Strategist Views

Deep waves
The corporate and household debt wave

Critical nexus between rising debt and its sustainability

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Foreword

In our Deep Water Waves publication,[1] we identified several powerful, connected and long-duration factors that will have a significant impact on investment returns over the next decades. One of these is the debt wave, driven primarily by a combination of economic, geopolitical and demographic pressures. We observe that the debt wave is at a historic peak in terms of the US dollar value of the debt in issue and appears set to continue growing. This was sustainable with low inflation and plentiful liquidity. These factors have both reversed, leading to a heightened urgency to raise capital. As a result, the traditional view on "fiscal responsibility" seems to have moved from the mainstream of political and economic policy debate to the fringes. Given several secular trends in place, this "wave" is apt to grow in depth and breadth. This process drives an increasingly structural polarization between those countries that can easily continue to issue debt and refinance and those that cannot. This paper focuses on household and corporate debt, assessing the "quality" of investments and the implications of high inflation and high interest rates on investment risk and returns.

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Executive summary

- Global financial conditions have shifted rapidly, from a low- to a high-interest rate regime. This looks structural. Importantly, high debt-to-GDP ratios and high interest rates are now the starting point for the next decade. While there are expectations of rate cuts over the next year, interest rates will probably remain higher than in the past decade. Existing (high) levels of indebtedness exacerbate the challenge.
- The off-balance-sheet US dollar debt of non-banks outside the US substantially exceeds their on-balance sheet-debt and has been growing faster. These contingent liabilities have the potential to trigger a liquidity shock, implying the need for stringent banking regulation. Risk assessments would broaden to include insurance, pension payments, guarantee schemes and contingent liabilities.
- Debt restructurings are likely to become more frequent. Companies may deleverage too, and that could weigh on economic growth, requiring government intervention, meaning that deleveraging of private debt leads to higher public debt.
- Debt sustainability is even more crucial than before. Companies need to earn at a faster rate than their cost of debt to remain sustainable. Our assessment of selected countries' earnings growth and cost of debt shows that Italy, Australia and the UK have a slower growth rate of earnings as against the cost of debt.[2] Investors need to be even more selective in their investments in such countries.
- Supply chain recalibration to diversify and avoid dependency on China is expensive and could result in more borrowing, to finance capital expenditures. Theoretically, the cost of this debt needs to be less than the earnings growth rate, but the current environment suggests this will be a significant challenge. There is a direct link to the Sovereign, as companies' cost of borrowing indirectly depends on the country's credit rating.
- Retail banks traditionally think of mortgages as a "core" product that facilitates cross-selling opportunities. In some countries, like Canada and Australia, household debt is the largest category of the loan book. We measure the vulnerability of households on multiple parameters, including mortgage rate, share of variable rate mortgages, debt service ratio, housing costs, affordability, and real wage growth. Our assessment shows that the households are most vulnerable in Australia and Canada in comparison to the selected countries.[3]
- Typically, private investments flourish during economic slowdowns. Private companies seem to be increasingly avoiding public offerings, reducing the likely flow of exit opportunities for private equity and impacting venture capital, while the secondaries market looks attractive. Distressed assets and private credit may appear more attractive with more investment opportunities, but they imply specialist risk assessment. Active investment management with scrutiny on corporate debt quality and documentation/covenants are increasingly crucial and differentiating when debt servicing costs stay high (and higher for middle- and low-income countries). Additionally, within fixed income there are opportunities in Asian bonds, higher yield and leveraged loans that offer higher yields, while having lower duration.

Introduction

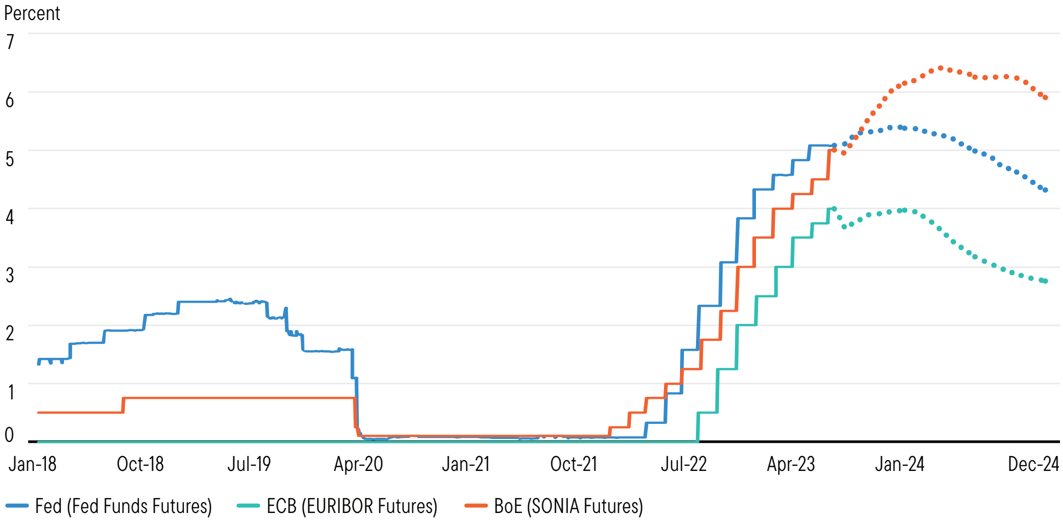
For over a decade, capital abundance has supported economic growth and provided investment opportunities across the globe. However, as we depart from the zero-rate world into the realm of structurally tighter financial conditions, we assess new risks and opportunities. The reverse could be imminent, where high interest rates (see Exhibit 1) and elevated debt levels in coming years can potentially lead to slower economic growth. In the decade prior to the pandemic, private debt either declined or remained stable in advanced economies but increased in emerging and developing economies.[4] Since 2019, household and corporate debt have increased in USD terms across most countries.[5]

The number of countries with debt exceeding 100% of GDP has surged—from 15 in 2009 to 24 in 2022.[6] What is more alarming is that the percentage of world GDP of those countries has risen threefold—from representing 14% of world GDP to 43% of world GDP.[7] Elevated debt levels result in heightened interest rate differentials among countries and borrowing costs, particularly for external debt. This is pertinent for corporate and household debt as the cost of borrowing is influenced by the country's government debt and its rating.

The End of a Period of Low Interest Rates

Exhibit 1: Market Expectations of Interest Rates

As of July 5, 2023



Sources: ECB, Eurex Exchange, BoE, ICE, Federal Reserve Bank of New York, CME Group, Macrobond. Rates used: Federal Reserve (Fed) effective rate with fed funds futures as forecast. Bank of England (BoE) bank rate with Sonia futures as forecast. European Central Bank (ECB) key rate with EURIBOR futures as forecast. There is no assurance any forecast, projection or estimate will be realized. Important data provider notices and terms available at www.franklintempletondatasources.com.

The cycle of debt accumulation and debt crisis typically responds to central banks' policy shifts. In general, countries with more liquidity and better ability to refinance in the private sector will be less exposed or predisposed to shadow banking risks.

The combination of higher debt and higher interest rates are a double challenge: debt servicing is harder and the debtor's vulnerabilities to external shocks are increased. Interest rate differentials driving capital flows from lower- to higher interest-rate countries can crowd out private funding as the focus shifts to credit risks. Investors are more selective, and funding is restricted to borrowers who can afford to provide those higher premiums. Finally, higher government debt is absorbed by central banks and commercial banks, thereby reducing the funding avenues for private borrowers.

One of the key credit events in 2023 was the collapse of several regional US banks, with Silicon Valley Bank the best known. These have reignited concerns over asset-liability management and are widely expected to trigger an increase in banks' capital requirements

Shadow banking is a parallel financial system that operates outside the traditional banking sector. Shadow banks offer credit, liquidity and other financial services, using sophisticated (and complex) financial instruments and strategies. Since these entities are not subject to regulations and oversight like the traditional banks, they pose risks through reduced transparency and increased leverage.

by subsequent amendments to regulations. While higher capital requirements reduce the probability of a widespread banking crisis, they also result in a lower proportion of bank funds available for lending. Additionally, research by the European Central Bank finds that higher capital requirements restrict the supply of bank credit and increase loan interest rates, resulting in lower investment and, eventually, slower economic growth.[8]

The lack of bank credit may lead private companies to approach private lenders; with more private borrowers, the lenders have more choices and can demand better documentation/covenants from the borrowers apart from higher interest rates.

Rising debt fosters the idea of debt sustainability and transparency. The type of debt should go beyond the on-balance-sheet debt and include off-balance-sheet debt and shadow banking that increase risks. In contrast, reducing company debt may stall economic growth and require governments' support, leading to higher public debt.

For investors and advisers, there is a fresh debt landscape, marked by higher debt-to-GDP, more divergent creditors, and shadow banks amidst an aging population in the world's major economies. Active investment management with scrutiny on debt quality and documentation/covenants are increasingly crucial and differentiating when debt servicing costs stay high (and higher for middle- and low-income countries). The number of bond issuances may fall as companies avoid taking on more debt, resulting in fewer selective opportunities.

