: two affine term structure models, with and without survey information on rate expectations (both based on Joslin, Singleton, Zhu (2011^[19]), and a lower bound term structure model incorporating survey information on rate expectations (see Geiger and Schupp (2018^[20])).

Source: LSEG, AOFM, ECB, Nakajima (2026^[21]), New York Fed, UK DMO and OECD calculations.

Term premia play an important role in the portfolio strategy of sovereign issuers. When term premia are low, it is, all else being equal, rational for issuers to increase the share of long-term bond issuance, rather than focussing on short-term instruments that entail higher refinancing risk. Conversely, when estimated term premia are high, as is the case today, it is appropriate to shorten portfolio duration to reduce interest expenditures. As shown in the previous sections, this has indeed been the case recently, with issuers significantly scaling back the issuance share of long-term bonds.

According to the 2025 OECD Survey on Central Government Marketable Debt and Borrowing, 26 of 34 responding DMOs regard term premium estimation as valuable or highly valuable. However, term

premiums are not the only factor driving the decision of where to issue along the curve, with supporting liquidity across the curve and maintaining a stable and predictable issuance strategy also being important objectives for DMOs (OECD, 2025^[18]).

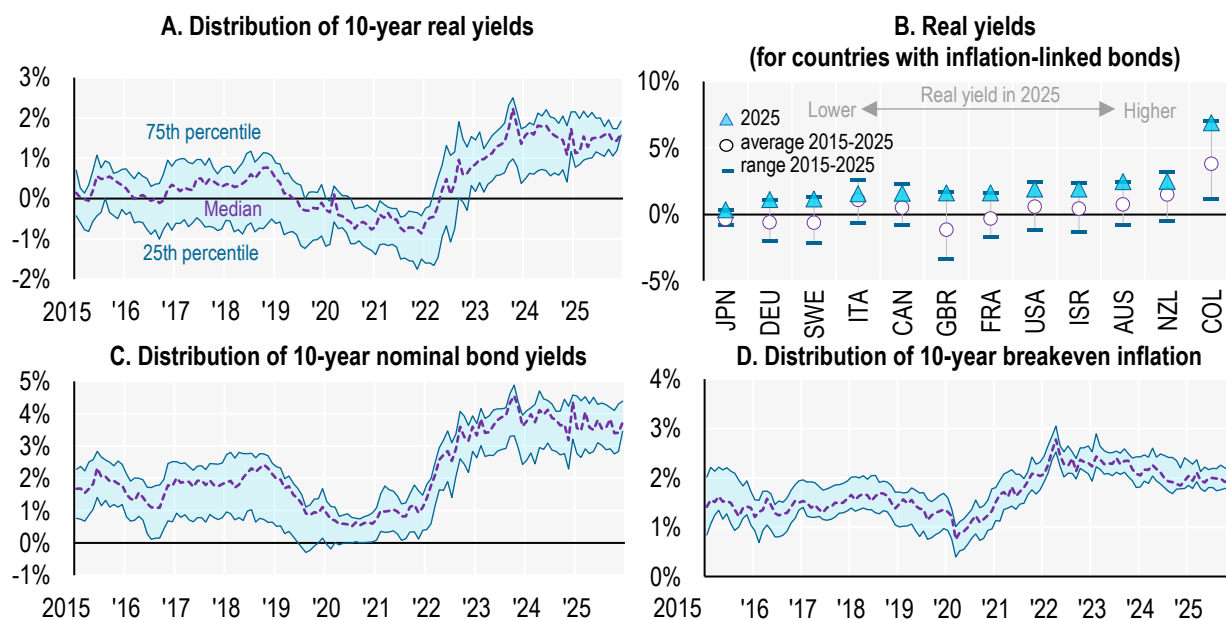
From an economic perspective, it makes basically no difference whether issuers directly rely on term premium estimates or whether they base their decisions on the reported demand for specific maturities as stated by market participants. This is because term premiums are predominantly driven by the supply and demand conditions for long-term bonds. Conversely, the current adjustment in long-term bond supply helps to some extent to dampen further increases in term premiums. This may ease some of the pressure on the market, but the other factors currently weighing on bond valuation remain in place.

Elevated real yields cast doubt on the sustainability of current fiscal paths

The yields of inflation-linked bonds, so-called *real yields*, in OECD countries remain at elevated levels after having sharply increased in the context of monetary policy tightening around 2023 (Figure 1.25, Panel A). The median 10-year real yield stood at about 1.5% at the end of 2025 after fluctuating around 0% between 2015 and 2021. At the single-country level, real yields stand markedly above their averages since 2015 for most countries (Figure 1.25, Panel B). With given growth rates of economic activity, higher real yields limit fiscal space and increase the burden of public debt, worsening debt sustainability (OECD, 2024^[4]).

Figure 1.25. Real yields and breakeven inflation

Both real yields and breakeven inflation are highly elevated compared to the pre-pandemic period



Notes: Only countries with sufficient data included, as listed in Panel B. Annual values in Panel B refer to the average of the monthly average real yields.

Source: LSEG and OECD calculations.

The rise in real yields has been driven by a surge in nominal bond yields that has not been matched by a similar increase in breakeven inflation, i.e. the difference between nominal and real yields (Figure 1.25, Panels C and D). At the end of 2025, average breakeven inflation across countries stood at 2.3% for the

ten-year horizon, which is above the 2% inflation target aimed at by many inflation-targeting central banks. Breakeven inflation rates do not necessarily only reflect inflation expectations but may also include inflation risk premia (D'Amico, Kim and Wei, 2018^[22]). The elevated level of real yields can be interpreted as indicating a structural break from the pre-pandemic era. Higher real yields can be explained by factors including more expansive fiscal policy and a structurally tighter monetary policy stance.

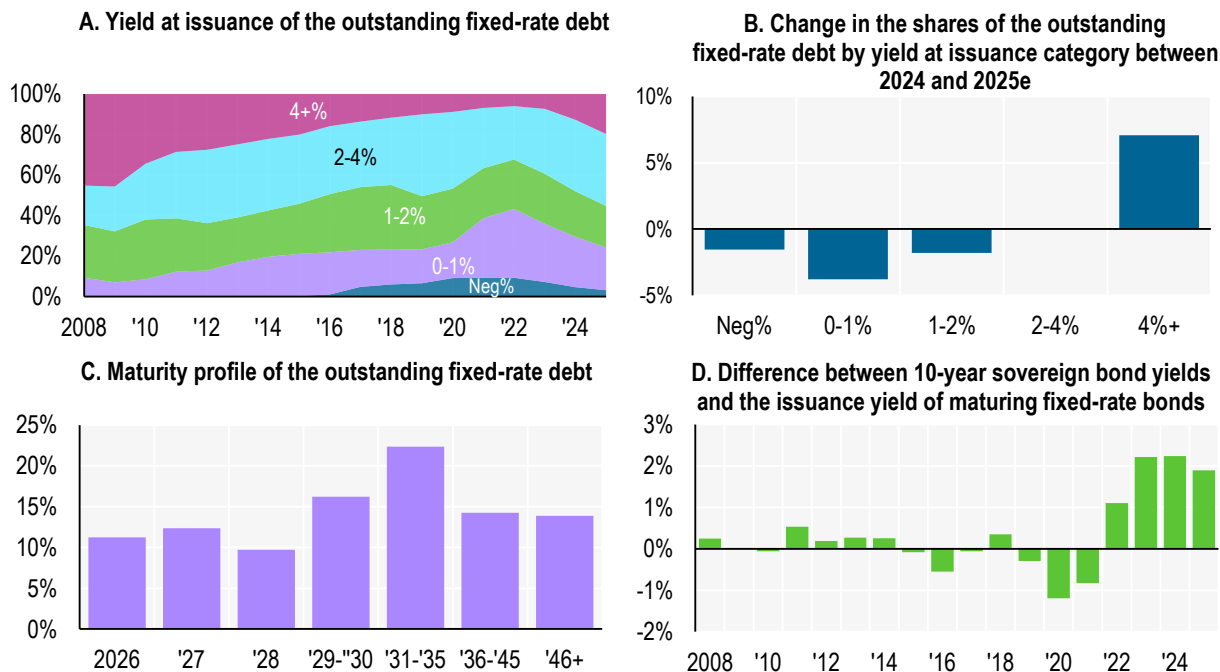
The stock of outstanding debt increasingly reflects higher issuance yields

Higher market yields are slowly translating into an outstanding debt stock characterised by higher servicing costs. One-fifth of the fixed-rate bonds outstanding in 2025 have been issued at a yield of more than 4%. This is the highest share since 2015 and a 7 p.p. increase compared to 2024 (Figure 1.26., Panel A and B). This mirrored the decrease in the share of fixed-rate bonds with yields at issuance of lower than 2% (Figure 1.26., Panel B).

This trend is set to continue in the foreseeable future if issuers refinance or issue new bonds at current market yields. One-third of the OECD fixed-rate debt outstanding at the end of 2025 is set to mature between 2026 and 2028 (Figure 1.26, Panel C). At the same time, 10-year market yields have been around 2 p.p. higher than those of maturing bonds every year since 2023. This is in sharp contrast with previous years that were characterised by a gap that was no higher than 0.5 p.p. or even negative (Figure 1.26., Panel C and D). Although this gap is only a proxy, it is indicative of the future interest payment burdens that OECD countries are likely to experience.

Figure 1.26. Yield to maturity at issuance and maturity profile of the outstanding debt stock

Higher market yields are slowly raising the costs of servicing outstanding debt



Source: LSEG; OECD (2025^[1]), OECD Economic Outlook, Volume 2025 Issue 2, No. 118, <https://doi.org/10.1787/9f653ca1-en>; and OECD calculations.

Liquidity and volatility in bond and repo markets

With rising collateral availability, liquidity conditions improve

Ample liquidity is essential for the smooth functioning of bond markets and the effective implementation of sovereign issuers' strategies. When liquidity is low, trading costs increase because even small transactions can cause significant price movements. Conversely, liquid markets can accommodate larger borrowing volumes with minimal impact on prices, allowing debt managers to execute funding strategies efficiently, even amid macro-financial uncertainty or volatility in borrowing needs.

In 2025, liquidity in domestic bond markets reportedly improved in 16 of the 37 countries that answered the annual OECD Survey on Liquidity in Government Bond Secondary Markets. This is the same as in 2024. (Figure 1.27, Panel A). This followed a significant deterioration in liquidity during the monetary tightening cycle that began in 2022. Forty-three per cent represents the highest share of DMOs reporting an improvement in liquidity in at least a decade. Meanwhile, only one DMO reported a decline in liquidity in 2025, which was a record low since at least 2015. Greater demand for supply events and increased trading volumes in secondary markets were the most common reasons for the improvement.

A big part of the reason for higher trading volumes is the greater free float of bonds as a result of several years of quantitative tightening. With fewer bonds sitting on central banks' balance sheets and not trading at all, trading volumes have naturally increased. Another factor is the greater role of non-banks, in particular leveraged funds as providers of liquidity in bond markets. These actors are typically less likely to hold to maturity than more traditional bond market participants such as banks, or pension funds and insurance companies, and are more likely to trade smaller shorter-term price fluctuations, thus adding to overall liquidity. However, their growing role can also render bond markets more exposed to shocks, as these actors can amplify volatility in periods of heightened market stress (see Chapter 3).

Repo markets are also essential for well-functioning government bond markets because they provide secured funding and liquidity for investors and dealers using government bonds as collateral. They enable market-making, short-selling and arbitrage, which support price discovery and keep bond prices aligned across markets. Repo rates also help transmit monetary policy to government bond yields. When repo markets malfunction, funding dries up, and liquidity in government bond markets can deteriorate rapidly.

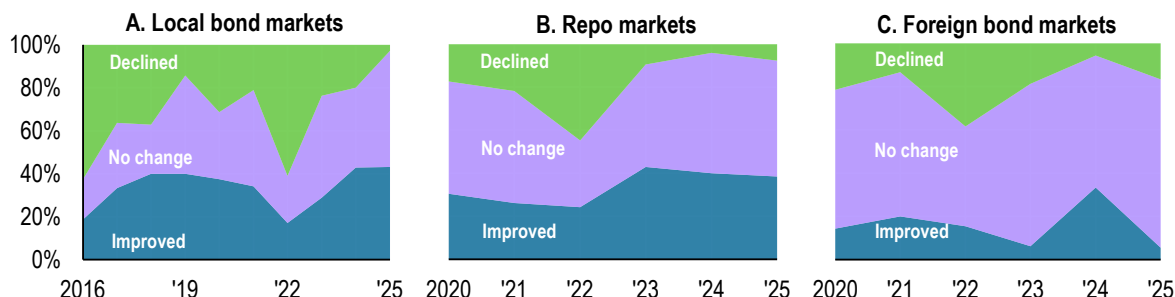
Over one-third of respondents who answered the OECD annual Survey on Liquidity in Government Bond Secondary Markets reported improved liquidity in repo markets (Figure 1.27, Panel B). The primary driver of this improvement was the increased free float of government bonds, which increased collateral availability and narrowed the spread between general collateral and specific collateral repo rates.²⁰ Several issuers also cited increased trading volumes as an additional reason.

Finally, although respondent countries in general mostly borrow in their domestic currency, 25 of them also do so in foreign currencies. Amongst these issuers, a lower number (2) experienced an improvement in liquidity in foreign bond markets compared to 2024, and a higher number (3) experienced a decline. The majority saw no change, as has been the case since 2020 (Figure 1.27, Panel C). Weakness in the US dollar in 2025 and growing geopolitical risks were the main reasons given for the decline in liquidity.

Sovereign issuers continue to implement several measures to enhance market liquidity. The most implemented measure in the OECD in 2025 was regularly tapping *on-the-run* securities (21 DMOs), ensuring the regular supply of actively traded bonds.²¹ Buyback and switch operations were also widely used (19 DMOs), allowing debt managers to smooth their redemption profiles and support market liquidity. In 2025, 19 issuers also utilised repos, reverse repos, or securities lending facilities to facilitate trading and strengthen market liquidity. Additionally, 16 DMOs conducted ad hoc taps of *off-the-run* securities to provide additional liquidity in typically less liquid bonds.

Figure 1.27. Liquidity conditions in local bond, repo, and foreign bond markets

Reported liquidity continues to improve or remain unchanged in bond and repo markets



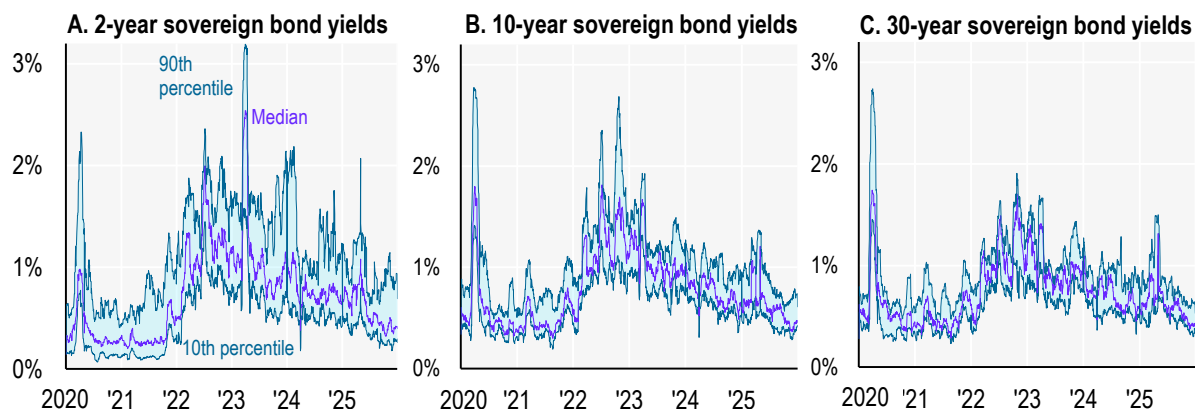
Source: 2016-2025 OECD Survey on Liquidity in Government Bond Secondary Markets.

Sources of volatility have shifted from monetary policy to (geo-)political developments

Alongside the improvement in market liquidity, volatility in government bond markets continued to ease over 2025. The median yield volatility of OECD countries reached its lowest levels since the start of 2022 across the yield curve (Figure 1.28). The pronounced volatility observed in 2022-2023 was largely associated with elevated inflation and the resulting monetary policy tightening. As inflation has returned closer to target, monetary policy changes have been smaller and less frequent, contributing to a moderation in bond market volatility.

Figure 1.28. Bond market volatility

Volatility has broadly declined, with occasional spikes reflecting political events



Notes: The three lines depict the cross-country median, 10th and 90th percentiles of the annualised trailing 1-month volatility of daily yield changes. Country selection is based on data availability.

Source: LSEG, OECD calculations.

While volatility has continued to decline overall, the current market landscape remains characterised by occasional volatility spikes, often caused by political developments. Depending on the nature of the shock and its transmission, such episodes may either propagate globally or remain locally contained. The events can become particularly pronounced when they trigger the unwinding of one-sided leveraged positions. This was the case in April 2025, when long-term bond yields rose following the announcement of US tariffs.

In the US Treasury market, yield increases were amplified by the liquidation of hedge fund positions betting on US Treasuries becoming more expensive relative to interest rate swaps (Financial Times, 2025^[23]).

The combination of increased policy uncertainty and worsened fiscal trajectories, on the one hand, and the growing presence of leveraged market participants in certain core government bond markets, on the other, has increased the risk of volatility spikes (see Chapter 3). For issuers, this complicates bond issuance, as higher volatility tends to negatively affect auction demand (Shida, 2023^[10]). Diversified and flexible issuance strategies, combined with sound co-ordination with primary dealer groups, are therefore key to ensuring robust and cost-efficient debt management in the present market conditions.

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Annex 1.A. Methods and sources

Definitions and concepts used in the Sovereign Borrowing Outlook Survey

The Borrowing Outlook survey collects gross borrowing requirements, redemption and outstanding debt amounts with a breakdown of these items by maturity, currency, interest rate types and ESG-labelling (i.e. sustainable bonds). It also collects data on DMOs' holdings, NextGenerationEU loans and country-specific methodological aspects. It uses the core definition of sovereign debt, and central government marketable debt, mainly due to its comparability and collectability. This measure, directly linked to the central government budget financing, enabled the OECD to collect not only for realisations but also for estimates of government borrowing requirements, funding strategies, as well as outstanding debt with instruments, maturity and currency types.

Coverage of institutions: Central government

The coverage of institutions by debt statistics varies from public sector to central government. Public sector represents the broadest institutional coverage, as it includes local governments, state funds financial and non-financial public corporations as well as central government debt. The general government definition, which is used for example by the OECD System of National Accounts (SNA), consists of central government, state and local governments and social security funds controlled by these units. Central government covers all departments, offices, establishments and other bodies classified under general government, which are agencies or an instrument of the central authority of a country, except for separately organised social security funds or extra-budgetary funds. In terms of layers of coverage of institutions, central government stands out as the core definition. Debt of the central government is raised, managed and retired by the national DMOs on behalf of the central government. Hence, the advantage of this relatively narrow definition of debt is that it enables countries to provide comparable figures, in particular for the purpose of estimations.

Coverage of types of debt: Marketable debt

In terms of instruments, liabilities can be in the form of debt securities, loans, insurance, pensions and standardised guarantee schemes, currency and deposits, and other accounts payable. Debt items can be classified as marketable and non-marketable debt. While marketable debt is defined as financial securities and instruments that can be bought and sold in the secondary market, non-marketable debt is not transferable. For example, bonds and bills issued in capital markets are marketable debt; multilateral and bilateral loans from the official sector are non-marketable debt.

The Borrowing Outlook survey focusses on marketable debt instruments, while most government debt statistics (e.g. OECD SNA, EU Maastricht debt, and IMF Public Sector Debt Statistics) cover both marketable and non-marketable debt items. OECD governments are financed predominantly by marketable debt instruments. This is a central definition for every analysis concerning various issues around debt management including borrowing conditions, portfolio composition, investor preferences and market liquidity. An advantage of using this definition is to indicate to investors which instruments are available to trade in the secondary markets, and which are not. Another reason is to enable the issuer to calculate different characteristics of the debt, such as duration or time to maturity, which in the case of non-marketable debt would present a difficult issue.

Terminology

- The standardised gross borrowing requirement (GBR) for a year is equal to the net borrowing requirement during that year plus the redemptions of long-term instruments in the same year and the redemptions of short-term instruments issued in the previous year. Therefore, this indicator captures the issuances of all securities excluding those that were issued and redeemed in the same calendar year. In other words, the size of GBR in the calendar year amounts to how much the DMO needs to issue in nominal terms to fully pay back maturing debt issued in previous years plus the net cash borrowing requirement through any issuance mechanism.
- Net borrowing requirement (NBR) is the amount required to finance the current budget deficit. While the refinancing of redemptions is a matter of rolling over the same exposure as before, NBR refers to new exposure in the market, or new borrowing.
- Gross debt, or debt stock, corresponds to the outstanding debt issuance at the end of calendar years. This measure does not take the valuation effects from inflation and exchange rate movements; thus, it is equal to the total nominal amount that needs to be redeemed.
- Redemptions refer to the total amount of the principal repayments of the corresponding debt including the principal payments paid through buy-back operations in a calendar year.

Regional aggregates

- Total OECD area denotes the following 38 countries: Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, the United Kingdom and the United States.
- OECD accession candidate countries include Argentina, Brazil, Bulgaria, Croatia, Indonesia, Peru, Romania and Thailand.
- The G7 includes Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.
- The euro (EUR) is the official currency of 21 out of 27 EU Member States. These are collectively known as the Euro area. The Euro area countries are Austria, Belgium, Bulgaria, Croatia, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, the Slovak Republic, Slovenia and Spain.
- The OECD Euro area includes 17 countries: Austria, Belgium, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, the Slovak Republic, Slovenia and Spain.
- In this chapter, the Euro area covers only the countries that are simultaneously in the Euro area and in the OECD.

Calculations and data sources

- For consistency reasons, estimates that are presented as a percentage of GDP use GDP estimates from the last OECD Economic Outlook in the previous year (i.e. December 2025 for this publication) and are calculated using nominal GDP data.
- Debt is measured as the nominal value of current outstanding central government debt. Nominal value, the undiscounted amount of principal to be repaid, does not change except when there is a new issue of an existing instrument. This coincides with the original promise (and therefore

contractual obligation) of the issuer. DMOs often use face value when they report how much nominal debt will mature in future periods. One important reason for using face value is that it is the standard market practice for quoting and trading specific volumes of a particular instrument.

- Currencies are converted into USD using the respective historical exchange rates, with the data sourced from London Stock Exchange Group (LSEG).
- All figures are expressed in calendar years unless specified otherwise.
- All statistics (e.g. median, averages) displayed in figures consider only the countries in the figure and may not include all OECD Members.
- Aggregate figures for gross borrowing requirements (GBR), net borrowing requirements (NBR), central government marketable debt, redemptions, and debt maturing are compiled from answers to the Borrowing Survey. The OECD Secretariat inserted its own estimates/projections in cases of missing information for 2025 and 2026, using publicly available official information on redemptions and central government budget balances. Where government plans have been announced, but not incorporated into financing plans as of the end of December 2025, they are not included in the projections presented in this publication. Also, the latest estimates of government net lending in the OECD Economic Outlook database are used in estimating some missing data.
- Both the 2025 OECD Survey on Primary Market Developments and the 2025 OECD Survey on Liquidity in Secondary Government Bond Markets were carried out in September 2025.

Other definitions

- Treasury bills have an original maturity that is less than or equal to one year at the primary issuance. This definition excludes other short-term instruments in the money market, like outstanding commercial paper or instruments for liquidity management (cash).
- Inflation-linked securities are instruments with coupon and/or principal payments that are linked to an inflation index. The data includes accrued inflation for all years up to and including the current year of the survey as of the reporting date.
- Variable-rate notes have a floating or variable interest rate or coupon rate. It is a long-dated debt security whose coupon is refixed periodically on a “refix date” by reference to an independent interest rate index such as SONIA or Euribor. For example, medium and long-term floating rate notes (FRNs, colloquially known as floaters) are debt obligations with variable interest rates that are adjusted periodically (typically every one, three, or six months). The interest rate is usually fixed at a specified spread over one of the interest rate indices. For projections of variable-rate debt, the rate at the level of the last settled coupon is used.
- Average term-to-maturity figures follow the same coverage described at the beginning of this Annex, with country-specific methods detailed below:
 - Australia: The average term to maturity is calculated as the average of the tenors of each instrument (including Treasury Bonds, Treasury Indexed Bonds and Treasury Notes) weighted by the face value on issue and is calculated as of 31 December of the given year.
 - Canada: The numbers differ slightly from Canada’s publicly reported ATM on its annual Debt Management Reports – as the ATM numbers reported here assume a calendar year end, and Canadian public reporting assumes a fiscal year end.
 - Germany: Calculation excluding holdings in own stock. Inflation-linked securities are weighted with 0.75.
 - Hungary: Data excludes retail securities, locally issued FX bonds, and loans and, since 2020, also excludes the non-marketable bonds issued to municipalities. Data includes cross-currency swaps.

- Israel: Data is for the whole debt (both tradable and non-tradable, domestic and foreign).
- Italy: Liabilities under the Support to mitigate Unemployment Risks in an Emergency and Next Generation EU programmes are excluded. If considered, the ATM is 7.4 years at end-2025.
- Japan: Figures are based on fiscal year (as of the end of March) and excludes T-bills for cash management purposes. Figures from 2006 to 2024 exclude saving bonds for retail. The figure for 2025 is estimated and includes saving bonds for retail.
- Netherlands: These figures pertain to government bonds and treasury bills only.
- New Zealand: Figures include all New Zealand Government Bonds, T-bills and Euro-Commercial Paper computed using the exchange rate as of 31 December.
- Sweden: Data as of end of year. It includes government bonds, inflation-linked bonds, public bonds in foreign currencies, green bonds and T-bills.
- United Kingdom: ATM is weighted by the nominal amounts outstanding of gilts and T-bills issued for debt management purposes, as of the reporting date. Nominal amounts of gilts include government holdings; nominal values of index-linked gilts also include accrued inflation as of the reporting date.

Debt decomposition model

Single countries

To compute the debt-decomposition of OECD countries, this chapter adopted the methodology outlined by Escolano (2010^[24]) and used the equation below to capture the change in debt-to-GDP ratio between time t and $t-1$:

$$d - d_{(t-1)} = \frac{ip}{(1+y)} * d_{(t-1)} - \frac{\pi}{(1+y)} * d_{(t-1)} - \frac{g}{1+g} * d_{(t-1)} - pb + sf$$

Where:

- d is the central government debt stock from the Borrowing Survey expressed as a ratio to GDP from OECD (2025^[25]).
- ip is the effective interest rate, expressed as general government gross interest expenses from OECD (2025^[25]) in time t as a ratio of the central government debt stock from the Borrowing Survey in time $t-1$
- y is the nominal GDP growth rate from OECD (2025^[25]) between time t and $t-1$
- π is inflation, defined as the change in GDP deflator from OECD (2025^[25]) between time t and $t-1$
- g is the real GDP growth rate from OECD (2025^[25]) between time t and $t-1$
- pb is the general government's primary balance as a ratio of GDP, both from OECD (2025^[25])
- sf denotes the stock-flow adjustments.

OECD area

For the OECD area decomposition, the following variables are used:

- d is the sum of each country's central government debt stock divided by the sum of each country's GDP
- ip is the sum of each country's general government gross interest payments divided by the sum of each country's central government debt stock from the Borrowing Survey at time $t-1$
- y is the growth rate of the sum of each country's nominal GDP

- π is the sum of each country's π , weighted by GDP
- g is the sum of each country's g , weighted by GDP
- pb is the sum of each country's general government primary balance, divided by the sum of each country's GDP
- sf denotes the stock-flow adjustments

To compute OECD area values, country figures were converted into US dollars using the year-end exchange rates, sourced from LSEG.

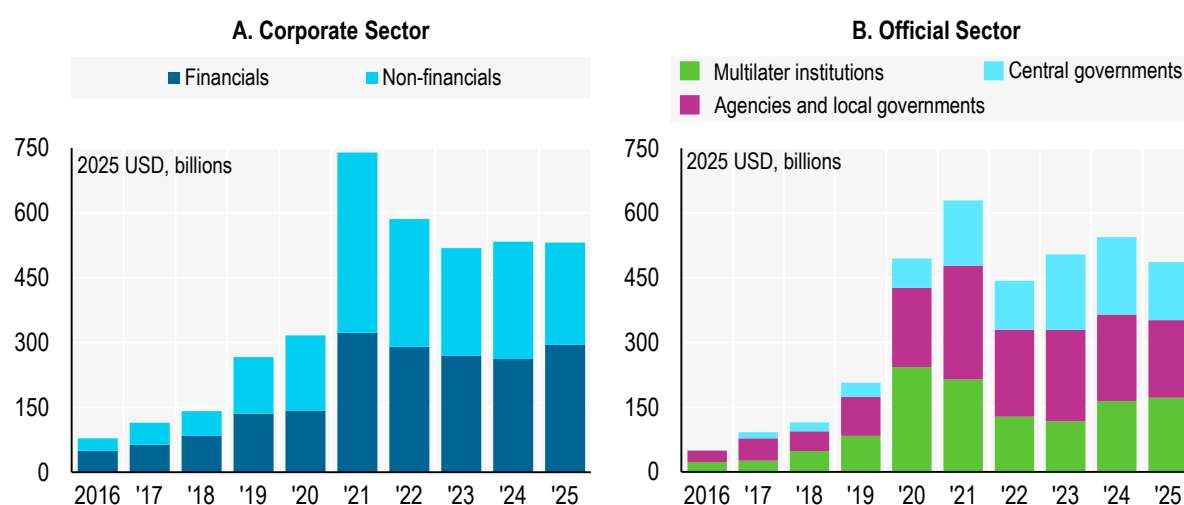
Further specifications

Computations did not cover CHL, COL, CRI, ISR, MEX and TUR due to missing general interest expenses data. Thus, computations cover around 97% of total OECD central government debt.

Annex 1.B. Sustainable bonds

Over the last five years, sustainable bonds have become a more important source of capital market financing. Globally, the total volume of sustainable bonds issued by the corporate and official sectors was three times larger in 2021-2025 than in 2016-2020. Issuance peaked in 2021, with total issuance of USD 740 billion by corporates and USD 629 billion by the official sector (Annex Figure 1.B.1, Panel A). In 2025, global volumes totalled USD 531 billion and USD 486 billion, respectively. Issuance declined slightly in 2025, falling by 6% compared with 2024 and by 26% relative to 2021. Green bonds remained the dominant category in 2025, with USD 420 billion issued by corporates and USD 238 billion by the official sector (Annex Figure 1.B.1, Panel B).

Annex Figure 1.B.1. Global sustainable bond issuance by issuer

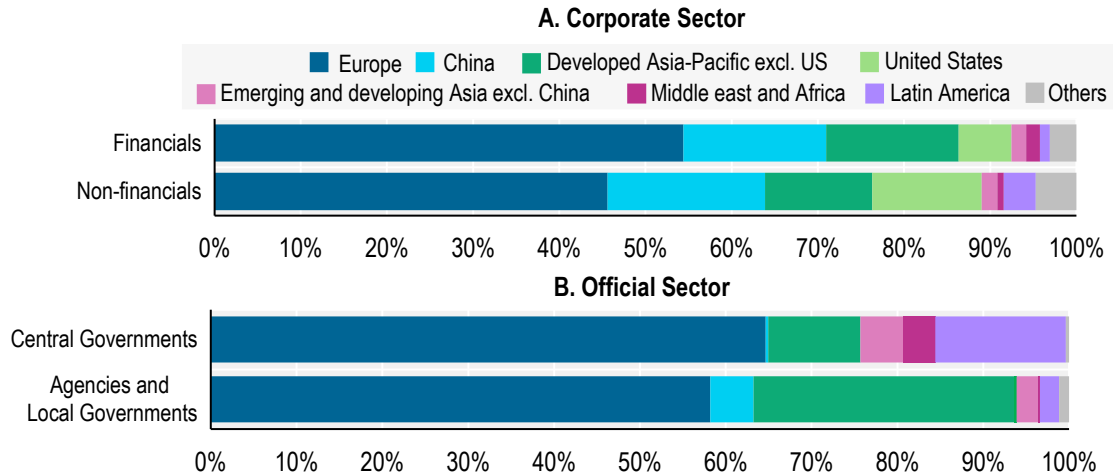


Source: OECD Corporate Sustainability dataset, LSEG.

Between 2016-2025, Europe dominated global sustainable bond issuance in both the corporate and official sectors. It accounted for nearly half of non-financial corporate issuance (46%), followed by China (18%) and the United States (13%). Europe also dominated financial corporate issuance, accounting for more than half (54%), above China (17%), Developed Asia-Pacific excluding the US (15%), and the United States (6%) (Figure 1.B.2, Panel A).

In the official sector, sustainable bonds issued by central governments during the same 2016-2025 period were mainly issued in Europe (65%), followed by Latin America (15%). European issuers also dominated issuance by agencies and local governments (58%), followed by issuers in Developed Asia-Pacific excl. US (30%) (Annex Figure 1.B.2, Panel B).

Annex Figure 1.B.2. Global sustainable bond issuance by region

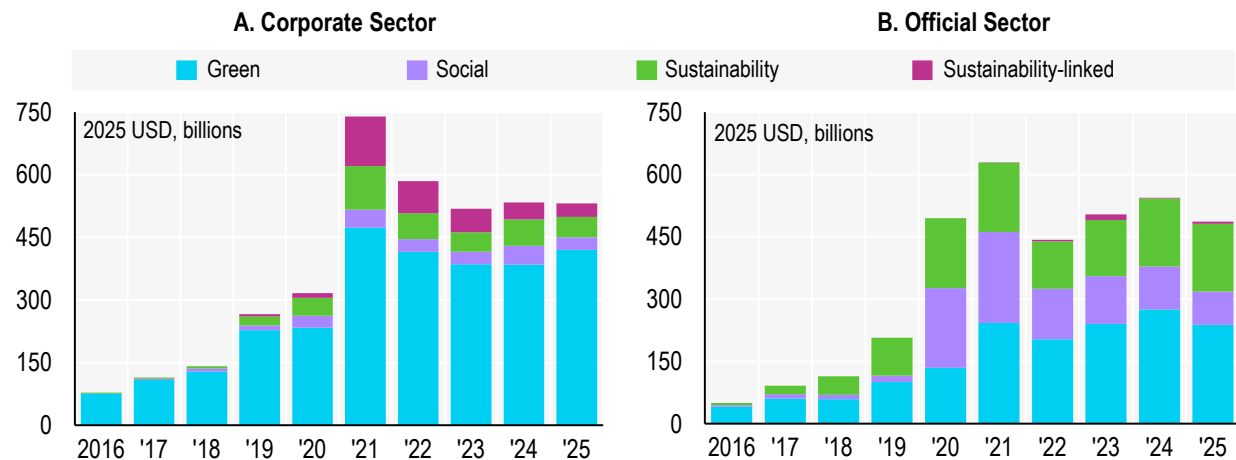


Source: OECD Corporate Sustainability dataset, LSEG.

Before 2020, most corporate sustainable bonds were green bonds, representing 92% of annual issuance on average (Annex Figure 1.B.3, Panel A). In 2020, social bond issuance by corporates nearly tripled and then peaked in 2024 at USD 45 billion. In 2025, green bonds represented 79% of the total corporate sustainable bond market, while sustainability-linked bonds (SLBs), sustainability bonds, and social bonds made up 6%, 9%, and 6%, respectively.

Green bond issuance is less prevalent in the official sector than in the corporate sector, averaging 49% of total volumes over the past three years. Alongside green bonds, governments and multilateral institutions have issued social (19%) and sustainability (30%) bonds frequently over the last three years (Annex Figure 1.B.3, Panel B). SLBs were issued for the first time by central governments and multilateral institutions in 2021, but account for only 1% of sustainable bonds issued in the official sector over the last three years.

Annex Figure 1.B.3. Global sustainable bond issuance by type



Source: OECD Corporate Sustainability dataset, LSEG.

Annex 1.C. EMDE marketable debt calculations

Primary sovereign bond market data and country groupings

Primary sovereign bond market data are based on original OECD calculations using data obtained from LSEG that provides international security-level data on new issues of sovereign bonds. The data set covers bonds issued by emerging market sovereigns in the period from 1 January 2007 to 31 December 2025 and includes both short-term and long-term debt. Short-term debt (“bills”) is defined as any security with a maturity less than or equal to 365 days but no less than 33 days, as bill issuances with a maturity less than 33 days are considered to be done for cash management purposes and excluded from calculations. Bonds issued by central banks that have no government budget financing purposes were excluded. The data provides a detailed set of information for each bond issue, including the proceeds, maturity date, interest rate and currency structure.

The definition of emerging markets used in this report is consistent with the IMF’s classification of Emerging Markets and Developing Economies used in its World Economic Outlook. The income categories used (high income, low income, lower middle income, upper middle income) are those from the World Bank as of 2025, which are based on GNI per capita levels.

A number of bonds have been subject to reopening. For these bonds, the initial data only provide the total amount (original issuance plus reopening). To retrieve the issuance amount for such reopened bonds, specific data on the outstanding amount on each reopening date for the concerned bonds have been downloaded separately from LSEG. As the reopening data only provide amounts outstanding, the outstanding amount on the previous date is subtracted from the outstanding amount on that given date, in order to obtain the issuance amount on each relevant date. These calculated issuance amounts are converted on the transaction date using USD foreign exchange data from LSEG. To ensure consistency and comparability, the same method is used for all bonds, including those which have not been subject to reopening.

Gross borrowing equal to the net borrowing requirement during each year plus the redemptions of long-term instruments in the same year and the redemptions of short-term instruments issued in the previous year. Therefore, this indicator captures the issuance of all securities excluding those that were issued and redeemed in the same calendar year. In other words, gross issuance in the calendar year amount to how much the country issued in nominal terms to fully pay back maturing debt issued in previous years plus the net cash borrowing requirement through any issuance mechanism. This follows the same method to compute gross issuance in Chapter 1 and is referred as the standardised method.

Outstanding debts in local currency are converted to USD using end-of-year foreign exchange rates.

Exchange offers and certain bonds in the dataset have been manually excluded when they did not have any identifier (ISIN, RIC or CUSIP) and when they have not been able to be manually confirmed by comparing with official government data.

For the issuance figure in the infographic, gross borrowing in 2026 for EMDEs is estimated as the average ratio between gross borrowing and refinancing requirements for each year between 2007 and 2025, multiplied by 2026 refinancing requirements as of 31 December 2025. See Chapter 2 for 2026 corporate bond estimations methodology.

Credit ratings data

LSEG provides rating information from three leading rating agencies: Fitch, Moody's, and S&P. For each country with rating information in the dataset, a value of 1 is assigned to the lowest credit quality rating (C or below) and 21 to the highest credit quality rating (AAA for Fitch and S&P, and Aaa for Moody's). Non-investment grade categories include ratings up to BB+ for Fitch and S&P, and up to Ba1 for Moody's.

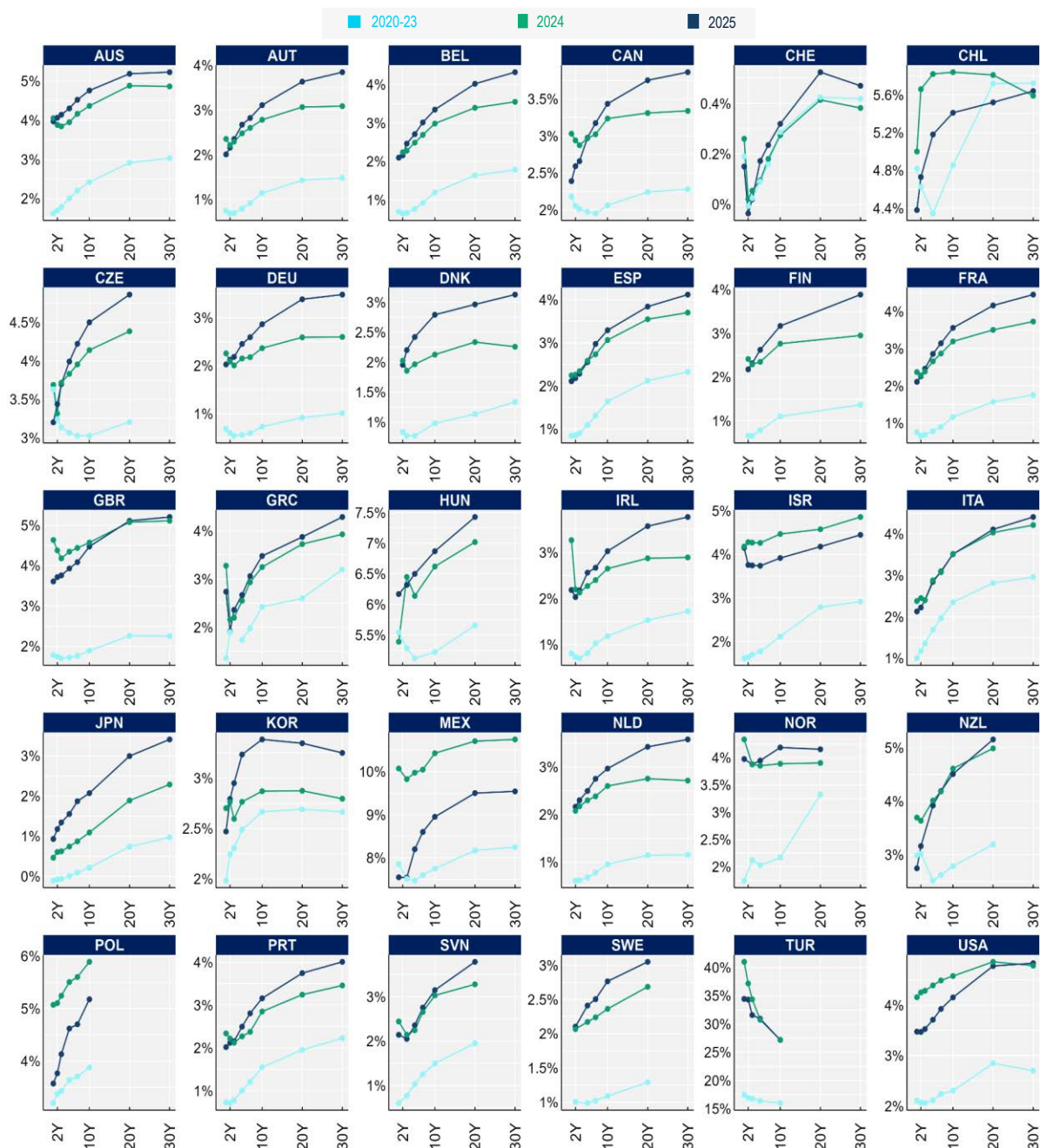
The rating in question is then assigned to each relevant bond issued by that country (as at issuance or transaction date). If ratings are available from several agencies, their average is used. Final ratings are categorised as follows: those equal to or higher than 15 are classified as Investment Grade A (IG A); ratings falling between 12 and 14 are designated as Investment Grade BBB (IG BBB); ratings between 9 and 11 are categorised as non-Investment Grade BB (SG BB); and ratings below 9 are classified as Single B high risk (Single B and below). Within the high-risk category, ratings equal to or lower than 3.5 indicate a default or very high risk of default.

When computing the number of upgrades and downgrades, ratings data are observed on a monthly basis, excluding those equal to 1. If a country has received several ratings from the same agency in one month, the latest one is used.

The weighted debt quality analysis uses rating information from three rating agencies (Fitch, Moody's and S&P). The rating valid at the end of the year for a country is assigned to the totality of its outstanding debt stock. The share is then computed as a stock-weighted average across rating groups.

