

From NICE to VILE—The Future of Inflation

PERSPECTIVES | NOVEMBER 2023

AUTHOR

KATHARINE NEISS, PhD
Chief European Economist

RITUSH DALMIA, CFA
European Economist

- After the recent surge in inflation blindsided many investors, they are keen to avoid similar shocks going forward. Hence, this paper explores the type of inflationary environment that we might expect across developed markets in the future and its potential effect on global asset prices.
- **Investors' inflation surprise arrived after a series of distinct regimes.** The recent experience of excessively high global inflation looks radically different compared to the so-called NICE decade—Non-Inflationary, Consistent Expansion—that predated the global financial crisis of 2008/09. And it stands in even sharper **contrast to the recently concluded period of “too-low” inflation that came after.**
- Considering these developments, should we expect a return to the benign inflation environment of the last several decades? Or should we expect a world that is better described as VILE—Volatile Inflation, Less Expansionary?
- **Surely, it's a complex** question that aligns with [a global paradigm rife with complexities](#). Therefore, in an attempt to organize our views, we consider how changes in inflation targets, relative price shocks, and relative price trends may affect the pricing dynamics to come. Each of the three factors carry important consequences for inflation and the horizon over which central banks can steer inflation back to target—that is, the future inflation regime.

CHANGES TO THE INFLATION TARGET

The [concept of dispersion](#) has become a hallmark of the emerging macroeconomic and market paradigm, and that concept may apply to inflation in the future as well. Indeed, there is no compelling theoretical or empirical case for a 2% inflation target, which is, in large part, a consequence of historical accident.

The Federal Reserve research cited in Figure 1 shows how academic thinking regarding the “optimal” level of inflation shifted away from the classic Friedman rule of slightly negative inflation to an even more negative skew in the early 2000s.¹ However, in the years since the global financial crisis, a number of papers find optimal inflation to be above zero (and significantly so in some cases). The punchline is that the number of papers advocating for a higher positive level of inflation increased in recent years, largely reflecting prior anticipation and concern about the effects of policy rates at the zero lower bound during the pre-COVID period of “too low” inflation.

Perhaps reflecting this dispersion—as well as the more recent experience of sticky, above-target inflation—calls have mounted for changes to inflation targets. Former IMF Chief Economist Olivier Blanchard has prominently advocated for changes, although his views have recently moderated to increasing the target to 3%, rather than 4%.²

Figure 1: The recent increase in optimal inflation rates cited in academic research (Diercks (2017) list of optimal inflation rates from academic studies; %)



Source: PGIM Fixed Income and the Federal Reserve. Of the 160 existing studies on optimal monetary policy, 100 provide quantitative values for the optimal inflation rate. They are marked by red dots in Figure 1, according to the year they were published and their suggested optimal average inflation rate.

Considering the prevailing trend and supporting arguments, the following points summarize our views on potential adjustments to inflation targets:

- When inflation is *below* target, it does not make sense to raise the target and put the central bank even further away from its goal;
- When inflation is *above* target, it is not a good idea to raise the inflation target and risk de-anchoring inflation expectations;

¹ The Friedman Rule finds that optimal inflation -4% assuming that $\pi^* = \beta - 1$ with $\beta = 0.99$, annualised into percentage change. From around 2000 (eg Woodford 2003), optimal inflation rises to around 0 due to the presence of downward price rigidities.

² See Financial Times OpEd by Blanchard (November 2022), “It is time to revisit the 2% inflation target,” and Blanchard, Dell’Ariccia and Mauro (2010), “Rethinking macroeconomic policy,” IMF Staff Position Note SPN/10/03.

There is no compelling theoretical or empirical case for a 2% inflation target, which is, in large part, a consequence of historical accident.

- When inflation is *at* target, it does not make sense to make a relatively small change, which invites the view that central banks have precision-like control in steering inflation;
- similarly, a *band* around 2% suffers the combined problem of each of the preceding points: when inflation is too low, the risk is that the central bank gets stuck at the bottom of the band; when inflation is too high, inflation may get stuck at the top of the band; and the existence of the band itself invites observers to believe that the central bank can precisely control small deviations in inflation around 2%.
- Finally, these potential ramifications also raise the concept of *abandoning* current targets altogether. However, this has drawbacks as well as it could conceivably lead to a de-anchoring of inflation expectations, particularly in an environment prone to shocks, such as the one we currently find ourselves in.