Corporate debt: The different grounds laid for stronger balance sheets

During the COVID-19 pandemic, corporate debt rose by more than $12 trillion in advanced and emerging economies as companies borrowed to strengthen their balance sheets and survive the economic shock.[9] Consequently, corporate debt costs rose, and at a faster pace for those with lower credit ratings. While this raises the risk of distress, it is important to look under the hood to uncover some crucial information. Over the years, while accumulating debt, companies have also strengthened their balance sheets and cash balances. While cash levels have moderated during 2022, they are much higher than in 2019 and are close to the trendline (see Exhibit 2 on the next page). In other words, the net debt-to-EBITDA[10] and the interest coverage ratios have improved over the last decade.[11,12]

Nevertheless, good investment managers are perennially mindful of an organization's risk management framework and more willing to invest in companies with good risk management practices. Companies that exercise best practices in risk management typically can raise funds with lower costs and have easier access to capital. Subsequent sections explore the pockets of risks that warrant closer watch as the grounds under the debt landscape could be facing some structural shifts.

In general, a cash buffer can act as a cushion against increasing interest rates and elevated inflation levels, over the short term. In the past, a cash buffer could be maintained as borrowings could be refinanced at lower interest rates, while trade and economic growth made that easier. Going forward, with higher interest costs, companies may need to find different grounds to strengthen their balance sheets, emphasizing the importance of the other forms of liabilities that include insurance, pensions and standardized guarantee schemes, and other accounts payable against the value generated through operating surplus (see Exhibit 3 on the next page). These may complicate risk management assessment and, accordingly, affect a company's balance sheet health in the medium to long term.

Corporate Balance Sheets Are Stronger

Exhibit 2a: Cash and Short-Term Investments on Companies' Balance Sheets

As of December 31, 2022

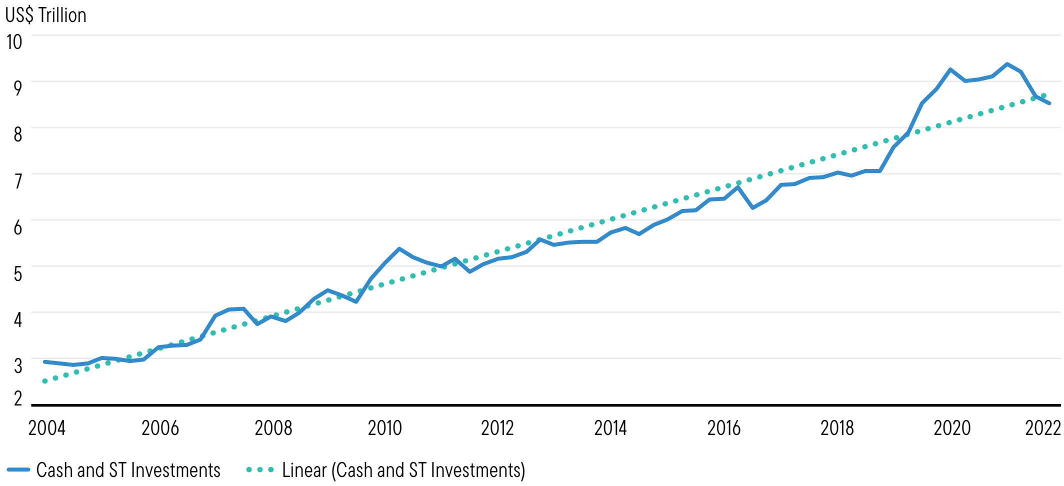
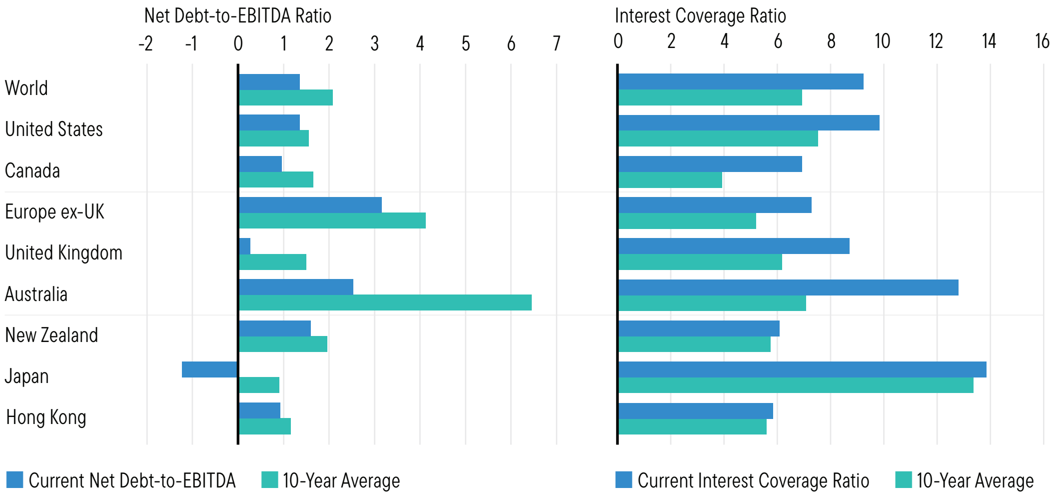


Exhibit 2b (Left): Net Debt-to-EBITDA

Exhibit 2c (Right): Interest Coverage Ratio

As of December 31, 2022



Sources 2a: Analysis by Franklin Templeton Institute, FactSet, MSCI Indices. Cash balances are based on the MSCI AC World Index constituents.

Sources 2b: Analysis by Franklin Templeton Institute, MSCI Indices, Bloomberg. Net Debt-to-EBITDA is the ratio of gross debt in excess of cash to Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA).

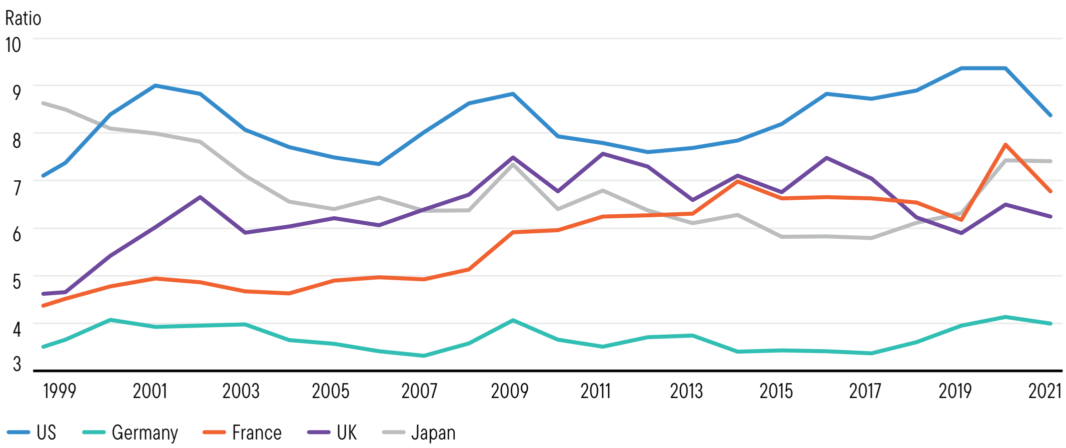
Sources 2c: Analysis by Franklin Templeton Institute, MSCI Indices, FactSet. Interest Coverage is the ratio of Earnings Before Interest and Tax to Interest Expense.

Indexes are unmanaged, and one cannot directly invest in them. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Corporate Liabilities in Relation to the Value Added

Exhibit 3: Non-Financial Corporations' Debt-to-Operating Surplus Ratio

As of December 31, 2021



Source: OECD. OECD considers debt as the sum of the following liability categories: currency and deposits, debt securities, loans, insurance, pensions and standardised guarantee schemes, and other accounts payable. OECD defines gross operating surplus as the value added generated by production activities after deduction of compensation of employees. Important data provider notices and terms available at www.franklintempletondatasources.com.

More zombies but limited risk of apocalypse

The zombie apocalypse has been used as a metaphor for various contemporary fears, such as global contagion, the breakdown of society and the end of the world. In the corporate world, zombie companies are those indebted businesses that, although generating cash, have only enough funds to service the interest on their loans and are unable to repay the principal. In other words, these companies need bailouts to continue operating.

These companies' financial wellbeing is measured by their interest coverage ratio (ICR). While we noted a reasonable improvement in the ICR at the overall index levels, the percentage of companies that have an ICR of less than 1 has increased more than the average at the global level (See box "Shedding Light on Zombie Companies") since the pandemic. Post the pandemic period, we have seen a rise in the percentage of zombie companies in the market that can be a drag on broad investment performance. Apart from that, companies would now need to utilize their debt effectively and productively, especially for smaller companies. The net debt-to-EBITDA for smaller companies is higher and therefore imposes higher risks.