Annex 1.D. Single country yield curves

Annex Figure 1.D.1. Yield curves of selected OECD countries



Note: 2024 and 2025 refer to end-of-year values. 2020-2023 refers to the average of end-of-month values. Only countries with sufficient data depicted.

Source: LSEG and OECD calculations.

Notes

¹ The USD depreciated by 12% against the EUR from the end of 2024 to the end of 2025 and by 7% against the GBP.

² Eight countries reported a decrease of at least 1 p.p., with Costa Rica, Germany and the Netherlands experiencing the largest decreases.

³ The Japanese budget deficit, as measured by the general government net lending, decreased from 1.42% of GDP to 0.56% (OECD, 2025^[1]).

⁴ These eight countries are: Chile, Czechia, Greece, Ireland, Portugal, Spain, Sweden and Switzerland. In this case, a change is considered stable if it is lower than a half p.p.

⁵ The largest decreases are estimated for Israel (4 p.p.), Türkiye (2 p.p.) and New Zealand (2 p.p.).

⁶ Germany also introduced a 20-year line for the first time in 2026, reflecting market demand, but this did not mark a departure from the initial annual funding plans.

⁷ From two to one.

⁸ The fiscal year in the UK spans the 12 months from April to March. The UK DMO announced in March 2025 that it would introduce programmatic gilt tenders in 2025-2026 to assist with the delivery of its financing remit. It stated that these operations will typically involve the sale of “off-the-run” gilts, and it is envisaged that gilts maturing within the financial year will be excluded. However, the approach is designed to be adaptable to take account of the overall programme and operations calendar composition and will be informed by relevant feedback received during consultation processes. Tender dates and choice of maturity sectors for all programmatic gilt tenders remain subject to demand and market conditions prevailing at or around a tender date. The UK DMO stated that it will consider a range of factors in deciding the gilt to be offered at each tender, including feedback about demand and market conditions, as well as broader debt management considerations (including the cash amount raised, value for money, and the impact of issuance on the gilt redemption profile). Market participants will be consulted on the identity of the gilt and the maximum size to be offered at each gilt tender ahead of the planned gilt tender date. These will typically be confirmed at least two business days before the planned tender date. Proceeds from the UK DMO’s programmatic gilt tenders will be drawn down from the unallocated portion of issuance. The UK DMO will publish any such transfers on the day that they take place by updating and re-publishing the table showing the evolution of the unallocated portion of issuance in 2025-2026 that is available on the “Remit” section of the UK DMO’s website. (UK DMO, 2025^[26]).

⁹ Australia, Chile, Iceland, Mexico, New Zealand, Poland, the Slovak Republic, and Spain.

¹⁰ Note that the Sovereign Borrowing Outlook uses the standard methodology to calculate gross borrowing and refinancing needs, excluding the refinancing of T-bills issued and maturing within the same year. For further details, see Annex 1.A.

¹¹ The United States is the OECD country with the highest share of outstanding debt made of T-bills, at around 22%.

¹² The composition of outstanding central government marketable debt will also include non-standard instruments such as sustainable bonds. Annex 1.B provides more information on trends in the issuance of sustainable bonds globally by corporate and official sectors.

¹³ Percentages do not add up to 100 due to rounding.

¹⁴ In January 2025, the Swedish target was for inflation-linked debt decreased from 20% of the total to 80 billion Swedish krona at the end of 2029, which the DMO sees as probably amounting to about 5-10% of the total in that year.

¹⁵ Note that the Sovereign Borrowing Outlook considers only central government marketable debt, see Annex 1.A.

¹⁶ This also reflects the higher starting point of Japan's public debt, via the so-called snowball effect.

¹⁷ In Denmark, Ireland, Lithuania, Sweden, Slovenia, and Türkiye, the 2025 debt-to-GDP ratio was not only lower than in 2024 but also near the lowest levels from the past ten years.

¹⁸ In December 2025 the Central Bank of Iceland cut its main policy rate to 7.25%. Markets are currently pricing further easing which explains the inversion of the yield curve of Iceland.

¹⁹ This simple framework abstracts from the fact that some investors might hold long-term bonds with specific maturities to match certain liabilities.

²⁰ General collateral (GC) refers to repo transactions where the lender accepts any bond with certain characteristics as collateral, while specific collateral (SC) repo are transactions where a particular bond is required. The difference between SC and GC reflects the scarcity or specialness of a specific bond.

²¹ On-the-run securities are the most recently issued government bonds of a given maturity and are typically the most liquid. Off-the-run securities are older issues of the same maturity that have been superseded by newer ones and are usually less liquid.

2 Corporate debt market outlook in a transforming world

The global economy faces great uncertainty. Macroeconomic and geopolitical headwinds have raised the prospect of downward pressure on economic growth, with elevated volatility in many markets, including traditionally safe assets. Despite this context, corporate credit spreads are near historical lows even for riskier debtors, and corporate borrowing reached record levels in 2025, with enormous capital needs for the artificial intelligence expansion set to take it even higher. This chapter explores the drivers of these trends and what their implications will be.

Key findings

- **Corporate debt markets are simultaneously subject to – and themselves drivers of – two transformative contemporary developments: the advancement of artificial intelligence and the ongoing shifts in the global economic and political landscape.**
- **Global corporate debt issuance reached about USD 13.7 trillion in 2025** (USD 6.8 trillion in corporate bonds and USD 7 trillion in syndicated loans), **the highest amount on record.** Outstanding amounts stood at USD 59.5 trillion at the end of the year, comprising USD 36.4 trillion of corporate bonds and USD 23.1 trillion of syndicated loans.
- **Corporate credit spreads globally are near historical lows for both investment grade and non-investment grade companies,** despite geopolitical tensions, possible future macroeconomic headwinds and record levels of borrowing.
- **This aligns with strong fundamentals in the corporate sector:** cash levels and forecasted earnings are high, aggregate credit quality indicators are solid, and projected default rates are below historical averages.
- **Several factors unrelated to corporate credit quality are also putting downward pressure on spreads.** Notably, the world has seen a shift in relative risk from corporate to sovereign debt markets, increasing the benchmark against which corporate borrowing costs are measured. As a consequence, some major index companies are even trading at negative spreads to their government benchmark.
- **A decomposition analysis suggests that a large part of credit spread reductions in recent years comes from reductions in liquidity premia.** This likely stems in part from changes in the investor base – notably the increasing presence of investment funds and ETFs and, more recently, principal trading firms – and developments in corporate bond market trading structures. These trends are reinforcing one another, as greater liquidity attracts more trading-prone investors. Together with increases in investor risk-willingness, this means corporate spreads now primarily reflect compensation for expected default losses.
- **The AI expansion is immensely capital intensive.** The projected capital expenditure for nine major players, often called hyperscalers (primarily US technology firms), amounts to USD 4.1 trillion between 2026 and 2030. For comparison, total capital expenditure by all non-financial companies in the United States in 2025 was just above USD 3 trillion. If half of the future capex needs are financed through bond markets, borrowing by these nine issuers alone would amount to an average of 15% of historical global gross issuance per year.
- **These two developments – AI spending dominating global markets and changes in trading frequency – beg the question of whether debt markets are becoming more like equity markets.** The technology sector represents an increasing share of the global bond market, a trend that is set to continue given the magnitude of the hyperscalers' financing needs. This might bring bond market sector, and even single-firm, concentration closer to that observed in equity markets in recent years. Given the uncertainty about the useful life of data centres, a key AI infrastructure, and the nature of their value as collateral, there seems to be a convergence even in the type of risks financed by equity and debt markets.
- **Corporate equity and debt market pricing is also increasingly correlated.** The co-movement of credit spreads and equity prices (hedge ratios) has increased markedly in recent years for major indices. The change in investor base may have contributed to this increase. It may also be an effect of increasing constituent convergence between major bond and equity indices.

This chapter looks at developments in corporate borrowing across bond, syndicated loan, and private credit markets for both financial and non-financial companies, drawing from original OECD datasets.

Corporate debt markets in a transforming world

Two simultaneous developments are transforming the world economy: the exponential advance in artificial intelligence (AI) and increasing global economic and political uncertainty. Both will shape debt markets in the years to come – but equally, debt markets will play a part in determining the outcome of this transformation.

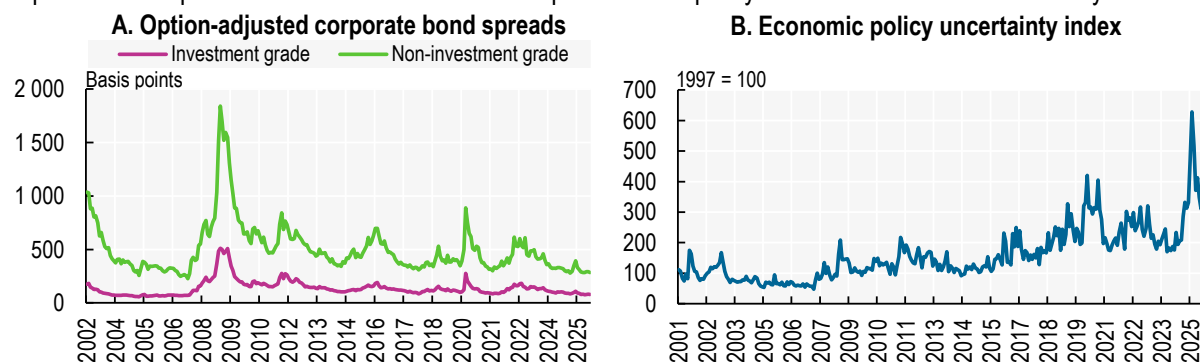
The financing needs for the AI expansion are unprecedented in recent history. The magnitude of the capital expenditure needed to build the infrastructure required to operate at scale is so great that increases in external financing are inevitable. This applies not just to the technology sector, but to the entire supply chain of industries involved, from energy providers to construction companies. Debt markets will be used to mobilise a very significant part of that financing – but corporate debt levels are already elevated, and with continued fiscal pressures on governments and a changing investor base (see Chapters 1 and 3), the question is how much more debt can be absorbed in an orderly manner. In a positive scenario, AI technology might lead to substantial productivity gains, mitigating concerns about broad-market debt sustainability. But that outcome is not guaranteed; while AI itself holds great promise for increased future prosperity, identifying what corporations will end up reaping the greatest benefits is an open question. The useful life of underlying assets might change rapidly given new developments. In this sense, certain current corporate bets on AI have a risk profile that looks more equity than debt-like – but with the nominal repayment requirements of a debt contract.

In parallel, the global trade order that has prevailed for the last decades is experiencing major changes, with the possibility of being redrawn altogether. Geopolitical tensions and structural fiscal pressures, among other challenges, add additional strain on markets. This not only puts potential downside pressure on economic growth prospects but might also reshape international investment flows. Consequently, indicators of economic and financial uncertainty have been significantly elevated in recent years.

Corporate debt markets have been remarkably unfazed in the face of these challenges. Credit spreads are near historical lows globally, including for riskier non-investment grade debt, even as borrowing reached a new peak in 2025 (Figure 2.1). This chapter looks at the drivers of what at first glance appears to be a dislocation between market dynamics and broader political and economic uncertainty. It seeks to tie ongoing trends in corporate debt markets to broader global developments and analyse what the implications of these might be for market functioning, debt sustainability – and the economy at large.

Figure 2.1. Corporate bond spreads and economic uncertainty

Corporate bond spreads are near historical lows despite elevated policy and macroeconomic uncertainty



Note: The indices in Panel A are the Bloomberg Global Aggregate Corporate (investment grade) and High Yield Corporate (non-investment grade); Panel B shows Davis' Global Economic Policy Uncertainty Index (news-based).

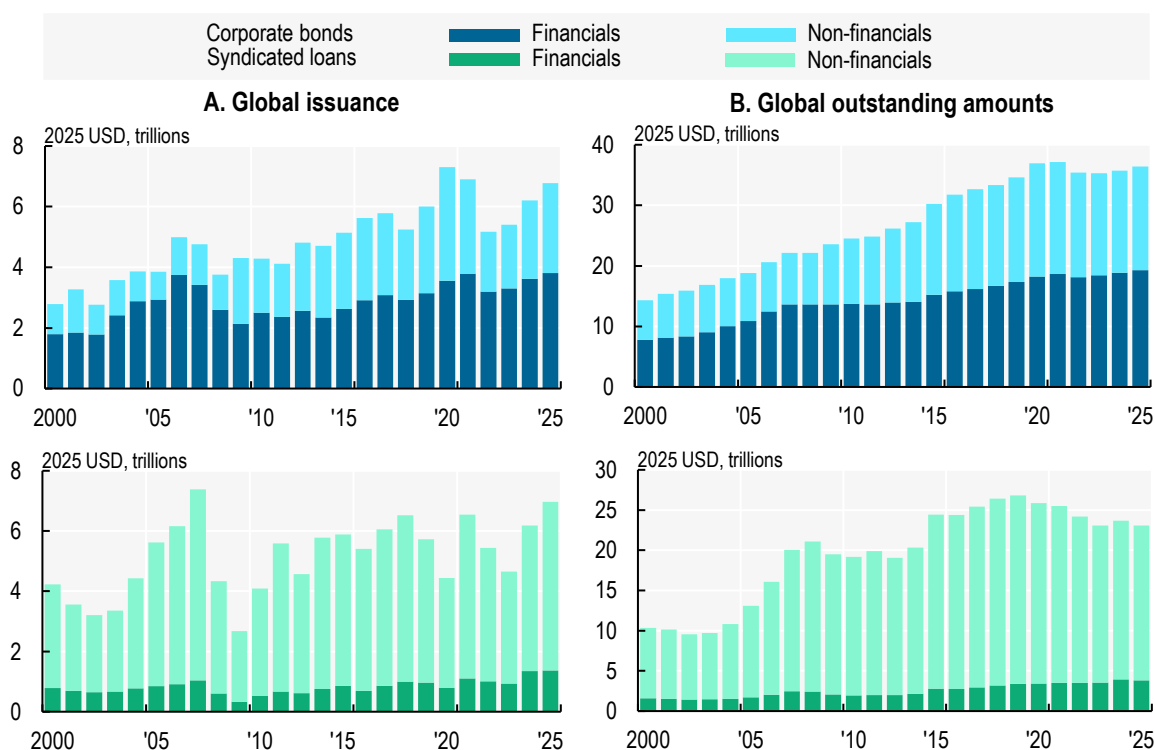
Source: Bloomberg; Davis (2016^[1]).

Headline developments in global corporate debt markets

Corporate debt issuance in 2025 was the highest ever. Companies globally borrowed USD 13.7 trillion across corporate bond and syndicated loan markets, surpassing the previous peak in 2021, when debt markets played a central role in helping firms meet pandemic-related financing needs, fuelled by very expansionary monetary policy. The increase is a continuation of the 2024 trend towards growing borrowing (notably by non-financial companies), which marked a sharp reversal from the decline seen in 2022 and 2023, when volumes fell to some of the lowest levels of the past decade in response to higher interest rates (Figure 2.2, Panel A). Despite record levels of gross issuance, outstanding debt levels have not grown markedly since 2024, remaining broadly stable at around USD 60 trillion, still lower in real terms than the 2020 peak (Panel B).

Figure 2.2. Global corporate debt market activity

At 13.7 trillion, corporate gross borrowing from markets in 2025 was the highest on record in real terms



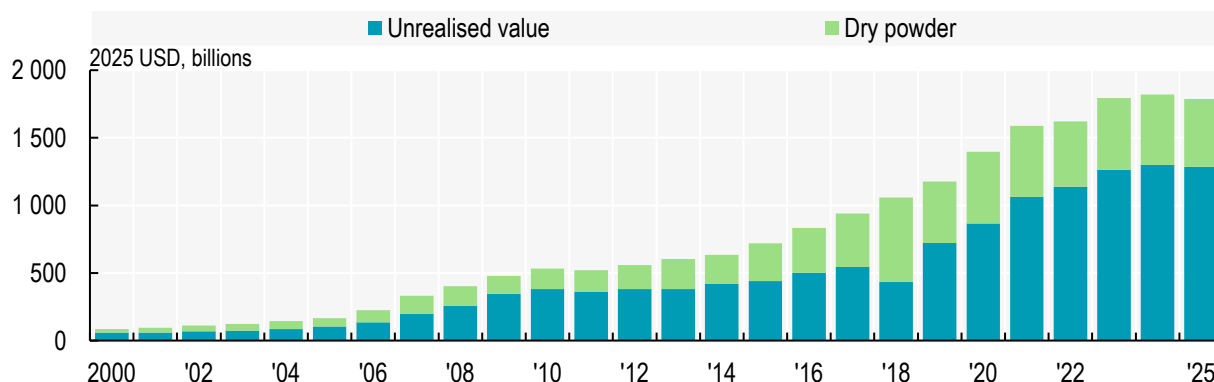
Note: Country-level data are available in Annex 2.A.

Source: OECD Capital Market Series dataset, LSEG, see Annex 2.B for details.

Total private credit assets under management (AUM) have also remained broadly stable, standing at USD 1.8 trillion in June 2025, 1% more than in 2024 (Figure 2.3). This represents a 2% reduction in real terms, compared to a compound average real growth rate of 14% from 2000-2024. The ratio of undeployed committed capital (“dry powder”) to total assets under management fell to 28% in 2025, continuing a downward trajectory that started in 2018 when it stood at 59%, indicating that the period of breakneck-paced capital raising has given way to a period of allocating those funds to actual investments. As highlighted later in this chapter, private credit markets are set to play, and are indeed already playing, an important role in financing the global AI expansion.

Figure 2.3. Global private credit assets under management by investment status

Private credit assets have stabilised after years of very rapid growth, with the share of dry powder decreasing



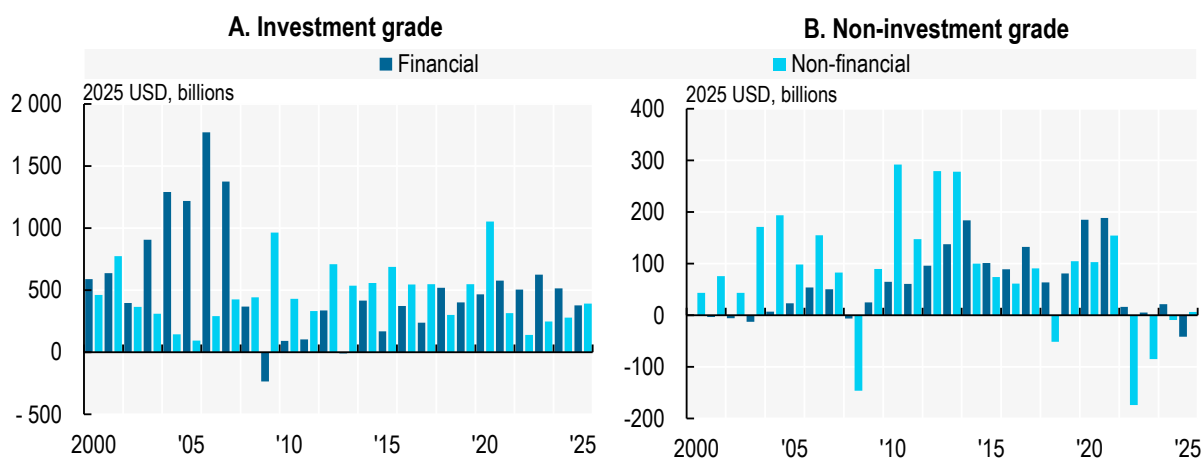
Note: 2025 values are as of June 2025.

Source: Preqin.

Net issuance (gross issuance minus redemptions) of corporate bonds continued to expand globally in 2025 (Figure 2.4). Investment grade companies added USD 768 billion of new debt, split in roughly equal parts between financial and non-financial companies (Panel A). In the riskier, non-investment grade segment, net issuance turned positive again for non-financial companies for the first time since 2021 (Panel B).

Figure 2.4. Net issuance of corporate bonds

Net issuance continues to expand for IG companies and has turned positive for higher risk non-financial firms



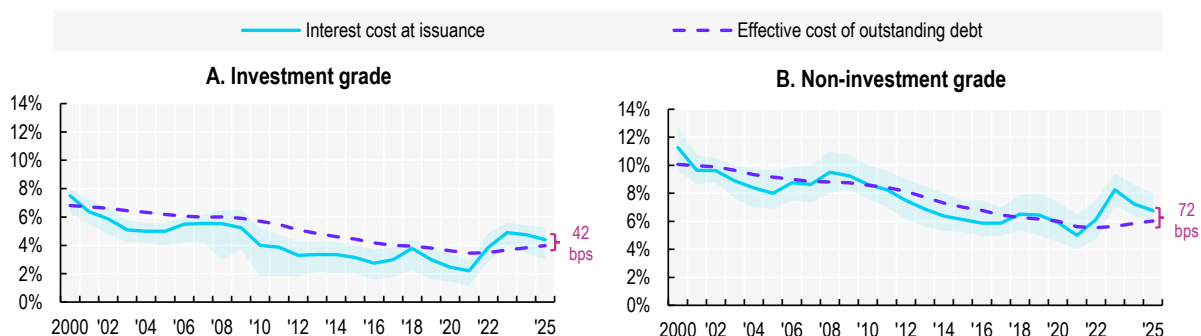
Source: OECD Capital Market Series dataset, LSEG, see Annex 2.B for details.

As noted in the 2025 edition of the Global Debt Report, despite elevated interest rates since 2022, there was still a gap between the cost of outstanding debt and the interest paid by companies when issuing new debt at the end of 2024, nearly three years after the hiking cycle began. Owing to long-term maturities and predominantly fixed-rate debt, the cost of the outstanding debt stock did not yet reflect the new financing environment. Globally, in 2024 investment grade companies paid roughly 1 percentage point (p.p.) more for new debt than the cost of their outstanding debt; for non-investment grade issuers the difference was 1.4 p.p. (OECD, 2025^[2]). That gap has since narrowed substantially, roughly halving for both risk

categories, driven both by the cost of the outstanding stock of debt slowly increasing as old debt is refinanced and falling interest costs at issuance as monetary policy became more accommodative (Figure 2.5).

Figure 2.5. Interest cost at issuance versus effective cost of outstanding bond debt, global

The cost of outstanding debt and the cost of issuing new debt are converging



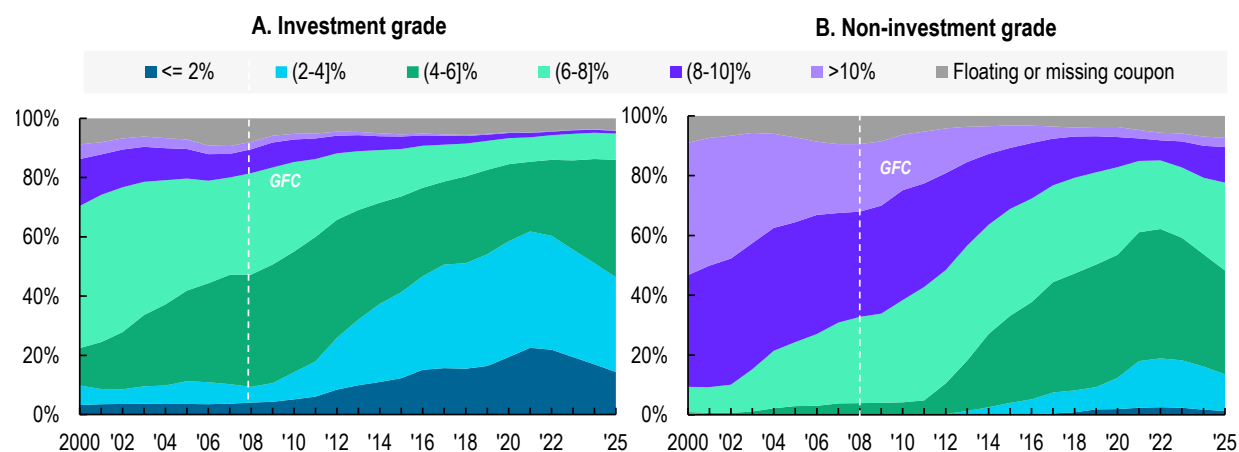
Note: Refers to non-financial companies. Interest costs are based on coupons or, when unavailable, the yield to maturity at issuance. Full lines show medians, shaded areas show the range between the 25th and the 75th percentiles. The cost of outstanding debt is estimated for fixed-rate debt by weighing coupon buckets (in 50 basis point increments) by outstanding amount.

Source: OECD Capital Market Series dataset, LSEG, see Annex 2.B for details.

This increase in the cost of debt is also starting to reflect in the outstanding debt stock (Figure 2.6). Given the dynamics described above, the cost of outstanding debt is very slow-moving, but the structural trend towards higher interest rates is now clearly visible. For investment grade companies, half of outstanding debt now carries an interest cost above 4%, the first time since 2015. The share of ultra-cheap debt, at rates of 2% or less, now represents 14% of outstanding amounts, down from almost a quarter in 2021 (Panel A). The adjustment has been somewhat faster for non-investment grade debt, given shorter average maturities in this riskier segment. At the end of 2025, 15% of debt cost 8% or more, up from 9% of outstanding bonds in 2022 (Panel B).

Figure 2.6. Outstanding global corporate bond debt by interest rate (coupon)

Half of outstanding investment grade debt now has an interest rate above 4%



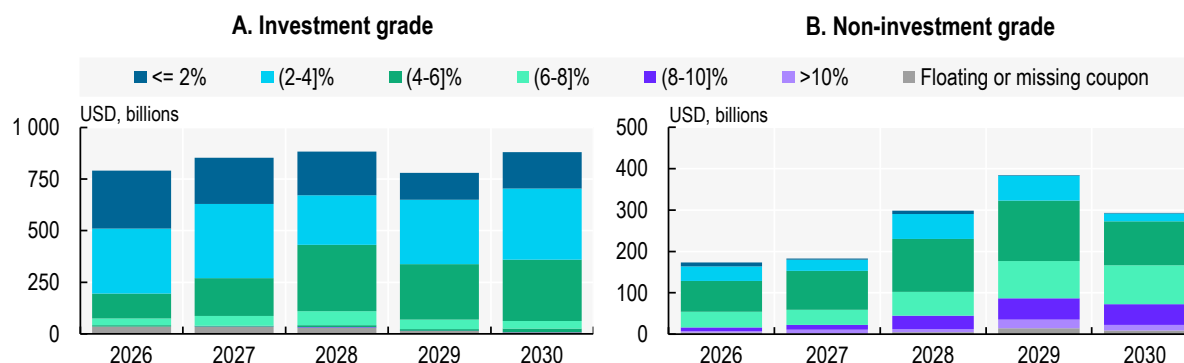
Note: Refers to non-financial companies. Where coupon data are not available, the yield to maturity at issuance is used. GFC = global financial crisis.

Source: OECD Capital Market Series dataset, LSEG, see Annex 2.B for details.

This trend is set to continue in the coming years. Refinancing requirements in the next three years amount to 24% of outstanding investment grade debt and 31% of non-investment grade debt (as of the end of 2025). The majority of debt maturing has a lower coupon than the current cost of outstanding debt; for investment grade companies, 65% of debt due between 2026 and 2028 has an interest rate of 4% or less. Similarly, 67% of non-investment grade debt coming due in the same period currently costs 6% or less (Figure 2.7).

Figure 2.7. Refinancing requirements in the next five years by cost of outstanding debt

Debt maturing in the near term is predominantly legacy borrowing that will need to be refinanced at a higher cost



Note: Refers to non-financial companies.

Source: OECD Capital Market Series dataset, LSEG, see Annex 2.B for details.

Interpreting compressed credit spreads in an otherwise volatile environment

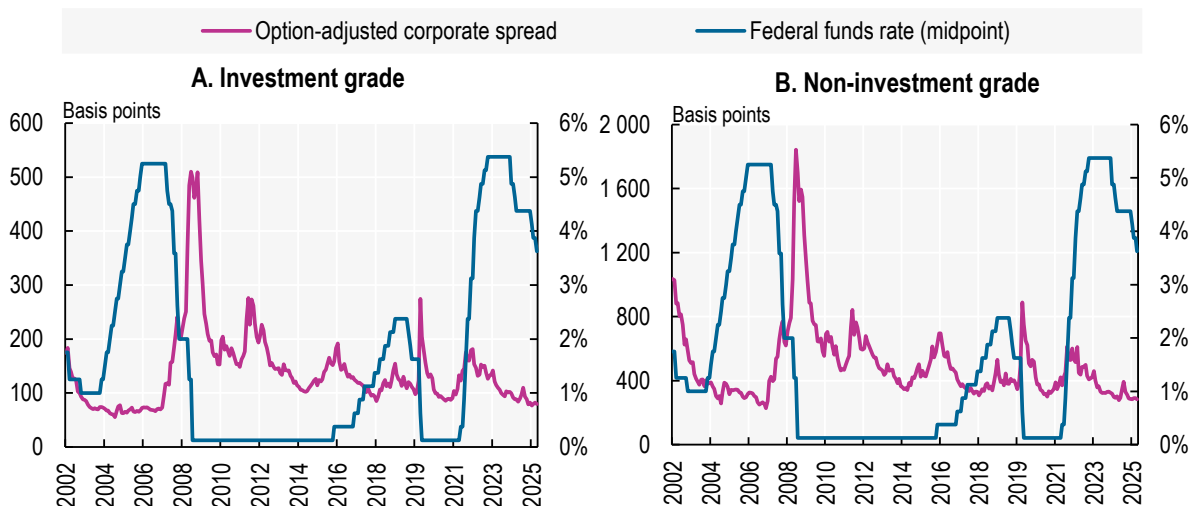
In addition to other headwinds, both geopolitical and macroeconomic, in the last four years corporate bond markets were also exposed to the fastest monetary policy tightening cycle in recent history. While this global tightening, which started in 2022, did see credit spreads move upward, the increase was not proportionate to the pace of the rate hikes, and the prospect of a macroeconomic “soft landing” that took hold relatively shortly after rapidly saw spreads compress again.

The muted spread response to tighter monetary policy is not necessarily unexpected; there is no mechanical relationship between policy rates and corporate credit spreads, with the movement of the latter depending heavily on the drivers of changes in the former. The observed rate-spread correlation will be very different depending on whether rate hikes are a response to higher growth or to “growth-independent” inflationary episodes. In the former case, there is an economic logic to credit spreads remaining unchanged or even tightening. This dynamic of gradually increasing policy rates and compressed spreads was seen in the United States in the 2004-2006 period (Figure 2.8).

Even so, there are conceptual reasons to expect higher rates to be associated with higher spreads. Higher policy rates serve to lower aggregate demand and tighten financial conditions, thereby, all else equal, increasing credit risk premia through higher default risk. There is also the possibility of a liquidity effect whereby higher rates lead to lower liquidity in corporate securities as trading concentrates in government debt markets, increasing liquidity premia and therefore spreads. In addition, rate increases during the cycle that began in 2022 were not primarily driven by concerns about an overly hot economy. Inflation was an effect of other developments, notably (but by no means exclusively) spikes in energy prices and shipping costs. In spite of this, spreads on both investment grade and non-investment grade corporate debt have remained subdued.

Figure 2.8. Corporate bond spreads and US monetary policy rate

Spreads remained compressed even as monetary policy was tightened at the most rapid pace in recent history



Note: The indices are the Bloomberg Global Aggregate Corporate (investment grade) and High Yield Corporate (non-investment grade).
Source: Bloomberg, LSEG.

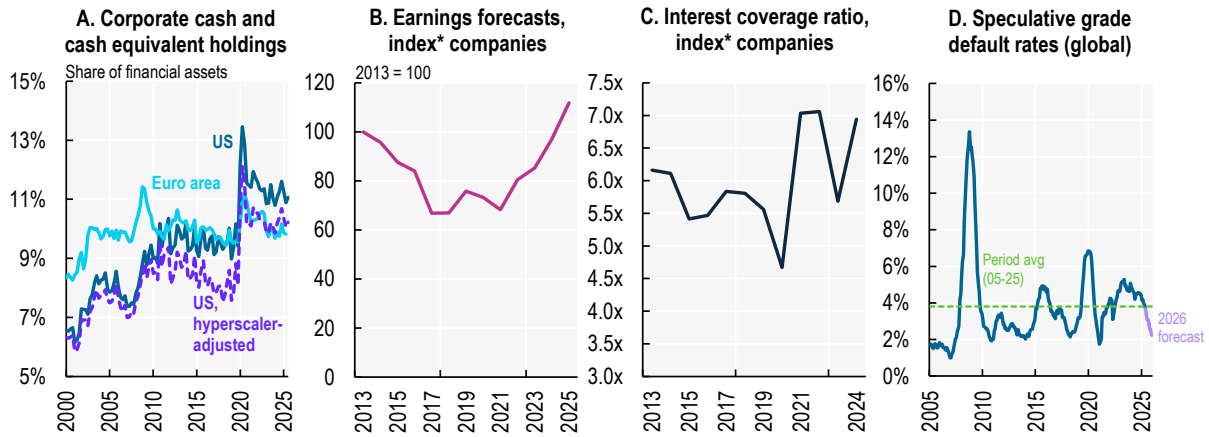
What explains the surface-level calm of corporate credit markets in the face of what appears to be major economic headwinds? For analytical purposes, the driving factors can usefully be split into two broad categories: fundamental and technical. Fundamental factors are those affecting credit risk, i.e. developments that have improved corporate credit quality relative to sovereign debt, such as increased cash buffers, reduced leverage or higher earnings prospects. Technical factors, on the other hand, are those that influence spreads but that are not necessarily indicative of improved credit quality (e.g. exogenous shifts in demand/supply or changes in liquidity).

Corporate credit quality

Developments in credit quality indicators are directionally aligned with increasingly compressed spreads. Corporate cash levels are ample, remaining above historical averages despite decreasing since the spike during the COVID-19 pandemic. The increase is particularly visible among US companies, although less markedly when adjusting for the so-called hyperscalers' substantial cash holdings (Figure 2.9, Panel A). Corporate earnings prospects are also strong. Earnings forecasts (one-year forward EPS) for companies representative of the investment grade index in Figure 2.8 were 12% higher in 2025 than they were in 2013 (Panel B) and the median interest coverage ratio was 6.9 in 2024 (latest available data), compared to a historical average of 5.9 (Panel C). Default rates are trending downwards globally and are forecast to fall substantially below historical averages going forward (Panel D). These developments, especially in an environment of increasing sovereign risk, are all consistent with a compression of corporate spreads.

Figure 2.9. Measures of corporate sector financial strength

Fundamental indicators of corporate sector health and financial strength are aligned with compressed spreads

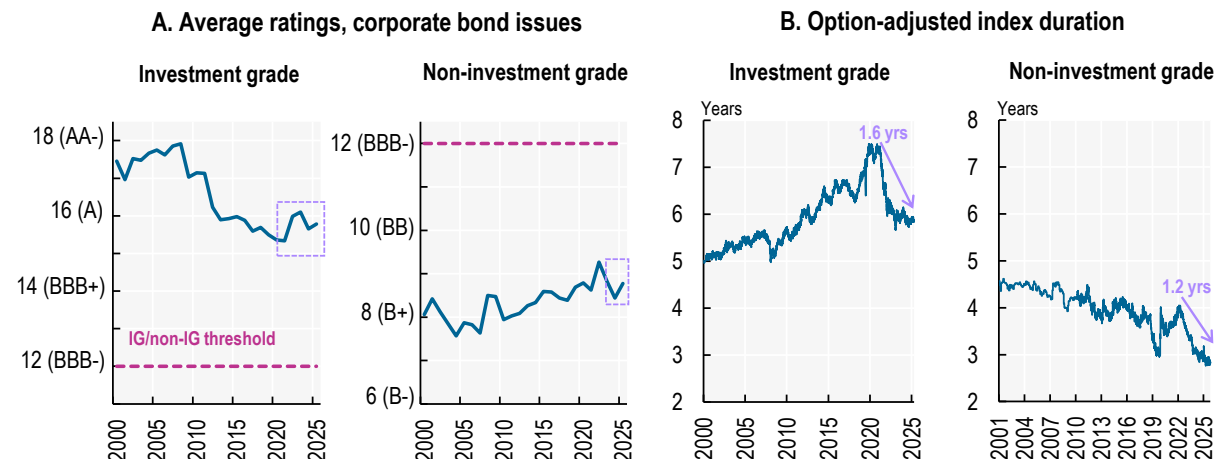


Note: Panel A refers to non-financial companies. Cash and cash equivalents include currency, deposits (checkable, time and savings as well as private foreign) and money market fund shares. US hyperscalers' (Apple, Alphabet, Amazon, IBM, Meta, Microsoft and Oracle) financial assets are proxied as cash and short-term investments. Panel B shows the annual average of the mean of brokers' 1-year EPS forecasts for 1 355 ultimate parents of companies with bonds in the global index proxy used in this chapter (see Box 2.1 for details). Panel C refers to the median interest coverage ratio of companies in the index. The interest coverage ratio is measured as EBIT divided by interest expenses. Source: US Federal Reserve System, ECB, LSEG, Moody's.

Other market-wide indicators also suggest an improvement in risk profile, both when it comes to credit risk and interest rate risk (Figure 2.10). The value-weighted credit ratings of both investment grade and non-investment grade bond issues have seen an upward movement, albeit minor (Panel A). Sensitivity to interest rate changes, measured as duration, is down significantly, in particular for investment grade companies (Panel B).

Figure 2.10. Credit ratings and index duration

The credit quality of newly issued bonds inched upwards in 2025 and interest rate risk has decreased



Note: Panels A and B show value-weighted averages based on all individual bond issues in the OECD Capital Market Series dataset, including financial and non-financial companies globally. Panels C and D show the option-adjusted duration to US Treasuries for the Bloomberg Global Aggregate Corporate indices by credit rating. Source: OECD Capital Market Series dataset, LSEG, Bloomberg; see Annex 2.B for details.

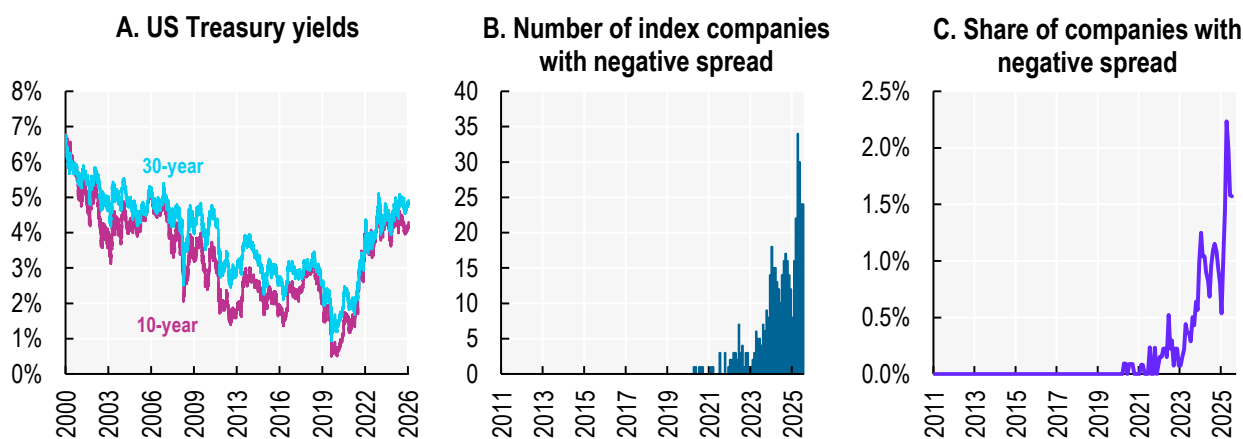
Shift in relative risk between corporate and sovereign debt markets

Yet improvements in credit quality alone do not explain the current tightness of credit spreads. Several other factors are also at play. One key consideration is the relative shift in risk from corporate to sovereign markets. Since the 2008 financial crisis, government borrowing has outpaced corporate borrowing (see Chapter 1 and BIS (2025^[3])). The response to the global financial crisis and later COVID-19 pandemic led to spikes in sovereign debt that did not revert to pre-crisis levels after the crises, resulting in a seemingly permanent situation of debt at levels unprecedented in peacetime. The rise in interest rates to combat inflation in 2022 put significant upward pressure on government yields, and thereby on government interest expenses, which exceeded major government spending areas such as defence in the OECD on aggregate in 2024 (OECD, 2025^[2]). This increase in the cost of debt has in turn further increased concerns about fiscal sustainability, which in combination with a larger supply to be absorbed is putting additional upward pressure on borrowing costs. This is all exacerbated by an environment of elevated geopolitical and macroeconomic uncertainty as well as the reduction of substantial central bank holdings as quantitative easing programmes are unwound (see Chapters 1 and 3). This helps explain why government yields have not fallen in tandem with interest rates since the monetary policy hiking cycle ended (Figure 2.11, Panel A).

Taken together, the increasing risk associated with government debt and improving corporate fundamentals in the publicly traded market have meant that corporate yields did not increase in proportion to sovereign yields, the result being a compression in spreads between the two. This is also reflected by a record number of companies with bonds in the global reference index used in this chapter (see Box 2.1) trading at negative spreads against their government benchmark securities (Panels B and C). At 1.6% of index companies at the end of 2025, negative spreads remain an exception, but the recent increase is stark.

Figure 2.11. Benchmark yields and corporate bonds with negative spreads

As benchmark yields have increased, some companies are even trading at negative spreads to their sovereign equivalents



Note: Panels B and C refer to 1 584 companies with TRACE-eligible bonds in the global corporate bond market proxy used in this chapter (see Box 2.1 for details). Spreads refer to benchmark spreads as recorded in TRACE and provided by LSEG. A bond is considered to have a negative spread if its average benchmark spread based on daily observations was negative in a given month.

Source: LSEG.

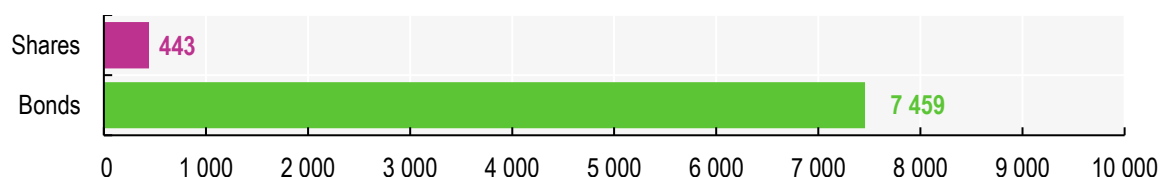
The changing structure and liquidity of corporate debt markets

A number of more technical factors have likely also influenced spreads. One is the changing structure of corporate bond markets since the 2008 financial crisis. The post-crisis period has seen these markets undergo a significant transformation, adopting modalities that were once limited to other asset classes, mainly equity markets. This shift has two key, interrelated, aspects: the investor base and the trading structure. First, the investor base has broadened beyond traditional participants such as pension funds and insurance companies, with mutual funds and ETFs playing an increasingly important role. Relatedly, many aspects of bond trading in secondary markets have been reshaped. These changes are largely driven by the electronification of trading and extend to the role of dealers, the trading protocols used, and the market infrastructure required to support these new trading practices.

Bond markets have historically been slower than equity markets to adopt electronic trading. This partly reflects structural features that make automation more challenging, particularly in corporate bond markets. As opposed to equities, companies typically have numerous outstanding bonds that differ in maturity, coupon and credit characteristics, limiting the standardisation of the trading process. For instance, at the beginning of 2026, non-financial companies included in the S&P 500 index had a total of 443 outstanding equities, with only three firms having more than one class of shares. By comparison, the same companies had 7 459 outstanding bonds (Figure 2.12). The comparison is even starker when including financial companies – some of which have tens of thousands of bonds outstanding.

Figure 2.12. Number of outstanding shares and bonds issued by non-financial S&P 500 companies

There are more than 16 bonds for every non-financial equity in the S&P 500



Note: Data as of January 2026.

Source: LSEG.