An inflation targeting regime does not mean that inflation is at target at all times. Indeed, when an economy is hit by significantly large, exogenous shocks, deviations from target are expressly embedded within flexible inflation targeting regimes. Furthermore, the optimal timeframe for inflation to return to target has likely extended given the challenging nature of price movements, which we discuss in the following section. In short, we are likely stuck with inflation targets in the 2% area—at least for the foreseeable future—as changes would place a notable dent in central banks’ policy credibility.³

While the status quo may not allude to significant inflation ramifications, policymakers’ increased patience for deviations from target and persistent challenges to targeting frameworks indicates mounting tolerance for higher inflation.⁴ In itself, this shift in sentiment adds to the inflation-risk premium on long-dated fixed income assets, which, all else being equal, could maintain [upward pressure on long-term rates](#). Therefore, from the perspective of monetary policy, investors might assume a higher level of long-term, market-determined rates for a given monetary policy interest rate.

LARGER, MORE FREQUENT RELATIVE PRICE SHOCKS

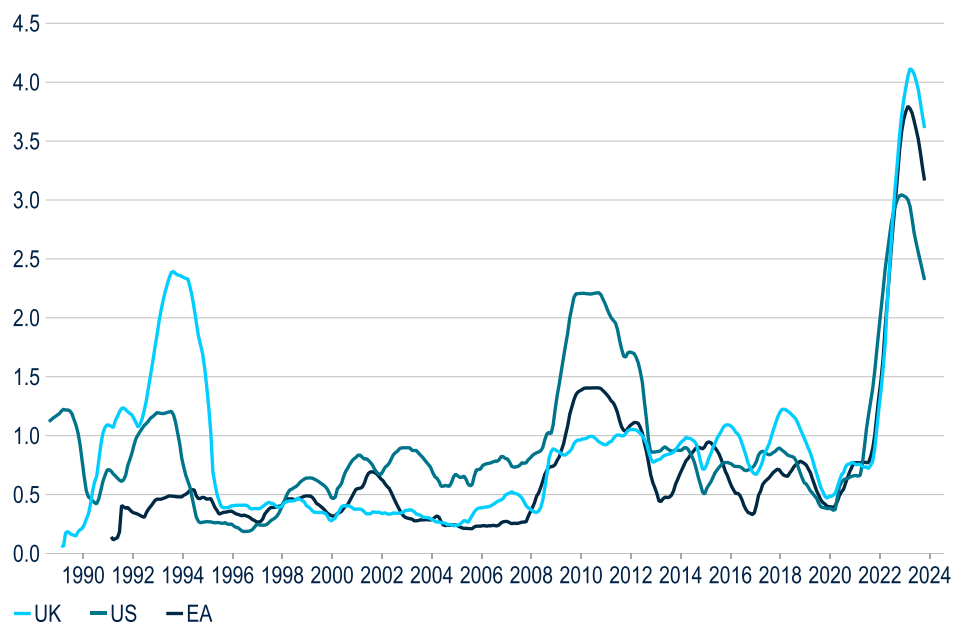
Earlier decades were characterised by relatively small and infrequent relative price shocks. A rolling measure of the volatility of headline inflation in Figure 2 highlights the change over time, with inflation unusually stable and mostly below 2% in earlier decades. This contrasts the large relative price moves in energy, food, and goods experiencing COVID-related supply chain disruptions over the last few years.

³ Perhaps more important than changing the target number is to ensure that CPI is reflective of the goods and services that people buy, e.g., by including owner occupied housing as is currently being explored by the ONS in the UK and Eurostat in the EU.

⁴ See Pittaway and Smith (October, 2023), *Built to Last: towards a sustainable macroeconomic policy framework for the UK*, Resolution Foundation for a timely example calling for an increase in the target.

Policymakers’ increased patience for deviations from target and persistent challenges to targeting frameworks indicates mounting tolerance for higher inflation.

Figure 2: The bygone years of stable inflation
(rolling 3-year standard deviation of headline inflation; %)



Source: PGIM Fixed Income and Macrobond. As of 2 November 2023.

Looking forward, it seems plausible that we could continue to see larger and higher frequency relative price shocks, especially in food, energy, and items with supply chain disruptions due to climate events, the energy transition, and/or geopolitical shocks.⁵ Such shocks may be persistent but are ultimately temporary and distinct from relative price trends, which we discuss in the next section.

Nevertheless, such shocks can and do lead to prolonged periods of above-target inflation due to several factors, including their potential size, their importance in the consumption basket (for example, food makes up nearly 20% of the CPI basket in the euro area), the potential for serially correlated shocks, and the presence of price rigidities.