Are companies "earthquake-resistant?"—contingent liabilities assessment

To further assess "quality," investors should look beyond balance sheet debt. There are contingent liabilities that are exposed to price volatility—commodity/foreign exchange/interest rate. An in-depth, bottom-up analysis would require scrutiny of this aspect as the exposure, and "seismic" risks have been increasing over the years. We expect increased tremors as central banks have elevated interest rates and triggered economic

Shedding light on zombie companies

There are clear pockets of weakness investors should be aware of to risk manage their portfolios accordingly. One prominent example are zombie companies that struggle to service their debt, as they do not generate high enough cash flow. We believe this is of utmost importance now given the simultaneous impact of two forces:

1. Interest bills are becoming more expensive and harder to service.
2. Cash-flow prospects are deteriorating.

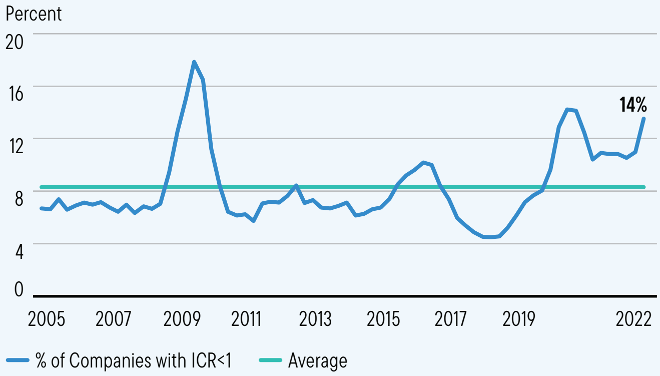
The number of zombie companies has been increasing in various parts of the world since 2018, with significant deterioration of the situation in 2022 (see Exhibit 4). There are some regional exceptions, though. In Europe, where cost of capital is still relatively low, this upward trend is less visible.

What has caused this significant increase in the share of zombie companies? One big driver is the downward trend in interest rates. It may seem counterintuitive as lower rates reduce interest expenses, so companies should have less trouble with servicing their debt, all else being equal. However, lower rates create incentives for risk-taking, and more risk appetite reduces pressure on fundamentally weaker companies. That's why there is a solid negative correlation between global policy rates and the share of zombie companies, which is presented in Exhibit 5 on the next page.

This theoretically implies a forthcoming decline in the number of zombies. However, lending conditions constitute a notable difference this cycle. Central banks have started raising policy rates rapidly. This is the strongest move since the early 1990s, which has led to a very quick response in banks tightening standards (see Exhibit 6 on the next page). Tighter credit standards plus tighter monetary policy is a toxic combination, and this likely means that the share of zombies may remain elevated for some time.

Exhibit 4: Percent of Listed Companies with ICR<1 in MSCI ACWI

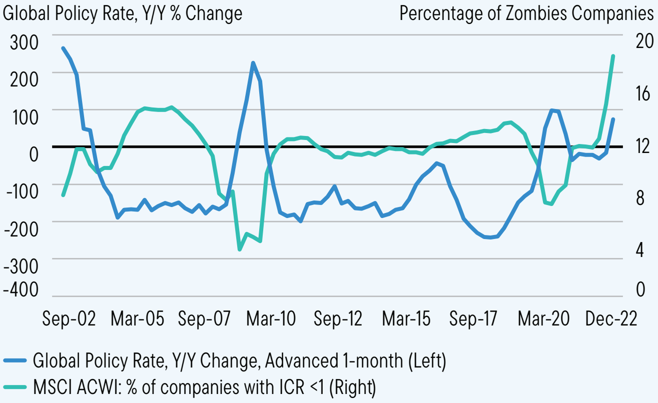
As of December 31, 2022



Sources: Analysis by Franklin Templeton Institute. MSCI Indices, FactSet. Indexes are unmanaged and one cannot directly invest in them. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Exhibit 5: Percentage of 'Zombies' Versus Interest Rates

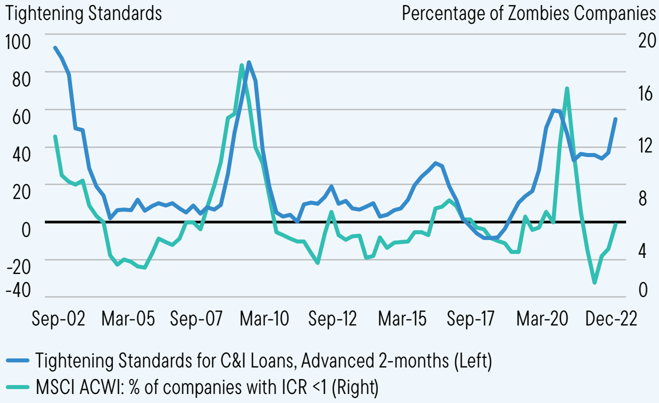
As of December 31, 2022



Sources: Analysis by Franklin Templeton Institute, MSCI Indices, BIS, national central banks, Macrobond. Global policy rate is calculated as a weighted average of central bank policy rates of countries composing the MSCI ACWI index, based on their weights in the index. Indexes are unmanaged, and one cannot directly invest in them. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Exhibit 6: Percentage of 'Zombies' Versus Tightening Standards

As of December 31, 2022



Sources: Analysis by Franklin Templeton Institute, MSCI Indices, BIS, national central banks, Macrobond. Indexes are unmanaged, and one cannot directly invest in them. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

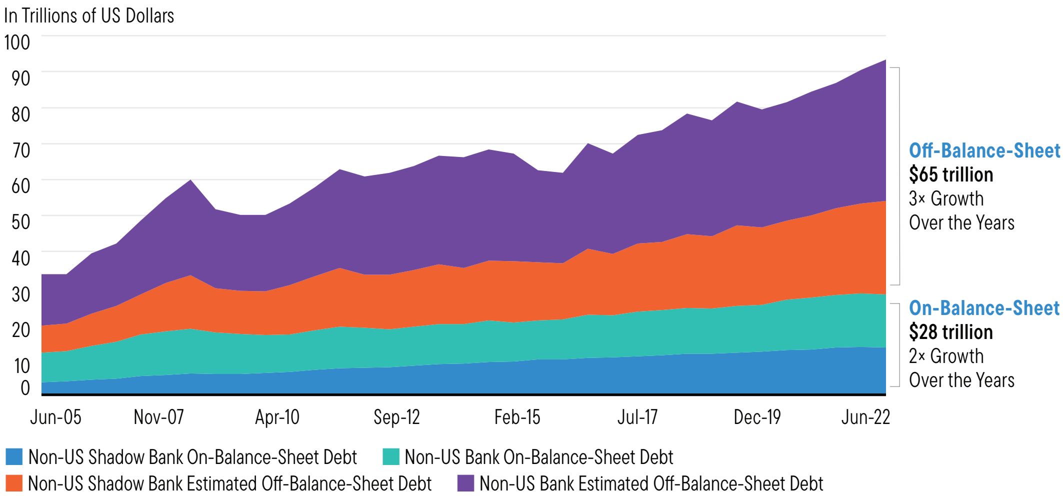
slowdown risks. The risks may be more pronounced outside of the US, from an exposure perspective, as these offshore financial intermediaries virtually have restricted dollar liquidity and potentially face currency volatility as they might face challenges obtaining US dollars to meet their funding needs, conduct transactions or fulfil obligations denominated in US dollars. If the value of the local currency against the US dollar fluctuates significantly, it can have adverse effects on the financial position and profitability of offshore intermediaries, increasing counterparty risks. This risk is amplified when those US dollar obligations are part of contingent liabilities that are subject to limited scrutiny.

Exhibit 7 shows the missing dollar debt from FX swaps/forwards and currency swaps. The off-balance-sheet US dollar debt of non-banks outside the US substantially exceeds their on-balance-sheet debt and has been growing faster. Off-balance-sheet dollar debt may remain out of sight and out of mind, but only until the next episode of liquidity squeezing.

Off-Balance-Sheet Debt Has Grown Faster and Is More Than Two Times the On-Balance Debt

Exhibit 7: Debt in Non-US Banks and Shadow Banks

As of June 30, 2022



Sources: US Office of the Comptroller of the Currency (OCC); Dealogic; Euroclear; Thomson Reuters; Xtrakter; national data; BIS consolidated banking statistics (CBS); BIS locational banking statistics (LBS); BIS OTC derivatives statistics (OTCD). Important data provider notices and terms available at www.franklintempletondatasources.com.

Untenable debt structures a precursor for restructuring

When debt becomes unaffordable and unsustainable, it needs to be restructured. That entails a modification of the terms and conditions of a company's existing debt to improve the company's ability to meet its debt obligations. Debt restructuring strategies may include negotiation with creditors on the repayment terms, conversion of a portion of the company's debt into equity, sale of non-core assets to generate cash flow or refinancing of the existing debt with a new debt that offers favorable terms. This is especially the case when there is a high debt-to-surplus ratio (see Section "The Different Grounds Laid for Stronger Balance Sheet"). Debt restructuring may be a preferred option when companies face additional challenges from rising input costs and slower demand and banks become reluctant to extend fresh credit lines. In the US during 2022, there was an increase in the number of bankruptcies for reorganization (Chapter 11 and 13 of the US Bankruptcy Code), while the number currently remains below pre-pandemic levels. The companies that can eventually restructure their debt tend to be large, while small and midsize businesses are less fortunate and have limited access to capital and restructuring options. The debt could include either syndicated loans or multiple loans or multiple liens on the same collateral or multiple bonds issued. With multiple creditors, it gets difficult to restructure, as creditors may not effectively coordinate due to varied or conflicting interests.