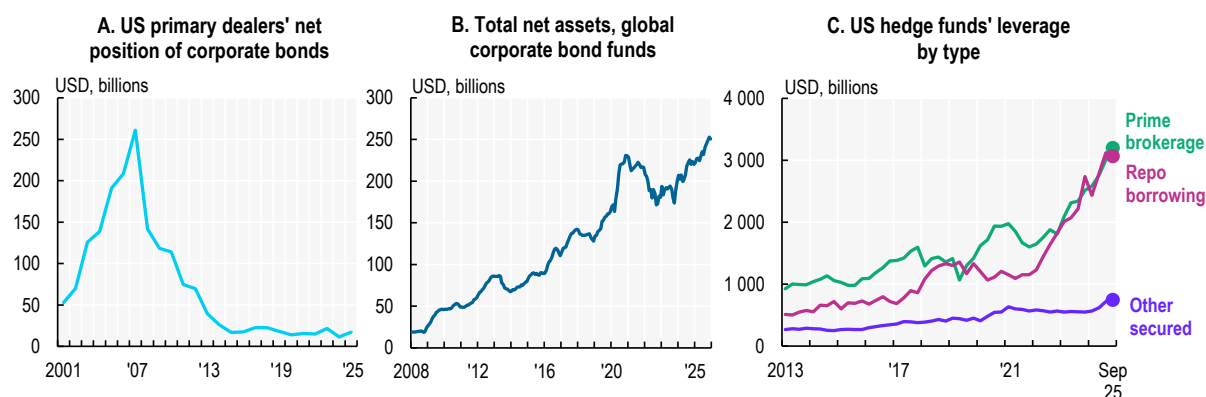
The trading structure also differs between corporate and government bond markets. Whereas the latter, which serves as a benchmark for essentially all financial market pricing, adopted electronic and algorithmic inter-dealer trading in on-the-run securities in the United States in the mid-2000s, corporate bond markets continued to rely on more traditional models for significantly longer (US Senate, Committee on Banking, Housing, and Urban Affairs, 2016^[4]). As a consequence, corporate bond trading activity has historically been fragmented across a large number of instruments, with only a small share trading frequently, resulting in persistently low liquidity. This illiquidity was reinforced by an investor base dominated by institutional investors such as pension funds and insurance companies, whose buy-and-hold strategies add very little to secondary-market turnover.

Banks historically played a very central role in the dealer-intermediated, over-the-counter market model by warehousing bonds on their balance sheets and providing liquidity to investors when needed. This intermediation function was especially important given the high degree of heterogeneity across outstanding securities. However, the role of banks has changed significantly in recent years. In the aftermath of the global financial crisis, tighter banking regulations reduced banks' incentives to hold large inventories of risky assets, including corporate bonds (see Chapter 3). As a result, they have become less central to market intermediation, creating space for non-bank financial institutions (NBFIs) to play a larger role (Figure 2.13). This is notably the case for investment funds and ETFs, which have expanded their footprint

significantly (OECD, 2024^[5]). Hedge funds have also increasingly begun trading securities on their own accounts, absorbing some of the risks previously managed by banks, while banks have shifted towards providing leverage to support these activities (Eren and Wooldridge, 2021^[6]). This change in roles has contributed to the increase in hedge fund leverage observed in recent years.

Figure 2.13. Trends in dealer positions, investment fund activity and hedge fund leverage

Funds have filled large part of the gap left when bank dealers withdrew from corporate bond warehousing



Note: Panel B refers to open-ended investment funds and ETFs globally that are classified as corporate bond funds in the Morningstar methodology (primarily investment grade bonds). Panel C shows hedge funds' leverage according to the legal agreement governing the borrowing, distinguishing between the Global Master Repurchase Agreement (GMRA), the Prime Brokerage Agreement (PBA) and others.

Source: Federal Reserve Bank of New York, Office of Financial Research; Morningstar.

Because their incentives and structures are more conducive to frequent trading, this new investor base has helped shift bond market trading to more closely resemble the equity market model, notably by accelerating electronic trading. By November 2025, electronic trading accounted for around 50% of corporate bond trading in the US market (Barclays, 2025^[7]). The prevalence of ETFs, notably, has enhanced the tradability of underlying bonds and lowered transaction costs by allowing intraday trading on electronic platforms. Their expansion has also been an important enabler of a move towards portfolio trading, as ETFs provide a price and liquidity reference for baskets of bonds. Market makers can therefore price and trade portfolios that resemble an ETF's composition using the ETF as a benchmark. As a result, bonds with higher ETF ownership are more likely to be traded through portfolio trades, especially when they are relatively illiquid. This has had beneficial effects on liquidity. Research suggests that portfolio trading can reduce transaction costs by more than 40% on average compared to request for quote (RFQ) trading, with the largest gains observed for the least liquid bonds (Meli and Todorova, 2023^[8]). This boost is most pronounced for less liquid bonds because portfolio trading allows investors to trade baskets of securities as a single risk exposure rather than as individual instruments, thereby facilitating transactions in bonds that would otherwise be difficult to trade.

This illustrates a dynamic of mutually reinforcing trends, where a new investor base is more prone to trade than the previous one, which ushers in changes to trading structures, further increasing those investors' willingness to participate in the market. More recently, increased trading and liquidity has facilitated the entry of a new set of participants. Most notably, principal trading firms (PTFs) have emerged as liquidity providers in electronic bond markets. PTFs trade on their own account using high-frequency, automated strategies and compete primarily on execution speed. Unlike traditional dealers, they do not warehouse bonds, relying instead on rapid intraday turnover supported by short-term leverage from prime brokers and banks (Eren and Wooldridge, 2021^[6]). This business model is best suited to deep and liquid markets, as it depends on the ability to offload inventory quickly. As a result, PTFs initially focussed on equity markets,

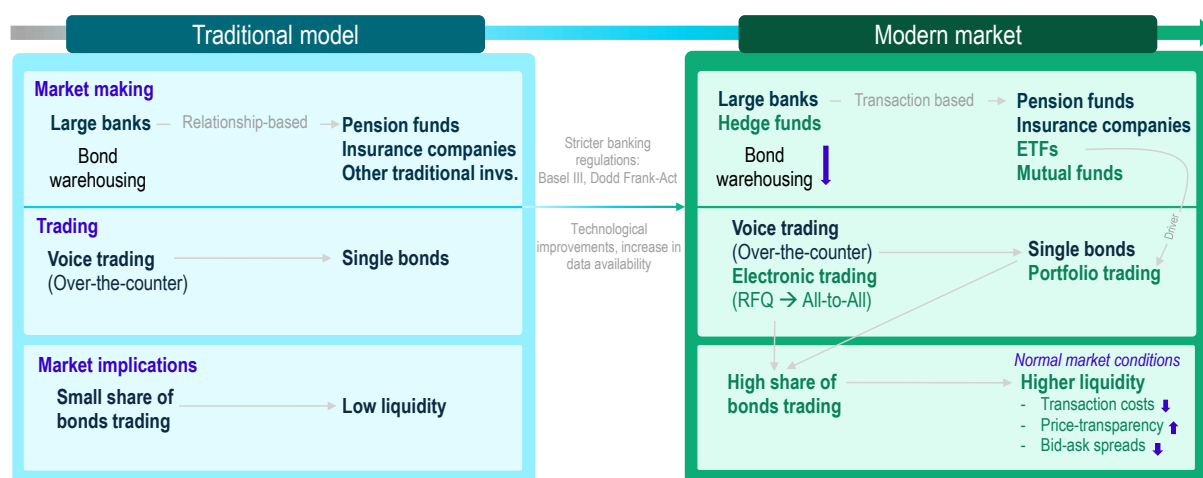
where electronic trading and liquidity were already well established. Over time, they expanded into other asset classes, particularly standardised instruments such as on-the-run US Treasuries. More recently, major PTFs have begun operating in corporate bond markets, reflecting both improvements in market liquidity and increasing sophistication in electronic trading strategies.

It should be noted that while dealers have become less central to bond warehousing, they remain key participants in corporate bond markets. Their role continues to be crucial even in electronic trading environments, as the dominant execution protocol, the RFQ model, relies heavily on dealer intermediation. In an RFQ protocol a customer requests price quotes for specific bonds from several dealers. Dealers submit quotes within a set time window, and the customer selects the best offer to execute the trade. An alternative protocol that has emerged in bond markets is all-to-all trading, in which any market participant can trade directly with any other, without the need for dealer intermediation, but although it has grown noticeably in recent years it still represents a minor share of overall trading (The Trade, 2021^[9]; 2025^[10]).

Figure 2.14 provides a stylised overview of these developments, illustrating the change in key market participants and the modalities with which they trade.

Figure 2.14. Stylised overview of the evolution of corporate bond market dynamics

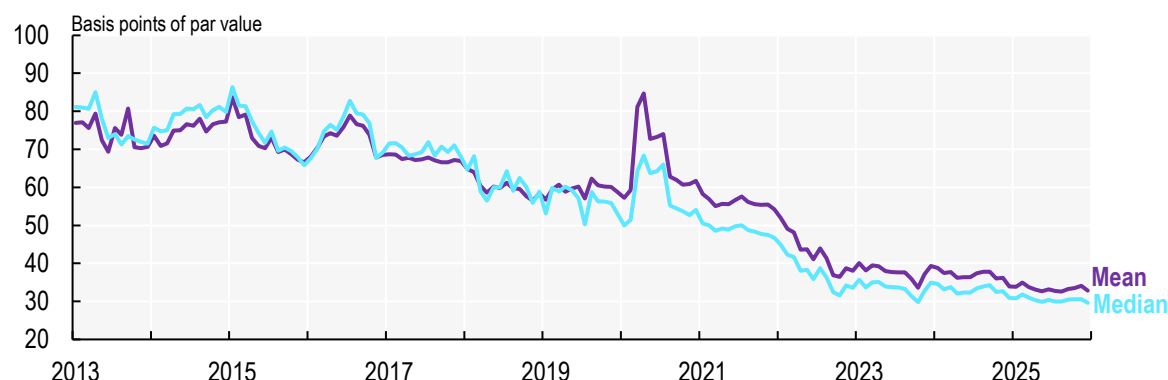
Corporate bond markets have evolved significantly since 2008, with new actors ushering in new trading structures



The move from bank-intermediated, single-bond trading to an increasingly electronic and multifaceted structure with several intermediaries and the rise of portfolio trading has injected liquidity into what was traditionally an illiquid market dominated by buy-and-hold investors. Evidence suggests that the growing use of electronic trading, together with the reduced role of banks in trading intermediation, has improved the efficiency of corporate bond markets by lowering transaction costs and increasing price transparency (O'Hara and Alex Zhou, 2021^[11]). Consistent with these developments, bid-ask spreads, a commonly used measure of market liquidity, have narrowed substantially over time, declining from an average (median) of 77 (81) basis points of par value at the beginning of 2013 to 33 (30) basis points at the end of 2025 (Figure 2.15). This trend holds when looking at a group of the same bonds over time and does therefore not appear to be driven by composition effects. These improvements have supported more active secondary-market trading. The share of outstanding investment grade corporate bonds in the United States that did not trade on a weekly basis dropped from 30% in 2016 to 10% in 2025 (Todorova, 2025^[12]).

Figure 2.15. Evolution of bid-ask spreads

Bid-ask spreads have reduced significantly over time for a large sample of corporate bonds



Note: Based on 13 334 bonds in the global index proxy used in this chapter (see Box 2.1 for details).

Source: LSEG.

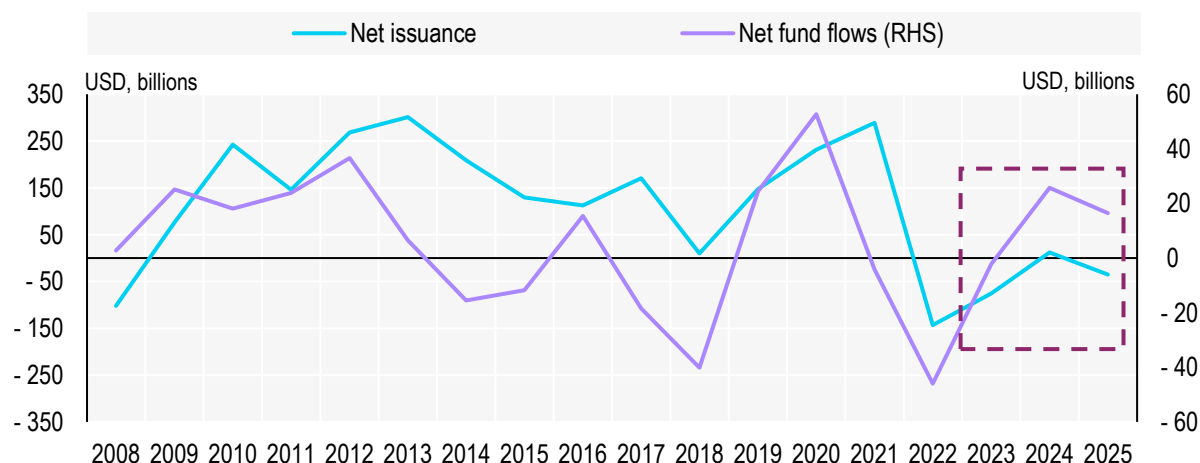
Illiquidity of corporate bonds compared to sovereign bonds has traditionally been a significant contributor to corporate spreads. Previous work in the context of the traditional, dealer-intermediated model (see e.g. Huang and Huang (2012^[13]), Longstaff, Mithal and Neis (2005^[14]), Chen, Lesmon and Wei (2007^[15])) identifies a significant part of credit spreads that cannot be explained by credit risk alone, often attributing this to (il)liquidity premia. All else equal, then, the increase in liquidity illustrated above would seem to imply a compression in credit spreads through a decrease in the liquidity premium.

Other technical factors

Exogenous and differential variation in demand and supply is another key factor. Since 2008, corporate bond funds have seen strong net inflows, becoming one of the most significant investor categories in major corporate bond markets globally (OECD, 2024^[5]). When these funds see inflows, their purchases of corporate bonds increase near-mechanically. However, while net issuance tapered off sharply in response to interest rates increases in 2022, there was no proportional decrease in the assets under management of the funds invested in these markets. That means funds need to reinvest maturing bonds into a smaller market with the consequence of putting downward pressure on credit spreads. That is particularly true for higher-risk bonds. While non-investment grade net issuance has been negative or near-zero in every year since 2022, net fund flows rebounded strongly in 2024 and remained significant in 2025 (Figure 2.16). Even at net zero fund inflows, negative net bond issuance (i.e. decreasing outstanding amounts) implies demand rising relative to supply, given funds' reinvestment needs as their existing holdings mature, depressing spreads. Positive fund flows with negative net issuance exacerbates that dynamic.

Figure 2.16. Investment fund inflows versus net issuance, non-investment grade bonds

Net flows to non-investment grade corporate bond funds have outpaced net issuance since 2022



Note: Fund flow data refer to open-ended funds and ETFs worldwide classified as high yield in the Morningstar methodology.

Source: OECD Capital Market Series dataset, LSEG, Morningstar.

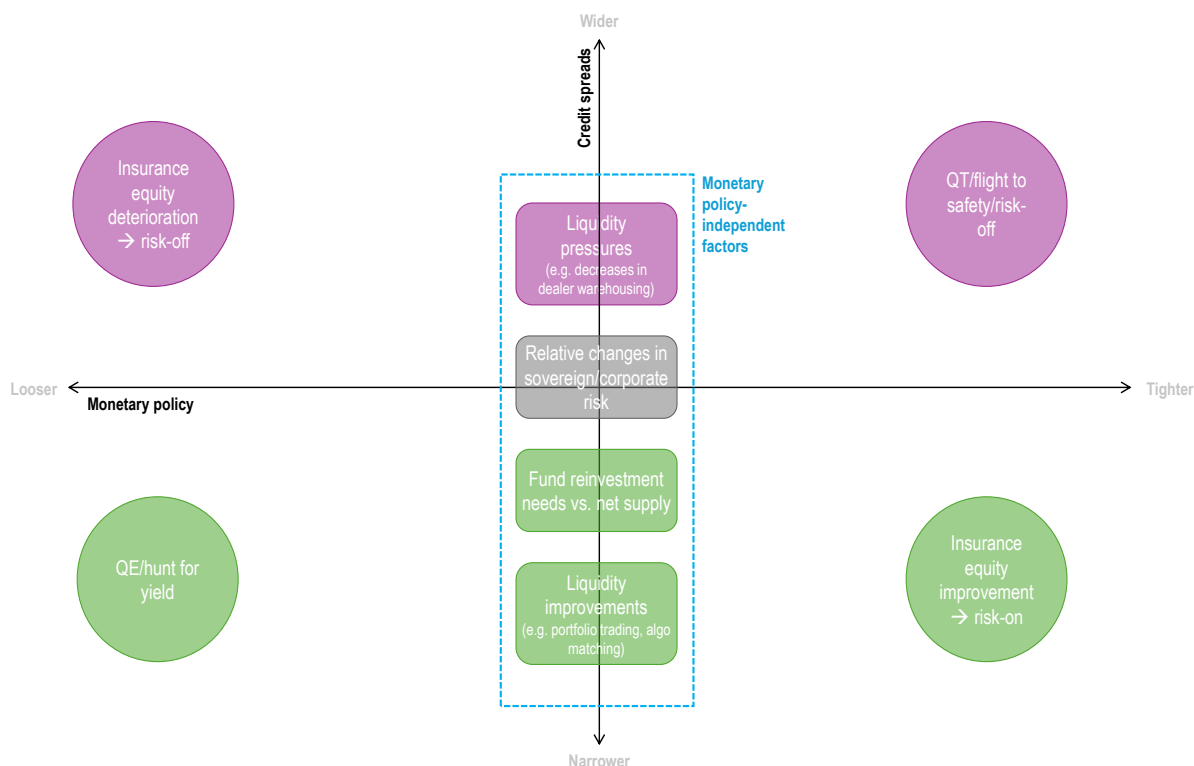
Another significant shift in demand dynamics comes from major central banks' quantitative tightening (QT) programmes (see Chapter 1). The magnitude of these programmes begs the question of whether they will impact corporate spreads. Industry analysis addressing this question suggests that because quantitative easing (QE) did not impact riskier corporate spreads (i.e. they did not differentially increase demand compared to government bonds), the same should be true for QT (Moody's Ratings, 2024^[16]). However, research also suggests there is an asymmetry between QE and QT for sovereign bonds, meaning relationships observed during QE might not hold in reverse during QT (Jiang and Sun, 2024^[17]).

There are also less evident factors to consider, such as how different investors' demand interacts with changes in monetary policy. Specifically, the strength of the traditional dynamic whereby tighter monetary policy leads to a "risk-off" sentiment in markets, which in turn drives riskier corporate spreads upward, depends in part on the market's investor composition. Domanski, Shin and Sushko (2015^[18]) demonstrate how insurance companies, facing a duration mismatch as long-term interest rates fall, respond by increasing their holdings of longer-term debt, pushing long-term rates down and exacerbating the very same mismatch they sought to address. Reversely, when interest rates increase, the duration gap reverses and they reap equity gains, increasing their risk appetite, with consequent rebalancing of portfolios towards riskier corporate bonds that can lead to compression of credit spreads, as shown by Li (2025^[19]) in the context of US life insurance companies. In settings where these companies are significant investors, this can change the dynamic for the entire market; in the post-2008 period, corporate bond spreads for the riskiest bonds in the United States have moved inversely with long-term interest rates. More broadly, this underscores the importance of the composition of a market's investor base and the interest of monitoring changes thereto (see Chapter 3).

Figure 2.17 offers a conceptual overview of some technical factors that affect corporate spreads, illustrating in which direction, and how they interact with the monetary policy environment. It seeks to emphasise two key points. First, there is an array of factors unrelated to fundamental corporate credit quality that affect corporate credit spreads, sometimes diminishing the measure's power in explaining actual corporate credit risk. Second, these factors sometimes move in different directions, even for a given monetary policy stance, increasing the difficulty of interpreting what a movement in spreads implies.

Figure 2.17. Technical factors affecting corporate credit spreads

In addition to credit fundamentals, several technical factors drive corporate spreads in different directions



Decomposing corporate credit spreads

Understanding the extent to which recent spread movements are driven by fundamental credit quality improvements as opposed to technical factors is critical to assessing risk in corporate credit markets and the corporate sector more broadly. Spreads on their own are surface-level indicators; identifying the individual drivers that influence them allows for a significantly more informed policy stance. For example, if a spread compression is driven entirely by technical factors, it gives no meaningful signals about reductions in corporate credit risk. If the liquidity premium is constant, decreases in bid-ask spreads or alternative indicators might mask reductions in other measures of liquidity, ultimately calling into question whether companies reap the benefits of the new trading structure that has emerged since 2008. To gauge what factors have been driving spread movements, the following section decomposes credit spreads based on a structural credit model. The analytical approach and data used are summarised in Box 2.1 and further in Annex 2.C.

Box 2.1. Data and methodology for credit spread decomposition

The decomposition analysis uses a structural credit model in the style of Merton (1974^[20]). It calculates a GZ spread (matching the bond's cashflows to a fitted risk-free zero-coupon curve) for a large set of bonds representative of a major global corporate investment grade bond index. As in Gilchrist and Zakrajšek (2012^[21]) and Gilchrist et al. (2021^[22]), the spread is decomposed to isolate compensation for firm-specific default risk, but the model is expanded to include a liquidity premium as well, reflecting the compensation for trading and holding less liquid securities. The residual spread that cannot be explained by firm-specific default risk or liquidity – the excess bond risk premium – reflects risk aversion,

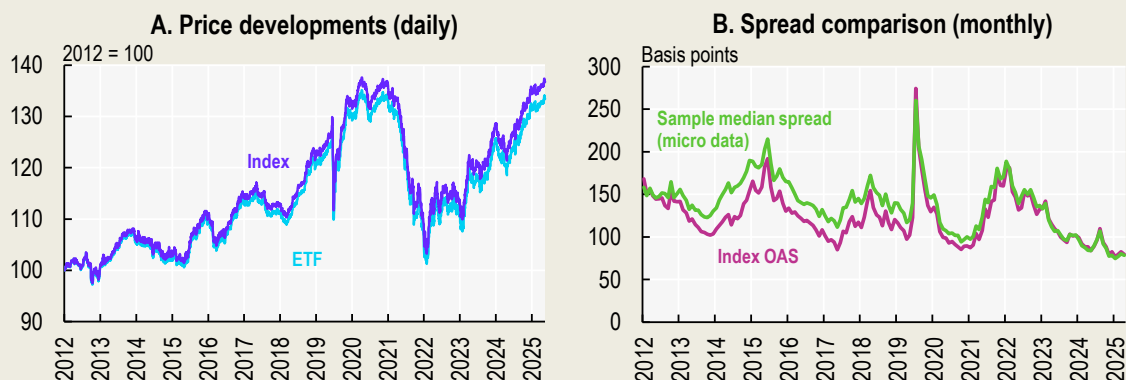
the returns investors require to bear credit risk beyond bond-specific expected default losses, and liquidity.

To isolate this residual component, in addition to issuer-level default risk and bond-level liquidity, the regressions control for bond-level heterogeneity. Default risk is inferred from market and balance-sheet information at the issuer level, resulting in a forward-looking proxy. Each month, bond spreads are then related to this default-risk proxy, a liquidity indicator based on bid – ask quotations, and standard bond characteristics (such as maturity, coupon, call structure, duration and age). Because the spread is constructed as the difference between the bond's yield-to-maturity and a cash-flow-matched risk-free yield-to-maturity, bond characteristics enter mechanically into the spread through cash-flow timing and discounting. These characteristics – defined as the structural spread – are therefore included as controls to account for contractual and pricing differences across securities and to prevent the residual from capturing predictable cross-sectional variation rather than changes in risk pricing. The fitted component yields the part of spreads attributable to expected default risk, liquidity conditions and observable bond features, while the remaining component captures economy-wide shifts in the price of bearing credit risk. Taking the market value-weighted monthly average of that residual component yields the excess bond premium, interpreted as a measure of credit market tightness and risk-bearing capacity beyond changes in expected defaults. More detailed explanations are available in Annex 2.C.

Data

The Bloomberg Global Aggregate Corporate Index is used as the reference index. Historical index constituents are proxied using the holdings of a major ETF tracking the index, launched in 2012. As shown in the first panel of Figure 2.18, the ETF's price performance very closely tracks that of the reference index over time. Using the ETF's historical constituents, retrieved from Morningstar and comprising over 25 000 corporate bonds, bond-level indicators (bid-ask quotes, coupons, maturities, call structures, etc.) are downloaded from LSEG. As shown in Panel B, the median monthly spread in the final bond-level dataset closely tracks the index-level option-adjusted spread. The sample is thus taken to be representative of the reference index. Bond-level identifiers are then mapped to equity identifiers for the ultimate parents of the issuing companies. These are used to download monthly equity prices (also from LSEG) of the ultimate parents, which are used to calculate the equity risk premium, as well as for other analyses (see Section “Are debt markets becoming more like equity markets?”). Following cleaning and exclusions, the credit spread decomposition analysis includes 6 600 USD-denominated bonds.

Figure 2.18. Comparison between reference index, ETF proxy and micro data



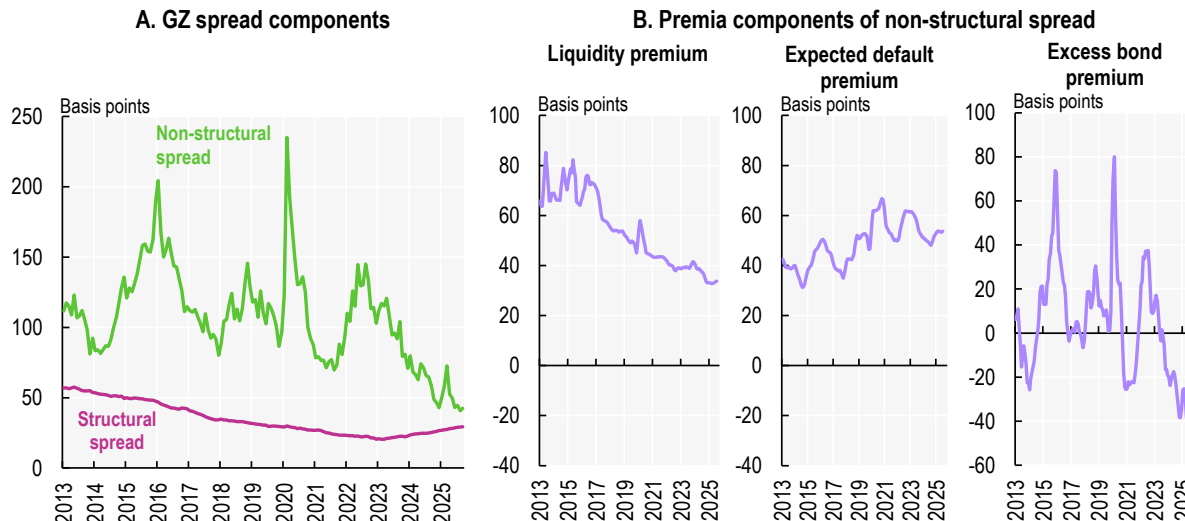
Note: The reference ETF is the iShares Global Corp Bond ETF.
Source: Bloomberg, LSEG, Morningstar.

Figure 2.19 plots the results of the decomposition. It splits the results into a structural (capturing bond characteristics such as age and duration) and non-structural components (liquidity, expected default and excess bond risk). The latter is the component of interest, as it is the one driving changes in spreads over time (Panel A). Three developments in the non-structural component stand out (Panel B). First, the liquidity premium has been decreasing steadily over time. In absolute terms, it has been a major contributor to spread compression in recent years – of the 97-basis point reduction in total spreads since 2013, 34 are attributable to reductions in liquidity premia. This is consistent with improvements in liquidity as measured by lower bid-ask spreads and changes in trading outlined above. It should be noted, however, that the liquidity proxy – bid – ask spreads – may co-move with credit spreads, particularly during stress episodes, which can give rise to simultaneity problems. There are also possible endogeneity issues, such as joint determination of spreads and liquidity where higher spreads can themselves give rise to greater illiquidity, or omitted variables that are captured in the liquidity variable, biasing the estimate upwards. The analysis uses bid-ask spreads as the observable proxy for trading frictions to improve the accounting decomposition of credit spreads – the results should therefore not necessarily be read as a causal effect of liquidity on spreads.

Second, the default risk component has actually increased somewhat over the last decade in basis point terms – in other words, the compensation required by investors for expected loss risk has increased. Thirdly, the excess bond risk premium – a measure of general risk aversion – has been negative since 2023, indicating a period of significant risk willingness among investors, driving spreads down to levels that cannot be explained by fundamentals, liquidity or bond characteristics.

Figure 2.19. Decomposition of corporate credit spreads

Reductions in liquidity premia and investor risk aversion have been major contributors to reductions in credit spreads



Note: Refers to the GZ spread. The structural spread represents factors unrelated to default and liquidity, including bond characteristics such as age and duration. The excess bond risk measures investor risk aversion beyond what is implied by liquidity and default risk. Panel B shows three-month rolling averages.

Source: LSEG, Morningstar.

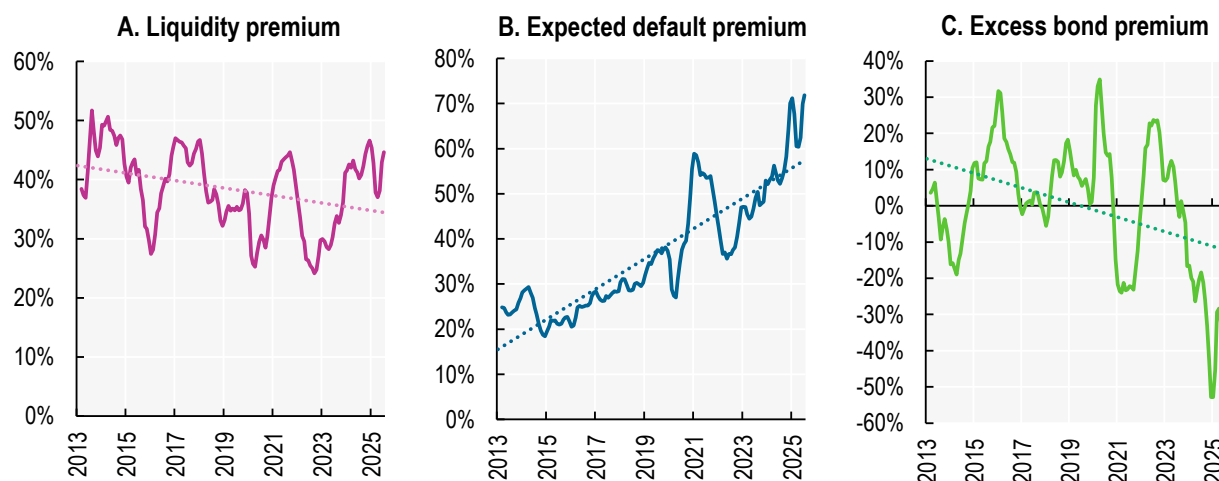
It is important to distinguish between changes in different components in absolute (basis point) terms and their share of the total spread. Figure 2.20 plots the share of each of the three components in total spreads over time. As shown in Panel A, while the liquidity premium has reduced significantly in absolute terms, its reduction as a share of total spreads has been less pronounced. The structural trend is still downward

pointing, although with significant variation over time. This is consistent with other research. It bears noting that the dynamics may differ for investment grade (shown here) and non-investment grade bonds. Wu (2020^[23]) points to an increase in the share of spreads made up by liquidity premia for non-investment grade bonds since 2008, manifesting not as bid-ask spreads, but as longer trading delays. In other words, the post-2008 reduction in bid-ask spreads for non-investment grade bonds does not necessarily indicate an increase in their liquidity, but could at least partially reflect a change in how illiquidity manifests. Corporate spreads have become more sensitive to variations in bid-ask spreads. The decrease in dealer intermediation and warehousing that followed from the introduction of the post-crisis Basel regulations have meant trades take longer to execute, which is a form of illiquidity.

Compensation for expected default losses now explain the greatest part of spreads (Panel B). This does not mean that default risk has increased substantially (as shown in Panel B of Figure 2.19, in absolute terms default risk compensation has remained at similar levels since 2019, although with spikes during the COVID-19 pandemic and 2022 inflation shock) – it means that because of improvements in liquidity and greater risk-willingness among investors, corporate spreads now to a larger extent reflect default risk as opposed to other factors. The recent decrease in the excess bond risk premium is remarkable (Panel C). This residual, again, can be thought of as the general risk-willingness of investors. It spiked in 2020 during the “dash for cash” period at the onset of the pandemic, dropping sharply and contributing negatively to spreads during 2021 when extremely accommodative monetary policy led to a risk-on sentiment across asset classes, and finally spiking again during the inflation shock in 2022. Since then, it has dropped to the lowest level on record, potentially reflecting optimistic investor sentiment, in line with the buoyant prices and steep valuations seen in equity markets.

Figure 2.20. Spread components as a share of total spread

As illiquidity and general risk premia have decreased, default risk now accounts for the greatest share of spreads



Note: GZ spreads. Three-month rolling averages.

Source: LSEG, Morningstar.

This decomposition helps interpret the recent extremely low levels of corporate credit spreads. Spread compression does not seem to be indicative of improved credit fundamentals measured as default risk. Instead, changes in trading structures and the participation of more trading-prone investors have increased liquidity, driving down the premium traditionally required by investors for holding less liquid securities rather substantially. Simultaneously, investor risk willingness has increased, putting further downward pressure on spreads. It is difficult to identify precisely what is driving this sentiment – developments in equity markets

may suggest that it is because of an expectation that the macroeconomic effects of advancement in AI will be very positive, but movements in other assets (notably safe-haven assets such as gold) can be interpreted as giving contradicting signals. Whatever the cause, the result is that corporate spreads increasingly reflect two factors: default risk and investor risk-willingness.

A final point should be emphasised with respect to liquidity. As outlined above, it seems plausible that decreased liquidity premia are related to changes in trading structures. It should therefore be noted that while the shift towards a more transactional and less relationship-based market structure has increased liquidity and improved market functioning in normal times, it may also weaken the market's capacity to absorb large selling pressures in times of crisis.

Traditionally, banks were often willing to expand their balance sheets to accommodate client trades, partly to strengthen relationships with clients and securing future business (O'Hara and Zhou, 2025^[24]). In contrast, with electronic trading becoming more prevalent, repeat-client relationships are less central, reducing the incentives of non-bank dealers, such as hedge funds, to hold corporate bonds during periods of stress. The deterioration in market liquidity during COVID-19 in March 2020 highlights this shift (see the increase in the liquidity premium in 2020 in Figure 2.19). Selling pressures across fixed-income securities, including corporate bonds, led to sharp fund outflows and a substantial increase in transaction costs. Instead of supplying liquidity, dealers reduced inventories and became net sellers, further amplifying market stress. Alternative liquidity sources, such as electronic trading without dealer intermediation, became more important but remained limited and costly.

Ultimately, market stability depended on central bank intervention, which provided funding to dealers and directly purchased corporate bonds to restore liquidity (O'Hara and Zhou, 2021^[25]). While market conditions, shock characteristics, and policy responses shape the outcomes of each episode of stress, it is still unclear whether technology-driven market structures providing greater liquidity in normal times come at the cost of heightened vulnerability during periods of market disruption.

The role of debt markets in financing the AI expansion

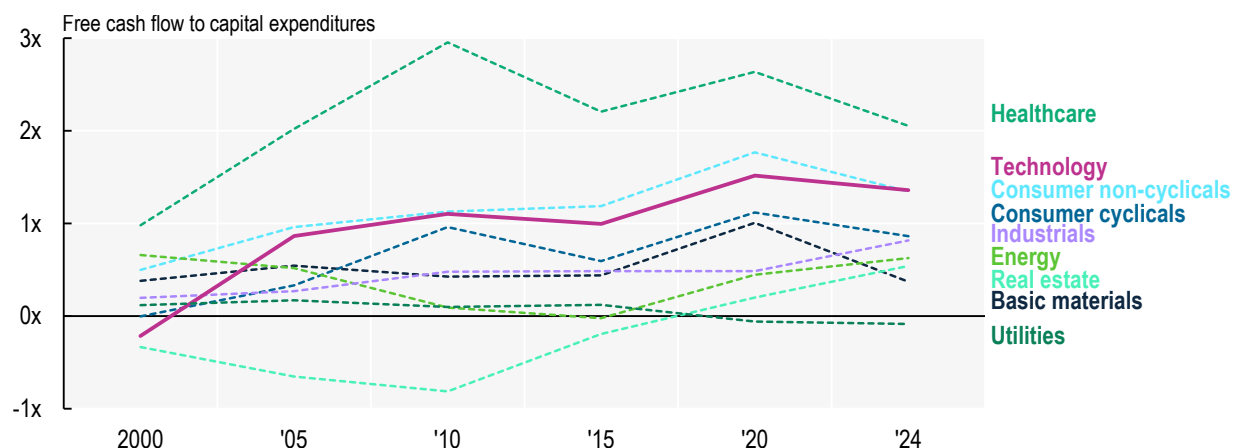
The continued development of increasingly sophisticated artificial intelligence (AI) systems will require enormous amounts of investment. Large parts of that investment will come from the technology sector, in particular from a relatively small number of frontier companies which have historically financed investment through internally generated cash flows and, to a lesser extent, equity issuance, with limited reliance on debt. Given the magnitude of the costs associated with AI expansion however, this funding model is increasingly misaligned with future investment needs. Consequently, debt markets will play a much more central role in funding technology companies than they previously have. This section illustrates that change and addresses its implications.

For much of the past two decades, the technology sector at large has been characterised by relatively low capital intensity, with spending concentrated on software development and research and development activities to a greater extent than other industries. In 2024, the median capital expenditure to sales ratio of technology firms globally stood at 2.2%, the lowest among all industries, as it has been consistently since 2003 (the ratio was higher in the early 2000s, reflecting exceptionally high infrastructure investment during the initial buildout of the industry at the turn of the century, including telecommunications networks, data centres and hardware capacity).

This asset-light model, coupled with strong and persistent cash flow generation, allowed technology firms to fund expansion without significant reliance on external borrowing. The ratio of free cash flow to capital expenditures, a measure of a firm's ability to fund investment without external financing, has consistently been among the highest across industries (Figure 2.21).

Figure 2.21. Internal financing capacity by industry

Historically, tech firms have been characterised by relatively low physical capital intensity and strong free cash flows



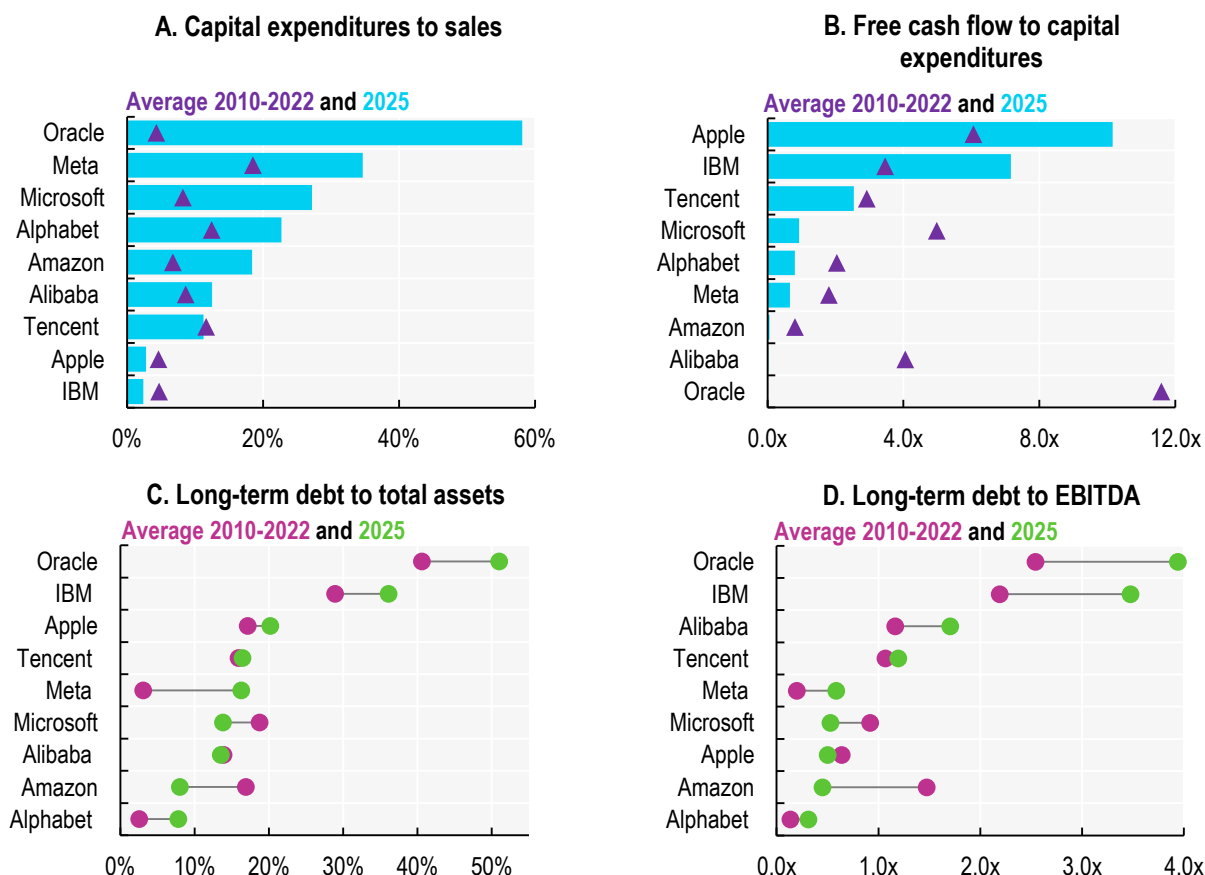
Note: Shows aggregate data for companies globally. Free cash flow is defined as operating cash flow minus capital expenditure.

Source: OECD Capital Market Series dataset, LSEG.

A group of nine firms – commonly called hyperscalers – primarily US technology companies, are at the core of the AI investment boom (Figure 2.22). Their funding models have historically been even more geared towards internal funds than the rest of the already relatively capital-light technology sector, with free cash flow to capital expenditure ratios well above the industry average. However, 2025 saw a shift in this paradigm, with the majority of hyperscalers increasing capex-to-sales ratios substantially above historical averages. In some cases, capital expenditure as a share of revenue increased over tenfold compared to historical averages, pushing capex intensity above that of the aggregate of the traditionally very asset-heavy utilities sector. There have been corresponding reductions in free cash flow ratios, and in some cases increases in leverage. Given the historically low levels of debt funding among these firms, leverage still broadly remains manageable, but the increasing trend is clear.