Figure 3 indicates the quantitative impact that such shocks could have on headline inflation within a few months of onset as well as the required reduction in other prices in order to offset the shock and keep inflation at target.⁶ In practise, such declines in other goods and services is completely unrealistic. For example, CPI ex-energy in the UK has never fallen into negative territory over the inflation-targeting period. This explains why central banks favour “looking through” such shocks and allowing inflation to deviate from target. Figure 3 also establishes the persistence of the shock on headline inflation based on past estimates. So, whilst the boost to inflation is temporary, significant pressure can last for several months and even quarters, posing a challenge to central bank communications.

⁵ The resurgence in great power competition suggests we should expect the unexpected, as geopolitical shocks keep on coming.

⁶ See The transition to net zero: a challenge for central banks https://cdn.pfcdn.com/cms/pgim-fixed-income/sites/default/files/The-Transition-to-Net-Zero-A-Challenge-for-Central%20Banks-Final_2.pdf

Larger and more frequent relative price shocks will add to inflation volatility and contribute to prolonged periods of above-target inflation.

Figure 3: Price shocks can add up to 4 percentage points (pp) to inflation, require an offset of up to 2.2% in other prices to remain at target, and can persist for up to 8 months.⁷

	Plausible relative price shock	Contribution to headline inflation	Other goods and services inflation needed to keep inflation at target	Persistence of shock on headline inflation
Energy	40% YoY (EA 2022)	4pp	-2.2%	6-8 months
Food	13% YoY (Norway 2022)	1.6pp	0.5%	6-8 months
Supply chain disruption	10% YoY (U.S. 2021)	3pp	-1.5%	1-2 months

Source: PGIM Fixed Income.

The bottom line is that larger and more frequent relative price shocks in food, energy, and items with supply chains affected by climate change, the energy transition, and geopolitical tensions will add to inflation volatility and contribute to prolonged periods of above-target inflation. As observed during the latest cycle, prolonged stretches of off-target inflation pose a challenge to central banks' credibility and communications.

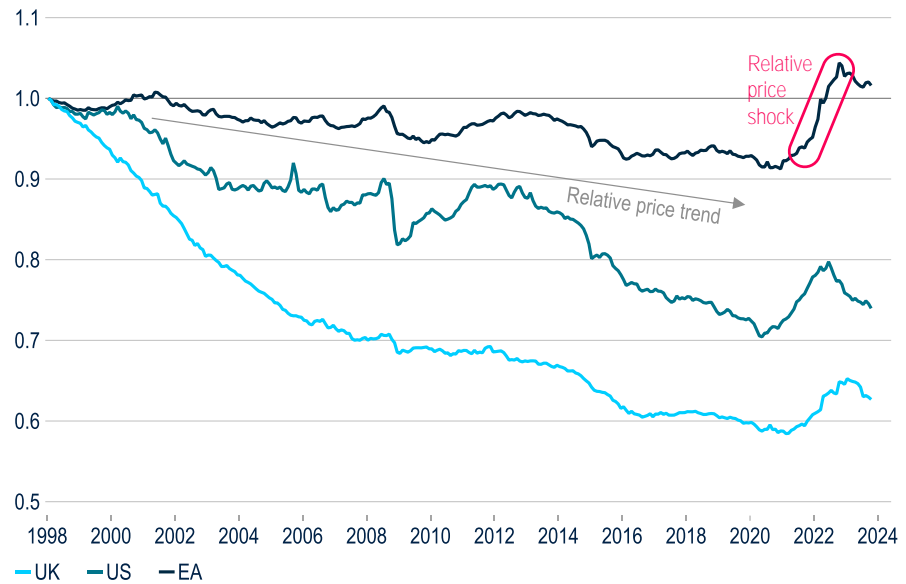
UNFAVOURABLE RELATIVE PRICE TRENDS

The past several decades reflected the favourable direction of relative price trends. Demographics, globalisation, technological advancements, productivity improvements, and relative global geopolitical stability meant that western economies benefited from low goods and import price inflation (Figure 4). That enabled central banks to run relatively loose monetary policies at home to achieve their inflation targets. In other words, globalisation meant that developed market economies, such as the UK and the U.S., were essentially importing inflation as low inflation on goods prices, particularly those from China, allowed domestic monetary policy to run at a more stimulative clip than would otherwise have been possible.