Based on our analysis of the data from ICE BofA Indices, almost 21% of global corporate bonds are maturing by 2025, and those companies would potentially experience higher refinancing costs.[13] Hence, debt restructurings are likely to become more frequent and will need to address more complex coordination challenges (especially in case of external debt) than in the past, owing to increased diversity in the creditor landscape. Having debt restructuring strategies in place for orderly restructuring is in the best interests of creditors and debtors alike.

Refinancing costs have increased over the recent period and are expected to remain elevated in accordance with the expectations for policy rates. Instead of refinancing, corporates may choose to deleverage to reduce interest expenses and enhance financial stability. Debt may be repaid through excess profits, asset sales (underperforming or non-core assets) or issuance of equity. Therefore, deleveraging could result in less business investment and therefore slower economic growth. To provide a countercyclical response, governments may increase fiscal spending. Consequently, in essence, the corporate debt transforms to public debt in the process of deleveraging.

Whether the deleveraging results in higher debt for the economy depends on the quantum of corporate debt deleveraged and the economic growth as shown in Exhibit 8 on the next page. There is the undeniable domino effect where recession leads to a fall in consumer spending as banks and consumers pay off debt or default, causing an increase in government borrowing to prevent a bigger downfall in consumption spending and business investment.

What does this mean for creditors and investors? It is easier for central banks to roll over debt than it is for companies. Hence, companies may be increasingly prudent on debt accumulation and quick to deleverage when the situation calls for it. For instance, in the US, during the Global Financial Crisis (GFC) of 2007–2009, the growth rate in Federal Reserve (Fed) assets increased to provide liquidity in the market and support economic growth, while the corporate debt growth rate declined over the same period. Similarly, we see that happening briefly during the pandemic period.

A Country's Total Debt May Rise Even With a Fall in Private Debt

Exhibit 8: Notable Historical Precedents

As of July 7, 2023

Instances When the Total Debt for the Economy Grew Due to:

A. Quantum of Corporate Debt Deleveraged	B. Economic Growth
During 2009 to 2013, in the US, the private debt (household and non-financial companies) to GDP ratio decreased by about 16% of GDP, while government debt increased by 17% of GDP, resulting in a higher overall debt level.	During 2009 to 2012, the UK witnessed high unemployment, high inflation and slower economic recovery. The government expanded its fiscal policy, including a temporary reduction in the value added tax (VAT) by 2.0% from December 2008. The economic slowdown also meant lower tax revenues and higher government borrowing even without the additional stimuli provided by the government.

Sources (for US debt data): Analysis by Franklin Templeton Institute, IMF Global Debt Database, Macrobond.

Both corporate debt restructuring and deleveraging play critical roles in addressing financial challenges, optimizing capital structure and positioning a company for sustainable growth. From an idiosyncratic risk perspective, corporate debt restructuring and deleveraging impact the investment holdings depending on the terms and conditions of the debt restructured or deleveraged as well as the change in the financial performance of the company. From a broader risk perspective, if more debt is generally being restructured or deleveraged, it would impact credit availability as banks tighten their lending standards. That could have a ripple effect on business investment and lead to an accommodative monetary policy and potentially lower interest rates.

Lessons from the banking crisis

The financial market has developed through the lessons learned from tough times, renovating its complex intertwined structure such that its participants can rely on its functionality against calamities.

Strains in the markets and financial systems expose the vulnerabilities as well as provide key lessons to the system's participants. The recent stress in the banking system in the US and Europe raised questions about the impact of high interest rates and the repercussions to other financial intermediaries. For investors, this means that not only would we need to look at debt levels, leverage ratio, interest coverage ratio and other financial covenants, but also the quality of funding that the companies have to provide for their working capital requirements.

Confidence level on financial intermediaries is an important criterion, and a dip in confidence can trigger fund withdrawals from the banks, stripping from them the much-needed liquidity to provide loans and manage their asset-liability gap. With high household deposits, any change in the savings pattern could affect the cost of funding for banks. At the same time, wariness among investors, lenders and depositors could cause credit tightening and require companies to diversify their funding sources. This is a concern especially for junk-grade borrowers and sectors or companies with high debt levels.

In that regard, information on a corporate's weighted average cost of capital (WACC) is important. A company's WACC could increase not only with higher interest rates but also with larger liquidity problems. For instance, Microsoft's WACC increased during the 2001 crisis and the GFC crisis in the US, coinciding with the marked deterioration in the Bloomberg United States Financial Conditions Index. Similarly, the increase in interest rates in 2015 coincided with a higher WACC for Microsoft and a brief and slight moderation in financial conditions at the time. Companies that have strong balance sheets should be less sensitive to the changes in financial conditions, as cash can help cushion the financial adversities.

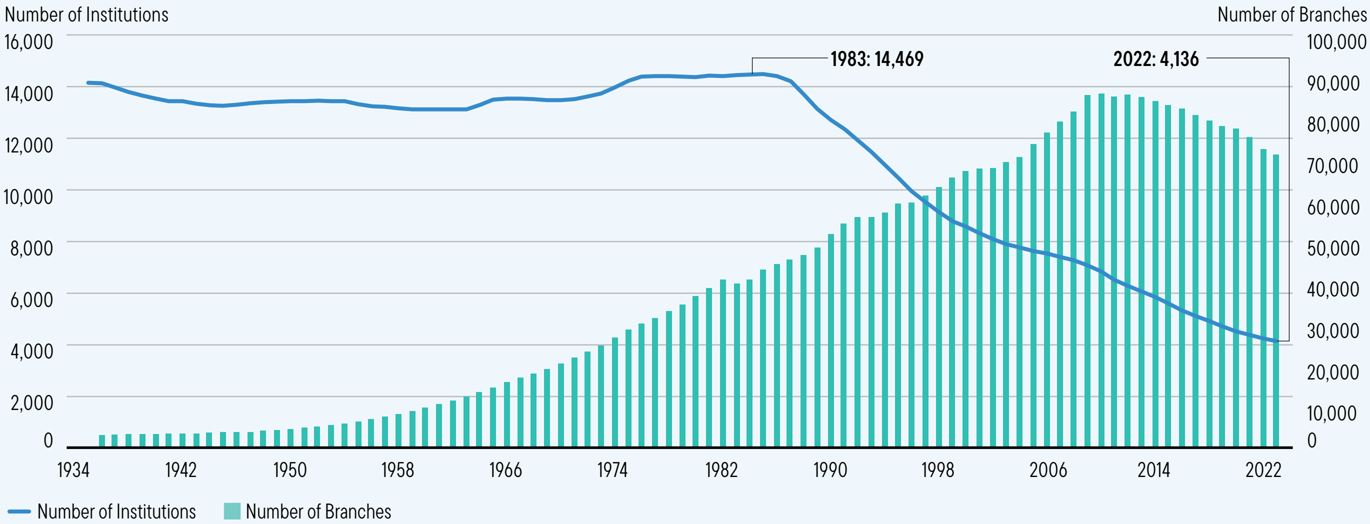
Additionally, diversifying the loans borrowed across lenders may be prudent to avoid the repercussions of an abrupt inaccessibility of funds. It is preferable for companies to source their working capital requirements from a reliable bank. In the US, over the past three decades the number of banking institutions has drastically reduced (see Exhibit 9 on the next page), and it is arguable whether the pool of reliable banks has grown or decreased with the fall in the total number of banks. Nevertheless, the reliability of the funding is critical to the smooth functioning of the companies and thus an important parameter for investors.

The financial sector is increasingly interconnected among different non-bank financial intermediaries and traditional banks, including those that are overseas. Stress in any major bank or a few banks may lead to dollar funding stress that would adversely impact the external borrowings by companies. Credit ratings of the country may indirectly impact the cost of borrowing for companies, especially when access to the Fed's dollar swap lines is limited to certain countries. The Fed has provided dollar swap lines with a few other predominant central banks to reduce strains in the supply of credit that is channelled to households and corporates. This has eased the stress in foreign currency markets. Otherwise, tighter foreign currency supply exacerbates liquidity risks, with high demand for the dollar's safe haven status and international trade transactions. Investors could be faced with a double whammy situation, with an increased prospect of defaults and lower asset prices and, hence, the need to tread cautiously with companies or countries that are dependent on foreign currency borrowings.

US Banks Have Been Consolidating Over the Past Decades With Industry Giants Gaining a Larger Share While the Number of Branches Expanded

Exhibit 9: Number of FDIC-Insured Commercial Banks and Branches

As of December 31, 2022



Sources: Federal Deposit Insurance Corporation, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

Debt sustainability is crucial in higher debt structures

As the level of debt and its cost increases, the issue of debt sustainability grows in significance. For companies to ensure their sustainability, they must generate profits surpassing their capital expenses. To truly remain viable and sustainable, a company must maintain a growth rate higher than the interest rate on the borrowed capital.