Figure 2.22. Hyperscalers' cash flow capacity and leverage

Forefront AI companies are no longer financing their capital expenditure with internally generated cash flows alone



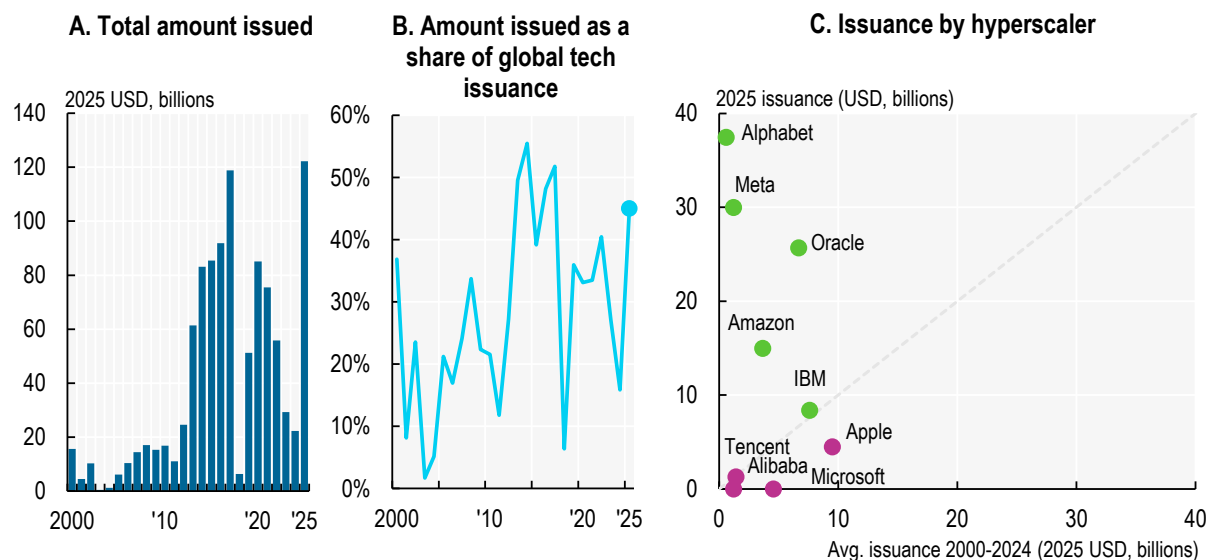
Note: Data availability depends on when the company became publicly listed. The year refers to the calendar year. For companies whose fiscal year ends in December (Alphabet, Amazon, IBM, Meta and Tencent) values refer to their annual filing for the year ending in December. For companies with fiscal year-end different from calendar year-end, but with a quarterly filing in December (Alibaba, Microsoft and Apple) balance sheet values refer to the December quarter-end value, while income statement and cash flow values are computed as the sum of the last four quarters. For Alibaba, 2025 values refer to Q4 2024 through Q3 2025, as the December 2025 filing is not available at the time of publishing. For Oracle, with fiscal year ending in May, balance sheet items refer to the November quarter-end filing, while income statement and cash flow items are computed as the sum of the four quarters ending in February, May, August and November.

Source: LSEG.

The change in hyperscalers' funding model is clearly visible in corporate bond markets. In 2025, they issued a total of USD 122 billion (of which USD 88 billion over 54 days in the last few months of the year), equivalent to 45% of total issuance by all technology firms globally, the largest amount on record in real terms and over 3 times more than the historical annual average since 2000 (Figure 2.23, Panels A and B). Some firms issued multiples of their historical averages in 2025 (Panel C). The figures likely understate the true scale of hyperscaler-related financing activity as they capture only bonds issued directly by the companies themselves. However, firms increasingly turn to special purpose vehicles (SPVs) for bond issuances, allowing them to keep the debt separate from their main balance sheet (Moody's, 2026^[26]). The rise of such financial structures to secure AI investment capital is exemplified by Meta's USD 27 billion SPV debt deal with private capital firm Blue Owl Capital in October 2025, examined in greater detail in Box 2.2.

Figure 2.23. Corporate bond issuance by major hyperscalers

Hyperscalers' bond market borrowing has reached record volumes, driven by large-scale AI investment needs



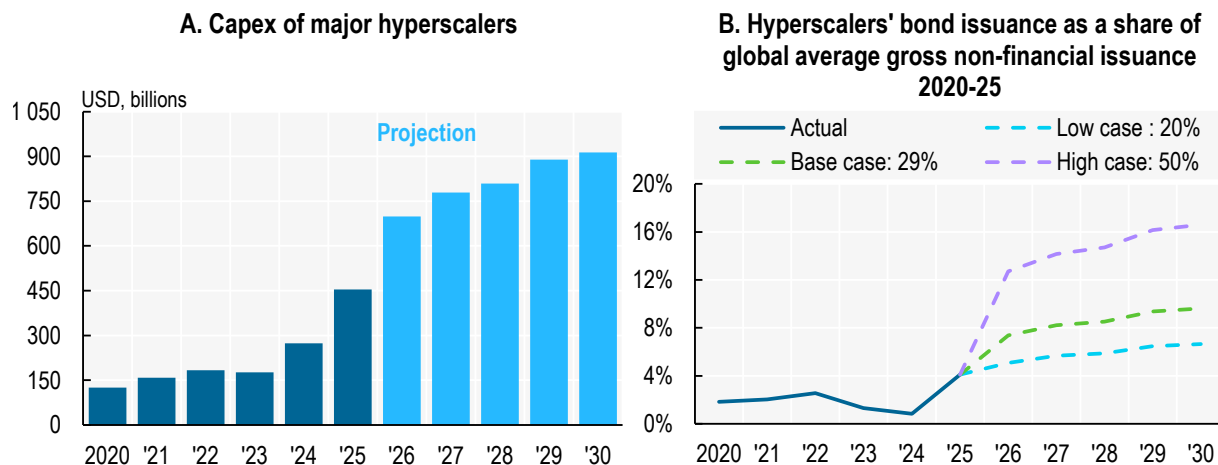
Source: OECD Capital Market Series dataset, FactSet, LSEG and Bloomberg; see Annex 2.B for details.

While these bond issuances represent significant amounts for single firms, the cumulative issuance in 2025 of USD 122 billion represents no more than 15% of total investment grade issuance by non-financial US firms and has therefore been absorbed without market-wide friction (although credit risk metrics of individual firms have sometimes responded sharply). However, hyperscalers' issuance in 2025 represents only a fraction of projected future capex, which is extraordinarily large in some cases. Between 2026-2030, consensus estimates are for cumulative capital expenditure of USD 4.1 trillion (Figure 2.24, Panel A). The four largest players alone are expected to spend 3.5 trillion. To put that into perspective, annual capital expenditure by *all* non-financial corporations in the United States in 2025 (annualised at the third quarter) was just above USD 3 trillion (US Federal Reserve, 2026^[27]).

Large parts of this will inevitably need to be financed through corporate debt markets, as the magnitude exceeds what even the largest technology firms can reasonably finance through internal cash generation and equity alone. Recent industry estimates identify a financing gap as high as USD 1.5 trillion between 2025 and 2028, within an estimated USD 2.9 trillion in total capital expenditure requirements for AI-related infrastructure. Nearly four-fifths (77%) of the required external funding is expected to be financed through debt markets (Morgan Stanley, 2025^[28]). To gauge the impact on corporate bond markets, Panel B of Figure 2.24 plots the hyperscalers' future capex-related bond funding as a share of *global* average annual non-financial firm gross issuance from 2020-2025 for different assumptions about the share financed through bond markets. In the conservative base case, where 29% of capex is funded through bond markets (equivalent to the average bond issuance as a share of capex from 2020-2025), these nine firms alone – out of 9 235 firms issuing bonds globally in 2025 – would issue the equivalent to an average of 9% of historical global gross issuance from 2026-2030. If half of capex was to be financed through bond markets, in 2030 it would be equivalent to 15% of historical gross issuance. It bears noting that the historical average used includes 2020 and 2021, both record years for corporate debt issuance.

Figure 2.24. Hyperscalers' capital needs and bond market capacity

Hyperscalers' estimated capex needs would likely require substantial bond market borrowing



Note: Panel A refers to calendar year. For companies whose fiscal year does not coincide with the calendar year (Alibaba, Apple, Microsoft, Oracle) estimated capex is adjusted to calendar year basis by proportionally allocating fiscal year capex across the relevant months. For example, for a company with a September fiscal year-end, calendar 2026 capex equals 9/12ths of FY2 026 capex plus 3/12ths of FY2 027 capex. 2030 estimates for Alibaba, Apple, Tencent are not available, their estimated capex in calendar year 2030 is assumed to equal 2029 values. In Panel B, the different scenarios refer to the percentage of capex financed through bond issuance. The base case scenario of 29% is computed as the average bond issuance to capex ratio of hyperscalers between 2020 and 2025.

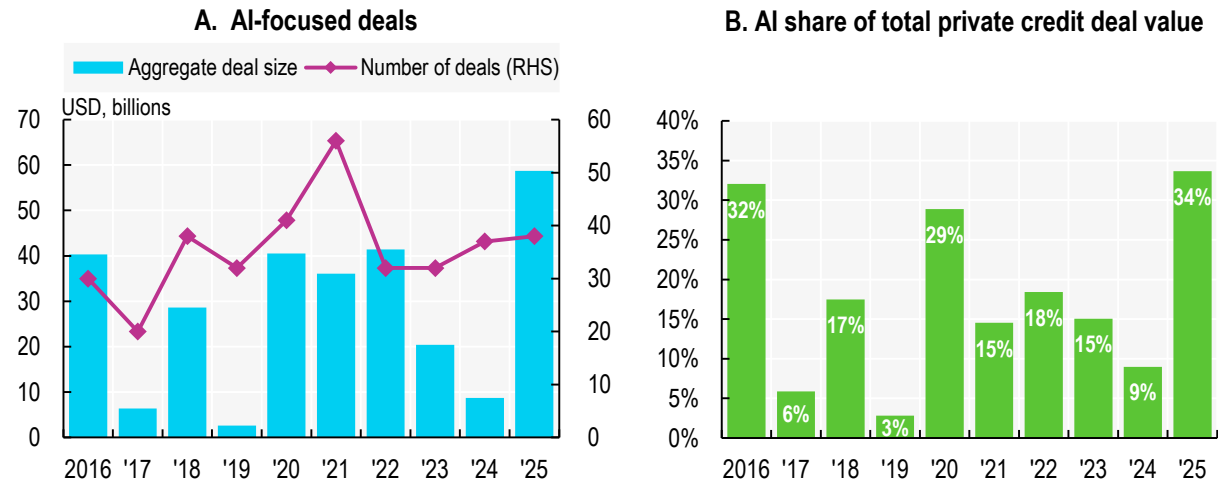
Source: OECD Capital Market Series dataset, LSEG, FactSet; see Annex 2.B for details.

Bond markets reflect only one part of the debt financing used to fund the AI expansion. It spans several other markets as well; for data centre construction, for example, banks typically provide construction financing, primarily through syndicated loans. Private credit frequently supplements this financing, enabling developers to leverage their equity further in the construction phase. Upon completion, owners often refinance the project through single-asset single-borrower ABS or private placement bonds (Goldman Sachs, 2025^[29]).

Private credit is set to become a critical funding source for AI expansion more broadly, building on momentum already visible in 2025. AI-related private credit transactions reached USD 59 billion in 2025, a near sevenfold increase from 2024, and a USD 17 billion increase from the second-highest year on record, 2022 (Figure 2.25, Panel A). The surge was driven by higher deal values rather than more deals. The growth in AI private credit activity reflects both broader market expansion – total private credit deal value increased from USD 97 billion to USD 174 billion – and greater allocation to AI, with the sector's share of deals rising from 9% in 2024 to 34% in 2025 (Panel B). The role played by private credit markets in financing the AI expansion, and their increasing interconnection with traditional bond markets, are further examined in Box 2.2.

Figure 2.25. Private credit deals involving AI companies

The aggregate size of private credit deals involving AI companies in 2025 was the highest on record



Note: AI-focussed deals are defined as those involving companies classified under the “Artificial Intelligence” vertical in Preqin’s taxonomy.
Source: Preqin.

Box 2.2. Private credit, the AI expansion and the blurred lines between different debt markets

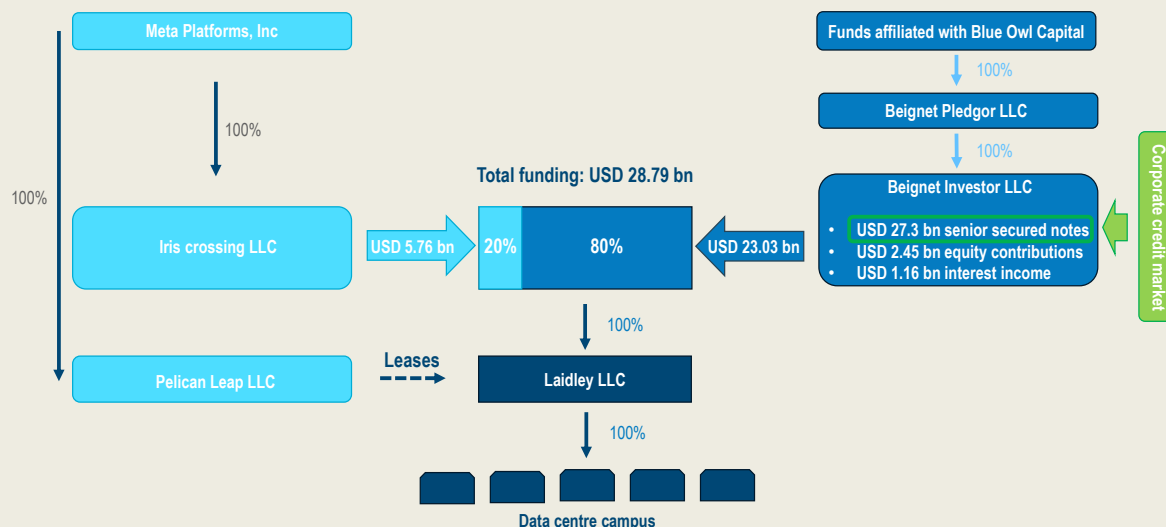
Private credit, an asset class that totalled no more than USD 1 trillion globally as recently as 2018, is expected to supply USD 800 billion to the AI expansion alone over the next four years, primarily through asset-based finance (ABF) structures (Morgan Stanley, 2025^[28]; OECD, 2025^[2]). Private credit markets have proven to offer issuers the opportunity to structure more complex deals tailored to specific needs than traditional bond markets. Over time, they have grown to accommodate larger and larger volumes. However, the size of AI-related investment needs and associated debt financing are too significant to be financed by private credit markets alone. This has led borrowers to combine private credit and traditional bond markets, increasingly blurring the distinction between the two.

A recent transaction exemplifies this. In October 2025, Meta announced the creation of a joint venture with funds affiliated with Blue Owl, a private capital firm, to develop a major data centre campus. The total committed funding for the project amounts to roughly USD 29 billion. Of this amount, funds affiliated with Blue Owl Capital provided USD 23 billion in exchange for 80% of the interest in the joint venture, while Iris Crossing LLC, a wholly owned subsidiary of Meta, provided the remaining USD 6 billion, retaining 20% ownership (Figure 2.26). A wholly owned subsidiary of the joint venture, Laidley LLC, will own and operate the data centre campus. The capital committed by Blue Owl Capital consists primarily of proceeds from a USD 27 billion bond issuance by Beignet Investor LLC, a bankruptcy remote vehicle wholly owned by a subsidiary of Blue Owl Capital. The privately placed issue will be amortised with repayments commencing upon completion of the campus in 2029 and extending through 2049.

A notable feature of this arrangement is the residual value guarantees provided by Meta, compensation for potential shortfalls in the market value of the data centre versus a contractually agreed threshold in case of non-renewal or termination of the lease. These can reach up to USD 28 billion but are not recorded on its balance sheet. This deal structure illustrates how the AI expansion’s significant

investment needs may lead to a less clear demarcation between market segments and possibly an increase in the complexity of corporate debt deals.

Figure 2.26. Organisational structure of joint venture between Meta-Blue Owl Capital



Source: S&P.

Source: S&P, (2025^[30]), Beignet Investor LLC's \$27.3 Billion Senior Secured Debt Assigned Preliminary "A+" Rating; Outlook Stable, <https://www.spglobal.com/ratings/en/regulatory/article/-/view/sourceId/101651795>; Moody's (2026^[26]) Hyperscalers' reported AI-related lease commitments may understate economic risk.

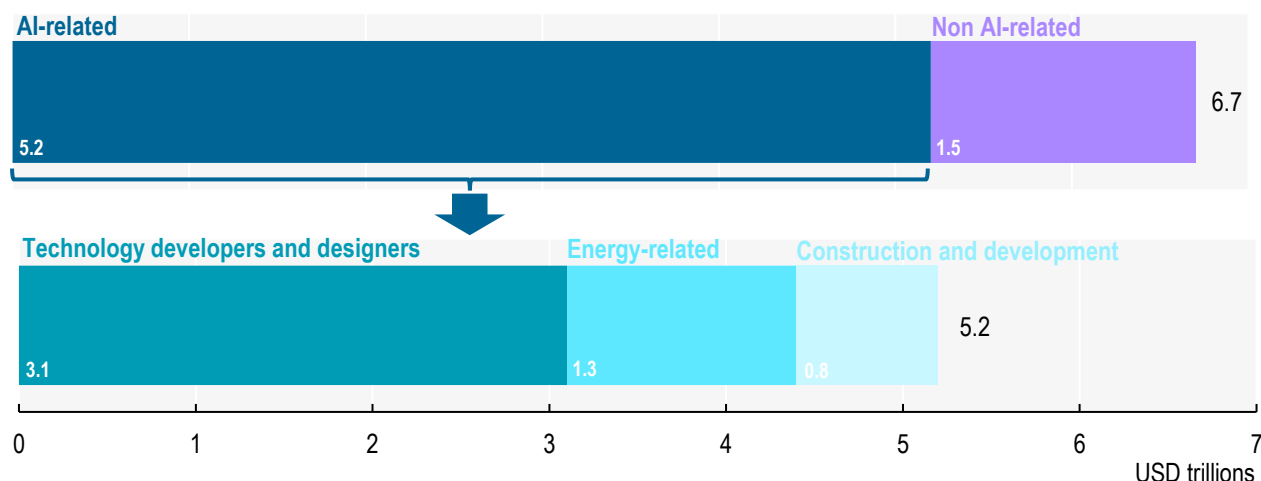
In addition to spanning different debt market segments, AI-related investment needs stretch far beyond the hyperscalers and other technology companies that own and run major AI models. Scaling AI also increases financing needs further up the supply chain, notably for energy supply. A significant part relates to the construction and operation of high-capacity data centres, the critical infrastructure for the AI expansion. Much of the existing stock of data centres was built before the rapid rise of artificial intelligence and are increasingly ill-fitting for energy and computing intensive AI workloads, requiring high-powered graphic processing units (GPUs). At present, most operational data centres are optimised for cloud computing: cloud workloads make up 58% of current demand and AI workloads 13%. This balance is projected to shift significantly, with AI demand rising by a further 15 p.p. by 2027, largely displacing both cloud and traditional workloads (Goldman Sachs, 2025^[31]). Meeting this structural change will require substantial investment in new, AI-ready facilities.

Recent industry estimates suggest that meeting global demand for AI-related computing power will require approximately USD 5.2 trillion in investment worldwide by 2030 (Figure 2.27). It is critical to emphasise that these estimates do *not* include investment needs by cloud providers (such as the hyperscalers) or AI developers. The bulk of this is expected to come from technology developers and designers, such as semiconductor manufacturers and IT hardware suppliers that produce the chips and computing equipment used in data centres. These firms are projected to spend approximately USD 3.1 trillion in AI-related capital expenditures, covering GPUs, central processing units (CPUs), memory system services and rack hardware. Companies involved in energy supply (e.g. energy providers, power generators, cooling and electrical equipment manufacturers and telecommunications operators) are forecasted to invest USD 1.3 trillion. Lastly, USD 800 billion is expected for data centre construction, encompassing land

acquisition, materials, and skilled labour (McKinsey & Company, 2025^[32]). In other words, in addition to the substantial expected use of debt markets by hyperscalers, the AI expansion will likely also see significantly increased bond issuance across industries spanning real estate, energy and hardware development. This calls into question the ability of the currently USD 17.2 trillion global non-financial corporate bond market to absorb new supply of this magnitude, especially in a context of still-expanding sovereign bond borrowing and a changing investor base (see Chapters 1 and 3).

Figure 2.27. Projected data centre investment (excl. cloud providers and AI developers), 2025-2030

Data centre investments are projected to reach USD 6.7 trillion by 2030, of which USD 5.2 trillion for AI



Source: McKinsey (2025^[32]), The cost of compute: a \$7 trillion race to scale data centres, <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-cost-of-compute-a-7-trillion-dollar-race-to-scale-data-centers>.

Are debt markets becoming more like equity markets?

The developments identified in this chapter raise a more general question: are corporate debt markets becoming more equity-like? This section looks at two aspects in which that might be happening – issuer-level concentration and market pricing – and the implications thereof.

Issuer-level concentration and risk characteristics

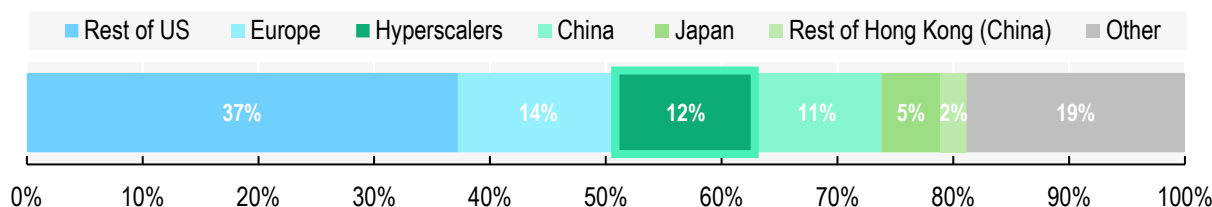
The expected increase in debt issuance by a small number of firms associated with the AI expansion would likely move corporate debt markets towards greater concentration. In contrast to public equity markets, where this trend has long been visible – ten US companies now make up a quarter of the broadly tracked MSCI World Index – corporate bond markets have generally not seen corresponding increases in single-company exposure (partly a natural consequence of the payoff structure of bonds and equities). Globally, about a third of total outstanding debt is owed by the 100 largest issuers, a figure that has remained largely constant for the past 25 years (OECD, forthcoming^[33]; 2025^[2]). However, given projected capital expenditures by individual firms of the magnitudes shown in Figure 2.24, that is liable to change, particularly when considering that these firms currently typically operate at much lower leverage than the corporate sector at large, giving them greater ability to sustain increased debt issuance.

Notably, the firms that are expected to represent growing shares of corporate bond markets are to a large extent the same ones that are already dominating public equity markets. At the end of 2025, nine major

hyperscalers represented 12% of global equity market capitalisation and 24% of US market capitalisation, exceeding the entire Chinese market and approaching that of Europe (Figure 2.28).

Figure 2.28. Hyperscalers' share in global equity market capitalisation

Hyperscalers accounted for 12% of global market capitalisation at the end of 2025



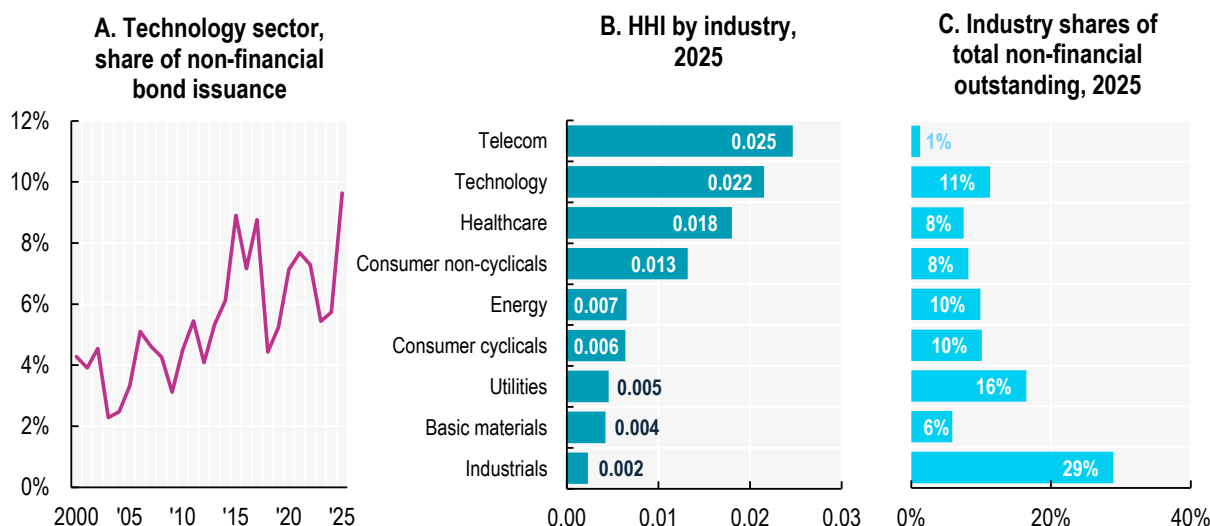
Note: Rest of US refers to the share of market capitalisation of US-listed companies excluding US-listed hyperscalers (Alibaba, Alphabet, Amazon, Apple, IBM, Meta, Microsoft, Oracle). Rest of Hong Kong (China) refers to the share of market capitalisation of Hong Kong (China)-listed companies excluding Tencent. Calculations exclude investment funds, real estate investment trusts, special purpose acquisition companies and multilateral trading facilities.

Source: OECD Capital Market Series dataset, FactSet, LSEG and Bloomberg.

The projected increases in borrowing by hyperscalers will likely provide further momentum to an ongoing trend where the technology sector makes up an increasingly large share of the total non-financial bond market. In 2025, the technology sector's share of global issuance reached 9.6%, the highest level since 2000 and a 3.9 p.p. increase from 2024 (Figure 2.29, Panel A). The technology sector is already one of the most heavily concentrated sectors when it comes to outstanding bond debt, second only to the telecom sector, as measured using a Herfindahl-Hirschman index (Panel B). Crucially, the technology sector represents a ten times larger share of total outstanding bond debt than telecom, ranking third overall behind only industrials and utilities – both significantly less concentrated sectors (Panel C). Current developments are therefore aligned with increasing corporate bond market concentration.

Figure 2.29. Concentration in the non-financial corporate bond market

The technology sector is relatively concentrated and makes up an increasing share of total non-financial issuance



Note: Panel A refers to amounts issued. The Herfindahl-Hirschman Index in Panel B is an index of market concentration. It is calculated based on individual companies' outstanding bond debt as a share of the total global bond debt within each industry (see Annex 2.B).

Source: OECD Capital Market Series dataset, LSEG; see Annex 2.B for details.

That, in turn, exposes index-based investors to greater risk of single-name defaults. Because the hyperscalers are predominantly highly profitable, highly rated companies, this risk appears minor at present, but the tendency towards increasing exposure concentration in corporate bond markets is nevertheless real. Credit risk, as measured by credit default swap (CDS) spreads, have recently increased for some hyperscalers. However, it is not possible to distinguish the extent to which this refers to concerns about the creditworthiness of the issuers in question as opposed to an increased willingness to buy insurance as concentration risk has increased. In addition, the single-name CDS market is relatively illiquid, and spreads are sensitive to trading activity, so these developments cannot straightforwardly be interpreted as pure increases in market perceptions of credit risk (IOSCO, 2025^[34]).

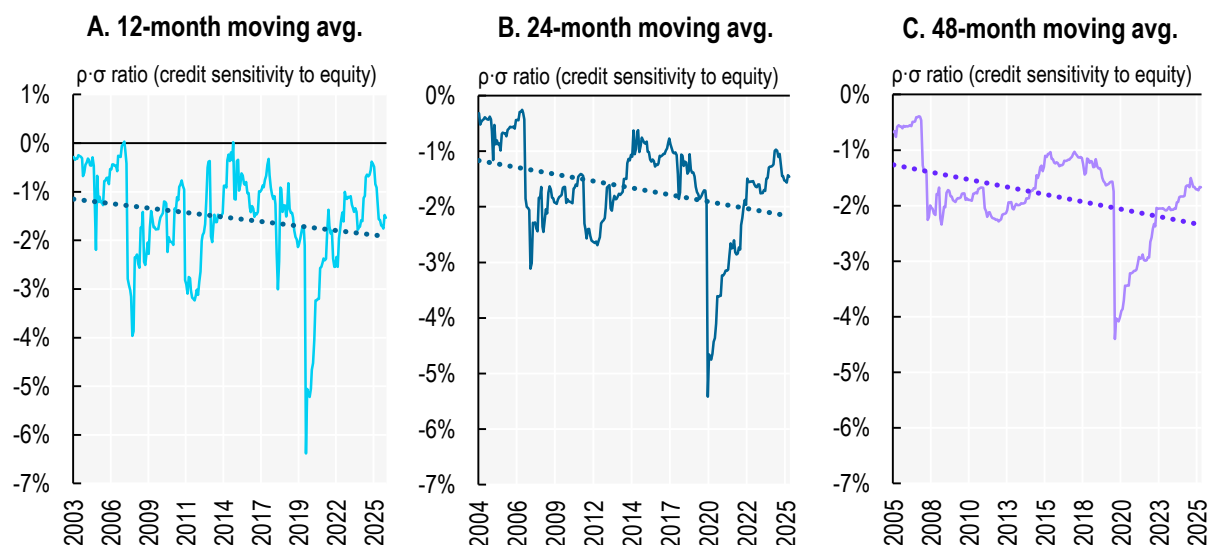
A more pressing question relates to whether the nature of credit risk is changing for an important part of the debt markets. The substantial capital deployed for investment in AI technology and infrastructure rests on projections of future profits, which in turn hinge on widespread AI implementation. These projections, while plausible, may reflect an equity-like risk which major companies are partly financing with significant fixed debt obligations. This may be exacerbated by the changing composition of the underlying asset serving as effective collateral for much of the borrowing – data centres. In the cloud computing era, investment costs were largely concentrated in the physical building shell and mechanical, electrical and plumbing systems, enabling financial arrangements similar to traditional real estate, with tangible assets serving as collateral. By contrast, AI data centres invert this cost profile: high-performance compute hardware typically represents three to four times the value of the physical facility, while rapid technology advances introduce uncertainty around the long-term value of these assets (Goldman Sachs, 2025^[29]). This shift complicates collateralisation and risk assessment for lenders, changing the effective collateral tied to the debt from the physical data centre itself to the cash flow generated by companies that contractually commit to leasing the facility upon completion. This, again, effectively amounts to a more equity-like risk structure, but with the nominal payment requirements of a debt instrument.

Market pricing

Another aspect in which debt markets might be becoming more equity-like has to do with pricing. Index-based hedge ratios – measuring the sensitivity (conditional co-movement) of corporate credit spreads to changes in equity prices – appear to have become increasingly negative for broad-based indices over time (Figure 2.30). That means that when index equity prices increase (decrease), index corporate credit spreads compress (widen) more. There is significant variation over time, and as is clearly visible in the figure, this sensitivity spikes in times of financial turmoil (see 2008 and 2020), consistent with a “flight to safety” dynamic where portfolios rebalance towards safe assets such as government securities (as implied by corporate credit spreads widening, see Figure 2.1). Even so, the downward drift appears more structural, holding over long periods of time, begging the question of what is driving this dynamic.

Figure 2.30. Investment grade credit spread sensitivity to changes in equity prices (hedge ratios)

Spreads have increasingly co-moved with equity prices recently, compressing more in response to higher prices



Note: Shows the observed sensitivity (defined as the equity-credit beta) of option-adjusted credit spreads of the Bloomberg Global Aggregate Corporate Index to a 1% change in equity valuations in the MSCI World Index. Both are observed on a monthly basis. Negative values reflect spreads compressing (widening) in response to higher (lower) equity prices. Graphs show exponentially weighted moving averages.

Source: Bloomberg, LSEG.

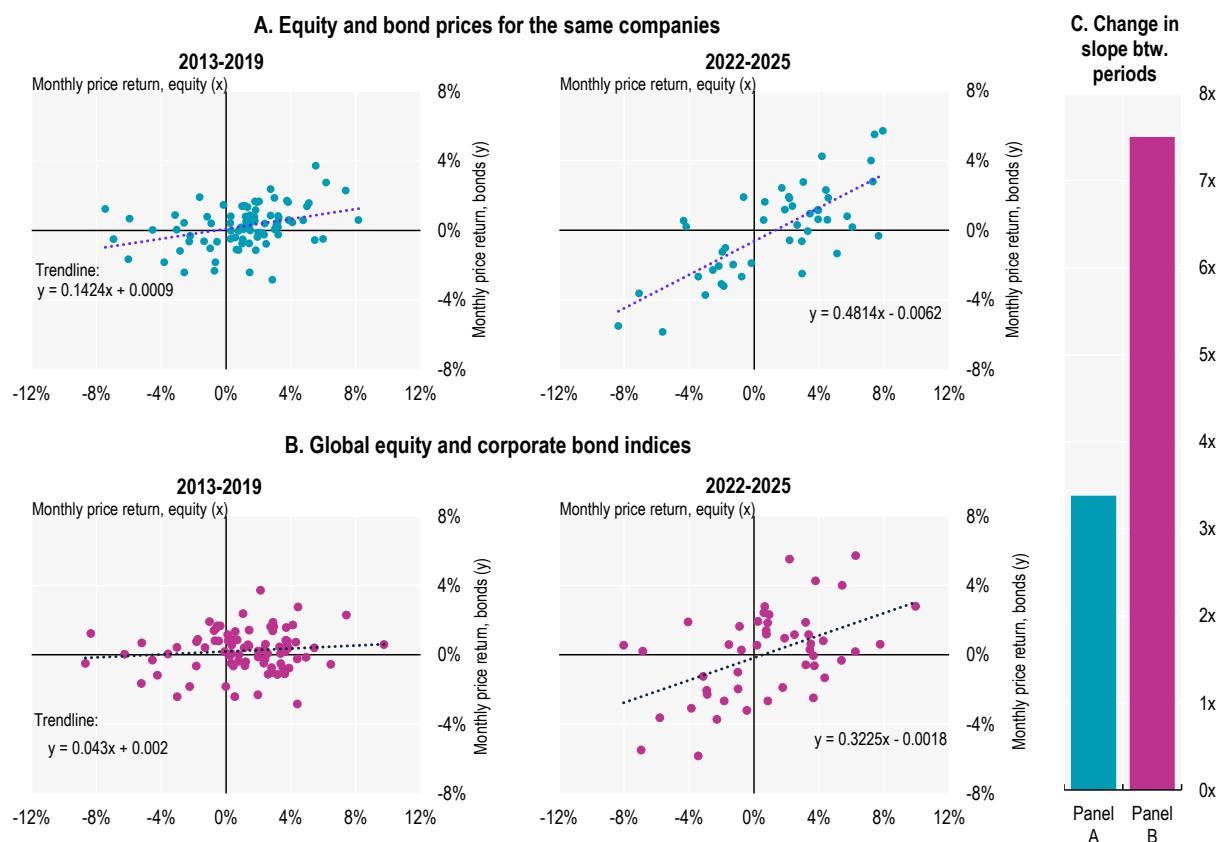
Two possible explanations of this development merit consideration in light of the trends presented in this chapter. First, as outlined above, bond markets have seen a concurrent shift in trading practices and the investor base, especially since the 2008 financial crisis (see also Chapter 3). The participation of more trading-prone investors and advances in trading modalities have reinforced each other, with the result of greater trading activity in corporate bond markets. It is possible that this has led to greater homogeneity in trading patterns between equities and corporate bonds in a more general sense, increasing asset co-movement at least in the short and medium term. If that is the case, the benefits of increased liquidity and improvements in price finding stemming from these changes must be weighed against the possibility of higher correlations which might exacerbate market stress, in a worst-case scenario leading to broad-based simultaneous unwinding of positions, with the prospect of propagation to the real economy.

Figure 2.31 plots correlations of price returns (as opposed to spreads) between corporate bonds and equities for two different sets of companies: firstly, for bonds and equities of the same companies, based on the index proxy described in Box 2.1 (Panel A) and secondly, for the same broad indices shown in Figure 2.30 (Panel B). Both sets of companies show increasing correlations between the 2010s and the post-2022 period, consistent with increasing co-movement as implied by the hedge ratios in Figure 2.30. As would be expected, the price sensitivity between assets is higher for the same-company sample. Albeit with different seniority and rights attached, a share and a bond issued by the same company are ultimately claims on the same underlying assets, so it is reasonable for prices to move together, at least in standard settings where bond and equity investors are not in direct conflict, such as when a majority shareholder acts in ways that are counter to creditor interests in a context of weak investor protection. This is in line with previous research (e.g. Liu and Clarkson (2025^[35]) and Kwan (1996^[36])). However, there is no particular reason to expect fundamental valuations of same-company prices to become more strongly correlated over time – the fact that this has happened might therefore reflect more frequent trading and better liquidity in bond markets. Notably, the post-2022 period is one in which portfolio trading has seen significant growth (Barclays, 2024^[37]; MarketAxess, 2025^[38]).

It is not necessarily expected that increased trading and liquidity should have differential effects on the two different samples, however. Yet the increase in sensitivity (from lower levels) for broad-based index returns is more than twice as high as that for sample-company assets (Panel C).

Figure 2.31. Co-movements in corporate bond and equity prices

Broad-based indices of corporate bond and equity prices show stronger positive correlations since 2022



Note: Panel A shows the monthly price returns for the Bloomberg Global Aggregate Corporate Index (y) and market cap-weighted equity returns (x) of the ultimate parents of companies with bonds in the sample proxying the Bloomberg index (see Box 2.1). Panel B uses the same bond index, whereas equity prices are based on the MSCI World Index.

Source: Bloomberg, LSEG.

This might be related to a second possible driver. If the constituents of global bond and equity indices have converged – that is to say if investing in these indices increasingly means having claims on the same set of companies – whether due to increasing concentration or some other factor, that would help explain the differential change in correlation. Given the secular increase in passive investment, that would mean the different parts of global index investors' portfolios have become increasingly correlated, diminishing their power as a hedge and posing the same type of self-reinforcing sales pressures in a downturn as discussed above.

It should be emphasised that both these explanations are based on the trends explored throughout this chapter; the data in Figure 2.31 alone are not enough to draw any conclusions about the actual underlying drivers, and the difference in the change in sensitivity is not necessarily statistically robust. There are numerous other plausible explanations that could provide similar outcomes; the literature studying the changing price correlation between bonds and equities is rich. Most such studies take a portfolio management perspective and therefore typically compare co-movements between corporate equity prices

and safe-asset government, rather than corporate, bonds. The two have been strongly negatively correlated pricewise for most of the 21st century, although with significant short-term variation, influencing global portfolio decisions. The traditional government bond-equity price correlation has recently gone from negative for most of the 2000s to positive. This holds across different markets, particularly in the post-2022 period. That new correlation runs counter to the hedging logic of many traditional bond-equity portfolios, but from a longer-term perspective, it amounts to a reversal to historical trends. The bond-equity price correlation only turned negative around 2000, before which it was primarily positive for nearly a century (Roncalli, 2025^[39]; Rankin and Shah Idil, 2014^[40]). One identified driver of this is changes in the macroeconomic setting and monetary policy conduct (Campbell, Pflueger and Viceira, 2014^[41]). It is possible that this is what explains the developments in corporate bond-equity pricing co-movements shown in this section too. Nevertheless, as narrative explanations, changes in trading structure and increases in concentration are aligned with the data presented in previous sections and merit further study and consideration by policymakers, given the possibility of adverse effects on market functioning.

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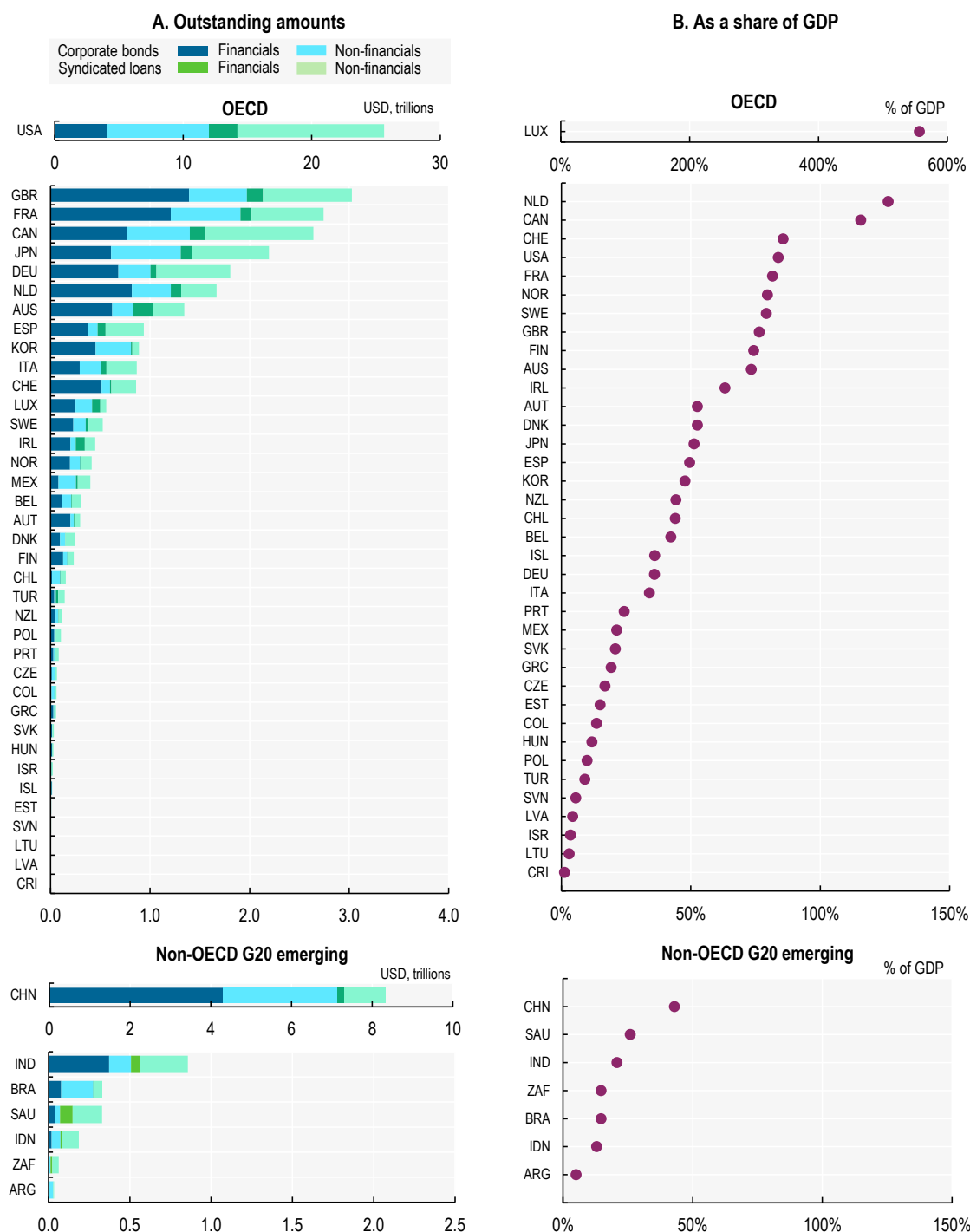
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Annex 2.A. Outstanding amounts of corporate debt by country as of end-2025

Annex Figure 2.A.1. Outstanding amounts of corporate debt by country



Note: Based on companies' country of domicile.

Source: OECD Capital Market Series Dataset, LSEG, see Annex B for details; IMF.

Annex 2.B. Data collection and methodology

Corporate bond data

Corporate bond analyses are based on a dataset built by the OECD using deal-level information obtained from LSEG on corporate bond issues that are underwritten by an investment bank. The database provides detailed information for each bond starting in 1980, including e.g. the identity, nationality and sector of the issuer, the type, interest rate structure, maturity date and rating category of the bond, as well as the amount of proceeds obtained from the issue and intended uses thereof.

Convertible bonds, deals that were registered but not consummated, preferred shares, sukuk bonds, bonds with an original maturity less than or equal to one year or with an issue size of less than USD 1 million are excluded from the dataset. Industry classifications are based on The Reference Data Business Classification (TRBC) from LSEG. Annual issuance amounts initially collected in USD were adjusted by 2025 US Consumer Price Index (CPI).

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

The forecast for 2026 issuance used in the infographic is based on the historical average (2000-2025) ratio between gross issuance in year t and the debt coming due in year t (refinancing requirements) as observed at the end of year $t-1$. This simple measure performs reasonably well as a predictor of actual issuance, with an average forecast error of 6.6% in the post-2008 period (5.7% excluding 2020, when issuance was significantly above historical trend).