⁷ Persistence of shock on headline inflation estimated via a range of time series models with varying specifications

Figure 4: As part of the new paradigm, the decades-long slide in relative prices may have concluded. (Consumer Price Index, goods to services ratio; 1998 January = 100 for both goods and services)

Less favourable trends would mean that prices for other goods and services will need to grow more slowly, or possibly fall, in order to keep inflation at target.



Source: PGIM Fixed Income and Macrobond. As of 21 September 2023.

Looking ahead, less favourable trends coming from demographics and globalisation, as well as the bumpy transition from fossil fuel energy to renewables, would mean that prices for other goods and services will need to grow more slowly, or possibly fall, in order to keep inflation at target. Finally, low and stable inflation became self-reinforcing with stronger central bank credibility, anchored inflation expectations, and limited real-wage resistance—factors now facing more questions and potential reversals. Figure 5 provides estimates of the contribution from these favourable trends to past inflation and what they may imply about future inflation.

Figure 5: Extrapolating the effect of various factors on future inflation

Factor	Observed past trend	Illustrative future trend	Rule of thumb
Globalisation / demographics	Deepening of global trade integration and the partial globalisation of the labour market allowed for cheaper imported goods	Friend-shoring or near-shoring supply chains will likely increase the relative cost of goods	Every 1pp increase in goods inflation (ex-energy) requires a 1pp decrease in services inflation to offset
Energy policy	Steady supply of energy sources with elastic supply	Bumpy and expensive transition to renewable energy sources	A 1pp increase in energy price inflation needs a 0.1pp reduction in non-energy inflation
Anchored inflation expectations	Anchored inflation expectations and small relative price shocks led to limited real-wage resistance/rigidity ⁸	Larger inflation shocks and/or de-anchored inflation expectations drive increased real-wage resistance	50% of real income shocks could be offset by higher wages ⁹

Source: PGIM Fixed Income

⁸ See Layard, Nickell and Jackman (1991), Unemployment: Macroeconomic performance and the labour market, and Broadbent (2022) <https://www.bankofengland.co.uk/speech/2022/october/ben-broadbent-speech-at-imperial-college-the-inflationary-consequences-of-real-shocks>.

⁹ Op cit.

CONCLUSION

Prior to the pandemic, the inflation environment was one that was generally described as being either benign or “too low.” It was much to the chagrin of monetary policy officials who took a variety of unprecedented measures in an effort to lift prices. It’s a sharp contrast to the current predicament and begs the question of which environment investors might encounter in the future. Therefore, our assessment of a future inflation state focuses on three key parameters and how they may develop going forward.

Outright **changes to the inflation target** seem unlikely to us, at least for the foreseeable future. That said, increased tolerances for deviations from target and challenges to inflation targeting frameworks may persist.

Therefore, in moving to the next factor, the size and frequency of **relative price shocks**—i.e., those that are temporary in nature—are likely to increase, translating into greater inflation volatility. It’s possible that less favourable relative price shocks could add an average of ~0.2pp to inflation over prolonged periods.

Relative price trends—i.e., those that persist over a number of years—may also be less favourable, requiring prices of all other goods and services to either rise at a slower rate, or fall. Given downward nominal rigidities, this too could give rise to “sticky inflation” and add ~0.5pp to domestic inflationary pressures. We also place real wage resistance within the relative price category, and the difficulty of lowering them could add about 20 bps to real wage costs.

When combined, these effects could add ~1pp to inflation over prolonged periods. A VILE outcome—along with the potential to pressure asset prices via higher nominal yields—may not overly excite investors. However, as they adjust to a world with higher, more volatile inflation, they may also grow accustomed to the types of returns that they might generate amidst these evolving conditions. Indeed, the future inflation regime will become another part of a new paradigm that also consists of higher interest rates, opportunities to generate alpha across shifting yield curves, and disperse opportunity sets from which to select credits.

NOTICE: IMPORTANT INFORMATION

Source(s) of data (unless otherwise noted): PGIM Fixed Income as of November 2023.

For Professional Investors only. Past performance is not a guarantee or a reliable indicator of future results and an investment could lose value. All investments involve risk, including the possible loss of capital.