This is important because the interest rate represents the cost of borrowing money, and if a company's profits are not growing faster than this rate, it may struggle to meet its financial obligations and risk insolvency. Therefore, it is crucial for investors to carefully assess the profitability of the companies they invest in, ensuring the earnings growth remains favorable in relation to the borrowing costs.

To assess the corporate debt sustainability for selected countries, we have analyzed the fundamentals of the equity market as a proxy. The listed companies are not representative of the corporates for any particular country, but it is a good starting point. In Exhibit 10 on the next page, the country in the most adverse situation is Italy. Italy's corporate debt has been increasing with the net debt-to-EBITDA above 4×.[14] Many Italian companies are finding that the borrowings are hard to replace or pay back.[15]

Corporate Debt Sustainability Is a Concern in Italy, Australia and the UK

Exhibit 10: Corporate Debt Sustainability: Earnings vs Cost of Debt

As of December 31, 2022

Countries	EBIT Growth	Cost of Debt	EBIT Growth-Cost of Debt Differential
Australia	2.3%	6.2%	–3.9%
Canada	6.5%	7.4%	–0.8%
China	9.4%	6.8%	2.7%
France	5.4%	3.4%	2.0%
Germany	3.0%	3.9%	–0.9%

Countries	EBIT Growth	Cost of Debt	EBIT Growth-Cost of Debt Differential
Italy	9.3%	15.3%	–6.0%
Japan	5.5%	5.7%	–0.1%
UK	2.5%	5.7%	–3.2%
US	5.6%	4.4%	1.3%

Sources: Analysis by Franklin Templeton Institute, MSCI Indices, FactSet. Indexes are unmanaged, and one cannot directly invest in them. They do not include fees, expenses or sales charges.

Notes: For corporates we use the cost of debt as of 2022, which is calculated as the interest expense divided by the total debt balance, and the earnings before tax and interest (EBIT) growth rate. EBIT growth is the average EBIT growth over the last 10 years, except for Italy, which is the average EBIT growth over the last 5 years. Cost of debt is calculated as interest expense divided by total debt. Important data provider notices and terms available at www.franklintempletondatasources.com.

However, as the cost of borrowing increases, it is reasonable to expect slower debt accumulation for new business investments or to improve productivity. In addition, with the global supply chain expected to shift, companies are looking to diversify their operation or relocate their operations away from China. Local companies can seize this opportunity by raising more debt to finance capital expenditures and improve productivity.

For example, Vietnam has grown to be a key part of the supply chain due to companies moving out of China, while there was an increase in private debt as a percentage of GDP. The country is now looked upon as a manufacturing hub that provides a conducive environment for production facilities with a stable political system and availability of labor force. We could expect an increase in debt raised by private companies to improve their productivity through technological enhancement.

Indonesia intends to be a key player in the electric vehicle (EV) industry with its plans to build EV battery production units, given its abundance in nickel—a crucial component of the battery. With this, the country would be able to increase the proportion of value-added products in its total exports, aiming for higher export revenues. Such technological advancement would require an increase in debt. An increase in earnings generated from the deployment of the borrowed funds should exceed its costs.

The proportion of debt used to expand/enhance corporate operations or for refinancing may alter the quality of the bond/loan market. Active investment management with scrutiny of corporate debt quality and documentation/covenants are increasingly crucial and differentiating when debt servicing costs stay high (and higher for middle- and low-income countries). More importantly, the companies' cost of borrowing indirectly depends on the country's credit rating. The potential to generate economic growth and corporate earnings may hit a ceiling in some economies with lower sovereign ratings faster than in those with higher-rated economies.

Household debt: the dimensions of vulnerability that can cascade to banks

The household sector in major economies had been reeling under high inflation and reduced disposable income since the global pandemic. The increase in interest rates is also causing issues with spiking mortgage rates and elevated house prices that have caused a further dent in housing affordability. Housing affordability is increasingly a greater public issue for the North American and European regions. Consequently, reduced affordability for housing could impede consumption, especially for countries where consumption is a huge component of GDP. The ripple effect through the economy is sure to impact investors, especially where banks are more exposed to household debt.

While debt boosts consumption and GDP growth in the short run, a 1% increase in the household debt-to-GDP ratio tends to lower output growth in the long run by 0.1%, suggesting that there are real costs in stimulating the economy through credit expansion.[16] Nonetheless, an important parameter in gauging debt sustainability is the household debt service ratio (see Exhibit 11 on the next page), which has improved in most countries over the years.

Mortgage loans tend to be a large part of total household debt and are more interest rate sensitive due to their longer maturity. Mortgage rates have doubled on average in developed economies since the start of 2022 as their central banks fight runaway inflation with higher interest rates.[17] Mortgage principal and interest payments are one of the major outlays of household budgets, accounting for about 15%–20% of disposable income for the median mortgage holder.[18] Higher mortgage rates have led to a decline in home sales and, in the longer run, will adversely impact the construction industry and employment.

Households with variable mortgage rates are more affected in the rising interest rate environment. Mortgages in the US are predominantly based on a 30-year fixed rate and hence US households are less affected by rising mortgage rates. Similarly, Germany, France, and Italy would be less affected, while Australia, and Canada are more affected due to their exposure to variable rate mortgages and higher mortgage rates. This could potentially increase the household debt service ratios for Australia and Canada, which are already relatively high, as shown in Exhibit 11 on the next page. Furthermore, Germany, France and Italy have a relatively small share of home ownership through mortgages.

To determine whether the mortgage debt could transpire to bank stress, we should look at banks' and financial institutions' exposure to total household debt. Canadian and Australian banks are among the most exposed to household debt and are thus more vulnerable. Canadian banks have about 54% of the loans in mortgage debt, and Australian banks have about 58% of the loans in mortgage debt.[19] Exhibit 11 on the next page highlights some key determinants to assessing the household vulnerability score. Enacting more proactive policies can safeguard the spillover effect of high mortgage rates in these countries. While Australia's central bank has expressed concerns over housing vulnerabilities, Canada's central bank has tightened its interest rates despite housing vulnerabilities.[20]

Household savings and wage growth may ultimately determine whether the household debt is sustainable. High inflation has been diminishing the real wage growth. Investors need to consider the banks' exposure to household debt where the household debt is more vulnerable.

Australian and Canadian Households Are More Vulnerable

Exhibit 11: Household Vulnerability Score: A Comparison of Selected Countries

Countries	Mortgage Rate (in %)[a]	Mortgage Rate Increase Over the Last 2 Years (in %)[b]	Share of Variable Rate Mortgages (in %)[c]	House Ownership with Mortgages (in %)[d]	Household & NPISH Debt Service Ratio (in Percent)[e]	Housing Cost as a % of Income[f]	Dissatifaction with Housing Affodability (Percent of the Population)[g]	House Price-to-Income (in %)[h]	Real Wage Growth (in %)[i]	Vulnerability Score
Australia	8.3	3.8	78.2	32	16.3	21.3	52.0	120.7	4.3	1.85
Canada	5.5	3.4	19.0	39	13.8	18.9	53.0	136.4	1.8	3.38
China	4.1	–1.3	—	—	—	—	23.0	—	4.3	—
France	2.9	1.8	2.0	23	6.4	20.5	46.5	106.4	0.3	5.91
Germany	3.9	2.7	11.0	18	5.9	18.3	42.5	124.4	–3.2	5.60
Italy	4.2	2.7	24.0	11	4.3	19.1	40.0	90.6	–1.1	6.68
Japan	2.5	0.0	61.6	—	7.5	18.6	17.5	115.3	–2.5	6.44
UK	7.4	3.8	8.0	28	8.6	19.9	49.5	115.7	–1.2	3.79
US	6.3	3.1	2.0	40	7.7	18.3	42.0	132.8	0.2	4.49

Source: Analysis by Franklin Templeton Institute. The vulnerability score is based on the comparison among these selected eight countries (excluding China as there is insufficient data) for each of the data indicators considered in this table. It ranges from 0 to 10 with 0 indicating an adverse situation or a more vulnerable situation and 10 as the best situation or a less vulnerable situation.