Rating data

Credit rating analyses are based on OECD calculations using data obtained from LSEG. The calculations consider ratings from three leading agencies: S&P, Moody's and Fitch. For each bond with an available rating in the dataset, the alphanumeric rating is transformed into 21-point numeric scale with 1 being the lowest rating (C) and 21 the highest (AAA for S&P and Fitch and Aaa for Moody's). There are 11 non-investment grade categories: five within C (C to CCC+) and six within B (B- to BB+); there are ten investment grade categories: three within B (BBB- to BBB+); and seven within A (A- to AAA).

For bonds with multiple ratings, the average of the available ratings is used. Some bonds do not have rating information available; these are assigned the average rating of all bonds issued by the same company in the same year (t). 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 the analyses. When differentiating between investment and non-investment grade bonds, the final rating is rounded to the closest integer and bonds with a rounded rating less than or equal to 11 are classified as non-investment grade.

Early redemption data

Bonds that are no longer outstanding due to having been redeemed before their maturity date are deducted in the annual outstanding corporate bond debt calculations. The early redemption data are obtained from LSEG 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 (ISINs).

Cost of outstanding debt

The weighted average cost of debt is approximated for fixed-rate debt by calculating the total outstanding amount of debt across 26 coupon buckets between 0 and 1 250 basis points (increasing in increments of 50 basis points, i.e. 0 to 50, > 50 to 100, etc.). The resulting amounts are then multiplied by the midpoint cost of the corresponding bucket (e.g. 25 basis points for the 0 to 50 bucket, 975 basis points for the 950 to 1 000 bucket) and divided by the total outstanding amount of all fixed-rate bond debt. The sum of those products yields an estimated value-weighted interest rate for all outstanding debt. All debt with coupons above 1 250 basis points are given a midpoint value of 1 275. Where coupon data are not available, the yield to maturity at issuance is used. For bonds that are not issued at par, this may differ from the coupon rate.

Syndicated loan data

The syndicated loan analyses are based on OECD calculations using deal-level data from LSEG. This database provides detailed information on each loan, including the borrower's identity, nationality and sector, as well as the interest rate structure, maturity date and loan amount.

Only loans classified as “syndicated” or “club syndicate” are included in the analysis. Deals with maturities of less than 90 days are excluded. Annual data are based on the closing date, which is when the syndication on all levels/tiers has been signed and completed. Industry-level analyses follow LSEG's The Reference Data Business Classification (TRBC), while country breakdowns are based on the borrower's domicile. To account for inflation, issuance amounts originally recorded in USD were adjusted using the 2025 US Consumer Price Index (CPI).

Herfindahl-Hirschman Index of market concentration

The Herfindahl-Hirschman Index (HHI) is a commonly used measure of market concentration. It is calculated by squaring the market share of each firm active in a given sector and then summing those terms. To analyse concentration in global corporate bond markets, the outstanding amount of debt of each company in the dataset is calculated. That is then divided by the total outstanding amount in the relevant market. The resulting share is squared. This is repeated for each company in the relevant group, after which all the terms are summed up. In general terms:

$$HHI_s = \sum_{i=1}^N \left(\frac{\text{Outstanding amount}_{i,s}}{\text{Tot. outstanding}_s} \right)^2$$

Where $\text{Outstanding amount}_{i,s}$ is the outstanding amount of firm i in sector s , $\text{Tot. outstanding}_s$ is the total outstanding amount in that sector and N is the number of firms in the sector.

The HHI can be presented either on a scale from 0 to 1 (if the market shares are given in decimal form) or 0 to 10 000 (if they are given as integers). Commonly used thresholds for what is considered a concentrated market have been established through regulatory guidelines and case law in the field of competition law, where the measure is often used to evaluate the effect that a merger would have on market competition. For example, in its merger guidelines the US Department of Justice and Federal Trade Commission (2024^[42]) considers markets with a HHI above 0.1 to be concentrated (“moderately concentrated” if it is between 0.1 and 0.18 and “highly concentrated” if it is above 0.18). The merger guidelines use a 10 000-point scale which has here been converted to a 0-1 scale for comparability.

Annex 2.C. Credit spread decomposition

This annex provides an explanation of the methodology used to decompose corporate credit spreads. The dataset used is that described in Box 2.1. From this universe three variables are generated: (i) bond-month credit spreads (GZ spreads), (ii) an issuer-level default-risk proxy based on a structural Distance-to-Default model, and (iii) a bond-level liquidity proxy derived from bid-ask quotes. These are then used to identify the residual, defined as the excess bond premium (EBP). This follows the logic in Gilchrist and Zakrajšek (2012^[21]) and Gilchrist et al (2021^[22]). After final calculations, each bond's spread can be divided into a structural part (covering bond characteristics like age, duration, coupons, etc.) and a non-structural component comprising an expected default risk premium, a liquidity premium and the excess bond risk premium. Bond-month portfolio weights are calculated based on the share in the ETF's portfolio to aggregate bond-level components into a single monthly series. The different steps are covered in turn below.

Bond-month credit spreads: The GZ spread and bond characteristics

A corporate bond spread is the extra yield investors require over a comparable risk-free benchmark. The GZ approach constructs a bond-specific risk-free benchmark by matching the bond's cashflows to a fitted risk-free zero-coupon curve, and then comparing the bond's market-implied yield to the yield implied by the risk-free curve for the same cashflows.

Let $y_{b,t}^{corp}$ denote the corporate bond yield (defined below) for bond b at month t , computed from its market price. Let $y_{b,t}^{rf}$ denote the cashflow-matched risk-free yield implied by a fitted risk-free curve. Then the GZ spread (in basis points) is:

$$s_{b,t} = 10\,000 \cdot (y_{b,t}^{corp} - y_{b,t}^{rf}).$$

Intuitively:

- $y_{b,t}^{corp}$ reflects the market price of the corporate bond
- $y_{b,t}^{rf}$ reflects what the yield would be if the same cashflows were discounted at risk-free rates
- the difference isolates compensation for credit and related premia embedded in the corporate bond price (including related to liquidity, currency, etc.).

Currency consistency

A key requirement for a meaningful spread measure is currency consistency. The corporate yield $y_{b,t}^{corp}$ is implied by the bond's market price and its promised cashflows, and those cashflows are denominated in the bond's currency. Likewise, the synthetic risk-free yield $y_{b,t}^{rf}$ is constructed by discounting the same cashflows with a risk-free zero-coupon curve, which must therefore be expressed in the same currency.

The risk-free benchmark is built from a US Treasury zero-coupon curve. Therefore, the bond universe used for the GZ spreads (and, by extension, for the EBP estimation) is restricted to bonds denominated in USD. This restriction ensures that:

- the yield implied by the dirty price and the yield implied by the synthetic risk-free price are both USD yields, so their difference is economically interpretable; and

- the resulting spread does not mechanically absorb currency premia, expected FX depreciation, or cross-currency basis effects that would arise if yields reflected mixed currencies.

Clean prices, dirty prices and accrued interest

Bid and ask quotes as provided by LSEG are treated as “clean” prices. Clean prices exclude accrued interest. However, yields are defined from “dirty” (full) prices.

For each bond b and month-end t a clean mid-price is calculated:

$$P_{b,t}^{clean} = \begin{cases} \frac{Bid_{b,t} + Ask_{b,t}}{2} & \text{if both quotes exist,} \\ Bid_{b,t} & \text{if only bid exists,} \\ Ask_{b,t} & \text{if only ask exists.} \end{cases}$$

Accrued interest is then estimated using the bond's coupon rate c_b (annual, in per cent), coupon frequency f_b (payments per year), and a day-count convention. A 30/360 US convention is used to construct a coupon schedule consistent with the bond's frequency and maturity date. Let t^- be the last coupon date before the valuation date t and t^+ the next coupon date after t . The accrued fraction is then:

$$\theta_{b,t} = \frac{DC(t^-, t)}{DC(t^-, t^+)},$$

where $DC(\cdot, \cdot)$ is the 30/360 US day-count. The accrued interest (in price points per 100 par) is:

$$AI_{b,t} = \frac{c_b}{f_b} \theta_{b,t}$$

Finally, the dirty mid-price is:

$$P_{b,t}^{dirty} = P_{b,t}^{clean} + AI_{b,t}$$

Risk-free benchmark curve and cashflow matching

To construct the cashflow-matched risk-free yield, a fitted government yield curve in the Nelson – Siegel – Svensson (NSS) form (the GSW/Federal Reserve parameterisation) is used. The curve delivers a continuously compounded zero-coupon yield $y_t^0(\tau)$ for maturity τ (in years). Given a sequence of future cashflows $\{CF_{b,t,j}\}_{j=1}^J$ occurring at times $\{\tau_{b,t,j}\}_{j=1}^J$, the corresponding risk-free dirty price is computed by exponential discounting:

$$P_{b,t}^{rf,dirty} = \sum_{j=1}^J CF_{b,t,j} \exp(-y_t^0(\tau_{b,t,j}) \cdot \tau_{b,t,j})$$

Yield calculation and the “street” convention

Given a dirty price and a fixed coupon c_b , the yield $y_{b,t}$ is defined implicitly by a present-value equation. The implementation uses a standard “street” convention with coupon frequency f_b that accounts for the fraction $\alpha_{b,t}$ of the coupon period already elapsed at the valuation date. In practice, $\alpha_{b,t}$ is inferred from accrued interest:

$$\alpha_{b,t} \approx \frac{AI_{b,t}}{\frac{c_b}{f_b}}, \quad 0 \leq \alpha_{b,t} \leq 1$$

Let $n_{b,t}$ be the number of remaining coupon payments until the bond’s redemption date (maturity or call date; see below). Define the per-period discount factor $1 + \frac{y_{b,t}}{f_b}$. The yield $y_{b,t}^{corp}$ solves:

$$P_{b,t}^{dirty} = \sum_{k=1}^{n_{b,t}-1} \frac{\frac{c_b}{f_b}}{\left(1 + \frac{y_{b,t}}{f_b}\right)^k} + \frac{\frac{c_b}{f_b} + \text{Par}}{\left(1 + \frac{y_{b,t}}{f_b}\right)^{n_{b,t}}}$$

where $\text{Par} = 100$ for the maturity leg, and Par may differ if the bond is redeemed at a call price.

The same yield-inversion is applied to $P_{b,t}^{rf,dirty}$ to obtain $y_{b,t}^{rf}$ that is consistent with the cashflow profile of the bond.

Callable bonds and yield-to-worst (YTW)

Many corporate bonds are callable. Without an option-adjusted spread (OAS) model, a standard practical approach is to work with *yield-to-worst* (YTW): the yield that is least favourable to the investor among relevant redemption scenarios.

For a callable bond, two yields are computed at each month-end valuation date:

- **Maturity leg:** cashflows until maturity, with principal repayment of 100 at maturity. This yields $y_{b,t}^{corp,mat}$ and $y_{b,t}^{rf,mat}$.
- **Call leg:** cashflows until an *effective call date* with principal repayment at the call price (usually close to 100). This yields $y_{b,t}^{corp,call}$ and $y_{b,t}^{rf,call}$.

In the implementation, the call information (callable flag, call dates, call price) is retrieved from LSEG. Because calls typically occur on coupon dates, the effective call date is defined as the first coupon date that is (i) on or after the first-call date and (ii) strictly after the valuation date. This avoids using call dates that have already passed.

The corporate yield-to-worst is:

$$y_{b,t}^{corp} = \min(y_{b,t}^{corp,mat}, y_{b,t}^{corp,call}).$$

The matching risk-free yield uses the same leg selection:

$$y_{b,t}^{rf} = \begin{cases} y_{b,t}^{rf,call} & \text{if } y_{b,t}^{corp,call} < y_{b,t}^{corp,mat}, \\ y_{b,t}^{rf,mat} & \text{otherwise.} \end{cases}$$

Finally, the reported spread for callable bonds is the yield-to-worst spread:

$$s_{b,t} = 10\,000 \cdot (y_{b,t}^{corp} - y_{b,t}^{rf})$$

The objective is to obtain a consistent monthly spread measure for a broad universe. Option-adjusted spreads require an explicit interest-rate model and assumptions about volatility and call exercise, which is outside the scope of this implementation. YTW provides a transparent, commonly used approximation when modelling the call option explicitly is not feasible.

Modified duration (maturity and call legs)

Given the characteristics of the bond b , a modified duration measure consistent with the same leg used for YTW can be estimated. The *Macaulay duration* is

$$D_{b,t}^{Mac} = \frac{1}{P_{b,t}^{dirty}} \left(\sum_{k=1}^{n_{b,t}-1} \frac{\frac{c_b}{f_b} \cdot (k - \alpha_{b,t})}{\left(1 + \frac{y_{b,t}}{f_b}\right)^{k - \alpha_{b,t}}} + \frac{\left(\frac{c_b}{f_b} + \text{Par}\right) \cdot (n_{b,t} - \alpha_{b,t})}{\left(1 + \frac{y_{b,t}}{f_b}\right)^{n_{b,t} - \alpha_{b,t}}} \right),$$

and the *modified duration* is

$$D_{b,t}^{Mod} = \frac{D_{b,t}^{Mac}}{1 + \frac{y_{b,t}}{f_b}}$$

For callable bonds, $D_{b,t}^{Mod}$ is computed for the maturity and call legs separately and then assigned according to the YTW-selected leg (the same leg selection used for $y_{b,t}^{corp}$).

From yields to spreads, and to a continuously compounded basis

The raw GZ spread in basis points (bps) is computed as the yield difference between the corporate and risk-free bonds. For the EBP pipeline, spread-type quantities are expressed on a *continuous-compounded* basis. For an annualised rate x (in bps), the continuously compounded (in bps) equivalent is defined as:

$$x_{bps}^{cc} = 10\,000 \cdot \ln \left(1 + \frac{x}{10\,000} \right).$$

This transformation is approximately equal to x for small values but is consistent with exponential discounting and maps simple rates into an additive log-return scale. In the implementation, the spread used in the EBP regression is $s_{b,t}^{cc}$, as well as the bid-ask liquidity proxy and the coupon-rate control, are expressed on the same continuous-compounded bps scale.

Issuer default-risk proxy: Distance-to-Default (DD)

Expected default risk is quantified using an issuer-level, market-based proxy derived from a structural (Merton-style) model. The key idea is intuitive: default is more likely when the market value of the firm (its assets) is close to, or below, an effective debt threshold.

Structural framework and core equations

The Merton model treats equity as a call option on firm assets. Let:

- E_t : equity market capitalisation (market value of equity) in month t
- $\sigma_{E,t}$: annualised equity volatility
- D_t : default point (effective debt threshold)
- r_t : risk-free rate over horizon T (here $T = 1$ year)
- V_t : (unobserved) market value of firm assets
- $\sigma_{V,t}$: (unobserved) asset volatility.

Using the Black-Scholes formula, equity is priced as:

$$E_t = V_t \Phi(d_{1,t}) - D_t e^{-r_t T} \Phi(d_{2,t}),$$

where:

$$d_{1,t} = \frac{\ln\left(\frac{V_t}{D_t}\right) + (r_t + 0.5 \sigma_{V,t}^2)T}{\sigma_{V,t} \sqrt{T}},$$

$$d_{2,t} = d_{1,t} - \sigma_{V,t} \sqrt{T}.$$

Given $(E_t, \sigma_{E,t}, D_t, r_t)$, the implementation solves numerically for $(V_t, \sigma_{V,t})$ by fixed-point iteration using the two equations above, starting from $V_t = E_t + D_t$ and $\sigma_{V,t} = \sigma_{E,t} \cdot E_t / V_t$, and iterating until convergence. For numerical stability, $\sigma_{E,t}$ and $\sigma_{V,t}$ are floored.

Once $(V_t, \sigma_{V,t})$ are obtained, the one-year Distance-to-Default is:

$$DD_t = \frac{\ln\left(\frac{V_t}{D_t}\right) + (r_t - 0.5 \sigma_{V,t}^2)T}{\sigma_{V,t} \sqrt{T}}, \quad T = 1 \text{ year}$$

The implied one-year expected default frequency (EDF) is:

$$EDF_t = \Phi(-DD_t)$$

Default point D_t and cleaning logic

The default point is constructed from balance-sheet items, recognising that coverage differs across issuers and fields. Three candidate series are used:

$$\begin{aligned} D_t^{(stlt)} &= ST_t + 0.5 LT_t, \\ D_t^{(td)} &= TD_t, \\ D_t^{(tl)} &= 0.5 TL_t, \end{aligned}$$

where ST is short-term debt, LT is long-term debt, TD is total debt, and TL is total liabilities.

To avoid switching definitions over time, the script selects one source per issuer based on coverage:

- If $D^{(stlt)}$ has coverage ≥ 0.60 , use it.
- Else if $D^{(td)}$ has coverage ≥ 0.60 , use it.
- Else use $D^{(tl)}$ if it has any coverage; otherwise pick the source with the highest coverage.

Default-risk measure used in EBP

The EBP pipeline uses a DD-based measure of default risk (no hazard-rate or logit transformations). Specifically, a monotone transformation of DD that increases as default risk rises:

$$DefaultProxy_t \equiv DD_{\max} - DD_t,$$

where $DD_{\max} = 20$ in the baseline configuration. This simply shifts and flips the DD scale; it does not change the information content.

Annual fundamentals and monthly carry-forward: Balance-sheet items used to construct the default point are observed at annual frequency. The monthly panel applies a *last-observation-carried-forward* rule: each annual observation is assigned to all subsequent month-end dates until the next annual value becomes available. As a result, D_t (and hence DD) evolves in a stepwise manner, avoiding the introduction of unobserved within-year dynamics through interpolation. Under this approach, within-year variation in DD is driven primarily by market-based inputs (equity values and equity volatility), while the balance-sheet component updates only when a new annual report is observed. This treatment is intended for retrospective measurement and descriptive analysis; it should not be interpreted as a real-time estimate of intra-year balance-sheet evolution.

Safeguards used in the DD pipeline (as implemented)

Structural DD estimates can be sensitive. The implementation therefore applies the below safeguards before constructing the proxy used in the regression.

Annex Table 2.C.1. Safeguards applied in the DD/EDF pipeline for the issuer default proxy

Safeguard	Setting in code	Rationale
Equity volatility window	12 months (rolling)	Smooths short-lived noise in $\sigma_{E,t}$.
Volatilities floor	Equity: $\sigma_{E,t} \geq 0.03$	Prevents unrealistically low volatility from mechanically inflating DD.
	Asset: $\sigma_{V,t} \geq 0.01$	Prevents numerical instability in the fixed-point solver.
Debt outlier filter	Drop if D_t/median outside $[1/1000, 1000]$; or if $D_t < 10^7$	Mitigates unit errors and extreme miscoding.
Debt staleness filter	Drop if debt age is missing, and keep only if $0 < \text{debt age} < DP_STALE_DAYS$ (to prevent look-ahead); script runs for $DP_STALE_DAYS \in \{365, 450, 550\}$	Excludes overly old balance-sheet values; supports robustness to staleness assumptions (baseline is $DP_STALE_DAYS = 365$).
Leverage safeguard (clamp)	If $D_t/E_t < 0.005$, set $D_t := 0.005 \times E_t$	Avoids spuriously high DD when debt is implausibly small relative to market capitalisation.
DD bounds	$DD \in [-20, 20]$	Safeguards against bias from tail cases.
Winsorisation of $DefaultProxy_{i,t}$	1-99% by month	Limits the influence of extreme tails on downstream regressions.

Liquidity control from bid-ask quotes

Bid-ask spreads capture differences between quoted buying and selling prices and provide a simple proxy for trading frictions. Using the *clean* bid and ask prices, the liquidity measure (in basis points) is:

$$Mid_{b,t}^{clean} = 1/2 (Ask_{b,t} + Bid_{b,t}), \quad Liquidity_{b,t} = 10\,000 \cdot \frac{Ask_{b,t} - Bid_{b,t}}{Mid_{b,t}^{clean}}$$

The liquidity measure is expressed on the same continuous-compounded bps scale as:

$$Liquidity_{b,t}^{cc} = 10\,000 \cdot \ln \left(1 + \frac{Liquidity_{b,t}}{10\,000} \right)$$

computed only when prices are finite, $Mid_{b,t}^{clean} > 0$, and $Ask_{b,t}^{clean} \geq Bid_{b,t}^{clean}$. When liquidity is missing, the liquidity level is set to zero and a dummy variable for missing liquidity is included:

$$Liquidity_{b,t}^{use} = \begin{cases} Liquidity_{b,t}^{cc} & \text{if observed,} \\ 0 & \text{otherwise,} \end{cases} \quad I_{b,t}^{miss} = \mathbf{1}_{\{Liquidity_{b,t}^{cc} \text{ missing}\}}$$

This preserves sample size while allowing missing indicators themselves to carry information.

EBP estimation: Monthly cross-sectional regressions

Regression specification and intuition

The dependent variable is the bond-month GZ spread expressed on a continuous-compounded basis point scale, $s_{b,t}^{cc}$, and the regressors include the issuer default proxy, liquidity, and standard bond characteristics. A pooled OLS regression is estimated over all bond-month observations that pass the data filters:

$$s_{b,t}^{cc} = \alpha + \gamma \cdot DefaultProxy_{b,t} + \lambda \cdot Liquidity_{b,t}^{use} + \delta \cdot I_{b,t}^{miss} + \beta_1 \cdot \ln(D_{b,t}^{Mod}) + \beta_2 \cdot \ln(TTM_{b,t}) + \beta_3 \cdot \ln(Age_{b,t}) + \beta_4 \cdot Coupon_{b,t}^{cc} + u_{b,t},$$

where, for the bond b , $TTM_{b,t}$ and $Age_{b,t}$ are the time-to-maturity and time-since-issuance (in years), respectively, $Coupon_{b,t}^{cc}$ is the coupon rate expressed in continuously compounded bps, and the coefficients are estimated by ordinary least squares.

- **DefaultProxy**: isolates the component of spreads related to expected default risk, measured continuously and updated monthly.
- **Liquidity**: accounts for trading frictions that can widen quoted spreads even when default risk is unchanged.
- **Bond characteristics** (duration, time to maturity, age, coupon): control for predictable cross-sectional variation in spreads linked to maturity structure and interest-rate sensitivity.

After controlling for these observable components, the residual $u_{b,t}$ captures the remaining part of the spread, interpreted as an “excess” premium (risk compensation and other unobserved frictions not captured by the controls), i.e. the EBP.

Definition of bond-level EBP and monthly aggregation

The bond-level EBP is the regression residual:

$$\widehat{EBP}_{b,t} \equiv \hat{u}_{b,t} = s_{b,t}^{cc} - \hat{s}_{b,t}^{cc}.$$

The monthly EBP series is the value-weighted average of residuals:

$$EBP_t = \sum_{b \in \mathcal{B}_t} w_{b,t} \cdot \widehat{EBP}_{b,t}$$

The corresponding value-weighted spread and fitted components are:

$$Spread_t = \sum_{b \in \mathcal{B}_t} w_{b,t} \cdot s_{b,t}^{cc}, \quad Fitted_t = \sum_{b \in \mathcal{B}_t} w_{b,t} \cdot \hat{s}_{b,t}^{cc},$$

so that (up to rounding and missing-value handling) $Spread_t \approx Fitted_t + EBP_t$.

Weights used for aggregation

Weights $w_{b,t}$ are built from the representative weight in the ETF for each bond and normalised to sum to one within each month in case of missing data. This ensures the reported EBP reflects the composition of the underlying ETF-based bond universe.

3

The investor base for government and corporate bond markets

A growing share of government and corporate bonds is now held by more price-sensitive investors, as most central banks continued to step back in 2025 and issuance levels remained high. Despite three years of quantitative tightening, central banks remain the largest domestic holders of government bonds. Meanwhile, foreign investors, who may be more sensitive to heightened geopolitical risk, hold an even greater share of government bonds, and continue to be the largest holders of corporate bonds. At the same time, structural shifts are reducing institutional investors' demand for long-term bonds. In several sovereign bond markets, hedge funds are playing a growing role as liquidity providers and marginal buyers of newly issued bonds. These changes in the investor base towards more price-sensitive and leveraged investors could make markets more vulnerable to shocks.

Key findings

- **The composition of investors in government and corporate bonds has shifted as overall debt levels have increased.** This shift has made financing conditions more responsive to changes in market sentiment. Combined with rising financing needs, this can constrain issuers' decision making regarding issuance timing, size, and maturity structure.
- **More price-sensitive investors are holding an increasing share of government bonds,** as many central banks continued to step back in 2025, and issuance levels remained elevated.
- **After three years of quantitative tightening, central banks are still the largest domestic holders of government bonds with their holdings at their highest level since 2015.** Domestic central bank holdings were 20% of the total in 2025, down from a peak of 30% in 2021, but still much higher than in 2007 (9%).
- **Foreign investors hold the largest shares of both government and corporate bonds.** They hold 28% of government and 31% of corporate bonds.
- **Regulations introduced following the global financial crisis have increased the costs for banks to warehouse bonds and have resulted in some short-term trading of bonds moving outside the sector.** This has coincided with the increased footprint of hedge funds. While they provide much-needed liquidity and have supported demand at auctions and syndications, overreliance can increase the risks of sudden turbulence and market malfunctioning.
- **Hedge funds are now among the most active market participants in certain core government bond markets,** while more than half of surveyed government issuers assess that hedge funds are marginal buyers in their markets. Several issuers see hedge fund activity as having a positive impact on liquidity.
- **At the same time, various factors have led to structurally lower demand for long-term bonds,** including the migration from Defined Benefit (DB) to Defined Contribution (DC) pension schemes in certain jurisdictions, the increased attractiveness of shorter-term bonds, and increased risk perceptions regarding fiscal trajectories. This has contributed to the steepening of yield curves observed in 2025. The switch from DB to DC may also see allocations move away from government to higher-yielding corporate bonds.
- **Several issuers have reacted by issuing a higher share of shorter maturities.** This supports their cost and risk-minimising objectives, but it may also, in part, crystallise the recent changes in the investor base. Corporate issuers are also generally more flexible than governments and can make larger and faster adjustments to their issuance strategy in response to changes in yields, yield curve shapes, and investor preferences.
- **Global financial fragmentation risks have become an important concern for issuers, given the importance of foreign investors in almost all bond markets.** Geopolitical tensions can have an outsized impact on demand from foreign investors. Most sovereign issuers expect geopolitical risk to continue affecting both primary market operations and secondary market liquidity in government securities in 2026.

The chapter uses a combination of survey data from OECD and partner countries, including responses from debt management offices (DMOs) to the OECD Survey on Liquidity in Secondary Government Bond Markets, in addition to public data on central government and corporate bond holdings. Annex 3.A provides methodological guidance.

The changing structure of global bond markets

Global bond markets have seen fundamental transformations in the last two decades. Two major crises, in 2008 and 2020, coupled with structurally higher fiscal pressures stemming from megatrends like ageing populations, have increased market-based borrowing to levels not previously seen in peacetime (Chapters 1 and 2, OECD (2025^[1])). Yet the scale of borrowing is not the only dimension that has changed. There has been a concurrent shift in the structure of these markets. Today's global bond markets are not just significantly bigger than before the 2008 financial crisis; they are also characterised by a materially different investor base. The entry, then withdrawal, of central banks and the secular shift from bank to non-bank investors have fundamentally changed market dynamics. Cross-border flows have also evolved, and high levels of sovereign borrowing have seen the outstanding stock of global bonds shift towards government securities.

This matters because different investor classes behave very differently with respect to their trading frequency, their propensity to sell in a downturn, the consistency and predictability of their demand, their interplay with geopolitical developments, and other factors that affect the stability of debt markets (Fang, Hardy and Lewis, 2025^[2]). Consequently, the composition of the investor base influences bond pricing and volatility, which, in turn, passes through to the real economy, affecting investment and longer-term growth prospects (Coppola, 2025^[3]; Philippon, 2006^[4]). Increasing interlinkages between investor categories over time amplify this risk (Aquilina, Cornelli and Tarashev, 2025^[5]).

From the issuer's perspective, recent shifts in the investor base, notably the rising share of more speculative, and price-sensitive investors, can entail greater risks for market functioning and financial stability. Such investors are associated with higher flight risk in periods of turbulence, and their positions may be liquidated abruptly following sudden price moves or a tightening in funding conditions. Coupled with their lower organic commitments to markets, they may pull back during country-specific stress episodes, weakening demand when liquidity is most needed and increasing vulnerability to shocks. The growing presence of these investors can therefore add to the risks arising from higher sovereign debt (Epp and Gao, 2025^[6]). At a minimum, issuers may have to pay higher premiums to attract investors, but they may also experience periods of extreme volatility and even a lack of confidence in their markets, as has occurred in several G7 countries over the past six years. Therefore, understanding these shifts, which role certain investors are playing, and the points of vulnerability are key to well-informed policymaking.

This chapter maps developments in government and corporate bond markets globally since 2007 and discusses their implications. The present section begins by briefly introducing the main entities that are active in these markets, and some of their typical motives and strategies. A more detailed description is provided in Annex 3.B. Bond holders are broken down into 12 overarching categories: central banks, Money Market Funds (MMFs), banks and other Monetary Financial Institutions (MFIs), non-Money Market Funds (non-MMFs), insurance companies, households and Non-Profit Institutions Serving Households (NPISHs), pension, foreign and other. The latter category includes general government, other financial corporations, and non-financial corporations. Within these categories, certain key entity types are also introduced.

Key entity types that are active in government and corporate bond markets

Central banks buy bonds issued by governments and sometimes private entities in their domestic currency as part of their monetary policy toolkit, in particular when policy rates are near zero. They also occasionally purchase bonds as part of their mandates to maintain financial stability.

Money Market Funds (MMFs) are a type of mutual fund that invest in cash or low-risk cash equivalents such as short-term debt instruments. They often invest in Treasury bills and hold them to maturity.

Banks and other MFIs are domestic entities or domestically based subsidiaries of foreign entities that provide services as intermediaries for financial monetary transactions. **Commercial and investment banks** are the most prominent amongst these. Their main role in bond markets is as intermediaries, buying bonds from issuers and selling them to investors. Their central function is to conduct market making. Additionally, they may hold bonds as part of their non-trading assets, holding them as part of their High-Quality Liquid Assets (HQLAs) portfolios or as longer-term investments as part of their treasury function.

Non-money market funds. This category includes **investment funds** that actively manage funds on behalf of clients. They are characterised by higher price-sensitivity than, for example, pension funds and insurance companies, but a greater tendency to hold to maturity than more opportunistic investors like hedge funds. **Exchange Traded Funds (ETFs)** comprise a basket of investments usually made up of equities and/or bonds. They are traded on a stock exchange, and most ETFs track the performance of an index. They can include dedicated bond ETFs and have become an increasingly popular way for retail investors to get exposure to bonds. **Hedge funds**, which tend to buy and sell bonds to profit from changes in prices or discrepancies in prices between similar assets. Unlike pension and insurance funds, they are less likely to hold bonds for liquidity or yield. Instead, they are generally trying to generate high risk-adjusted returns, using leverage, derivatives, and short-term positioning, taking account of factors such as carry, roll, and volatility.

Insurance companies typically hold bonds to maturity to hedge their liabilities. They are generally heterogeneous in terms of duration preference, with **life insurers** favouring ultra-long duration, while the duration needs of other insurance companies (property, health, automobiles, home, liability) tend to be shorter. They tend to have relatively predictable claims patterns in aggregate, which makes bonds an attractive matching asset. Equally, regulatory frameworks typically incentivise insurance funds to hold lower-risk bonds by assigning minimal capital requirements; conversely, they disincentivise riskier assets by imposing capital charges that lead insurers to hold significant amount of capital, generating an opportunity cost that diminishes the asset's yield advantage (Rousova and Giuzio, 2019^[7]).

Households and Non-Profit Institutions Serving Households (NPISH) buy bonds for reasons including wealth accumulation, retirement planning, and in some jurisdictions for tax efficiency. Bond holdings serve to ensure some return on capital without too much risk exposure; retail investment in bond markets can therefore often be viewed as a substitute for savings in bank deposits, but with some additional remuneration.

Pension funds have long-term investment horizons and highly predictable payout schedules, and typically hold bonds to provide certainty about their future cashflows. Because of this, they tend to be less price-sensitive than other investor groups, and typically hold bonds to maturity, favouring higher duration and, in certain jurisdictions, inflation-linked instruments. For the purposes of this report, they are split into **Defined Benefit (DB) pension schemes**, which provide a fixed, pre-established benefit for employees at retirement; and **Defined Contribution (DC) pension schemes**, where the timing and volume of contributions are defined, and individuals carry both asset value risk and longevity risk. DB plans generally favour long-term bonds as a hedge for their liabilities, while DC plans generally hold shorter-duration bonds than DB plans and are generally considered to be more yield sensitive.

Foreign includes all categories covered here that are domiciled outside the jurisdiction in which the bond issuer is domiciled. This category includes **foreign central banks** and **sovereign wealth funds** that are the portfolio managers of other states' financial assets denominated in foreign currencies. While central banks mostly hold bonds for exchange rate and reserve management, typically in reserve currencies (mostly US dollar, but also euro and yen), sovereign wealth funds buy bonds to accumulate and preserve wealth.

Other includes all domestic investors not covered elsewhere. This category can be grouped by **general government**, all **non-financial corporations**, and all **other financial corporations** not mentioned above.

How key entities typically interact with bond markets

A key consideration is how each entity typically interacts with bond markets. While each will have its own particular motives and strategies, it is useful to consider how different entities typically behave in terms of three key criteria: (1) propensity to hold bonds to maturity (or to sell them on the secondary market); (2) appetite for duration and where on the curve they typically trade; and (3) yield sensitivity – i.e. how much their demand for bonds is determined by prevailing yield levels.

The propensity of the investor base to hold to maturity will impact the balance between stability and liquidity in bond markets. Ideally, issuers want both, with a balanced distribution of hold-to-maturity investors buying right along the curve as a source of reliable demand, and also investors who increase trading volumes through regular buying and selling in the secondary market, which brings greater liquidity. Hold-to-maturity investors can also promote stability in markets during periods of turmoil, unlike more active investors who may be more responsive to market movements, which can amplify market strains (such as hedge funds and other clients of dealers selling bonds during periods of market turmoil). However, hold-to-maturity investors may also reduce liquidity by effectively reducing the share of outstanding securities available for trading.

The appetite for duration matters as it affects the instrument composition that governments and corporates can issue. One of the biggest reasons for issuers issuing higher shares at shorter maturities in recent years, as discussed in Chapters 1, is the changing characteristics of the investor base, including a reduced appetite for longer-term bonds.

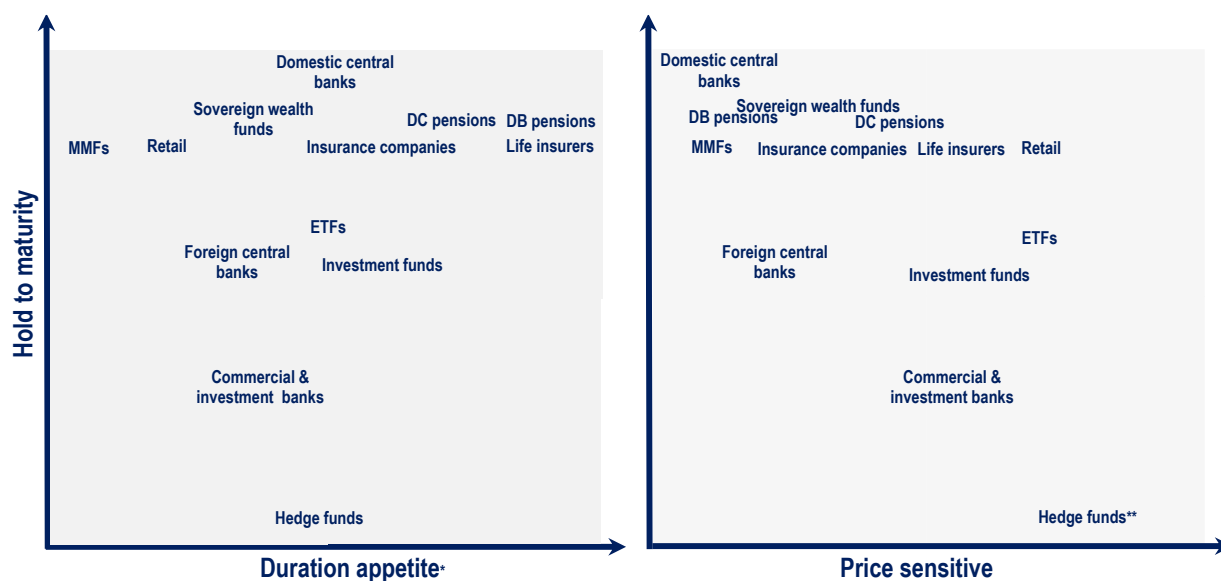
Yield sensitivity is defined here as the degree to which a sector would increase (reduce) its bond holdings given an increase (reduction) in bond yields. A useful way to conceptualise this is through a yield change arising from a supply shock. An increase in bond supply, assuming no exogenous change in demand, will lead to a new market equilibrium characterised by both lower prices (higher yields) and, to some degree, a shift in the investor base (Box 3.1). All else being equal, investors who are more yield sensitive will buy or sell more of their holdings than less price-sensitive investors in response to changes in yields.

The yield sensitivity of the investor base matters, as it affects the prices issuers can achieve when selling their bonds. Although yields are driven by a multitude of factors – mostly expectations for inflation and monetary policy for sovereign issuers, and default risk and illiquidity for corporates – overreliance on more price-sensitive investors implies insufficient structural demand from less-yield sensitive investors. It also matters because these buyers typically might be regarded as less reliable, as they will only buy at certain yield levels but will stop buying or buy less when yields fall below this level. Retail investors are a good example of this, as they typically buy for yield, not liquidity. They have been buying a growing share of government bonds in the last four years as yields increased and remained elevated, having had largely negligible holdings prior to 2022, when yields were much lower.

Figure 3.1 provides an indicative overview of the characteristics of each entity against these three criteria. As investor characteristics differ across regions and time, and sometimes cannot be defined with any certainty, it is used here as a conceptual framework in a relative manner, rather than as a definitive statement.

Figure 3.1. Stylised guide on the characteristics of each investor group

Different entities have different “natural habitats” in terms of their propensity to hold bonds to maturity, their duration preference, and the price sensitivity of their demand



Notes: This figure represents a general illustration of the characteristics of different investor types. Actual characteristics will be determined by organisations' individual trading strategies and wider market and demand conditions.

* Duration appetite here refers to the average duration appetite. Certain entities, such as domestic central banks and hedge funds, trade and/or hold right across the duration curve.

** Hedge funds are more sensitive to relative rather than outright yield levels; they typically trade price dislocations on the curve, around supply events, between markets, and between cash bonds and derivatives.

The evolution of the investor base for government and corporate bonds

The following section describes the evolution of the investor base for government and corporate bonds in the Euro area, Japan, and the United States. The focus on these jurisdictions reflects transparency and data constraints rather than an analytical choice. Moreover, the underlying data sources' classification and coverage are not fully compatible. The trends shown here should not necessarily be extrapolated to other countries.

The dataset is constructed following the methodology shown in Annex 3.A and holdings are broken down into the 12 categories discussed at the beginning of this chapter. In 2025, the dataset encompasses USD 53 trillion of government bonds and USD 25 trillion of corporate bonds. US bonds account for 55% of the total, split between 41% government and 14% corporate. The Euro area represents 34% (17% government, 17% corporate), while Japan accounts for the remaining 11% (10% government, 1% corporate).

Developments in the aggregate investor base

In aggregate, global bond markets are dominated by government issuance. On average, government bonds have accounted for 67% of the combined total outstanding in each year since 2007 (Figure 3.2, Panel A and B). As such, the changes in the investor base have been mainly characterised by changes in government bond markets, and in particular the increasing role of central banks since 2007, and the declining role of insurance companies, and banks and other MFIs (Figure 3.3, Panel C).¹

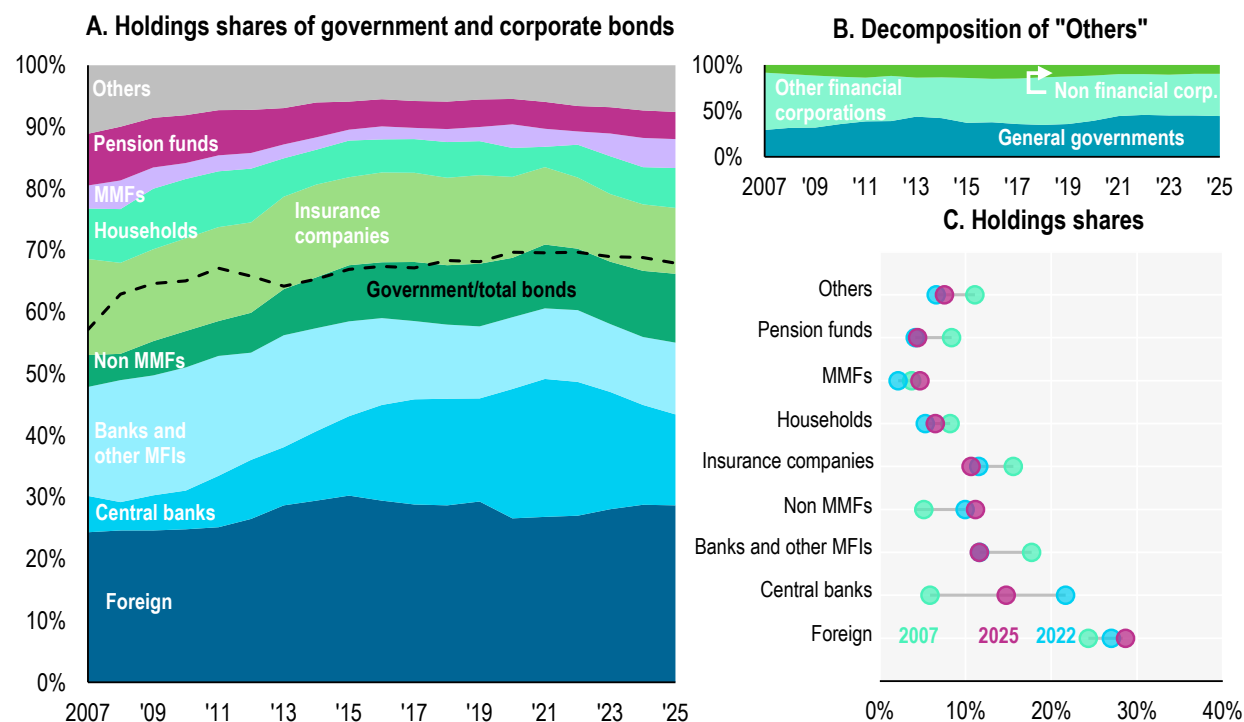
The largest change in the combined investor base for government and corporate bonds since 2007 is holdings by domestic central banks (Figure 3.2, Panel A and B). These were around 6% pre-2008 but have increased significantly over the years, reaching a peak of 22% in 2022. Central banks have been the single largest domestic investor category in every year since 2016, including 2025.

Higher central bank holdings are a direct result of quantitative easing (QE) programmes. The US Federal Reserve (Fed) conducted three rounds of large-scale asset purchases between 2008 and 2014 to ease the monetary policy stance. The Bank of Japan introduced its quantitative and qualitative monetary easing in 2013 and enhanced it in the following years to try to reach its inflation target. The ECB launched the Public Sector Purchase Programme in 2015 in response to the downside risk to the medium-term outlook on price developments. This was followed by the Corporate Sector Purchase Programme in 2016. All three central banks boosted or reintroduced asset purchases following the onset of the COVID-19 pandemic in 2020.