PGIM Fixed Income operates primarily through PGIM, Inc., a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended, and a Prudential Financial, Inc. (“PFI”) company. Registration as a registered investment adviser does not imply a certain level or skill or training. PGIM Fixed Income is headquartered in Newark, New Jersey and also includes the following businesses globally: (i) the public fixed income unit within PGIM Limited, located in London; (ii) PGIM Netherlands B.V., located in Amsterdam; (iii) PGIM Japan Co., Ltd. (“PGIM Japan”), located in Tokyo; (iv) the public fixed income unit within PGIM (Hong Kong) Ltd. located in Hong Kong; and (v) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore (“PGIM Singapore”). PFI of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom. Prudential, PGIM, their respective logos, and the Rock symbol are service marks of PFI and its related entities, registered in many jurisdictions worldwide.

These materials are for informational or educational purposes only. The information is not intended as investment advice and is not a recommendation about managing or investing assets. In providing these materials, PGIM is not acting as your fiduciary. PGIM Fixed Income as a general matter provides services to qualified institutions, financial intermediaries and institutional investors. Investors seeking information regarding their particular investment needs should contact their own financial professional.

These materials represent the views and opinions of the author(s) regarding the economic conditions, asset classes, securities, issuers or financial instruments referenced herein. Distribution of this information to any person other than the person to whom it was originally delivered and to such person’s advisers is unauthorized, and any reproduction of these materials, in whole or in part, or the divulgence of any of the contents hereof, without prior consent of PGIM Fixed Income is prohibited. Certain information contained herein has been obtained from sources that PGIM Fixed Income believes to be reliable as of the date presented; however, PGIM Fixed Income cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. The information contained herein is current as of the date of issuance (or such earlier date as referenced herein) and is subject to change without notice. PGIM Fixed Income has no obligation to update any or all of such information; nor do we make any express or implied warranties or representations as to the completeness or accuracy.

Any forecasts, estimates and certain information contained herein are based upon proprietary research and should not be interpreted as investment advice, as an offer or solicitation, nor as the purchase or sale of any financial instrument. Forecasts and estimates have certain inherent limitations, and unlike an actual performance record, do not reflect actual trading, liquidity constraints, fee. These materials are not intended as an offer or solicitation with respect to the purchase or sale of any security or other financial instrument or any investment management services and should not be used as the basis for any investment decision. PGIM Fixed Income and its affiliates may make investment decisions that are inconsistent with the recommendations or views expressed herein, including for proprietary accounts of PGIM Fixed Income or its affiliates.

Investing in the **bond market** is subject to risks, including market, interest rate, issuer, credit, inflation risk, and liquidity risk. The value of most bonds and bond strategies are impacted by changes in interest rates. Bonds and bond strategies with longer durations tend to be more sensitive and volatile than those with shorter durations; bond prices generally fall as interest rates rise, and low interest rate environments increase this risk. Reductions in bond counterparty capacity may contribute to decreased market liquidity and increased price volatility. Bond investments may be worth more or less than the original cost when redeemed. **Mortgage- and asset-backed securities** may be sensitive to changes in interest rates, subject to early repayment risk, and while generally supported by a government, government agency or private guarantor, there is no assurance that the guarantor will meet its obligations. **High yield, lower-rated securities** involve greater risk than higher-rated securities; portfolios that invest in them may be subject to greater levels of credit and liquidity risk than portfolios that do not. Investing in **foreign-denominated and/or -domiciled securities** may involve heightened risk due to currency fluctuations, and economic and political risks, which may be enhanced in emerging markets. Currency rates may fluctuate significantly over short periods of time and may reduce the returns of a portfolio. **Commodities** contain heightened risk, including market, political, regulatory and natural conditions, and may not be suitable for all investors. **Diversification** does not ensure against loss.