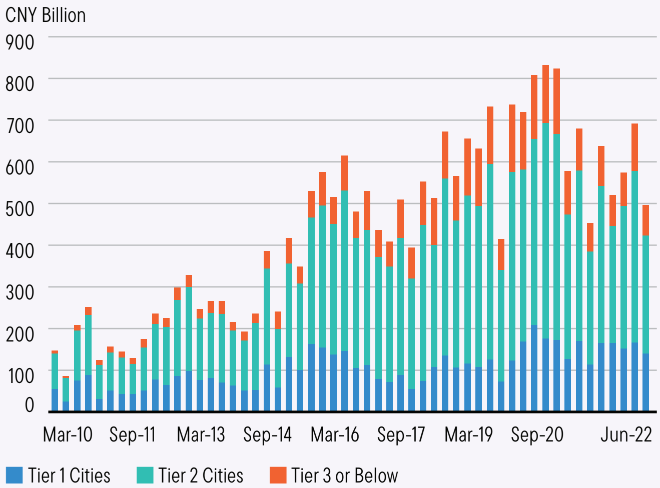
a. As of June 30, 2023 or latest data available. Sources: FHFA, ECB, BUBA, BoC, RBA, PBoC, Bank of Italy, BOJ, Banque de France, BoE, Macrobond.
b. As of June 30, 2023 or latest data available. Sources: FHFA, ECB, BUBA, BoC, RBA, PBoC, Bank of Italy, BOJ, Banque de France, BoE, Macrobond.
c. As of June 8, 2022. Source: OECD Economic Outlook, Volume 2022, Issue 1
d. As of 2020. Source: OECD
e. As of December 31, 2022. Sources: BIS, Macrobond. Notes: The debt service ratio is defined as the ratio of interest payments plus amortizations to gross disposable income (before interest payments) expressed as a percentage. NPISH stands for non-profit institutions serving households.
f. As of 2020 or latest data available. Source: OECD. Notes: Median of the mortgage burden (principal repayment and interest payments) or rent burden (private market and subsidized rent) as a share of disposable income.
g. As of 2022. Source: Social Progress Imperative
h. As of March 31, 2023 or latest data available. Sources: OECD, Macrobond
i. As of June 30, 2023 or latest data available. Sources: Calculated by Franklin Templeton Institute, ONS, BLS, DESTATIS, INSEE, Istat, CaO, StatCan, NBS, ABS, Japanese Statistics Bureau, Ministry of Internal Affairs & Communications, BUBA, China NBS, Macrobond.

Case study: China's households

Managing household finance and debt in China has become a pressing issue. While the country has experienced rapid economic growth and an expanding middle class, it has also faced various challenges in the domain. China's household debt had been rising over the past decade, driven by mortgages that form about 50% of the total household debt. The outstanding mortgages plateaued during 2022 at 38.8 CNY trillion as households seek to prepay mortgages and lower home sales, despite mortgage rate cuts, amidst pessimism over future income growth. China's household savings increased during 2022, with deposits at banks increasing and more households inclined to save more. In Q4 2019, 45.7% of respondents to a survey by the People's Bank of China stated they are inclined to save more; this rose to 58% of respondents in Q1 2023.[21]

Higher debt, as a percentage of GDP and as a ratio to household disposable income, makes households more susceptible to a fall in wages, income shocks, higher interest rates or a fall in house prices. This could heighten bank risks as rising

Exhibit 12: China: 50-City Residential Sales Value
As of June 30, 2023



Sources: CRIC, Bloomberg. Important data provider notices and terms available at www.franklintempletondatasources.com.

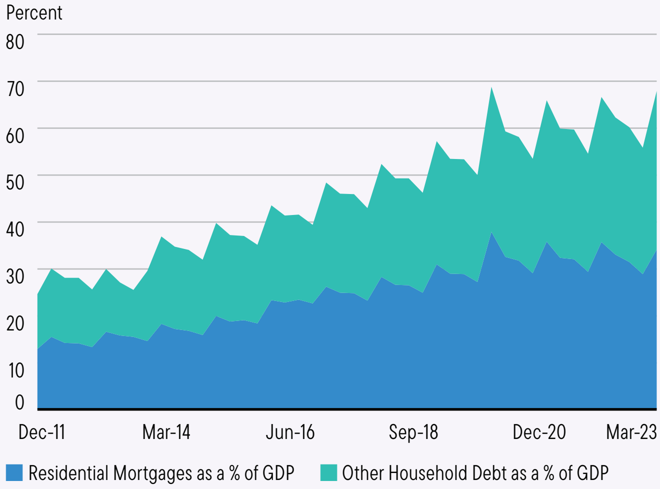
household debt means increased bank exposure to the debt. Based on our calculations, the banks' exposure to household debt increased from 25% in Q4 2011 to 34–35% in Q1 2023.[22]

The initial loan-to-value ratio may be low but as the residential prices fall, the loan-to-value ratio may rise, triggering additional capital requirements for banks as the risks increase and thereby lowering the proportion of funds available for lending. In 2016, the government introduced limits on prices and consumer loans to address concerns over home affordability, capping the rise in home prices for the years that followed. During 2020, the government-imposed restrictions on property developers and finances, eventually leading to a fall in home prices and sales during the latter half of 2021 that continued into 2022. However, beginning in early 2022, a significant number of cities implemented measures to support the housing market, which included the relaxation of various purchasing restrictions. These measures may help limit the fall in home prices and not lead to a significant rise in the loan-to-value ratio. Furthermore, in a meeting late last year, Congress included stabilizing the housing market as a key target.

The urbanization rate of China is also key to housing demand. The urbanization rate as of 2022 is 65.22%.[23] There are two concerns here. First, the urbanization rate is on a declining trend, indicating lower housing demand, with the increases in the urbanization rate being less than 1% for 2021 and 2022.[24] Second, the urbanization rate is expected to reach 75–80% by 2035, indicating that the rate is most likely to be less than 1% per year.[25]

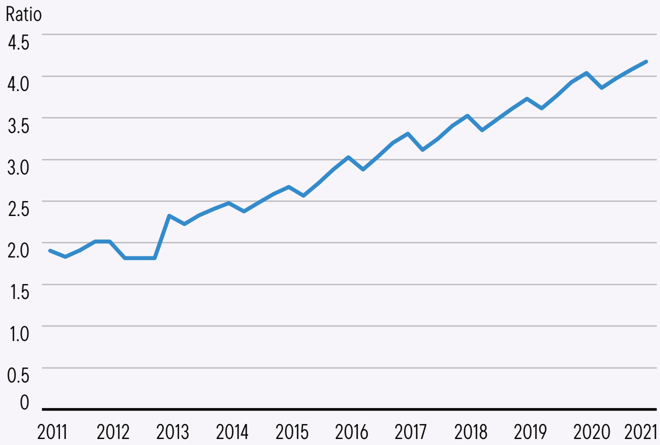
With the youth unemployment at elevated levels and the expected increase in aging population, over the long term, the demand for new homes may reduce since it would be unafford-able for the former and is not a requirement for the latter. Additionally, the unemployment scarring[26] may result in individuals buying homes at a later age. They may take on debt to finance ongoing expenses that could potentially be risky, especially if the borrowed funds are through shadow banks.

Exhibit 13: China Household Debt as a Percentage of GDP
As of March 31, 2023



Sources: Analysis by Franklin Templeton Institute, People's Bank of China, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

Exhibit 14: China: Outstanding Household Loans to Households Total Disposable Income
As of December 31, 2021



Source: Analysis by Franklin Templeton Institute, People's Bank of China, China National Bureau of Statistics, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

Case study: Australia's households

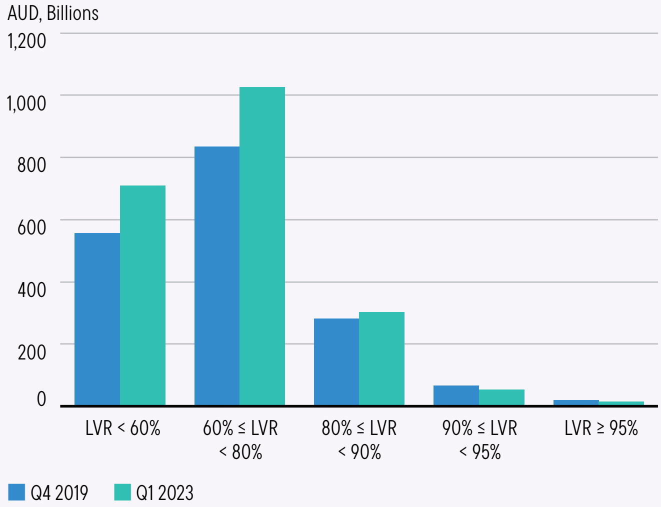
Australian households are facing the brunt of its central bank's interest rate hikes as mortgage rates have risen to their highest level in recent years and home prices have declined. New mortgages commitments had increased with the low interest rates during the COVID-19 pandemic, combined with the economic recovery and high levels of accumulated s avings. With a higher percentage of mortgages based on variable rates, the impact of a rate hike is almost immediate. While the percentage of variable-rate outstanding mortgages is at 60%, that percentage is much higher, at 93%, for new loans taken out in 2020. With 35% of the population having mortgages, (3.3 million households)[27] the impact of high debt levels makes the housing market particularly risky.

Another concern comes from the fixed-rate term loans that tend to be for a relatively short duration of two to three years.[28] While households' savings have provided a cushion, there are mortgage loans worth billions of Australian dollars that may come up for refinancing. If we look at the past, the fixed-rate loans that were taken two to three years back were at lower mortgage rates. Even those fixed-rate loans taken until mid-2022 were on lower mortgage rates, and the refinancing of those loans would most likely be at a relatively higher interest rate.

The loan-to-value ratio for Australian residential property loans tends to be at 60% to 80%. A fall in home prices could lead to a higher loan-to-value ratio, increasing risk to the lenders. A higher loan-to-value mortgage may attract a higher interest rate to compensate for the added risks. Low home equity may make it difficult to switch lenders (banks) to fetch a lower, more attractive interest rate. Australian home-price falls have accelerated since the Reserve Bank of Australia began its sharpest policy tightening.