Central banks' holdings have decreased from a peak of 22% of the total in 2022 to 15% in 2025, as many of them have undertaken quantitative tightening (QT) to help combat higher inflation and reduce the sizes of their balance sheets (Figure 3.2, Panel C). However, their share of holdings is still far higher than the pre-2007 level, while the absolute value is around 66% higher than in 2015. If central banks slow or halt QT going forward, they will likely remain significant holders of government bonds in many countries for the foreseeable future.

Figure 3.2. The investor base of major bond markets

Central bank holdings of bonds increased significantly between 2015 and 2022, but have begun declining since, though they remain the single largest domestic holders



Note: Values as of Q2 2025 for the Euro area and Q3 2025 for the United States and Japan. Data on Euro area government and corporate bonds are available from 2013 and 2015, respectively. Data on corporate bonds refers to both financial and non-financial corporate bonds. Households include NPISH. For the United States, households' holdings of government bonds have been adjusted for estimated foreign hedge fund holdings as explained in Annex 3.A. US households' corporate data includes hedge funds. Intra-Euro area holdings are considered domestic. In Panel A, the dotted line represents the ratio between government bonds and the sum of government and corporate bonds.

Source: Bank of Japan; European Central Bank; US Federal Reserve; and OECD calculations.

Other than central banks, only non-MMFs and foreign investors held a significantly higher share of bonds in 2025 compared to 2007. Between 2007 and 2025, their shares increased from 5% to 11% and from 24% to 29%, respectively. The holdings' share of every other group considered in this analysis has either remained stable or decreased. Foreign investors were consistently the largest holders over the period, accounting for between 25% and 30% of the total in every year.

The shares of bonds held by MMFs and households followed a similar trend between 2007 and 2025. Their holding shares dropped in the aftermath of the global financial crisis as interest rates reached very low levels, bottoming at 2% for MMFs and 3% for households. Their shares have rebounded since 2022. However, while the share of MMFs (5%) is now 1 percentage point (p.p.) higher than in 2007, that of households (6%) is 2 p.p. lower. It is important to note that this analysis does not consider households' indirect holdings via investment funds, which are included in the MMF and non-MMF categories.²

The share of pension funds' holdings of domestic bonds halved from around 8% in 2007 to 4% in 2025 (Figure 3.2, Panel C).³ This trend can be partially explained by the shift of capital allocation away from bonds since 2008 due to lower yields, changed regulations that allowed some pension funds to invest more in riskier, potentially higher-returning assets, and changes in default investment strategies (OECD, 2024^[8]). Notwithstanding this, the role of pension funds in bond markets is significantly understated when ignoring foreign holdings. For instance, in 2024, pension providers in nine jurisdictions for which data are available allocated an average of 44% of their USD 4.8 trillion assets abroad. More generally, pension providers from 14 major jurisdictions invested 35% of their USD 50 trillion assets in bonds and bills (OECD, 2025^[9]). This issue is addressed in greater detail later in this section, drawing from a survey conducted specifically for this report.

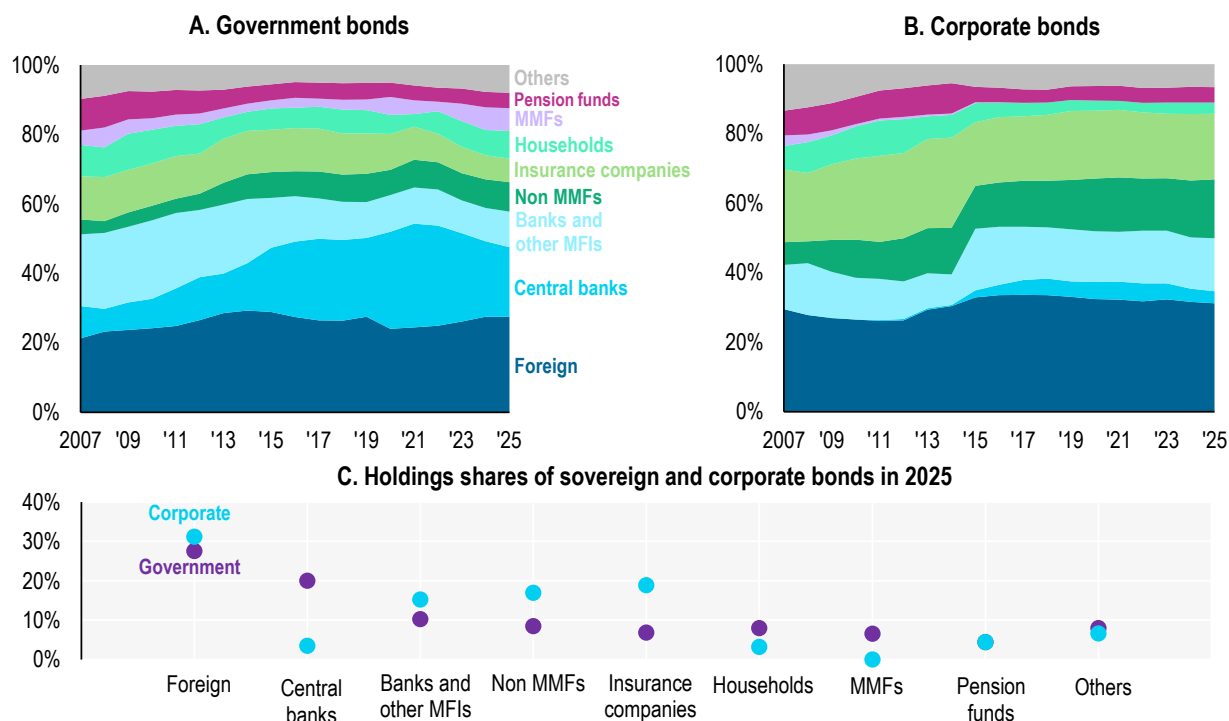
The diverging investor bases for government and corporate bonds

There are notable differences in the investor bases for government and corporate bonds throughout the period considered here (Figure 3.3). In 2025, foreign investors held the largest shares of both. They held around a quarter (28%) of government bonds but around a third (31%) of corporate bonds. Central banks and MMFs together held around one-quarter of government bonds but almost no corporate bonds. This 25 -p.p. difference closely mirrors the difference in the shares held by insurance companies, non-MMFs, and banks and other MFIs. The shares held by these three categories are significantly higher in the corporate bond market than in the government bond market.

The investor base for corporate bonds has been more stable than that of government bonds over this period (Figure 3.3, Panel B). This is also a result of much smaller direct central bank interventions in corporate markets compared to government bond markets. Foreign investors, insurance companies, and banks and other MFIs held around two-thirds of corporate bonds every year over the period, with foreign investors holding 31% on average. The shares held by banks and other MFIs declined in the aftermath of the 2008 financial crisis from 15% to 9% in 2014 but quickly rebounded and have remained stable at around 15% since 2017.

Figure 3.3. The investor base of government and corporate bond markets

The investor base for corporate bonds has been more stable than government bonds since 2007



Note: Values as of Q2 2025 for Euro area and Q3 2025 for the United States and Japan. Data on Euro area government and corporate bonds are available from 2013 and 2015, respectively. Data on corporate bonds refer to both financial and non-financial corporate bonds. In Panel A, US households' data have been adjusted for estimated foreign hedge funds' holdings as explained in Annex 3.A. US households' corporate data include hedge funds. Intra-Euro area holdings are considered domestic.

Source: Bank of Japan; European Central Bank; US Federal Reserve; and OECD calculations.

The share of corporate bonds held by pension funds has remained stable at around 4% since 2015 (Figure 3.3, Panel B). However, as previously mentioned, this figure likely understates their holdings due to the share accounted for by foreign holdings. For example, 41% of US pension funds' corporate bond portfolios were invested in foreign securities at the end of 2024 (Board of Governors of the Federal Reserve System, 2025^[10]). In smaller countries, the foreign allocation can be very dominant: the Dutch ABP fund, for instance, invests only 7% of its corporate bond portfolio in Dutch bonds, with 64% of total bond holdings outside the euro zone, as of the end of June 2025 (ABP, 2025^[11]; 2025^[12]).

Households, MMFs and non-financial corporations held negligible shares of corporate bonds in 2025 (Figure 3.3, Panel B). Households and MMFs are the only categories whose shares have consistently declined since 2011, with the former falling from 10% to 3% in 2025 and the latter hovering around 0% since 2014. Non-financial corporations – included in the *other* category – held no more than 1% of the corporate bond market in the period considered (Figure 3.3, Panel B). However, financial disclosures suggest that some non-financial companies have major corporate bond holdings that national accounts classify as holdings from financial corporations because they are held through financial subsidiaries or holding companies (Çelik, Demirtaş and Isaksson, 2020^[13]).

Box 3.1. Empirical evidence on sectoral price sensitivities

Sectoral price sensitivities (also referred to as *demand elasticities*) are a key factor when assessing the investor base and its interrelation with market developments. Sudden increases in debt are typically absorbed by market participants characterised by higher price sensitivities, resulting in a changed investor base composition. On the other hand, a lack of price-sensitive investors ready to increase their holdings will lead to yields reacting more sharply to supply shocks. While sectoral sensitivities can be assessed qualitatively based on theoretical reasoning and anecdotal evidence, quantifying them based on empirical data is challenging. Only in recent years has an academic literature emerged applying the demand system asset pricing approach of Kojien and Yogo (2019^[14]) to government bond markets.

Estimating demand elasticities is challenging in various aspects. First, market prices and quantities are determined simultaneously. It is therefore necessary to rely on methods that attempt to differentiate between *cause* and *effect* under plausible assumptions. Second, the actual relations may be state-dependent, non-linear, conditional on unobserved factors, and unstable across regions. Third, while prices immediately react to news, changes in the investor base might follow more slowly. Fourth, shocks to one market spill over to other markets, thereby diluting the effect that would exist in isolation.

As shown in Table 3.1, there is considerable variation in the results of the empirical literature due to the challenges outlined above. Despite this heterogeneity, the following observations can be made. The estimated demand elasticity of banks and foreign private investors is often among the highest, whereas it is often among the lowest for pension funds, insurance companies, and foreign official institutions. The picture is mixed for mutual funds and households. Especially remarkable are the negative values found for pension funds and insurance companies in the aggregate Euro area and in the Netherlands. This might, firstly, point to the higher role of long-duration assets for these sectors in comparison to the United States and, secondly, to the phenomenon that liability-driven investors might be forced to increase their long-term bond holdings pro-cyclically when yields fall (Domanski, Shin and Sushko, 2015^[15]).

Table 3.1. Estimated sectoral price sensitivities for government bonds

(Percentage increase of the sector's demand given a 1 p.p. increase in the 8y yield)

Study Market Instrument	Eren et al. 2023 United States Monetary policy shocks	Chaudhary et al. 2024 United States Granular shocks	Jansen et al. 2025 United States Granular shocks	Kojien et al. 2021 Euro area QE	Jansen 2024 Netherlands Pension and insurance reform
Banks	30.6	7.6	24.0	16.6	119.6
Mutual Funds	21.2	1.4	59.0	23.4	8.9
Pension Funds	23.9	-0.8	2.0	-32.3	-16.6
Insurance Companies	16.3	4.8			
Households	-25.9	84.3	n.a.	9.7	n.a.
Foreign official	1.2		-2.0		
Foreign private	24.9	4.3	5.5	57.5	28.2

Note: Grey shading signifies that the estimate is not available or statistically insignificant at commonly used levels. Some estimates are scaled to eight-year yield elasticities to make them comparable across the studies. For the United States, households include hedge funds. Source: Chaudhary, Manav, Zhiyu Fu, & Haonan Zhou (Chaudhary, Fu and Zhou, 2024^[16]): "Anatomy of the Treasury Market: Who Moves Yields?" Olin Business School Center for Finance & Accounting Research Paper No. 2024/14. Domanski, Dietrich, Hyun Song Shin, & Vladyslav Sushko (2015^[15]): "The hunt for duration: not waving but drowning?" IMF Econ. Rev. 65.1. Egemen Eren & Andreas Schrimpf & Dora Xia (2023^[17]): "The demand for government debt" Bank for International Settlements, WP 1 105. Jansen, Kristy AE (2025^[18]): "Long-term investors, demand shifts, and yields", The Review of Financial Studies 38.1. Jansen, Kristy AE, Wenhao Li, & Lukas Schmid (2024^[19]): "Granular treasury demand with arbitrageurs", NBER Working Paper 33 243. Kojien, Ralph S.J. & Koulischer, François & Nguyen, Benoît & Yogo, Motohiro (2021^[20]): "Inspecting the mechanism of quantitative easing in the Euro area", Journal of Financial Economics, vol. 140(1). Kojien, Ralph S.J. & Yogo, Motohiro (2019^[14]): "A demand system approach to asset pricing." Journal of Political Economy 127.4.

The rebound in the household share of government bonds since 2022 has not been seen in corporate bond markets. Sovereign issuers have increasingly focussed on retail investors in recent years through dedicated retail programmes, products, tax incentives, distribution platforms, and marketing efforts. Examples of new sovereign retail products issued in 2025 include the first Italian retail bond with an option to redeem at face value before maturity, and Lithuanian defence bonds available to retail and institutional investors. Several countries are also planning to issue new retail securities in 2026.⁴ Among them, Luxembourg intends to issue its first retail bond since 2008, aimed at solely financing defence expenditures.

As investors participate in the bond market for different reasons, their allocation preferences between government and corporate bonds varies accordingly and depends on the market in which they operate. Broadly speaking, investors in Japan and the United States concentrate most of their bond portfolios in government securities, reflecting the larger size of these markets, compared to their corporate counterparts. In Japan, this reflects a long-lasting pattern, whereas in the United States there has been an increasing trend since 2007 – driven in part by large, sustained government deficits. Euro area investors have a more balanced allocation across the two segments (Figure 3.4).

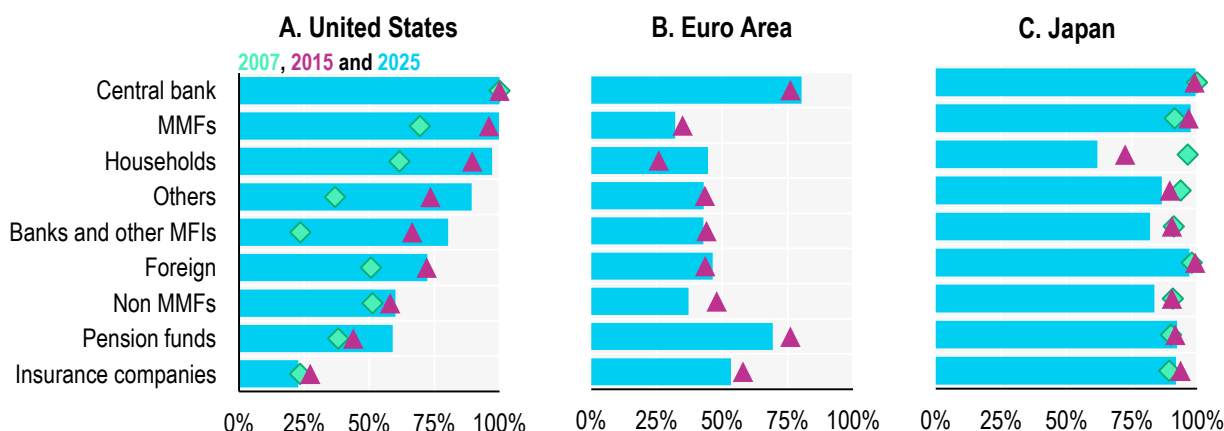
In both the United States and Japan, central banks direct nearly all their bond holdings towards the government market (Figure 3.4, Panels A and C). While this primarily reflects the key role government bond markets play in the monetary policy transmission mechanism, in the United States it also reflects legal restrictions that prohibit corporate asset purchases outside of emergencies (Fed, 2017^[21]; 2017^[22]). In contrast, the BoJ's focus on government bonds also reflects the vast relative size of the government bond market, which on average accounted for 93% of the total bond market during the period considered. The share of government holdings of central banks in the Euro area, instead, ranged between 74% and 81% of their total holdings between 2015 and 2024 (Figure 3.4, Panel B), indicating sizeable holdings of non-government bonds over this period.

The trend in asset allocation of households differs across regions. While in the United States and the Euro area their share of government bond holdings is the highest since at least 2015, it is lower in Japan (Figure 3.4, Panel B). In the Euro area, their share of government bond holdings rose from 26% to 45% between 2015 and 2024. In Japan, their share declined by 34.6 p.p. from 2007 to 2025. Despite this, there has been an emerging upward trend from 2024 to 2025, as rising yields make these assets more attractive.

Among financial investors, holdings by insurance corporations, banks and other MFIs, and MMFs differed the most between regions. In contrast, pension fund allocations have gradually converged over time, largely driven by a significant increase in US pension funds' allocation to government bonds (up by 15 p.p. in the past decade). At the same time, the share of government bonds held by pension funds in the Euro area is expected to decline further, reflecting the ongoing transition from DB to DC schemes (Figure 3.4).

Figure 3.4. Government bond holdings as a share of total bond holdings, by investor and region

Government bonds dominate portfolios in Japan and the United States, while in the Euro area the split is more balanced



Note: Values as of Q2 2025 for Euro area and Q3 2025 for the United States and Japan. Complete data on Euro area bonds are available from 2015 to 2025. Households' data refer to Households and NPISHs. US households' holdings of government bonds have been adjusted for estimated hedge funds' holdings as explained in Annex 3.A. US households' corporate data include hedge funds. A. Data on corporate bonds refers to both financial and non-financial corporate bonds. Intra-Euro area holdings are considered domestic. Data on Euro area central bank's holdings refers to all national central banks of the Eurosystem.

Source: Bank of Japan; European Central Bank; US Federal Reserve; and OECD calculations.

Regional trends in the aggregate investor base

The investor base composition and changes over time differ not only between government and corporate bond markets, but also between regions. While certain global trends can be observed to varying degrees at the regional level, such as the rise in central banks' shares, other patterns, like the consistently high share of foreign holdings, are not evident in all regions. One drawback of this data is that the sectoral composition of foreign holdings is unknown. Box 3.2 provides a closer look into the development of the holding structure of German Government bonds that also takes into account the sectoral composition of foreign holdings.

In 2025, foreign investors held the largest share in the US and Euro area bond markets, accounting for 34% and 26% of the outstanding totals, respectively, whereas in Japan, the central bank held the largest share (39%) (Figure 3.5). The US market stands out due to its relatively high share of holdings by households, and comparatively low central bank holdings, with the Fed buying a smaller share of outstanding government bonds compared to other major central banks.

Central banks have increased their bond holdings across all regions over the entire period, with the BoJ's rising the most, by 31 p.p. (Figure 3.5, Panel C). However, in recent years, these holdings have declined as central banks began unwinding their QE programmes. By 2025, the share of central bank holdings was 8 p.p. below its 2021 peak in the United States and 7 p.p. lower in the Euro area. Japan remains somewhat of an exception in this respect, with the BoJ's holdings not peaking until 2023, at 42% of outstanding government bonds, and falling by just 3 p.p. since then.

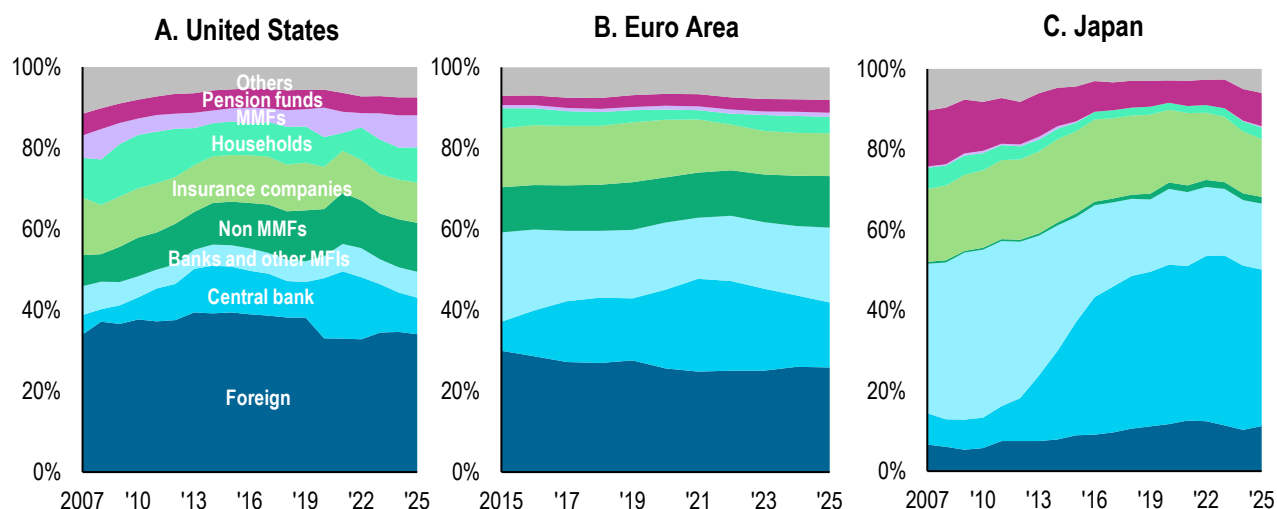
The level of foreign holdings is affected by several factors, notably interest rate differentials, hedging costs, reserve currency status, the pace of QT, and geopolitical developments, all of which contribute to regional differences. While foreign investors have long been sizeable holders of bonds in the United States and Euro area, their presence in Japan remains limited, though it has increased gradually. Starting from 2022, foreign investors kept buying Japanese bills while decreasing their holdings of bonds, largely due to

advantageous swap market pricing (Japan Ministry of Finance, 2025^[23]). From 2022 to mid-2023, foreign holdings of bills increased by 13%, while bond holdings decreased by 17%. This trend started to reverse in mid-2024, likely because of higher policy rates and expectations for further hikes, moving yields higher. Also, because of these perceived higher returns, Q1 2025 was the highest quarter since at least 2021 for net foreign buying of long-term (>10 years) Japanese bonds. In the United States and the Euro area, foreign ownership has generally declined since 2015, but foreign investors remain the largest investor category.

Reflecting differences in market structure as well as regulation, the level of ownership by financial institutions differs substantially between regions (Figure 3.5). Insurance companies play a larger role in Japan, whilst banks and other MFIs remain more prominent in the Euro area. The importance of investment funds, especially MMFs, is a particular characteristic in the United States (Figure 3.5, Panel A). Domestic pension funds account for a small share of direct holdings in the United States and the Euro area. Despite holding 8% of the market in Japan, the share of pension funds in the region remains lower than the one in 2007.

Figure 3.5. The investor base of major bond markets by region

Foreign investors are the largest holders in the United States and Euro area, but in Japan it's the central bank



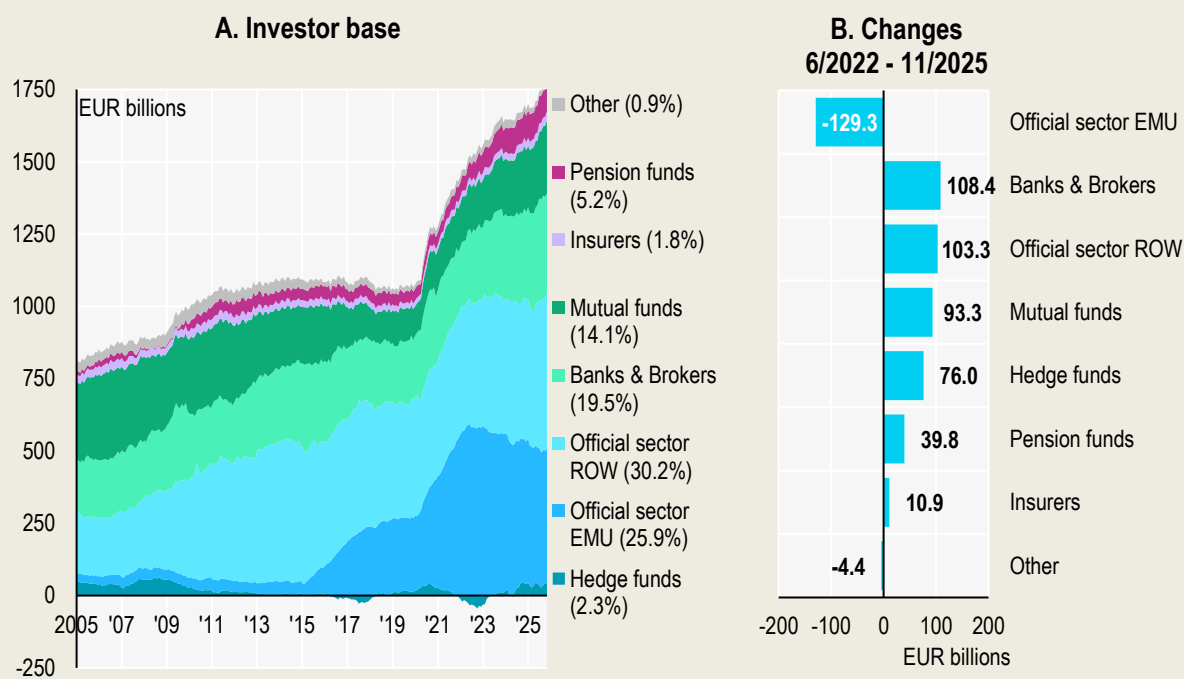
Note: Values as of Q2 2025 for Euro area and Q3 2025 for the United States and Japan. Complete data on Euro area bonds are available from 2015 to 2025. Household data refer to Households and NPISHs. US household data are computed as a residual category. US households' holdings of government bonds have been adjusted for estimated hedge funds' holdings as explained in Annex 3.A. US data on households' corporate bond holdings have not been adjusted. Data on corporate bonds refers to both financial and non-financial corporate bonds. Intra-Euro area holdings are considered domestic. Data on Euro area central bank's holdings refers to all national central banks of the Eurosystem.

Source: Bank of Japan; European Central Bank; US Federal Reserve; and OECD calculations.

Box 3.2. The investor base of German Government bonds

Investor base data usually lacks information on the composition of foreign holdings. As this sector consists of heterogeneous actors that play an important role, a more granular breakdown can provide valuable insights. The German DMO maintains a data set covering investors at a granular level, irrespective of their location. The data set is based on transaction-level secondary market data as well as data from bond auctions and syndications. The respective estimates, however, have certain limitations. In particular, banks' holdings are likely overstated by construction, while the shares of other sectors are correspondingly understated (see methodological notes below). Figure 3.6, Panel A provides monthly data on the estimated holding structure of German federal government bonds.

Figure 3.6. Estimated investor base of German federal government bonds



Note: Notional value. Sectoral share as of 11/2025 in brackets. EMU = European Monetary Union, ROW = rest of the world. The estimated holdings are based on transactions reported by the financial institutions participating at German federal bond auctions. These transactions presumably represent most of the total trading in the market. There exists, however, an unknown number of transactions which are not reported. All issued bonds which are not reported as being sold to other market participants are assumed to be held by the category "Banks & Brokers". This likely leads to their share being overstated. Additionally, the underlying data set begins in 01/2005. In the estimation it is assumed that the initial holding structure is proportional to the sectoral net purchases from 01/2005 to 01/2008. Lastly, a significant amount of the bonds is held by the debt management office itself. This share is excluded from the analysis.

Source: German Finance Agency.

The most noticeable observation is the large share held by official sector institutions, both within the European Monetary Union (EMU) and in the rest of the world (ROW). The EMU holdings are predominantly driven by the bond purchase programmes of the Eurosystem's central banks. Holdings of the foreign official sector presumably consist primarily of central banks' currency reserves. Both these sectors can be regarded as being less yield sensitive.¹ Due to the ECB's asset purchase programmes, the two sectors reached a combined share of about 70% of the outstanding amount of German Government bonds in mid-2022. Combined with the holdings of other buy-and-hold investors,

this implies a low free float and depressed yields due to a scarcity premium (Paret and Weber, 2019^[24]).²

While the hedge funds' share of holdings has been low on average, the respective time series shows a remarkable pattern that correlates with the valuation of German Government bonds relative to other financial instruments. In particular, due to short selling, estimated aggregate hedge fund holdings turned negative in 2016-2018 and again in 2022-2023. These two periods coincided with German Government bonds being expensive according to several measures, such as bond-swap spreads, yield spreads relative to other issuers in the Euro area, and rates on repurchase operations (repo) using German Government bonds as collateral. This indicates that hedge funds act as an absorber of the scarcity-inducing demand by price-insensitive investors, providing additional supply to the market by short selling.

The combination of QT by the ECB and the record amounts of additional supply of German Government bonds implies that the remaining sectors have absorbed an estimated EUR 430 billion of issuance since mid-2022. Figure 3.6, Panel B depicts the absolute changes of the estimated sectoral holdings from June 2022 to November 2025. While banks and mutual funds accounted for almost half of the increase, the shares of the remaining sectors also grew significantly. Though being lower in absolute values, pension funds increased their estimated holdings by about 74% and insurance companies by 52%. Hedge funds' holdings grew from slightly negative values to about EUR 40 billion. Overall, it can be concluded that the additional supply of German Government bonds has been absorbed fairly broadly across sectors, albeit with an increasing role for more price-sensitive investors.

Notes:

1. These less price-sensitive official sectors are, however, not homogeneous. Eurosystem purchases are policy-driven, while currency reserve managers as well as public pension funds and sovereign wealth funds are likely price-sensitive to some degree.

2. It should be noted that the scarcity of bonds is not solely determined by the holding structure but also by the availability of securities lending and repo. Additionally, security-specific scarcity and repo specialness can occur even when aggregate collateral is ample, due to idiosyncratic demand surges and intermediation frictions.

Source: Paret, Anne-Charlotte and Weber, Anke (2019^[24]): "German Bond Yields and Debt Supply: Is there a "Bund Premium"?", International Monetary Fund, Working Paper 235.

Novel international data on pension funds' debt security holdings

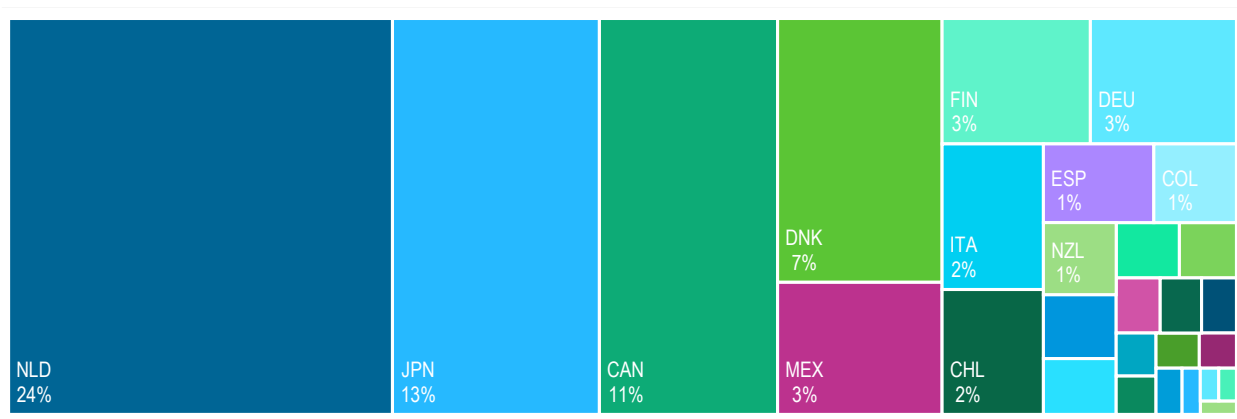
Notwithstanding a reduction in relative domestic ownership shares over time, pension funds remain important players in global fixed income markets, both domestically and internationally. Structural changes in national pension systems, notably the tendency to move from DB to DC models (Box 3.4), reverberate throughout global bond markets and have substantial impacts on relative demand between sovereign and corporate debt as well as between shorter and longer duration.

To complement official statistics and obtain more granular information on the composition of pension funds' debt security holdings and their evolution over the past five years, the OECD conducted a survey targeting pension fund supervisory authorities across OECD countries. The survey includes data on total pension fund assets and more detailed information, specifically on the composition of their debt investments, than is available in national accounts.

A total of 33 countries responded to the survey. Twenty-three are from Europe, five from Latin America, three from Asia, one from North America (Canada), and one from Oceania (New Zealand). The survey highlights significant differences in the size of the pension sector across countries, with just three countries (Canada, Japan and the Netherlands) accounting for almost half of total fund assets in the sample in 2024, and the top six countries representing 60% (Figure 3.7).

Figure 3.7. Distribution of pension funds' assets across respondent countries

Pension assets are distributed unevenly across geographies, and the size is not always linked to the size of a country's economy or population

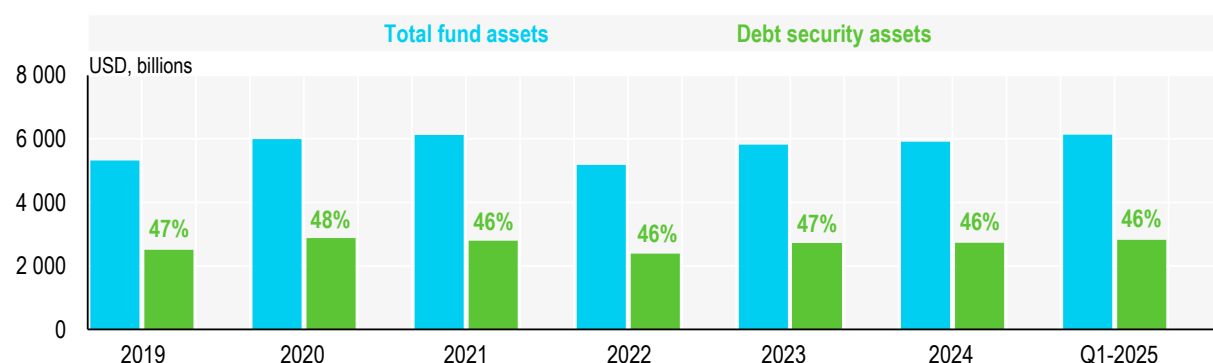


Note: The figure shows the weight of each country based on the value of its pension funds' total assets (in USD) at the end of 2024.
Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

The aggregate asset value of pension funds covered by the survey responses ranged between USD 5.2 trillion and USD 6.1 trillion from the end of 2019 to March 2025, with the highest value recorded in 2021 (Figure 3.8). Notably, in 2022, total fund assets decreased by 15% relative to 2021, but this decline was followed by a gradual recovery in subsequent years. Despite these fluctuations in total assets, the share allocated to debt securities has remained very stable at around 47% over the years analysed.

Figure 3.8. Total pension fund assets and debt security holdings

Debt securities make up roughly half of pension fund assets, a share that has been constant since before 2020



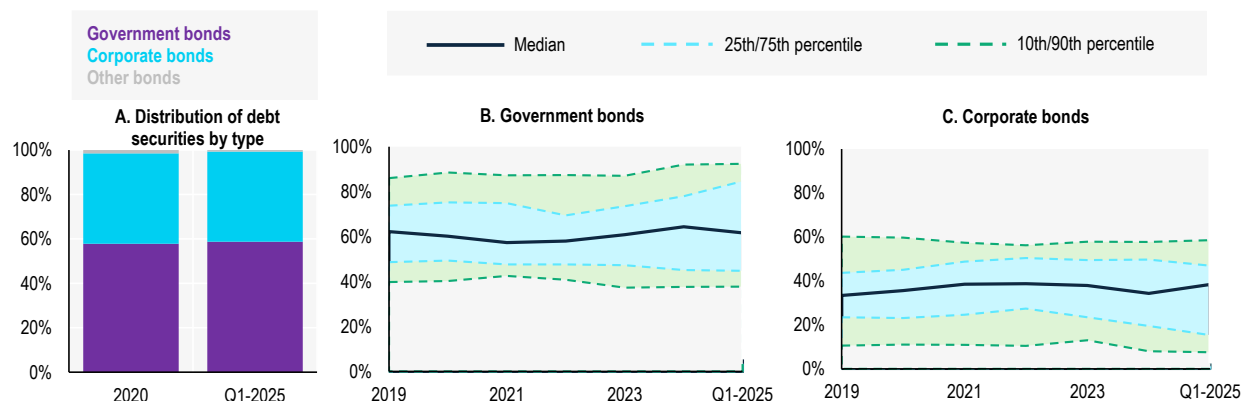
Note: Only includes countries that reported data for all years.
Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

Similarly, the distribution of total debt assets by bond type has remained largely stable, with central government bonds accounting for just under 60%, corporate bonds around 40%, and other types of bonds (such as municipal bonds) making up the remaining 1-2% since 2019 (Figure 3.9, Panel A). At the country level, the median allocation to each bond type has also remained relatively stable over the period, with government bonds ranging between 57% and 64% and corporate bonds between 33% and 39%. There was, however, a slight decrease in government bonds and a corresponding increase in corporate bonds

in the first quarter of 2025 (Figure 3.9, Panel B). Notably, over the past two years, portfolio allocation strategies have become increasingly diverse across countries, as reflected by the greater variation in the distribution, particularly within the interquartile range.

Figure 3.9. Distribution of pension funds' debt holdings by type

There was a slight shift in the distribution of pension funds' debt security holdings towards corporate debt in 2025

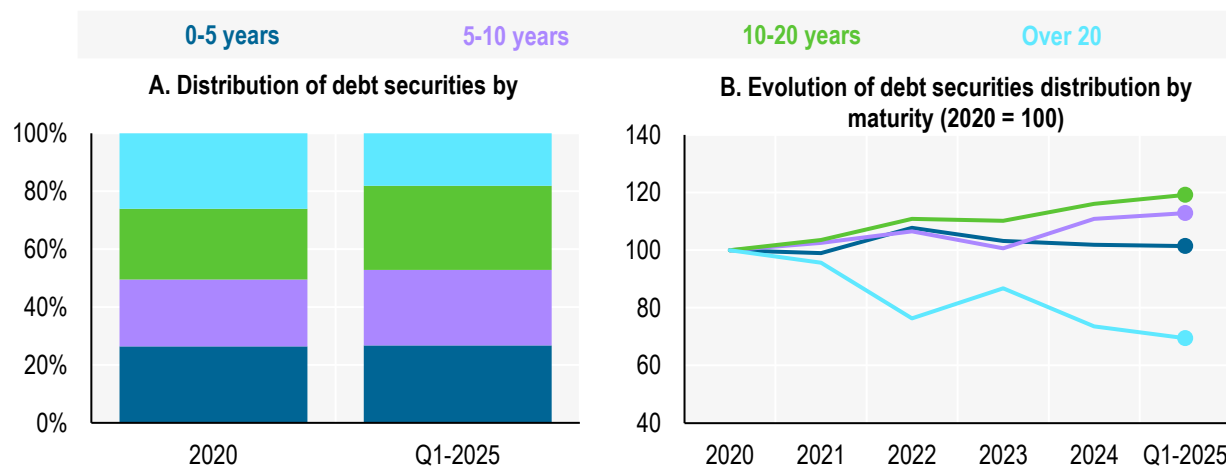


Note: Panel A shows the distribution of all respondents' aggregated debt assets by type. Countries that reported only one type of bond holdings (either government or corporate) are excluded. Panel B shows the percentiles of the distribution across respondents (i.e. reporting authorities). Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

There is a clear trend towards shorter maturities, particularly a shift from securities with maturities over 20 years to those between 5 and 20 years (Figure 3.10). This is partly a reflection of structural changes in pension systems as the gradual transition from DB to DC schemes reduces the need for asset-liability matching and consequent demand for very long-duration securities (Box 3.4). In addition, demographic changes, notably ageing populations, have increased the need for greater liquidity to meet near-term benefit payments as people retire.

Figure 3.10. Distribution of pension funds' debt holdings by maturity brackets

Pension funds have skewed their holdings towards shorter-dated debt as interest rates have increased



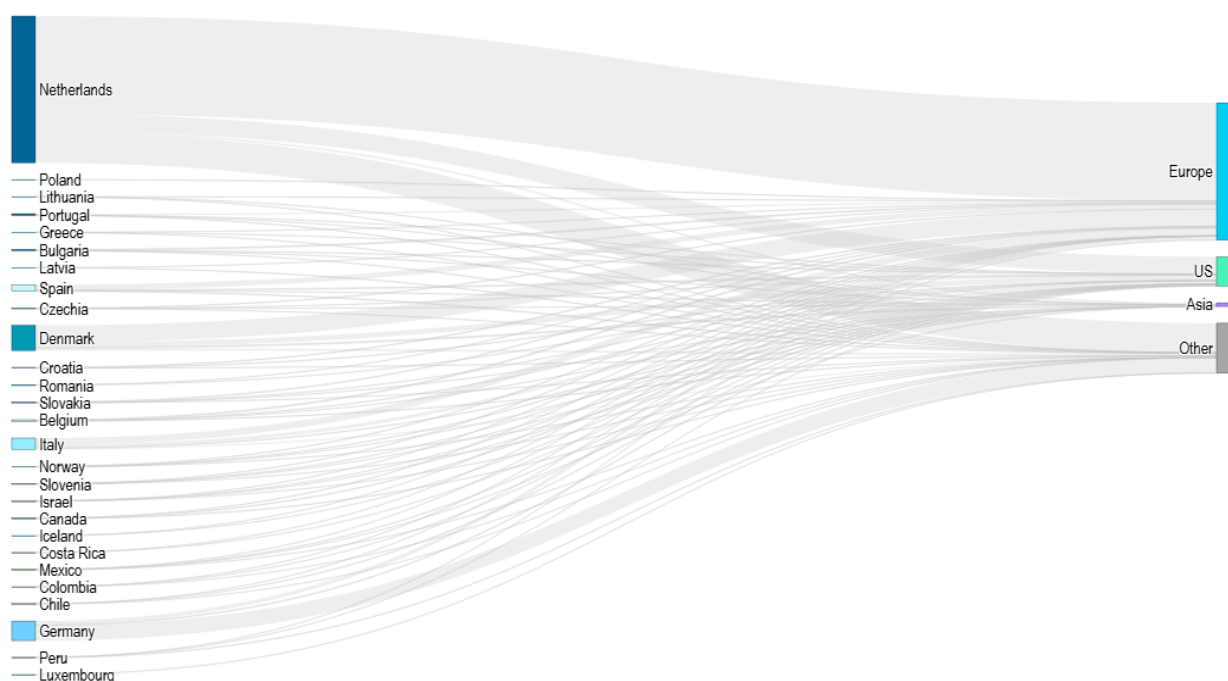
Note: Refers to remaining maturities. Securities with maturities of less than one year only include government bonds. Countries without a reported maturity breakdown are excluded. Panel A shows the distribution of all respondents' aggregated debt assets by portfolio maturity. Panel B illustrates the evolution of each shares in the overall total since 2020.

Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

Pension funds hold a significant portion of their debt portfolios in foreign securities. On aggregate, foreign debt assets accounted for roughly 60% of total debt security holdings between 2020 and Q1 2025. In 2024, within the total foreign debt portfolio, 62% was invested in Europe, 13% in the United States, and 2% in Asia (Figure 3.11). This distribution is strongly influenced by the sample composition, as most respondents are European and the Netherlands alone accounts for 59% of total foreign holdings in Europe. A comparison of the distribution of aggregate holdings by investment area between 2020 and 2024 shows that it has remained largely stable.