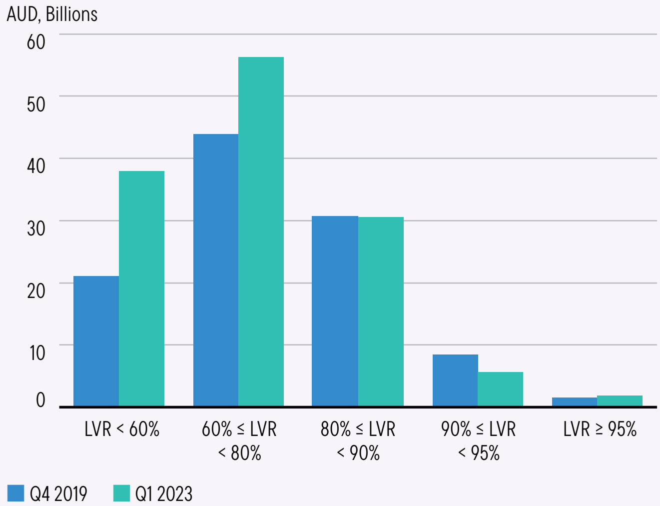
So far, the loan-to-value ratio is not alarming. But we believe that a 10–15% fall in property values from the 2022 levels may trigger tighter standards as the loan-to-value ratio rises, especially for the new loans.

Exhibit 15: Australia Residential Property Loan Outstanding, By Loan-to-Valuation Ratio (LVR)
As of March 31, 2023



Sources: Australia Prudential Regulation Authority, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

Exhibit 16: Australia's New Housing Loan Approvals, By Loan-to-Valuation Ratio (LVR)
As of March 31, 2023



Sources: Australia Prudential Regulation Authority, Macrobond. Important data provider notices and terms available at www.franklintempletondatasources.com.

Navigating the investment landscape amid high debt and interest rates

There are winners and losers in every interest rate upcycle. Typically, investors tend to favour liquidity (public markets) over illiquidity (private markets). But a window of opportunity has opened for the latter, driven by higher yields, a reduction in initial public offerings (IPOs) and the tightening of lending activity at commercial banks. Investors with a higher risk appetite may add exposure to private markets and/or high-yield bonds in their portfolio.

History suggests that private investments can do well during economic slowdowns. Private asset funds with vintage years characterized by economic slowdowns have generated higher returns as compared to those that have vintage years characterized by economic expansions (see Exhibit 17).

Performance of Private Markets vs Public Markets During Different Stages of the Economy

Exhibit 17a: Average of the Next One-Year Performance

January 1, 1997–June 30, 2023

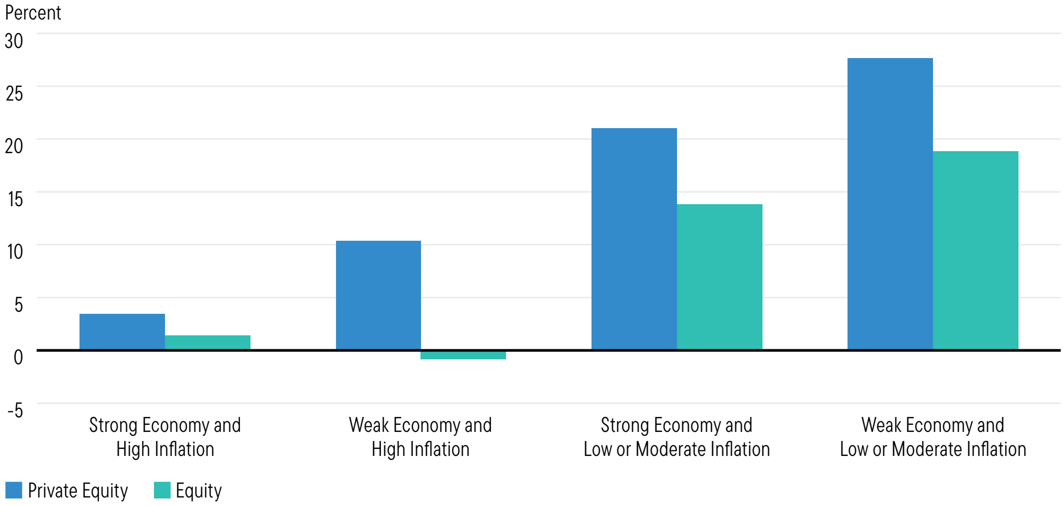
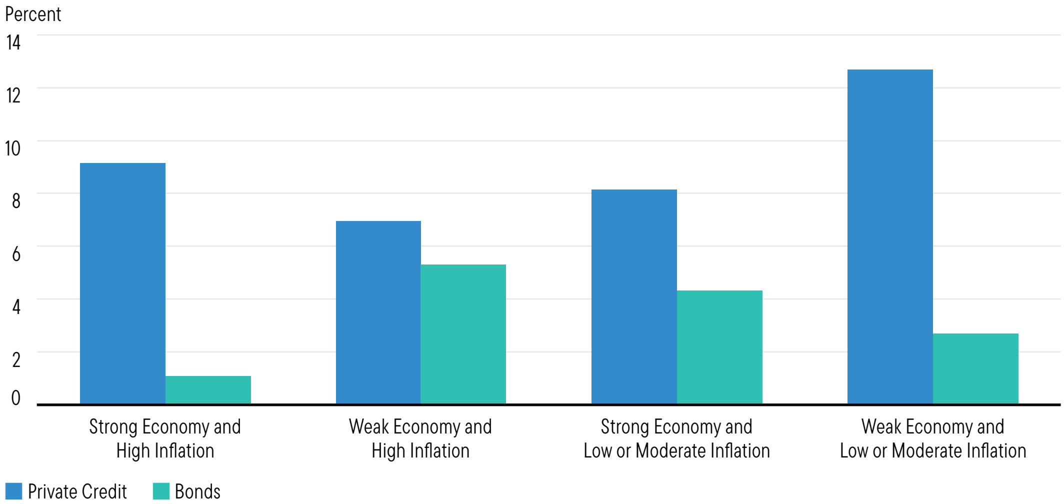


Exhibit 17b: Average of the Next One-Year Performance

October 1, 2004–March 31, 2023



Sources: Analysis by Franklin Templeton Institute, Refinitiv, Bloomberg, Cliffwater LLC, ICE BofA Indices, SPDJI, Macrobond.

Notes: "Strong Economy" and "Weak Economy" calculations are based on the US real GDP growth and the classification of "High Inflation" and "Low or Moderate Inflation" is based on the US Consumer Price Index. Indices used: Refinitiv Private Equity Buyout Index, S&P 500, Cliffwater Direct Lending Index, ICE BofA US Broad Market Index. The periods considered for Private Equity vs Equity and Private Credit vs Bonds differ since the start date for the index for private credit is in 2004 and is reported on a quarterly basis. Important data provider notices and terms available at www.franklintempletondatasources.com.

With the elevated interest rates, returns may not be similar as earlier with private equity (PE) funds demanding a higher internal rate of return (IRR) for their investment. Cash rich PE funds use this advantage, but over the long-term, the exit opportunities for venture capitalists may reduce as private companies seem to be increasingly avoiding IPOs, traditionally a key exit route for venture capitalists, while public companies in the US are taken private. Another route to exiting the private equity holdings is the secondaries market, where the private equity fund manager or investor can sell their stake in a company to a secondaries manager, providing liquidity and the ability to reposition their portfolios. The secondaries manager can diversify its holdings across different sectors, geographic regions and investments in varying stages of the business lifecycle, taking advantage of a growing market with attractive opportunities.

During downturns, we could see a rise in distressed assets, providing investment opportunities in the alternatives space. Within the fixed income space, default rates may also rise especially in the speculative credit rating markets—high-yield bonds and leveraged loans—requiring active management in these markets as higher interest rates may provide attractive opportunities.

High inflation creates headwinds and tailwinds for private credit. Most of the private credit loans are floating rate, providing protection against inflation as higher yields due to higher inflation provide more income. In contrast, the high inflation and interest rates could impact the financial covenants of the private companies in the private credit fund portfolio, potentially increasing credit risk. However, selective investment in sectors that can pass on the higher inflationary costs and have better cash-generating capacity would yield net benefits. With higher yields and the possibility of tightening bank lending standards, the private credit managers may have more opportunities to choose from.

Higher-income-generating assets would be preferred over the short term. Within fixed income, Asian bonds fare better in income generation. Some Asian economies may be ahead of the Fed in reaching the end of their hiking cycles. Inflation risks on average in Asia are relatively more benign compared with developed markets overall. Lower duration (sensitivity to interest rate changes) and the higher yields provide risk-return dynamics. Asian sovereign fixed income, high-yield and investment-grade corporate debt are providing attractive yields and a buy and hold strategy looks viable.

Nonetheless, the possibility of the Fed lowering interest rates in the next year makes US investment-grade bonds attractive, in our view, as they have higher interest-rate sensitivity. Markets in the US and Europe offer high duration as compared to markets in Asia.

Mortgage-backed securities (MBS) and asset-backed securities (ABS) are also providing higher yields, providing attractive investment opportunities, especially in the US.[29] The US consumer is in a relatively healthy financial state with accumulated savings (during the pandemic), improving wage growth, a tighter labor market, and more fixed-rate mortgages. However, the lower lending standards during 2020–2022 may have led to higher-risk assets in this market segment. In contrast, the new loans undertaken since the latter half of 2022 would be of a comparatively better quality as the lending standards have tightened.[30] Further, as interest rates are expected to remain elevated during 2023 and beyond, there would be little to no incentive for the underlying loan borrowers to prepay their loans. Since MBS and ABS are subject to prepayment risks, this lack of potential prepayments would be beneficial for investors and provide better certainty of their cash flows.

Across all asset classes, investors need to be selective, especially in an elevated interest-rate environment. We believe a combination top-down and bottom-up approach would be crucial to select good investment opportunities. The dynamic nature of the economic backdrop should be mirrored by the dynamism of the investment portfolio.

Asian Bonds Provide Higher Yields and Lower Duration

Exhibit 18: Yield to Maturity and Duration

As of July 5, 2023

Source: ICE BofA Indices. Indexes are unmanaged, and one cannot directly invest in them. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Conclusion

Fifteen years after the Global Financial Crisis, companies and arguably even households became accustomed to having access to plentiful, low-cost debt. Assuming it was structural and permanent, it became the “first resort” for many companies and households. The ensuing debt accumulation optically helped to grow balance sheets and cash balances, for a while. But as we know, market conditions can change fast. The change of interest-rate regime was a long time coming and was triggered by an astounding cloudburst of factors, resulting in higher inflation and interest rates.

The debt landscape has now fundamentally changed, with higher debt, a wider range of creditors and shadow banks. For the countries that have been driving global economic growth over the last 30 years, aging populations create additional challenges for economic and social policy, as well as for corporations and households. The combination of higher debt and higher interest rates not only makes debt servicing challenging but also increases the debtors’ vulnerabilities to external shocks.

However, the need for financing is still growing in the private sector. Industrial companies need to reconfigure their production processes and modernize their installations to keep their future operating expenses low enough to protect margins. In many cases, their existing supply chains also need to be reconfigured, both for diversification and geopolitical reasons.

The typical signposts indicating deteriorating credit quality are there, with an increase in the number of zombie companies that do not have sufficient cash to repay their debt. Based on our analysis of the data from ICE BofA Indices, almost 21% of the global corporate bonds in issue are due to mature by 2025.[31] Therefore, debt restructurings are likely to become more frequent—structural and growing. In this new debt landscape, with its wider range of creditors, there may be a degree of disintermediation of banks. In the US, intense regulatory pressures will grow after Silicon Valley Bank’s failure; in Europe, demand for debt restructuring will likely outstrip the amount available in capital markets and banks. Having debt restructuring strategies in place for orderly restructuring is in the best interest of creditors and debtors alike.

Some may try debt restructuring, but with banks’ credit policies tightening, it seems unlikely that they can comfortably refinance. Deleveraging may be an option, but as the market is constrained already, asset sales would have to be highly successful to deliver. For many, the future looks bleak indeed, unless they are lucky enough to sit atop a meaningful resource of critical minerals or happen to be in a sector considered of importance to national security. In the event of a private debt deleveraging, to a large extent, the government may intervene to support the economy, leading to higher public debt. This development clearly raises questions around debt sustainability and transparency at the levels of government, companies and individuals.

Investors can achieve higher investment returns by demanding higher visibility and quality of earnings from their corporate holdings, translating into higher costs for the issuer. That clearly puts pressure on the lower-quality, more needy issuers and constrains the room for maneuvering for the relatively stronger ones. For companies to ensure their sustainability, they must generate profits surpassing their capital expenses. This implies a growth rate higher than the interest rate on the borrowed capital, which is difficult to manage if rates are particularly high. Our assessment of the earnings growth and cost of debt shows that Italy, Australia and the UK have a slower growth rate of earnings compared with the cost of debt.

There will be an increasing importance of the other forms of corporate liabilities—insurance, pensions and standardized guarantee schemes, and other accounts payable—against the value generated through operating surplus. Additionally contingent liabilities in banks' and companies' off-balance sheets have the potential to trigger a liquidity shock, unless banks prove to be resilient and the banking regulator conducts prudent stress tests. These may complicate risk management assessment and, accordingly, affect a company's balance sheet health in the medium to long term.

The retail credit sector is challenged by housing affordability, high levels of debt and inflation. Mortgage loans tend to be a large part of total household debt and are more interest rate sensitive due to their longer maturity. Some countries have a higher percentage of mortgage loans with variable interest rates that lead to higher interest payments in a rising (or elevated) interest-rate environment. Canadian and Australian banks are among the most exposed to household debt, so they appear more vulnerable in a downturn. Mortgages account for around 54% and 58%, respectively, of Canadian and Australian banks' loan books.[32] Household savings, employment rates and wage growth ultimately determine whether this type of debt is sustainable.

Typically, private investments flourish during economic slowdowns. Private companies seem to be increasingly avoiding IPOs, reducing the likely flow of exit opportunities for private equity and impacting venture capital, while the secondaries market looks attractive. Distressed assets and private credit may appear more attractive as investment opportunities increase, but they imply specialist risk assessment. Examining the quality of corporate debt and its documentation/covenants is becoming increasingly vital and can differentiate active investment management, especially in the context of elevated debt servicing costs, particularly for middle- and low-income countries. Additionally, within fixed income there are opportunities in Asian bonds, higher yield and leveraged loans that offer higher yields, while having lower duration.

It would be convenient to be able to draw conclusions for country asset allocation, but there are multiple interlinked factors that could impact risk premiums depending on many variables. While each country has specific nuances in terms of risk exposures, some may also have "stabilizers" in the form of variable-interest-rate assets, loan-to-value requirements, household liquidity buffers, etc. Policy adjustments matter, but they do not work in the same way in each country. In a rising- or elevated-interest-rate environment, for a greater rate of success, we believe active management is required from a top-down and bottom-up approach.

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1. Source: Catechis, Kim. "Deep Water Waves." Franklin Templeton Institute. August 16, 2021.
2. Source: Analysis by Franklin Templeton Institute, MSCI Indices, FactSet, as of 2022. Indexes are unmanaged and one cannot directly invest in them. They do not include fees, expenses or sales charges.
3. Source: Analysis by Franklin Templeton Institute based on latest data available from OECD, BIS, national sources (includes central banks, statistics department, and department of ministry of internal affairs), Macrobond.
4. Source: As per the IMF Global Debt Database, 2022.
5. Ibid.
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7. Ibid.
8. Source: Mendocino, Caterina, Nikolov, Kalin, Rubio-Ramirez, Juan, Suarez, Javier, and Supera, Dominik. "How much capital should banks hold?" European Central Bank. January 27, 2021.
9. Source: Hacibedel, Burcu, and Qu, Ritong. "Countries Should Act Now to Limit Rising Risks from Corporate Distress." IMF Blog. January 31, 2023.
10. Net debt-to-EBITDA is a metric to evaluate a company's ability to repay its debt. The ratio is calculated as net debt (net debt is gross debt minus cash) divided by earnings before interest, taxes, depreciation and amortization (EBITDA).
11. Japanese companies have more cash than their total debt, leading to a negative ratio for net debt-to-EBITDA.
12. The interest coverage ratio has improved due to a combination of low interest rates and increase in EBIT with the change in EBIT more statistically significant (with higher t-Stat values) as compared to the change in interest rates for the US, UK, Japan and France.
13. Sources: Analysis by Franklin Templeton Institute, ICE BofA Indices, as of May 18, 2023. Indexes are unmanaged and one cannot directly invest in them. They do not include fees, expenses or sales charges.
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18. Source: OECD. Median of OECD countries, as of 2020.
19. Sources: Analysis by Franklin Templeton Institute, Statistics Canada, Reserve Bank of Australia, Macrobond, as of March 2023.
20. Sources: Reserve Bank of Australia, Bank of Canada, Macrobond. As of March 10, 2023, Australia's central bank has increased its policy rate by 3.5% since December 31, 2021, while Canada's central bank has increased its policy rate by 4.25% over the same period.
21. Source: People's Bank of China's Urban Depositor Survey, as of Q1 2023.
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23. Sources: National Bureau of Statistics of China, Statista, as of 2022.
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27. Source: "Home ownership and housing tenure." Australian Institute of Health and Welfare. April 5, 2023.
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29. Source: ICE BofA Indexes data, as of July 27, 2023. Indexes are unmanaged and one cannot directly invest in them. They do not include fees, expenses or sales charges.
30. Source: US Federal Reserve quarterly survey of senior loan officers' opinion on bank lending practices, as of April 2023.
31. Sources: Analysis by Franklin Templeton Institute, ICE BofA Indices, as of May 18, 2023. Indexes are unmanaged and one cannot directly invest in them. They do not include fees, expenses or sales charges
32. Sources: Analysis by Franklin Templeton Institute, Statistics Canada, Reserve Bank of Australia, Macrobond, as of March 2023.

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