Figure 3.11. Pension funds' foreign debt security investments in 2024

Foreign debt securities account for roughly 60% of total debt security holdings



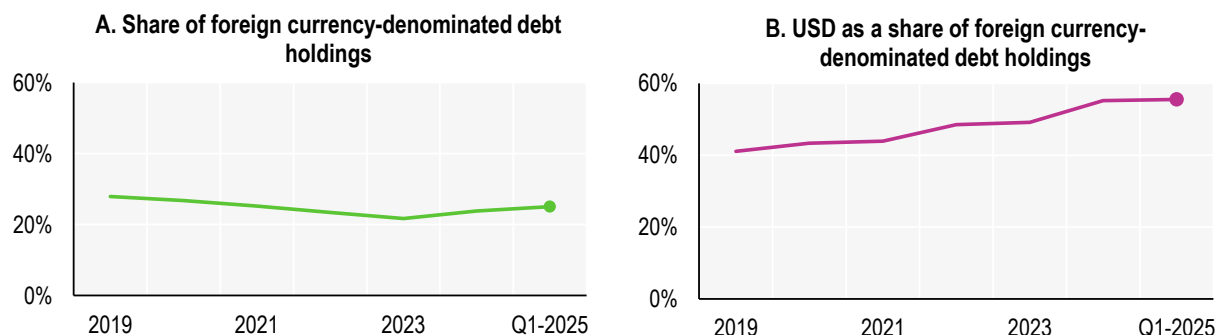
Note: The figure shows countries' foreign debt securities by investment area in 2024. Total foreign debt security holdings amount to USD 1.2 trillion. Only countries and regions explicitly reported by respondents are included; any residual, representing potential differences between total foreign holdings reported and the sum of country-level breakdowns, has been excluded. The "Other" category includes entries reported as "other" by respondents, groups of countries spanning multiple regions, and non-country issuers, such as supranational entities.

Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

The currency composition of debt holdings reflects the exposure to exchange rate risk. On aggregate, the share of foreign currency debt securities has remained relatively stable at around 25%, with a slight increase observed since 2023 (Figure 3.12, Panel A). Within these holdings, the US dollar dominates, and the share of USD-denominated holdings has shown an upward trend since 2019, reaching 54% by the end of the first quarter of 2025 (Figure 3.12, Panel B).

Figure 3.12. Pension funds' foreign currency denominated debt holdings

The share of foreign currency holdings denominated in US dollar securities increased substantially from 2019-2025



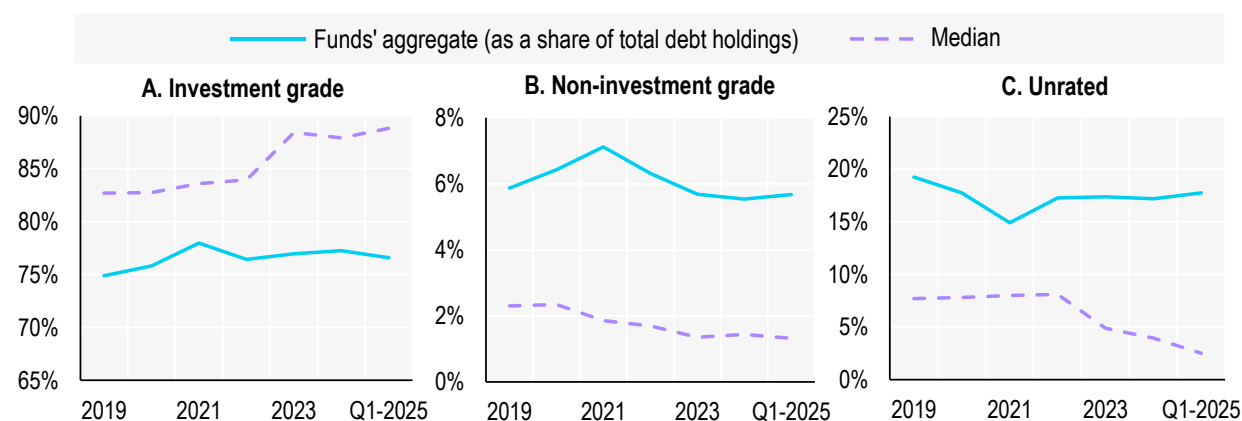
Note: Countries that did not report currency breakdowns are excluded. Panel A shows the share of respondents' aggregated debt assets that is denominated in a foreign currency. Panel B shows the share of respondents' aggregated foreign currency-denominated debt assets that is denominated in USD.

Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

The aggregate credit rating composition of pension fund debt holdings has remained relatively stable over the last five years, with investment grade bonds accounting for around three-quarters, non-investment grade bonds around 6-7%, and unrated bonds between 15-19% (Figure 3.13). However, a country-level analysis shows a different picture: the median share of investment grade bonds has steadily increased, while the median shares of non-investment grade and unrated bonds have declined accordingly. This suggests that pension funds in countries with smaller pension sectors have increasingly shifted towards more conservative allocations.

Figure 3.13. Distribution of pension fund holdings by credit rating category

The median country's credit risk exposure has decreased since the tightening cycle began in 2022



Note: The median corresponds to the distribution across respondents (i.e. reporting authorities).

Source: OECD Questionnaire on Pension Funds' Debt Security Allocations (2025).

Drivers of changes in the investor base

The following section presents the key drivers of changes in the investor base. These include the role of issuance, unconventional monetary policy, and the regulation of certain holding sectors.

The effects of bond supply and asset purchase programmes on the investor base

The gross supply of both government and corporate bonds is determined by the financing needs and issuance decisions of the respective entities. As laid out at the beginning of this chapter, more price-sensitive investors will – all else being equal – adjust their holdings more markedly in response to a change in yields. Supply is a determining factor for yields; therefore, changes in the supply of bonds can change the holding structure due to the differing yield sensitivities of the holding sectors.

Bond issuance by central governments and corporates are currently at historically high levels and expected to continue growing (see Chapters 1 and 2). OECD central governments issued USD 17 trillion in 2025 and issuance is projected to reach USD 18 trillion in 2026. Corporates issued USD 6.8 trillion in 2025. This is happening in a context where central banks have withdrawn their long-standing support for markets through asset-purchase programmes, leaving a greater net supply of bonds to be absorbed by markets.

Central bank holdings of government and corporate bonds increased by an annual compounded growth rate of 11% between 2007 and 2021 in USD terms. Holdings then decreased by almost 20% over the next three years but remained stable in 2025, mainly because of US dollar depreciation. Government bonds continue to account for the vast majority of central bank bond holdings (Figure 3.14, Panel A).

Central banks are price-insensitive bond holders whose buying and selling decisions are dictated by their policy objectives (Figure 3.14, Panel B). Between 2015 and 2019, central banks' holdings increased in the Euro area and in Japan, while declining in the United States. This divergence resulted from different growth and inflation dynamics. Holdings increased sharply in all three cases in response to the COVID-19 pandemic. In 2020 alone, Fed holdings doubled, while the ECB's jumped by almost 50%.

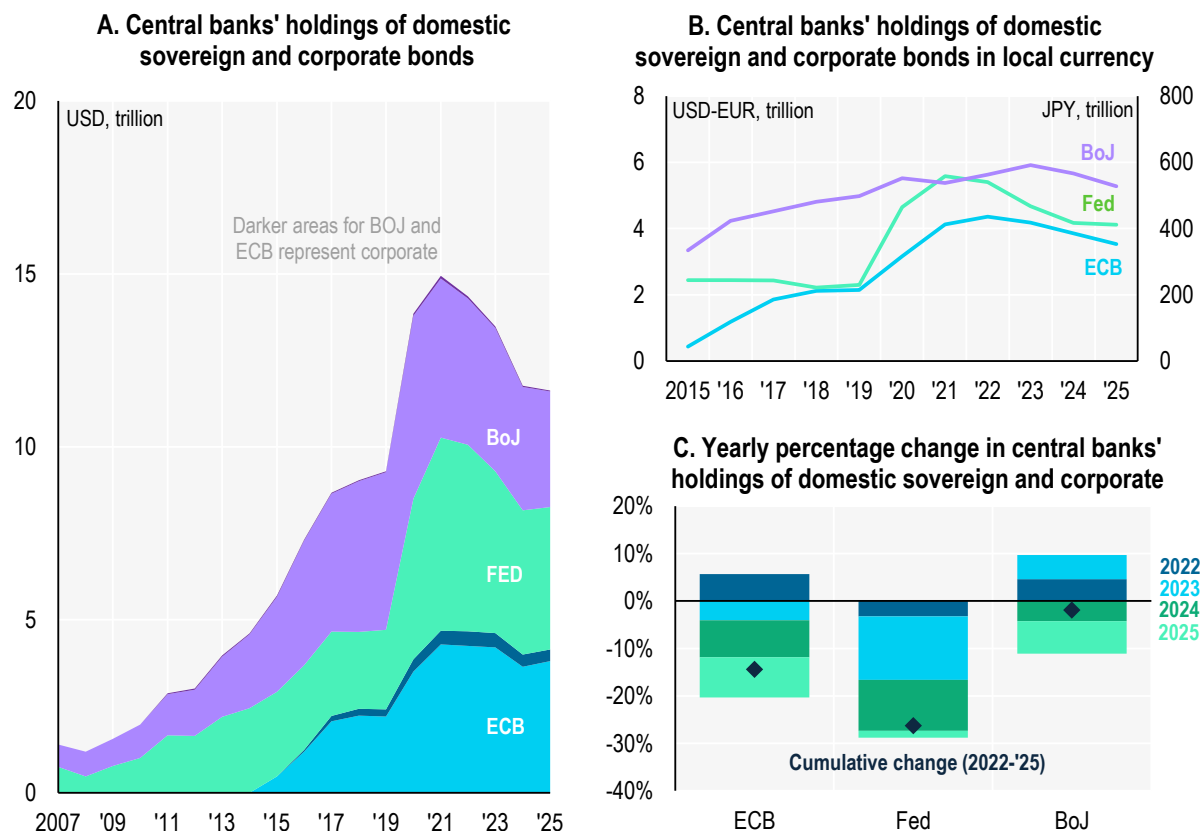
QT policies further illustrate the price-insensitive behaviour of central banks (Figure 3.14, Panel C). The Fed began reducing its holdings in 2022 to counter high inflation. It set a monthly cap on the volume of securities that it would let mature and roll off its balance sheet without reinvestment, first at USD 30 billion, then at USD 60 billion until June 2024, when the cap was lowered to USD 25 billion. In 2025, concerns over conditions in money markets contributed to the decisions to lower the cap further to USD 5 billion in March and end QT altogether in December (Fed, 2025^[25]). This resulted in almost unchanged holdings during the year. The BoJ began reducing its holdings of government bonds in 2024 amid an improving macroeconomic environment by decreasing its monthly outright purchases by JPY 400 billion each quarter. In mid-2025, to balance market functioning and financial stability, the BoJ decided to slow the reduction in its purchases to JPY 200 billion each quarter from April 2026 (Bank of Japan, 2025^[26]). The ECB, meanwhile, began reducing its bond holdings by decreasing its APP reinvestments in March 2023 and ending them altogether in July 2023. Then, in the second half of 2024, it started winding down the PEPP and stopped reinvesting altogether by the end of 2024.

Due to the magnitude of central banks' balance sheets, their decisions to enter or withdraw from bond markets can have repercussions for the functioning of those markets beyond the intended monetary policy objective, including market liquidity and pricing. In the Euro area, for example, QE created a scarcity of government bonds that caused market frictions, ultimately resulting in significant price differences between functionally equivalent assets (Pelizzon, Subrahmanyam and Tomio, 2025^[27]).

Central banks' entry into a market can also impact the composition of the non-central bank investor base. The distribution of central bank counterparties (i.e. the selling investors) during QE was not proportional to the pre-QE investor base, meaning QE disproportionately displaced certain investor types, notably foreign investors. In global government bond markets, foreign investors and banks saw their shares fall the most during the 2015-2021 phases of QE (Figure 3.3), while the corporate bond market in the Euro area saw an increase in holdings from within the Eurosystem during QE, which was offset in full by a relative decrease in foreign holdings (OECD, 2025^[1]). Which investors central banks replace during QE also has consequences for the impact of their subsequent withdrawal from bond markets through QT.

Figure 3.14. Central banks' holdings of domestic government and corporate bonds

Central banks have decreased their bond holdings since the 2021 peak through QT



Note: ECB data refer to bonds held via APP and PEPP. Data on corporate bonds refer to both financial and non-financial corporate bonds.

Source: Bank of Japan; European Central Bank; US Federal Reserve; 2023, and 2025 OECD Survey on Liquidity in Government Bond Secondary Markets; and OECD calculations.

There appears to be an asymmetry in the effects of QE and QT. In the short term, certain investor types are much more prone to absorb excess supply than others. This follows from differences in yield sensitivities, in turn stemming from differences in investment strategies and liability structures. Bond market investors can broadly be thought of either as long-term holders (e.g. pension funds and insurance companies) or liquidity traders (e.g. hedge funds and proprietary trading firms). The former group has a fundamentally larger risk-taking capacity, given its liability structures, but faces higher costs for adjusting its portfolios, whereas the reverse is true for the latter group. This means liquidity investors are more likely to buy new bonds coming to market to offset central banks' withdrawal. However, their lower risk-taking capacity means they command higher risk premia, which results in an overshooting effect during a positive bond supply shock (i.e. QT), where short-term prices fall by more and volatility is higher than the equivalent reverse movements during a negative supply shock (e.g. QE) (Jiang and Sun, 2024^[28]).

At the same time, on a macro level, evidence from the QT episode globally since 2022 suggests the impact has so far been significantly smaller than QE in reverse (Du, Forbes and Luzzetti, 2024^[29]). Similarly, there is extensive evidence that QE in the US Government bond market had spillovers both internationally and to corporate bond markets (OECD, 2024^[30]), but estimates suggest that the price impact on broader fixed income markets of QT in US Treasury markets has been minimal (Wright, 2022^[31]).

The impact of regulations on demand and market structure

Regulation can also be a key driver of changes in the investor base. Certain regulations can be beneficial to issuers. For example, the zero-risk-weighting applied to sovereign bonds held by banks when computing their capital ratios provides an incentive to hold these over other asset types (Fang, Hardy and Lewis, 2025^[2]). Equally, DB pension funds, which are subject to statutory minimum funding ratios to ensure that future payments can be met, are incentivised to invest in long-term debt securities, particularly government bonds (ECB, 2021^[32]). However, the general direction post- global financial crisis has been to tighten regulations on “traditional” participants in government and corporate bond markets, such as banks, insurance companies, and pension funds.

Banking regulation

Following the global financial crisis, banks’ ability to engage in market-making has become increasingly constrained by stricter regulatory frameworks. Reforms introduced by the Basel Committee on Banking Supervision and the Dodd-Frank Act in the United States imposed higher capital and liquidity requirements, as well as restrictions on proprietary trading. Basel II.5, introduced in 2010, required banks to hold more capital against the risks of trading activities, including corporate bonds, increasing the cost of holding these assets (Adrian, Boyarchenko and Shachar, 2017^[33]). Basel III, which represented a comprehensive overhaul of the prudential framework, raised both the quality and quantity of regulatory capital required to back risky assets. In addition, the introduction of the leverage ratio (typically 3%, but currently 5% for systemically important banks in the United States), which is calculated as a measure of capital relative to total exposures, including both on- and off-balance sheet items, also created a disincentive for banks to participate in market-making activities (Adrian, Boyarchenko and Shachar, 2017^[33]).

Moreover, the framework introduced new liquidity standards to ensure that banks could meet both their short- and long-term funding needs. The treatment of corporate bonds under risk-weighting rules further reduced banks’ incentives to hold such assets. For instance, the Liquidity Coverage Ratio aims to ensure that banks have a 30-day supply of cash and HQLAs to account for possible stressed scenarios (Morgan Stanley, 2018^[34]). However, corporate bonds face a 15% haircut in the HQLA calculation, meaning that only 85% of their market value is accounted for in this measure.

In the United States, the Volcker Rule, introduced as part of the Dodd-Frank Act, also impacted banks’ behaviour by prohibiting proprietary trading. Proprietary trading differs from market-making in that the former involves banks using their own capital to profit from price movements, whereas the latter focusses on providing market liquidity and meeting client trading needs. Although market-making activities are exempt from the Volcker Rule, the regulation has still discouraged banks from holding large inventories of assets that are difficult to liquidate, such as corporate bonds, as maintaining large positions could raise regulatory scrutiny (Maureen and Zhou, 2025^[35]).

These regulatory constraints have ushered in a shift in the creditor landscape, driving the growth of non-bank financing institutions (NBFIs), notably investment funds, which now account for roughly half of global financial assets (FSB, 2024^[36]; OECD, 2024^[30]). Combined with technological developments and the rise of electronic trading (see Chapter 2 of this report), they have also contributed to a transformation in the functioning of secondary bond markets. Banks’ traditional role as the primary source of liquidity is gradually shifting towards automated, transaction-based market-making. As a result, corporate bond liquidity is now provided in a more fragmented manner, and banks have fewer incentives to hold inventories of corporate bonds on their balance sheets than in the past. Meanwhile, in government bond markets, hedge funds, which are not subject to the same regulations as banks, have become the marginal providers of liquidity, often accounting for a majority of secondary market trading volumes (Box 3.3).

Changes to the enhanced supplementary leverage ratio (eSLR) in the United States could provide more capacity for many of the world’s largest banks to engage in low-risk activities such as intermediation in

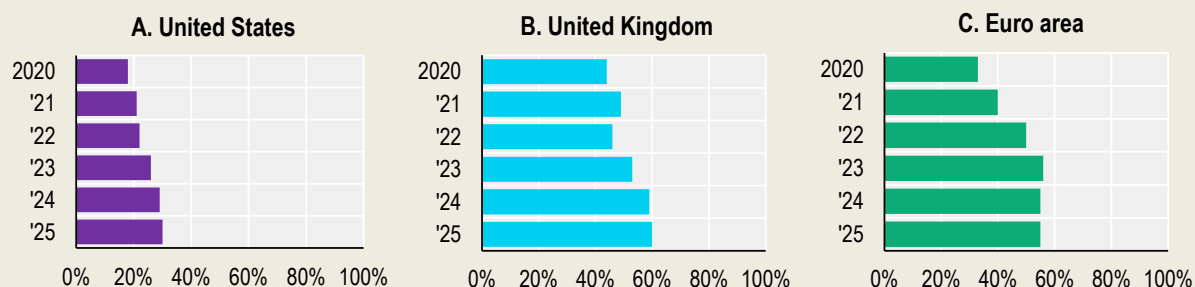
US Treasuries and repo financing. The rule change would lower the requirement on Global Systemically Important Banks (G-SIBs) and their subsidiaries by replacing the 2% buffer (which sits on top of the 3% minimum supplementary leverage ratio) with a buffer equal to 50% of each G-SIB's Method-1 risk surcharge, capped at 1% for subsidiaries.⁵ This is expected to free up roughly USD 13 billion in Tier-1 capital at the holding company level and approximately USD 219 billion at major bank subsidiaries (FDIC, 2025^[37]). The change alone will not necessarily encourage banks to buy Treasuries on a large scale, but the reform should be, all things being equal, liquidity-enhancing for the US Treasury market.

Box 3.3. The growing role of hedge funds in sovereign bond markets

One of the consequences of the post-global financial crisis banking regulations has been an increase in the costs associated with conducting primary dealer activities. Due to increased capital requirements and tighter regulations, banks have scaled down both their warehousing function and proprietary trading activities. Equally, because of balance sheet constraints, banks' trading desks are less flexible in digesting large supply and demand imbalances of government bonds (BIS, 2014^[38]). In recent years, hedge funds have increasingly filled the gap left by banks, profiting from small price discrepancies by using leveraged trades. While banks reduced their direct engagement in government bond markets, they enable hedge fund activities by providing leverage through repurchase operations (repo).

In many jurisdictions, hedge funds, which are subject to different regulatory regimes, have become the marginal providers of liquidity. By early 2025, they accounted for nearly a third of secondary market trading volumes in US Treasuries (Figure 3.15, Panel A) and the majority in sovereign bond markets in the United Kingdom and the Euro area (Figure 3.15, Panels B and C) on the trading platform Tradeweb.

Figure 3.15. Hedge fund activity in sovereign bond secondary markets: notional percentage volumes traded on Tradeweb



Note: Data as of February 2025.

Source: Tradeweb via Stefan Goghie (2025^[39]), Hedge funds and government bond markets: Why is there a love story? <https://goghieas.substack.com/p/hedge-funds-and-government-bond-markets>.

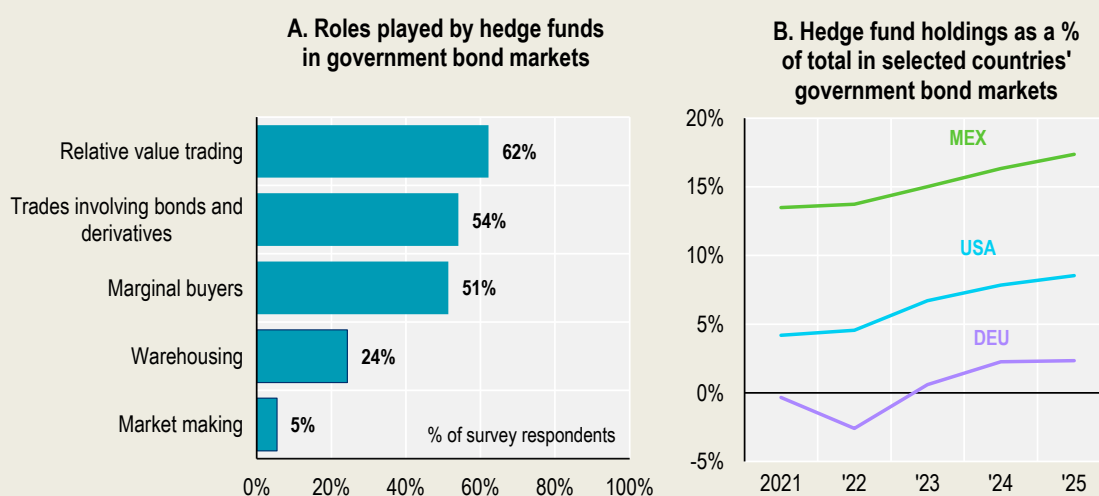
DMOs have also reported a growing role for “other market participants” in activities like relative-value (RV) trading or warehousing of bonds. Eleven OECD DMOs have observed this in the last 12 months, with Belgium, Finland, Lithuania and Spain recognising hedge funds specifically as playing a bigger role. In Japan, hedge funds were reportedly increasingly entering the JGB market due to various factors, including the steepening of the yield curve. In the Netherlands, hedge funds are seen as being more active since the end of the ECB's QE programme in 2023. Meanwhile, more than 60% of surveyed DMOs reported hedge funds engaging in RV trading (Figure 3.16, Panel A), a role traditionally undertaken by banks.

In addition to supporting secondary market liquidity, many DMOs have also reported that hedge funds provide a direct source of demand, supporting supply events. Belgium reported that hedge funds buy roughly 40% of the supply on auction days. At Canadian Government bond auctions, hedge fund bidding has strongly increased in recent years. The share of hedge fund bids relative to total bids increased from single-digit percentages in 2010-2015 to an average share of about 30% in recent years, at relatively competitive levels, resulting in allocations of above 40% (Epp and Gao, 2025^[6]). In Germany, where hedge funds cannot directly participate at auctions, they have become the largest net buyer of auctioned securities in the secondary market on auction days (Branger, Muck and Pütz, 2024^[40]).

Further, more than half of surveyed OECD DMOs reported that hedge funds have been marginal buyers of their bonds in the last 12 months (Figure 3.16, Panel A). This means that as the net supply of bonds to the market has increased, they have increased their purchases by a greater proportion. Italy saw hedge funds become marginal buyers for the first time during that period. In total, 11 DMOs reported either moderate or significant inflows from hedge funds into their bond markets in the last 12 months, with only one reporting net outflows.

Measuring the precise holdings by hedge funds is challenging due to their domicile, holding structures, and more general difficulties in identifying the beneficial holders of bonds. Most DMOs do not have access to the necessary data and instead rely on feedback from market participants. On this basis, Canada estimates that hedge funds were allocated around 40% of its bond issuance in 2025. Where this data is collected and been shared with the OECD, the trend is clear since 2022. The approximate share of hedge fund holdings of Mexican Government bonds has risen from 14% in 2022 to 17% in 2025. In the US, their share has almost doubled from 5% to 9% over the same period, whilst in Germany, hedge fund net holdings have risen from -3% (due to short selling) to 2% over the same period (Figure 3.16, Panel B).

Figure 3.16. Hedge funds' roles and holdings in OECD government bond markets



Note: Panel A is based on responses by 37 DMOs. In Panel B, the data for Germany shows net holdings, which are negative in 2022 due to short selling.

Source: 2025 OECD survey on secondary market liquidity in government bond markets; Deutsche Finanzagentur; and OECD calculations; BIS (2014^[38]): "Market-making and proprietary trading: industry trends, drivers and policy implications", CGFS Papers No 52, <https://www.bis.org/publ/cgfs52.htm>.

As Box 3.2 shows, hedge funds were net buyers of about EUR 75 billion of German Government bonds between June 2022 and November 2025. Whilst hedge funds are the least likely group to hold bonds

to maturity, they are therefore not likely to become net holders on the same scale as central banks or foreign investors. However, it is clear they are playing a growing, in some cases vital role in providing liquidity, and have become the marginal buyers in many jurisdictions.

The risks from greater reliance on hedge funds are clear: higher failure rates, greater flight risk, and higher refinancing risk on margin or leverage calls; in addition to lower transparency compared to traditional market makers (banks), and end investors (pension and insurance funds); and less comprehensive and homogenous regulatory oversight. Despite this, only one DMO reported that the involvement of hedge funds negatively impacts liquidity in periods of heightened market stress, and none reported a decline in normal circumstances. However, four DMOs reported that hedge funds increase market liquidity in both scenarios.

Insurance company regulation

Capital adequacy frameworks such as the Risk-Based Capital (RBC) system in the United States and the Solvency II framework in Europe have increasingly influenced how insurance companies decide on their bond allocations. These frameworks link required capital to risk exposure, ensuring solvency under stress but also constraining risk-taking. Since the global financial crisis, the tightening of such regulations has created incentives for insurers to limit their exposure to corporate bonds, particularly those with longer maturities or lower credit ratings. Under Solvency II, for instance, assets are valued at market prices, so fluctuations in bond values directly affect the volatility of insurers' balance sheets, discouraging large holdings of corporate bonds. Moreover, insurers must hold capital against spread risk, with charges increasing with bond maturity, which further reduces the attractiveness of long-term bonds. In contrast, EU sovereign bonds are exempt from capital charges, regardless of their rating or maturity (European Commission, 2017^[41]). Similarly, in the United States, US Government bonds are excluded from risk-based capital requirements (NAIC, 2021^[42]).

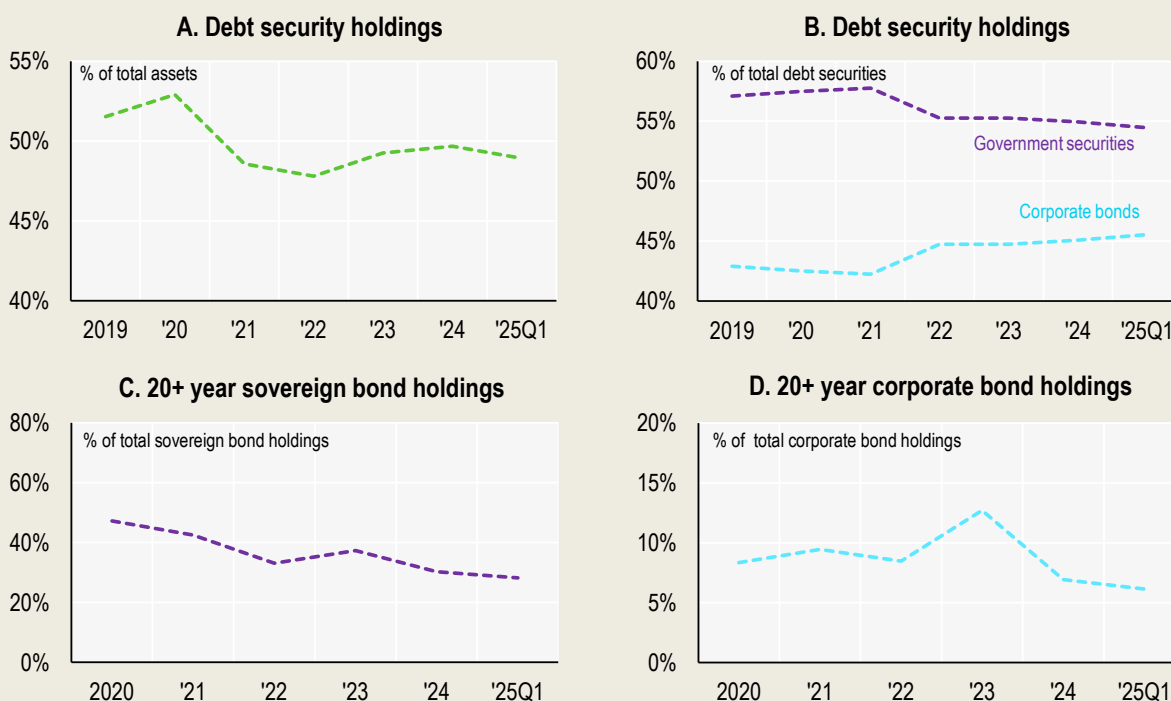
Furthermore, since rating-based capital requirements, such as those under the RBC framework in the United States and Solvency II in Europe, assign different capital charges depending on credit ratings, there is evidence that insurers often avoid bonds near the lower end of the investment-grade spectrum (e.g. BBB) to mitigate the risk of higher capital charges and potential losses in the event of a downgrade to non-investment grade. There is also evidence that increasing regulatory constraints on insurance companies are associated with greater tendencies by the companies to sell downgraded bonds (Ellul, Jotikasthira and Lundblad, 2011^[43]). Within the same capital charge category, however, insurers appear to favour bonds with higher systematic risk (not captured by credit ratings) to enhance expected returns (Murray and Nikolova, 2021^[44]), reflecting the search-for-yield behaviour commonly observed in insurance companies (Becker and Ivashina, 2014^[45]). This could, for example, lead to a concentration of holdings in certain industries.

Box 3.4. The shift from defined benefit to defined contribution pension systems

Pension funds' specific motives for investing in bonds differ significantly depending on whether they operate under a DB or DC structure. DB schemes, similar to life insurance companies, promise a fixed payout to policyholders, which requires them to closely match the duration of their assets and liabilities. They are also subject to statutory minimum funding ratios to ensure that future payments can be met. These factors encourage investment in long-term securities, particularly government bonds (ECB, 2021^[32]). In contrast, DC schemes place the investment and longevity risk on individual policyholders.

Since they have no fixed liability to hedge, these schemes prioritise higher expected returns and typically hold a larger share of equities and investment fund units.

Figure 3.17. Dutch pension funds' holdings of debt securities, and 20+ year bonds



Source: DNB (De Nederlandsche Bank).

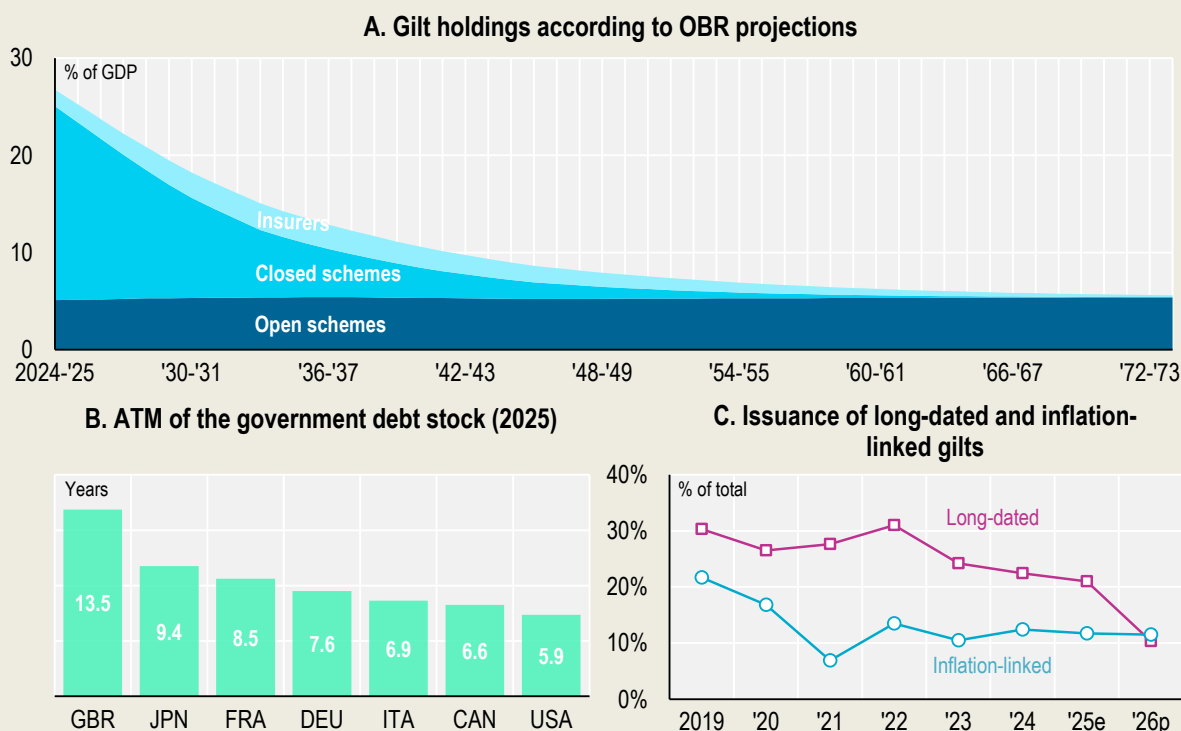
Over recent decades, many pension systems have shifted from DB to DC schemes. This transition has been driven by interrelated factors, including changes in legislation, regulation, and tax policy that made DB plans more complex and costly to administer. Ageing workforces and higher life expectancy have increased DB funding costs, while rising labour mobility has encouraged workers to opt for DC plans, which allow benefits to be transferred or accumulated without penalties. In the United States, the introduction of 401(k) has also accelerated the adoption of DC schemes (Broadbent, Palumbo and Woodman, 2006^[46]).

This gradual transition has clear implications for bond allocations. As the share of DC plans rises, and in the absence of any changes to the regulation of these schemes, aggregate demand for ultra-long bonds is expected to decline, and portfolios are expected to be increasingly weighted towards equities and investment fund shares. There could also be a shift from government to corporate bonds, given the higher yields. Notably, Dutch pension funds, the largest in Europe, began shifting from DB to DC schemes in 2023, a process expected to conclude by 2027. This transition is expected to raise the share of DC schemes in the Euro area from around 17% to 77% (ECB, 2021^[32]), which could significantly influence asset allocation across the region.

The impact of this shift in the holding structure of Dutch pension funds is already beginning to materialise. Allocations by Dutch pension funds to government and corporate debt securities already fell below 50% in 2021 for the first time and are likely to continue to fall (Figure 3.17, Panel A). This is also resulting in a slight shift away from government bonds and towards corporate bonds (Figure 3.17, Panel B).

Equally, as DB schemes close to new members, with many members approaching or reaching retirement and therefore beginning to draw their pensions, remaining demand is moving down the maturity curve. This is already evident in the holding structure: holdings of 20+ year government bonds have declined consistently since 2020 (Figure 3.17, Panel C), and holdings of 20+ year corporate bonds have reached their lowest levels since before the pandemic (Figure 3.17, Panel D). Again, both are expected to decline further.

Figure 3.18. Projections for gilt holdings by DB pensions and the impact on the UK Government's debt issuance strategy



Note: In Panel C, the UK DMO defines long-dated bonds with a maturity of 15 years or more; 2025 data are expectations, and 2026 data are projections.

Source: OECD; Office for Budget Responsibility (OBR); UK DMO.

Also in the United Kingdom, where DB pension schemes have been an important source of demand for long-dated and inflation-linked UK Government bonds, helping the UK to country maintain the longest ATM in its government debt portfolio in the G7 (Figure 3.18, Panel B), the move to DC pensions and the “winding down” of DB pensions has resulted in a significant change in issuance plans, with a far smaller proportion of long-dated and inflation-linked bonds being issued in recent years (Figure 3.18, Panel C). In addition, it is expected that most remaining DB pension schemes will move towards a “buy-out” transaction with an insurance fund. These funds can be slightly more yield sensitive than pension funds and are more likely to consider the attractiveness of bond valuations on a relative or asset swap basis. They are also subject to slightly different regulatory regimes, meaning they tend to gravitate towards higher-yielding assets.

Implications of the changing investor base on market dynamics and issuance strategies

As shown in the previous sections, the level and shape of the yield curve can impact the composition of the investor base. Importantly, this relation runs in both directions. The following section examines how changes in the holding structure feed back into market pricing, liquidity, and volatility, as well as into issuers' behaviour.

The relevance of the investor base for bond valuation

In frictionless financial markets with unconstrained arbitrage, asset prices should only reflect their fundamental value, irrespective of who holds them. The experience of recent decades has, however, provided compelling evidence to the contrary. It is now clear that shifts in the investor base can exert a strong influence on prices. Consequently, bond yields can at times deviate significantly from their fundamental values.

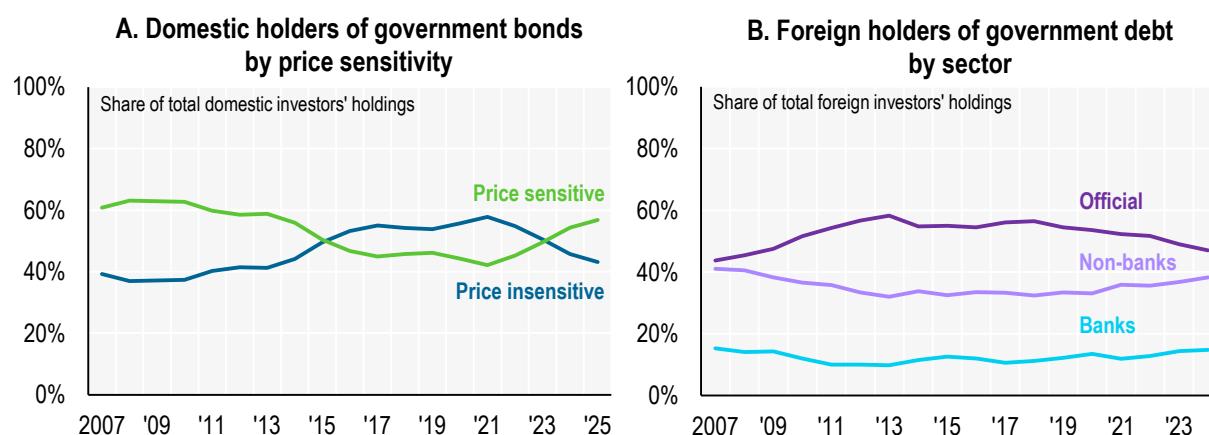
Accordingly, QE programmes aimed to lower yields by reducing the free float of outstanding securities with the precise impact depending on issuance mix, repo market conditions, and demand for safe assets. Empirical evidence confirms that this policy has been successful in influencing asset prices. QE not only reduced yields in the directly affected segments of the yield curve (see e.g. D'Amico and King (2013^[47]), Froemel, Joyce, and Kaminska (2022^[48])), but also caused a downward shift of the entire curve (Eser et al., 2019^[49]). This drove down not just government bond yields but also those of corporate bonds (Krishnamurthy and Vissing-Jorgensen, 2011^[50]). These effects were most pronounced in markets with low levels of bond issuance, as was the case in Euro area countries with relatively low government debt between 2015 and 2020, where bond yields fell significantly below counterfactual estimates. In addition, bond-swap spreads and repo rates indicated scarcity, as price-insensitive investors in need of high-quality collateral and safe assets pushed prices to abnormal levels (Baltzer, Schlepper and Speck, 2025^[51]).⁶

However, monetary policy is not the only factor influencing bond yields. Structural changes in the behaviour of important investor groups can also have significant effects on the shape of yield curves, as illustrated by the following recent examples. One is the migration of Dutch pension funds from DB to DC schemes (see Box 3.4), regarded as one of the main drivers of the steepening of Euro area yield curves over the past year (Bloomberg, 2025^[52]). Another is the pro-cyclical selling of government bonds by liability-driven investors in the United Kingdom in 2022, which was a major factor behind the surge in long-end yields (Pinter, 2023^[53]).

Price-sensitive investors play a crucial role in helping the broader market absorb demand-supply imbalances, thereby smoothing price developments over time and across securities. Consequently, their increasing presence usually reflects pronounced supply increases and/or reduced structural demand by price-insensitive investors. The share of domestic investors classified as price-sensitive in government bonds markedly decreased between 2013 and 2021 (Figure 3.19, Panel A).⁷ With the end of QE and the high issuance of the last years, it has since then increased by around 15 p.p. and now accounts for more than half of domestic absorption. A similar trend can be observed for foreign holders, where the share of the less price-sensitive official sector has markedly decreased since 2018 (Figure 3.19, Panel B).

Figure 3.19. Government debt holders by price sensitivity

More price-sensitive investors now account for a majority of domestic holdings of government bonds, while the share of foreign holders accounted for by non-banks has been rising since 2020



Note: In Panel A, data refer to general government and cover the Euro area, Japan and the United States. Yield insensitive investors refer to the central bank, insurance companies and pension funds. Price-insensitive investors include all other categories. Panel B covers Japan, the United States, and all Euro area countries except Croatia, Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Malta and the Slovak Republic. Data for Panel B are available until 2024.

Source: Panel A: Bank of Japan; European Central Bank; US Federal Reserve; Panel B: International Monetary Fund: Sovereign Debt Investor Base for Advanced Economies.

How the investor base affects liquidity and volatility

One of the key characteristics of government bonds in OECD countries is their high liquidity, which allows market participants to execute large transactions swiftly and at minimal trading cost. As government bond prices largely reflect discounted cash flows, bond market volatility is usually primarily driven by changes in market expectations regarding future monetary policy and risk perception. This differs from corporate bonds, where outstanding amounts of single bond lines are usually much smaller, and trading costs are higher (although this is partially changing – see Chapter 2).

However, the holding structure of bonds can have significant effects on both liquidity and volatility even in large bond market segments. A strong presence of price-insensitive investors – such as central banks, insurance companies, and pension funds – can result in a low free float of bonds readily available for purchase. The resulting scarcity of bonds drives up their prices and increases their bid-ask spreads. In the most extreme events, this can lead to so-called *short squeezes* characterised by a high relative value of the respective instruments and sharply falling repo rates, indicating the high costs of even temporarily borrowing the respective security (Baltzer, Schlepper and Speck, 2025^[51]). In contrast, in corporate bond markets, empirical evidence suggests that central bank purchases can have a liquidity-enhancing effect (Boneva et al., 2022^[54]).

Surges in bond supply, on the other hand, can trigger elevated volatility and increased transaction costs when the capacity of price-sensitive actors, such as banks' trading desks, is constrained. This was particularly evident during the “dash for cash” episode in March 2020, when a broad range of investors sought to liquidate holdings of long-duration instruments. The result was not only a sharp rise in yields but also a pronounced widening of bid-offer spreads, even in the most liquid government bond markets (Barone et al., 2022^[55]).

Rising net supply implies greater reliance on hedge funds, MMFs, and other balance-sheet-constrained intermediaries, increasing sensitivity to repo capacity and funding conditions. Under normal market conditions, the growing presence of hedge funds in bond markets tends to enhance liquidity and smooth price developments. However, it can also amplify market dysfunction, and liquidity can wane when conditions become strained. By nature, hedge funds are lightly regulated and typically operate with high leverage. Unlike market makers, they do not necessarily aim to provide a reliable source of liquidity to their trading partners. Consequently, during periods of turbulence, hedge funds tend to liquidate positions and withdraw from the market precisely when liquidity support is most needed.

A prominent example of such an event was the “Liberation Day” yield spike in April 2025, when hedge funds collectively liquidated positions in US Government bonds against interest rate swaps (Financial Times, 2025^[56]). With the significant share of bonds currently held by leveraged investors, there is an elevated risk that a large-scale unwind of these positions could lead to a sharp and self-reinforcing selloff in bond markets.

In times of market turbulence, central banks can play a backstop function as a *buyer* of last resort by reducing the amount of duration and credit risk the market has to absorb, or as a *market maker* of last resort, easing sudden supply-demand imbalances impairing market functioning (Guttman, 2012^[57]; Kashyap et al., 2025^[58]). While central banks have the technical firepower to address market turbulences by taking the lender of last resort roles, this can be regarded as problematic at least in two aspects. First, the expectation of central bank interventions might create moral hazard among market participants, resulting in higher risk taking. Second, the aim to ensure market functioning can't interfere with the monetary policy mandate of central banks.

Therefore, while the increased presence of highly leveraged, speculative participants might be welcomed in normal times due to their liquidity provision, it also creates risks for market functioning and financial stability during periods of market stress. Future market resilience does not only hinge on investor shares, but even more importantly, on who absorbs marginal supply, under which policy and regulatory constraints, and at what price. Depending on this, absorption capacity is therefore likely becoming more conditional and fragmented.

The interplay between government and corporate bond markets

A key link between the investor base and market pricing is given by the interplay between government and corporate bond markets. As government bonds in most economies serve as pricing benchmarks for corporate bonds, developments in government bond markets have profound implications for corporate markets. One such dynamic in the post-2008 period was lower yields in government bond markets pushing investors into longer-dated government bonds or riskier corporate bonds in search of higher yields. This in turn impacts liquidity and bond valuation.

“Yield chasing” or “reaching for yield” describes the dynamic in which investors increase their exposure to riskier assets to obtain higher yields when general interest rates are low. This can be achieved in the bond market by taking on greater duration risk, credit risk, or capturing illiquidity premia. In the first case, investors purchase longer-term bonds, which typically offer higher yields – driven by the term premium – thereby extending portfolio duration and increasing sensitivity to interest rate movements. Alternatively, they may invest in lower-rated bonds that provide higher credit spreads as compensation for elevated default risk, or less liquid assets.

This behaviour has been documented across a wide range of investor types, including mutual bond funds (Choi and Kronlud, 2017^[59]), commercial banks (Hanson and Stein, 2015^[60]), hedge funds (Czech and Robert-Sklar, 2019^[61]), individual investors (Huang et al., 2025^[62]; Gomes et al., 2023^[63]), insurance companies (Becker and Ivashina, 2014^[45]; Czech and Robert-Sklar, 2019^[61]), MMFs (Maggio and Kacperczyk, 2017^[64]) and pension funds (Andonov, Bauer and Cremers, 2017^[65]). Dealers tend to exhibit

the opposite behaviour though – selling riskier bonds when interest rates are lower – facilitating the “yield chasing” of other investors (Czech and Robert-Sklar, 2019^[61]).

On the international level, there is evidence that foreign investors tend to shift their bond portfolios towards riskier US corporate bonds when interest rates in their home countries decline (Ammer et al., 2018^[66]). A similar shift to riskier US bonds has been found for foreign investment funds in response to US monetary policy tightening, as it raises the currency-hedging costs of holding US dollar assets (Ahmed, Hofmann and Schmitz, 2023^[67]).

The drivers of yield chasing vary by investor type. For individual investors, decisions are mainly influenced by personal preferences and psychological factors, reflecting differences in how people assess the trade-off between risk and return in different interest rate environments (Lian, Ma and Wang, 2018^[68]). Since mutual funds cater to these investors, these same motivations apply to them as well (Choi and Kronlud, 2017^[59]). In contrast, for insurance companies and US public pension funds, reaching for yield often serves as a form of regulatory arbitrage. Insurance companies are subject to capital requirements that depend on the riskiness of their assets, which encourages them to take on additional risk for a given rating (Becker and Ivashina, 2014^[45]).

Public pension funds in the United States, which can set their liability discount rate based on expected asset returns, are motivated to reach for yield to lower the present value of liabilities and present a stronger funding position (Andonov, Bauer and Cremers, 2017^[65]). For banks, accounting rules that require earnings to be reported based on current income from securities incentivise them to pursue reach-for-yield behaviour (Hanson and Stein, 2015^[60]). However, when it comes to increasing duration risk among insurers in a low-rate environment, evidence suggests this may not primarily serve to increase yields, but rather to address the widening asset-liability duration gap that follows from “negative convexity”, i.e. the fact that given a duration mismatch, the value of insurance liabilities rises more than the value of assets when rates fall (Domanski, Shin and Sushko, 2015^[15]).

Especially in times of weak economic activity, reaching for yield can promote economic growth by lowering the financing costs for riskier borrowers and easing overall financial conditions, which is a key purpose of expansionary monetary policy in general and QE in particular. It may, on the other hand, also generate adverse effects on financial stability through mispricing of risk in credit markets and other assets (Becker and Ivashina, 2014^[45]; Choi and Kronlud, 2017^[59]; Chen and Choi, 2022^[69]). Moreover, reaching for yield can have an outsized effect on the long end of the yield curve by disproportionately increasing demand for longer-maturity bonds, thereby compressing long-term yields and flattening the yield curve (Hanson and Stein, 2015^[60]).

The impact of the changing investor base on issuance strategies

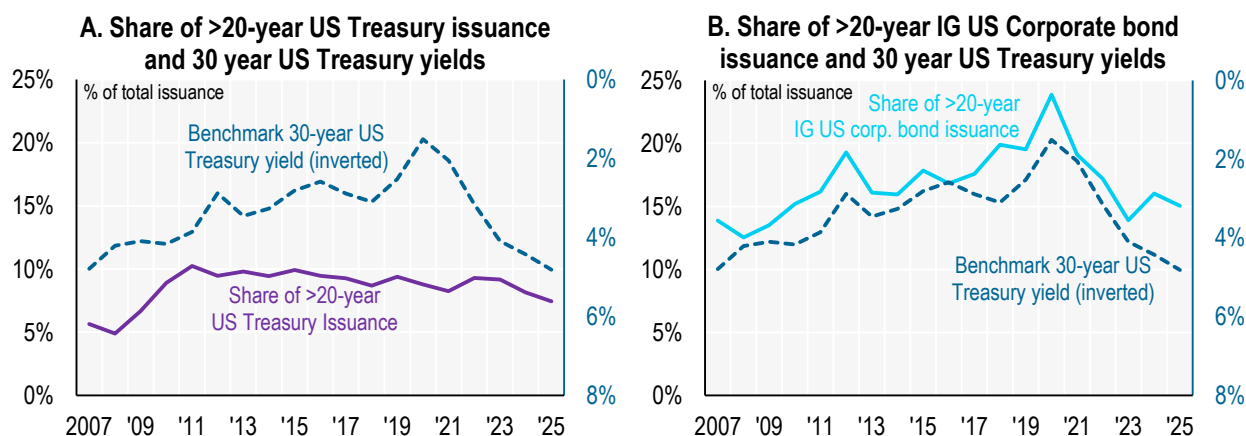
The reduced demand for duration seen in recent years has implications for issuers’ strategies. As discussed in Chapter 1, several government issuers have skewed their issuance plans shorter – issuing a greater share of short and medium-dated bonds, made greater use of syndications, tapped more “off the run” bonds, and made great use of T-bills in response to this changed demand profile.

However, as governments are typically repeat borrowers and look to pursue predictable and transparent issuance plans, whilst looking to support liquidity at all issuance points across their yield curves, these changes are typically incremental. Corporates tend to have more flexibility, not only to change the maturity of issuance but to reduce borrowing in response to higher yields and therefore borrowing costs. The share of issuance of >20-year US Treasuries and >20-year US investment grade corporate bonds, plotted against the benchmark 30-year US Treasury yield shows this (Figure 3.20). This suggests that corporate issuers are more nimble and able to react to changes in long-term yields more quickly than a large government issuer, changing their issuance splits accordingly. This opportunism can have implications for

market signals, though, notably reducing the viability of secondary market spreads as a predictor of primary market spreads (Boyarchenko and Elias, 2024^[70]).

Figure 3.20. Issuance shares of >20-year US Treasuries and >20-year US IG Corporate bonds in response to changing long-term yields

Corporate issuers have been more responsive to changes in long-term bond yields than sovereigns



Source: Bloomberg; LSEG; OECD calculations.

From a debt management perspective, shortening the maturity of issuance increases refinancing and refixing risk. From a market perspective, it concentrates issuance in the typically more liquid parts of the curve (T-bills, 2-year, 5-year and 10-year maturities). Such an issuance profile tends to attract more activity from certain investor types such as MMFs, retail investors, sovereign wealth funds, and bank treasuries who either prefer to buy shorter maturities or have mandates that prevent them from trading beyond a certain point on the curve. In addition, the greater liquidity in these parts of the curve provides more opportunities for arbitrage and RV trades, which are now largely conducted by hedge funds. Hence, it is possible that issuance strategies will help to crystallise the trends observed in investor bases in the future.

Current challenges and outlook

Looking ahead, several factors could impact the investor base for government and corporate bonds. Prime amongst these are the continued shift from DB to DC pension schemes, the persistence of higher yields, particularly at longer maturities, the growing role of hedge funds, evolving geopolitical tensions, and developments in monetary policy. New technologies are also impacting bond markets, and these may reallocate demand or even result in new demand in certain markets (see Box 3.5).

The shift from DB to DC pension schemes will likely mean an overall reduction in demand for bonds in favour of equities and alternative investments by this sector, but also a shift within bond holdings from government to corporate, and from longer to shorter-term. DB pension schemes will remain less prevalent, with the vast majority now closed to new members, whilst their current members are approaching or have reached retirement. With the share of assets in DC plans continuing to rise, the pension sector as a whole may make an allocation shift out of bonds, particularly from lower-yielding government and high-grade corporate bonds (ECB, 2021^[32]).

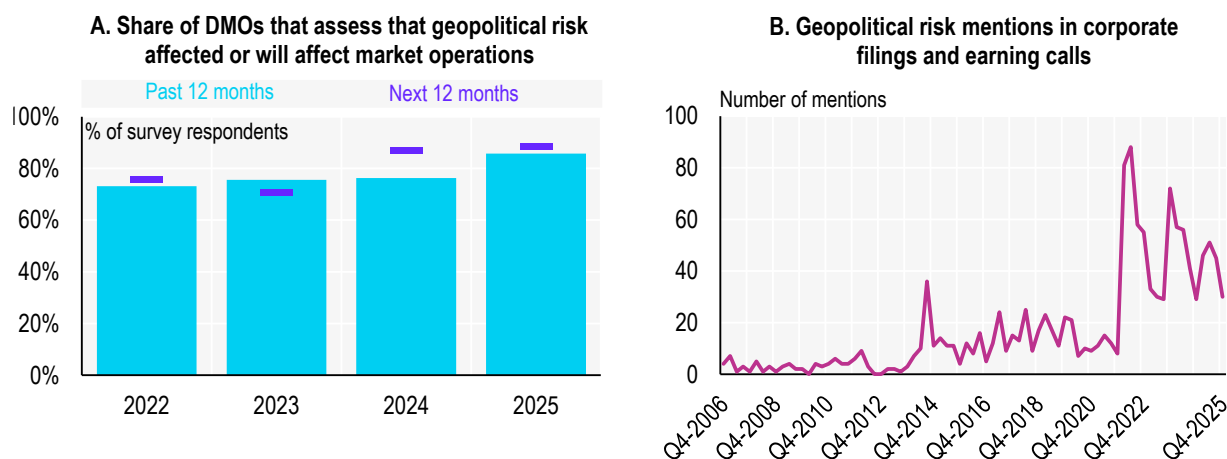
The change in demand associated with this shift is most relevant for some advanced European markets (particularly the Netherlands and the United Kingdom), where DB funds historically provided stable, long-duration demand for government and inflation-linked bonds. In other regions, notably the United States, this transition occurred earlier and is largely already reflected in portfolio structures, while in Japan, the more dominant forces are demographics and institutional design rather than DB-to-DC reform. More importantly, the shift implies less a disappearance of pension demand, and more a change in its nature: from liability-anchored, price-insensitive demand towards more valuation- and cycle-sensitive allocations, often implemented via funds or derivatives rather than cash bonds.

Equally, the persistence of higher yields could have mixed effects on demand from insurers and asset managers. Insurers could be less incentivised to invest in riskier assets to achieve an attractive spread revenue,⁸ as they were during the extremely low-interest rate environment pre-2022. However, higher yields can be equity-positive for life insurers because liability duration is higher than asset duration, increasing risk-taking in a higher-rate environment (Li, 2025). Moreover, the higher-yield environment is favourable for asset managers investing in bonds. This is because they provide a greater cushion against adverse moves in rates (rising) and compound on top of price appreciation in an advantageous scenario (falling rates).

Hedge funds' continued and growing presence in sovereign bond markets may continue to provide much needed liquidity and help to smooth out mispricing, but it could also render the investor base riskier due to flight risk and pressure on repo markets. Hedge funds pose a relatively high flight risk given that they have a high failure rate globally, they face higher refinancing risks on leverage or margin calls, and they lack organic commitment to foreign markets. The rising activity of hedge funds could also place pressure on the broader fixed-income infrastructure because their market positioning is financed through the repo market, raising questions of repo market capacity.

Figure 3.21. Perception of geopolitical risk in the sovereign and corporate bond markets

Concerns related to geopolitical risk remain prominent in both the sovereign and corporate bond markets



Note: In panel A total surveyed countries were 41 (2022), 41(2023), 38(2024), 35(2025). In 2025, answers were given in October. Panel B refers to companies in the Russell 3 000, euro STOXX 600 and NIKKEI 225 indices. Mentions in corporate filings and earnings call transcripts. Source: 2022, 2023, 2024, and 2025 OECD Surveys on Liquidity in Government Bond Secondary Markets; Corporate document analysis via Bloomberg, see Annex 3.A for details.

Geopolitical risk is a factor to monitor closely in sovereign and corporate bond markets. Nearly all surveyed sovereign issuers expect geopolitical risk to affect primary market operations in 2026 (Figure 3.21, Panel A). Similarly, corporate disclosure – financial and non-financial filings and earnings call transcripts

– suggests that concerns about geopolitical risk remain elevated (Figure 3.21, Panel B). Beyond market volatility, geopolitical risk could have meaningful implications for the composition of the investor base.

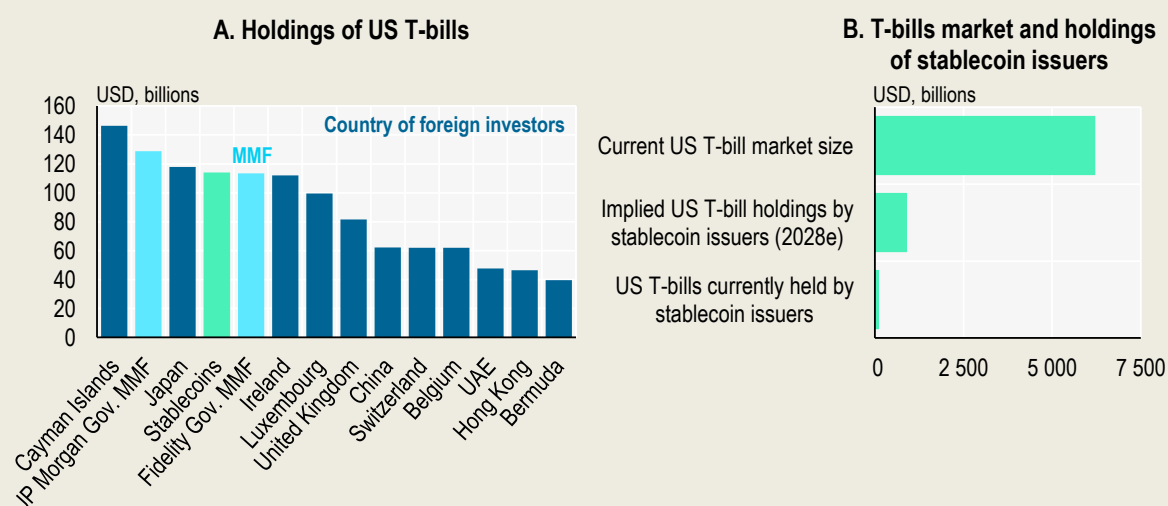
Box 3.5. Stablecoins: An emerging source of demand for short-term government debt?

Stablecoins are digital tokens designed to maintain a stable value relative to a certain asset. They typically claim to be backed one-to-one by high-quality, liquid assets such as short-term government securities (T-bills) held in reserve, helping to stabilise their price. Some market participants argue that the increasing adoption of stablecoins represents a potential source of increased, mostly price-insensitive demand for T-bills. This view rests on the assumption that stablecoin issuers can increase net demand, i.e. that it does not crowd out existing demand for T-bills.

Stablecoin issuers may increase the gross demand for T-bills, but the key aspect is whether the additive or substitutive effect dominates. For example, selling MMF shares to buy stablecoins should have a largely neutral impact on the demand for T-bills. This is because the MMF sells its holdings, while the stablecoin issuer buys a proportional amount of T-bills as the underlying reserve. However, switching from physical cash or bank deposits to stablecoins should lead to a decline in currency in circulation or deposits and an increase in demand for T-bills. Despite this, demand for longer-term government bonds could decrease if banks fund deposit outflows by selling these securities. Demand for T-bills will also rise if stablecoin issuers receive inflows from foreign investors. The rate environment also matters. In a scenario of a return to an ultra-low-rate environment, stablecoin issuers may shift to higher-yielding alternatives for high-liquid reserves, which would also have implications for T-bill demand. This will ultimately also depend on the regulatory framework and what it prescribes as possible reserve assets.

However, the limited transparency and inconsistent disclosure of stablecoin reserve compositions constrain visibility into their actual asset holdings. As a result, it is difficult to assess conclusively whether stablecoins can generate new net demand for short-term government securities or simply reallocate demand from existing holders such as MMFs or banks.

Figure 3.22. US Treasury bill holdings by stablecoin issuers and projections for future demand



Note: Data and projections as of March 2025.

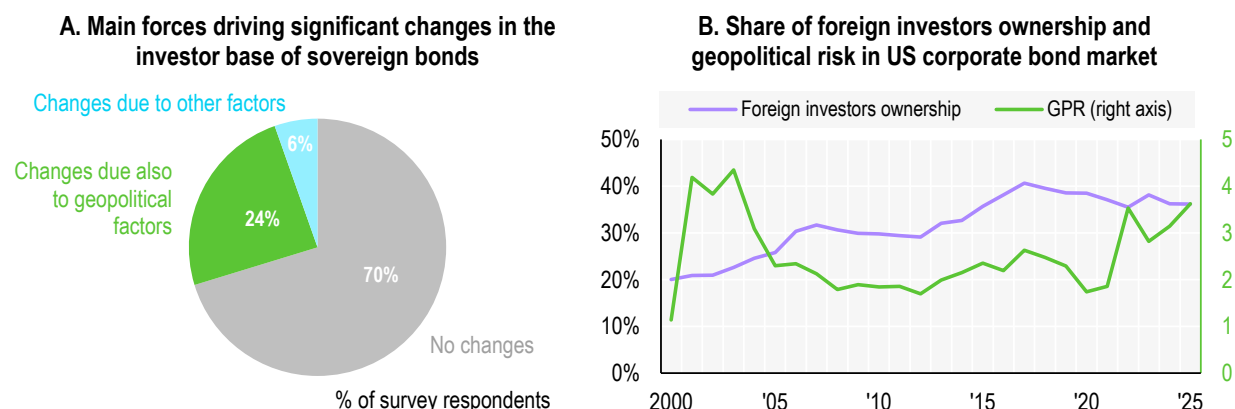
Source: A: Aldasoro, Iñaki and Rashad Ahmed (2025^[71]): "Stablecoins and safe asset prices", BIS Working Paper 1 270, US Treasury.

Currently, the stablecoin market is dominated by USD-based products; they accounted for 99% of total market capitalisation in 2024 (Schaaf, 2025^[72]). Based on publicly available reserve filings, major stablecoin issuers were estimated to hold more than USD 120 billion in US T-bills as of March 2025, higher than holdings by investors in several key geographies, including Luxembourg, the United Kingdom, and China (Figure 3.22, Panel A). While this figure represents approximately 2% of outstanding US T-bills, the US Treasury estimates that the rapid growth could generate a substantial increase in demand, with incremental purchases potentially reaching US dollars 900 billion by 2028 (Figure 3.22, Panel B) (US Treasury, 2025^[73]). However, the limited transparency and inconsistent disclosure of stablecoin reserve compositions constrain visibility into their actual asset holdings. As a result, it is difficult to assess conclusively whether stablecoins can generate new net demand for short-term government securities or simply reallocate demand from existing holders such as MMFs or banks.

Geopolitical tensions and uncertainty can lead to a shift in portfolio allocations by impacting investors' expectations and willingness to tolerate risk. In 2025, almost all OECD sovereign issuers that reported a significant change in their investor base identified geopolitics as a factor (Figure 3.23, Panel A). Two main dynamics could be driving this. First, investors may shift their portfolio towards bonds with shorter maturities. Second, they may shift to bonds perceived as safe-haven assets, explaining why the US Government bond market attracts funds during times of heightened geopolitical risk (Figure 3.23, Panel B) (Converse and Mallucci, 2025^[74]). These reallocations can result in higher term premia and higher spreads between “safe haven” bonds and others (Constantini and Sousa, 2022^[75]; Papavassiliou, 2025^[76]).

Figure 3.23. Geopolitical risk and changes in investor base for sovereign and corporate bonds

Sovereign issuers assess that geopolitical factors are one of the main drivers of changes in the investor base



Note: Answers shown in panel A were given in October 2025 and refer to the previous 12 months. In Panel B, the yearly geopolitical risk (GPR) index is calculated as the average monthly index.

Source: 2025 OECD Surveys on Liquidity in Government Bond Secondary Markets, US Federal Reserve; Caldara and Iacoviello (2022^[77]), Measuring Geopolitical Risk, <https://doi.org/10.1257/aer.20191823>.

Geopolitical tensions can especially impact demand from foreign investors. An escalation in geopolitical risk often contributes to a contraction of cross-border capital flows, generating a “flight home” effect, whereby investors reallocate funds towards domestic markets (Feng et al., 2023^[78]; Catalán and Tsuruga, 2023^[79]; Agoraki et al., 2024^[80]). In addition, geopolitical alignment increasingly shapes the direction of international capital. For example, investment funds tend to allocate smaller shares of their portfolios to countries that are geopolitically more distant (Catalan, Fendoglu and Tsuruga, 2024^[81]). Early evidence also indicates that geopolitical distance may affect foreign official holdings of sovereign debt (Beck et al., 2025^[82]). Such cross-border reallocations of capital can reduce the number of available financial partners

for some countries, heightening their vulnerability to external shocks by limiting their capacity for risk diversification (IMF, 2023^[83]).

The potential impact on foreign investor demand is particularly notable, as recent estimates indicate that roughly one-fifth of the US sovereign debt and one-quarter of the European sovereign debt were held by geopolitically non-aligned countries in 2024 (Beck et al., 2025^[82]). Rising geopolitical tensions may also dampen domestic investor sentiment, with evidence suggesting that heightened uncertainty weakens consumer confidence and reduces households' willingness to invest (Coibion et al., 2025^[84]). This, in turn, could curb domestic demand for bonds, particularly among households and investment funds, whose reluctance to invest in countries perceived as geopolitically risky tends to persist over time (Converse and Mallucci, 2025^[74]).

Geopolitical risk can also affect borrowing costs, market liquidity, and issuance strategies. Recent estimates suggest that heightened geopolitical uncertainty increases investors' perception of sovereign risk, thereby putting upward pressure on government bond yields (Afonso, Alves and Monteiro, 2024^[85]). In 2024, nearly half of the countries surveyed by the OECD reported that geopolitical tensions had adversely affected liquidity conditions in domestic bond markets. Consistent with this, sovereign issuers have identified geopolitical risk as one of the primary factors affecting their operations in the primary market every year since 2022. Elevated geopolitical uncertainty can also alter corporate financing behaviour, prompting firms to shorten the maturity of their bond issuances or shift away from bond markets towards bank lending (Khoo and Cheung, 2021^[86]).

From a structural perspective, geopolitical tensions that influence trade policy can generate sustained changes in current account balances. If shifts in the geopolitical landscape lead to durable reductions in external surpluses, the corresponding decline in deficits would reduce an important source of demand for the debt issued by deficit countries and their corporations. While lower deficits are, by definition, matched by reduced surpluses, the resulting contraction in available foreign financing may constrain the ability of deficit economies to roll over existing debt, potentially leading to forced deleveraging.

Finally, differences in central bank operating frameworks and balance-sheet trajectories will be critical. The US Fed's transition towards so-called reserve-management purchases, which will see the balance sheet expand again in the first quarter of 2026, the ECB's continuation of QT within a corridor system, and the BoJ's gradual and asymmetric exit from bond markets imply structurally different paths for free float, term premia, and marginal demand. These distinctions dictate that future investor-base dynamics are not only about portfolio preferences, but also about how central bank frameworks shape net supply and collateral conditions over time.

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Annex 3.A. Methodology

Data on the investor base of sovereign and corporate bonds

Data on the investor base of sovereign and corporate bonds are classified as shown in the Table below. Following each source' methodology, all instruments are valued in market prices except for the Japanese Treasury discount bills; and, for the US, (a) the holdings of sovereign and corporate bonds of MMFs, ABS, and other financial business and (b) the holdings of corporate bonds of the monetary authority, and the federal government. This implies that some changes in aggregate holdings may be due to valuation effects.

Annex Table 3.A.1. Data sources and classification

	Bank of Japan	European Central Bank	Federal Reserve Board
Dataset	Flow of funds	Quarterly Sector Accounts	Financial Accounts of the United States – Z.1
Instrument			
Government	Central government securities and FILP bonds, Local Government securities, Treasury discount bills	Debt securities	Treasury Securities, Municipal Securities
Corporate	Industrial securities	Debt securities	Corporate and Foreign Bonds
Issuer			
Government	NA	General government	Federal Govt, State/Local Govt
Corporate	NA	Non-financial companies, Financial companies	Nonfinancial corporate business, ABS, FBOs, Broker/Dealer, Finance companies, GSE and Agency, MMFs, Mortgage REITs, Other financial business, US-Chartered
Holder			
Central Bank	Central Bank	Central Bank	Monetary Authority
Money Market Funds (MMFs)	Money management funds and money reserve funds	*	MMFs
Non-MMF investment funds	"Securities investment trusts" – "money management funds and money reserve funds"	Non-MMF investment funds	ETFs, Mutual Funds, Closed-End Funds
Banks and other MFIs	Postal savings, Banks	MFIs – Central Bank – MMFs(*)	US-Chartered, FBOs, Banks in U.S.-Affiliated

		Bank of Japan	European Central Bank	Federal Reserve Board
				Areas, credit unions
Pension Funds		Pension funds + Public pensions	Pension funds	Pensions
Insurance		Insurance	Insurance corporations	PC Insurance, Life Insurance
Households and NPISHs		Households, Private nonprofit institutions serving households	Households	Households**, Nonfin Noncorp Bus
Other	General government	General government – Public pensions	General government	State/Local Govt., Federal Govt.
	Non-Financial Corporations	Non-financial corporations	Non-financial corporations	Nonfin Corp Bus
Other Financial Corporations		“Financial institutions” – all the financial corporations cited above	“Financial corporations” – all the financial corporations cited above	ABS, Broker/Dealers, Credit Unions, GSE and Agency, Holding Companies, Other Financial Business, Mortgage REITs, Finance Companies
Foreign		Overseas	Non-residents	Rest of World

Note: * this is not available from QSA, so it is supplemented by data from the ECB Balance Sheet Items datasets on Euro area MMF holdings of Euro area government and corporate securities ** for government bond this is adjusted for estimated hedge funds holdings, as explained in this Annex.

Adjustment of US Households' holdings of treasuries

As laid out in (Barth et al., 2025^[87]), the household's category of the US Financial Accounts erroneously contains a significant volume of US Treasuries which are held by hedge funds domiciled in the Cayman Islands. The data used in this chapter are adjusted accordingly, thereby decreasing the volume of bonds held by households and increasing the amount held by the foreign sector. For 2017-2024, the adjusted data from (Barth et al., 2025^[87]) are used. For 2012-2016, the proxy suggested in Appendix A of (Barth et al., 2025^[87]) was applied: the difference between total hedge fund US treasury holdings according to the Financial Accounts and domestic hedge fund US treasury holdings according to the Fed-Z1 release. For the remaining years, 2007-2011 and 2025, the adjustment is extrapolated by regressing the available data for 2012-2024 on the Financial Accounts household series and then using the fitted values.

Corporate document analysis

Mentions of different risk indicators in corporate disclosures refer to corporate filings and earnings call transcripts by companies included in the Russell 3 000 (US), Euro STOXX 600 (Europe) and NIKKEI 225 (Japan) indices that are included in the Bloomberg Document Search database. Document types include annual, semi-annual and quarterly reports, 10-K, 10-Q, 8-K, 6-K, as well as earnings call transcripts, conference presentation calls, shareholder meeting calls and company presentations. The results are obtained through natural language processing built into the Bloomberg search function. Keywords shown in graphs are complemented with near or exact synonyms to expand results, such as “bond”, “credit” and “loan” for “debt” and “world political” and “geo political” for “geopolitical”.

Annex 3.B. Motives and strategies for entities involved in sovereign and corporate bond markets

This annex provides a detailed breakdown of the motives and strategies for the entities identified in the chapter that are active in sovereign and corporate bond markets.

Central banks

Central banks buy bonds issued by governments and sometimes private entities in their domestic currency as part of their monetary policy toolkit, in particular when policy rates are near zero. These purchases are made to ease financial conditions by lowering longer-term yields and injecting liquidity; this is known as quantitative easing (QE) (OECD, 2021^[88]). QE typically involves central banks announcing a pre-determined amount of bonds they intend to purchase in an upcoming period. Another version of this is called yield curve control. This is where a central bank commits to buying whatever amount of bonds the market wants to supply to achieve a certain yield level (Belz and Wessel, 2020^[89]). Central banks may also purchase bonds as part of their mandates to maintain financial stability. These purchases are almost always made in the secondary market.

Purchases made as part of QE or yield curve control are typically defined as market-neutral, with purchases roughly proportional to the outstanding volumes across the curve, or also purchases in a particular part of the curve where central banks are targeting yield levels or making a financial stability intervention. When it comes to purchases of corporate bonds, there are typically credit rating restrictions attached.

As central banks are large, price-agnostic buyers with theoretically unlimited balance sheets, the announcement or even speculation of bond purchases can put downward pressure on yields. As sovereign yields serve as the benchmark for the wider economy, this reduces borrowing costs also for households and businesses, an intended effect of QE.

QE programmes are designed to be temporary. They are unwound either by not reinvesting the proceeds of matured holdings or by actively selling part of their holdings in the secondary market, or a combination of the two, in a process known as quantitative tightening (QT). Central banks cease being net buyers when they stop new purchases, including the reinvestment of matured holdings, but only become net sellers when they actively sell part of their bond holdings.

Foreign investors

Foreign central banks

Foreign central banks and, to a lesser extent, other authorities like central governments are portfolio managers of foreign exchange reserves. Foreign exchange reserves are assets denominated in foreign currencies.

Given that reserves are held for mostly precautionary purposes, central banks and governments typically manage reserve portfolios with the objectives of preserving capital and maintaining liquidity. Foreign

reserve managers primarily seek to ensure that adequate foreign exchange reserves are available to meet a defined range of objectives (for example, maintaining a currency peg); and that liquidity, market and credit risks are controlled in a prudent manner. Subject to liquidity and other risk constraints, modest returns over the medium to long term on the funds invested may be targeted as a tertiary objective (IMF, 2004^[90]). As a result, foreign exchange reserves are typically invested in highly liquid securities that are of high credit quality, like highly rated government bonds and T-bills, as well as securities issued by government agencies or sub-sovereigns (Aldridge, Sandhu and Tchamova, 2024^[91]).

Sovereign wealth funds

Sovereign wealth funds (SWFs) are state-owned investment funds or entities that are commonly established to manage governments' foreign assets. They are typically categorised as stabilisation funds to finance budget deficits or balance-of-payments needs, savings funds for future generations, pension reserve funds, or reserve investment corporations established to reduce the carrying costs of foreign exchange reserves (Palacios and Habib, 2024^[92]). Like conventional asset managers, they buy and hold bonds to help stabilise their portfolios. Both sovereign and corporate bonds provide a predictable income stream that is also highly liquid, particularly where a fund holds assets denominated in reserve currencies. This income stream allows fund managers to make additional investments without using the fund's capital.

SWFs are generally opaque in their objectives and strategies, and there is a paucity of data and limited transparency about their portfolios. However, net flows tend to be from poorer to richer countries. SWFs will often pivot into bonds to defend and diversify their portfolios in anticipation of a slowdown in equity markets. In particular, SWFs that have been established for macroeconomic stabilisation objectives are likely to be overweight in the most liquid bond markets.

Commercial banks

Commercial banks' main role in bond markets is as intermediaries. They buy bonds in the primary market and sell them to investors in the secondary market. They also conduct market making, providing liquidity by quoting both buy (bid) and sell (ask) prices for a given bond, thus creating a market for other participants. They stand ready to buy and sell bonds almost instantly, ensuring that there is enough volume for trades to be executed efficiently. Commercial bank purchases should therefore not be directly interpreted as additional demand for bonds. Commercial banks have traditionally also played a key intermediary role in corporate bond markets. However, this has decreased significantly since the 2008 financial crisis, partly as a result of more stringent regulatory requirements that made it more capital-intensive to hold corporate bonds, reducing intermediation and proprietary inventories.

Banks are therefore mostly buying on behalf of clients, which may include their own treasuries, who will use them like an asset manager, to balance their portfolio. Banks also hold safe and liquid government bonds as part of their capital as they are considered high-quality liquid assets with zero risk weighting. (OECD, 2025^[1]). The higher supply of bonds and greater volumes of trading in the post-2022 period have also increased the use of banks' balance sheets and reduced their regulatory headroom against the supplementary leverage ratio (SLR).

Insurance companies

Insurance companies are typically hold to maturity investors. They are generally heterogenous in terms of duration preference, with life insurers in particular favouring ultra long duration, whilst other insurance funds tend to have a natural habitat a little bit shorter on the curve (Giese et al., 2023^[93]). In 2023, insurance companies, especially life insurers, were the largest institutional investors in the US corporate bond market (Kojien and Yogo, 2023^[94]). Insurance funds invest in bonds for multiple reasons, which can be broadly split into three categories:

- **Liability matching:** Insurers must pay out claims over time, often years or decades in the future, and bonds provide predictable income streams, making it easier to match assets with future liabilities.
- **Capital preservation:** Insurers prioritise capital safety over high returns. Bonds, especially those issued by sovereigns and high-grade corporates, are typically less volatile than equities, helping preserve insurers' ability to meet their obligations to policyholders.
- **Regulatory and rating constraints:** Insurers are tightly regulated with capital adequacy frameworks (like Risk-Based Capital in the United States or Solvency II in the EU) making investment in lower-risk assets like bonds less capital-intensive. Meanwhile, credit rating agencies also tend to favour stable and conservative asset mixes for insurance companies.

Households and non-profit institutions serving households (NPISHs)

Households and NPISHs or “retail investors”, as they are often referred to, buy bonds for reasons including capital preservation and retirement planning (Foxall and Policino, 2025^[95]). Bond holdings, notably by sovereign issuers, serve to ensure some returns on capital without too much risk exposure; retail investment in bond markets can therefore effectively be seen as a substitute for bank deposits and savings accounts offered by commercial banks. Patriotic sentiments can also be an important factor for retail investors in sovereign bond markets, especially in times of war or national disasters, or as a means for diaspora to invest in their home countries. Households tend to hold sovereign bonds to greater extent than corporate ones, as sovereign issuers often have dedicated programmes and/or products to target this investor group, whereas access to corporate bonds tends to be more restricted, with high minimum investment amounts.

Compared to other investor categories, retail investors are usually considered to be more price sensitive when deciding whether to buy, but more likely to hold to maturity when they do buy, whilst exhibiting greater home bias. Retail investors are more likely to buy when real rates are higher, as they are buying more for yield than liquidity. Where retail investors buy marketable products, they are less likely to trade relatively small fluctuations in the secondary market price and instead prefer to hold to maturity, where they receive a guaranteed return. Meanwhile, many sovereign retail debt products are non-marketable and therefore designed to be held to maturity, with sometimes fees or penalties for early redemption. Retail investors also typically have a stronger preference for investing in their local markets.

The recent resurgence of retail investors in sovereign bond markets has been driven by more attractive yields, greater market accessibility, and active efforts by issuers to diversify their investor bases amid heightened macrofinancial uncertainty. However, as an investor group, they may fail to raise significant levels of funding, particularly in jurisdictions where there are suitable and competitive alternative products available to them. For issuers with particularly high borrowing requirements, retail investors will likely only ever constitute a small share of the investor base (Boitreaud, Foxall and Policino, 2025^[96]).

Pensions funds

Asset-backed pension funds, which have long-term investment horizons and predominantly clear payout schedules, are natural investors in bond markets. In general, they can be said to be less price-sensitive than other investor groups and typically buy bonds to hold to maturity, favouring higher duration and, in certain jurisdictions, inflation-linked instruments. It is important, however, to distinguish between different types of funds, in particular between defined benefit (DB) and defined contribution (DC) funds, because their incentives and behaviours as investors, notably their allocations to fixed income, differ substantially. The global shift from DB to DC structures is therefore having profound implications for sovereign and corporate bond markets.

Defined benefit (DB) pensions

A DB pension scheme provides a fixed, pre-established benefit for employees at retirement (IRS, 2025^[97]). As such, they are typically required to structure their assets in a way that matches the duration of their liabilities. Consequently, they are significant holders of long-dated investment grade bonds, including inflation-linked bonds, as the market price of these assets respond to changes in interest rates and inflation in the same way as the scheme's liabilities. Periodic coupon payments also generate predictable cash flows to cover the scheme's cash outflows.

Defined contribution (DC) pensions

A DC pension scheme is a type of private pension that the employee and their employer contribute to on a regular basis. They define how much and when to pay into it. That pot of money is then invested over the life of the pension, with the employee carrying both asset value risk and longevity risk (OECD, 2023^[98]).

Bonds are often used to help spread the risk in DC pensions, particularly as individuals get closer to retirement. As DC pension schemes are fully funded and focus on return maximisation and investment flexibility, rather than duration matching, DC assets are generally weighted towards higher-returning assets such as listed equities; they may also be more likely to invest in higher yielding corporate bonds.

Investment funds

Conventional asset managers manage investment funds on behalf of clients, including through mutual funds, exchange traded funds (ETFs) and private accounts. For present purposes, this category covers asset managers other than pension funds, insurers and hedge funds. These investors are characterised by higher price-sensitivity than pension and insurance funds, but a greater tendency to buy to hold than more opportunistic investors like hedge funds.

Investing in bonds provides diversification benefits for asset managers. These benefits arise from the usually low correlations of bonds with other major asset classes, such as equities. Floating-rate and inflation-linked bonds can also be used to hedge inflation risk. Bonds have regular cash flows, which are beneficial for the purposes of funding future liabilities.

Hedge funds

Hedge funds usually buy and sell bonds to profit from changes or discrepancies in prices between similar assets. Unlike pension and insurance funds, they do not hold onto bonds for liquidity or yield. Instead, they are trying to generate positive alpha,¹ using leverage, derivatives, and timing.

Hedge funds have generally responded to the higher volumes of bond issuance by buying more; this is particularly the case in large sovereign bond markets, such as Canada, Germany and the United States,

because of their volume-based business models. Investors other than hedge funds are generally more limited by their cash on hand and tend to use less leverage (Epp and Gao, 2025^[6]).

Broadly speaking, the approach taken by hedge funds in sovereign bond markets is to identify a perceived mispricing and take a large position on that perceived mispricing being corrected, as observed in hedge funds' substantial use of repo-based leverage. Hedge funds also often use relative value strategies, trading on the perceived mispricing between bonds and either:

- Futures – known as the cash-futures basis trade
- Swaps of a similar term – known as the asset-swap trade
- Bonds of the same issuer – known as intra-issuer relative-value trades
- Other sovereign bonds – known as the cross-curve trades

Hedge funds also commonly use strategies based on macroeconomic views (e.g. position on level or shape of the yield curve) or bond pricing at auction close. They also use government bonds as collateral for derivatives.

Because mispricing opportunities in liquid bond markets are typically relatively small in size, hedge funds have to take larger positions to achieve their desired return. In the *cash-futures basis* trade, for example, which involves a long position in a bond and a short position in a futures contract, hedge funds use leverage to amplify their profits as the spread between the two securities is generally relatively narrow.

Higher free float makes it easier for hedge funds to take larger long positions. This is because it increases the available bonds to hold for those positions and provides hedge funds with a larger base of assets to repo out to fund their positions. In addition, a larger known future supply event (i.e. bond auction or syndication) can facilitate larger short positions. That's because the larger supply allows hedge funds to obtain the required bonds more easily in the repo market. Further, when the bonds are more liquid, the transaction costs for entering and exiting positions are lower.

Notes

¹ The category “Other” includes ABS, broker/dealers, closed-end funds, credit unions, ETFs, GSE and agency, holding companies, mutual funds, other financial businesses, mortgage REITs, financial companies, non-financial corporate business, state and local government, federal government for US; collectively managed trusts, securities investment trusts, other financial intermediaries, financial auxiliaries, public captive financial institutions, domestic non-financial sector, general government for Japan; non-MMF investment funds, other financial intermediaries except insurance corporations and pension funds, financial auxiliaries, captive financial institutions and moneylenders, non-financial companies, general government for the euro-area.

² For instance, around one-third of Euro area households' bond holdings were held via investment funds between 2015 and 2025.

³ It should also be noted that due to national accounts classifications, certain *de facto* government pension funds are classified within the General Government sector. Accordingly, this report considers the Japanese Government Pension Investment Fund into the Pension Funds category, rather than into the General Government. No further modifications of this kind were made to the dataset.

⁴ According to the 2025 OECD Survey on Primary Markets, six OECD countries issued new retail products in the 12 months leading to October 2025 and six OECD countries plan to issue new retail products in the

following 12 months. Since 2020, Italy has launched several new products tailored to retail investors: BTP Futura in 2020, BTP Valore in 2023. The latter with several variants such as the one mentioned in the text, which was introduced in 2025.

⁵ Global Systemically Important Banks (G-SIBs) are banks whose failure could significantly disrupt the global financial system and are therefore subject to stricter regulatory requirements. G-SIBs are identified by the Financial Stability Board (FSB) and published each year using a multi-indicator scoring system. [2025 List of Global Systemically Important Banks \(G-SIBs\) - Financial Stability Board](#).

⁶ Scarcity effects, free-float compression and crowding-out of foreign investors arise primarily in government bond markets and do not generalise to corporates.

⁷ The distinction between price-sensitive and price-insensitive investors here is of course simplified. In reality it is likely regime-dependent since these traits can change with market and policy conditions.

⁸ Spread revenue refers to the difference between the actual earnings on investments made by the insurer and the crediting rate guaranteed to participants for that period. The crediting rate is subject to the minimum guaranteed rate stated in the insurance contract.

Global Debt Report 2026

Sustaining Debt Market Resilience Under Growing Pressure

Global debt markets face increasing pressures from sustained fiscal deficits, rising interest costs and investment needs, a structural decline in long term demand, and growing refinancing risks as the maturity of issuance shortens. Even so, public and private borrowing reached record levels in 2025 and markets show surface-level calm with improvements in liquidity, moderating volatility and compressing corporate credit spreads. Yet structural shifts, including the emergence of a new investor base, are transforming markets with new risks building, potentially challenging the current resilience. The third edition of the Global Debt Report analyses the latest trends in global sovereign and corporate debt markets up to the end of 2025, with a special focus on the shifting investor base, exploring the drivers and implications of these shifts.



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