In the **United Kingdom**, information is issued by PGIM Limited with registered office: Grand Buildings, 1-3 Strand, Trafalgar Square, London, WC2N 5HR. PGIM Limited is authorised and regulated by the Financial Conduct Authority (“FCA”) of the United Kingdom (Firm Reference Number 193418). In the **European Economic Area** (“EEA”), information is issued by PGIM Netherlands B.V., an entity authorised by the Autoriteit Financiële Markten (“AFM”) in the Netherlands and operating on the basis of a European passport. In certain EEA countries, information is, where permitted, presented by PGIM Limited in reliance of provisions, exemptions or licenses available to PGIM Limited including those available under temporary permission arrangements following the exit of the United Kingdom from the European Union. These materials are issued by PGIM Limited and/or PGIM Netherlands B.V. to persons who are professional clients as defined under the rules of the FCA and/or to persons who are professional clients as defined in the relevant local implementation of Directive 2014/65/EU (MiFID II). In **Switzerland**, information is issued by PGIM Limited, London, through its Representative Office in Zurich with registered office: Kappelergasse 14, CH-8001 Zurich, Switzerland. PGIM Limited, London, Representative Office in Zurich is authorised and regulated by the Swiss Financial Market Supervisory Authority FINMA and these materials are issued to persons who are professional or institutional clients within the meaning of Art.4 para 3 and 4 FinSA in Switzerland. In certain countries in **Asia-Pacific**, information is presented by PGIM (Singapore) Pte. Ltd., a regulated entity with the Monetary Authority of Singapore under a Capital Markets Services License to conduct fund management and an exempt financial adviser. In **Japan**, information is presented by PGIM Japan Co. Ltd., registered investment adviser with the Japanese Financial Services Agency. In **South Korea**, information is presented by PGIM, Inc., which is licensed to provide discretionary investment management services directly to South Korean investors. In **Hong Kong**, information is provided by PGIM (Hong Kong) Limited, a regulated entity with the Securities & Futures Commission in Hong Kong to professional investors as defined in Section 1 of Part 1 of Schedule 1 of the Securities and Futures Ordinance (Cap.571). In **Australia**, this information is presented by PGIM (Australia) Pty Ltd (“PGIM Australia”) for the general information of its “wholesale” customers (as defined in the Corporations Act 2001). PGIM Australia is a representative of PGIM Limited, which is exempt from the requirement to hold an Australian Financial Services License under the Australian Corporations Act 2001 in respect of financial services. PGIM Limited is exempt by virtue of its regulation by the FCA (Reg: 193418) under the laws of the United Kingdom and the application of ASIC Class Order 03/1099. The laws of the United Kingdom differ from Australian laws. In **Canada**, pursuant to the international adviser registration exemption in National Instrument 31-103, PGIM, Inc. is informing you that: (1) PGIM, Inc. is not registered in Canada and is advising you in reliance upon an exemption from the adviser registration requirement under National Instrument 31-103; (2) PGIM, Inc.’s jurisdiction of residence is New Jersey, U.S.A.; (3) there may be difficulty enforcing legal rights against PGIM, Inc. because it is resident outside of Canada and all or substantially all of its assets may be situated outside of Canada; and (4) the name and address of the agent for service of process of PGIM, Inc. in the applicable Provinces of Canada are as follows: in **Québec**: Borden Ladner Gervais LLP, 1000 de La Gauchetière Street West, Suite 900 Montréal, QC H3B 5H4; in **British Columbia**: Borden Ladner Gervais LLP, 1200 Waterfront Centre, 200 Burrard Street, Vancouver, BC V7X 1T2; in **Ontario**: Borden Ladner Gervais LLP, 22 Adelaide Street West, Suite 3400, Toronto, ON M5H 4E3; in **Nova Scotia**: Cox & Palmer, Q.C., 1100 Purdy’s Wharf Tower One, 1959 Upper Water Street, P.O. Box 2380 -Stn Central RPO, Halifax, NS B3J 3E5; in **Alberta**: Borden Ladner Gervais LLP, 530 Third Avenue S.W., Calgary, AB T2P R3.

© 2023 PFI and its related entities. 2023-8626

留意事項

※本資料はPGIMフィクト・インカムが市場動向に関する情報提供としてプロの投資家向けに作成したものです。PGIMフィクスト・インカムは、米国SECの登録投資顧問会社であるPGIMインクの債券運用部門です。

※本資料は情報提供を目的としたものであり、特定の金融商品の勧誘又は販売を目的としたものではありません。また、本資料に記載された内容等については今後変更されることもあります。

※記載されている市場動向等は現時点での見解であり、これらは今後変更することもあります。また、その結果の確実性を表明するものではなく、将来の市場環境の変動等を保証するものでもありません。

※本資料で言及されている個別銘柄は例示のみを目的とするものであり、特定の個別銘柄への投資を推奨するものではありません。

※本資料に記載されている市場関連データ及び情報等は信頼できると判断した各種情報源から入手したものです。その情報の正確性、確実性について当社が保証するものではありません。

※本資料に掲載された各インデックスに関する知的財産権及びその他の一切の権利は、各インデックスの開発、算出、公表を行う各社に帰属します。

※過去の運用実績は必ずしも将来の運用成果等を保証するものではありません。

※本資料は法務、会計、税務上のアドバイスあるいは投資推奨等を行うために作成されたものではありません。

※当社による事前承諾なしに、本資料の一部または全部を複製することは堅くお断り致します。

※“Prudential”、“PGIM ”、それぞれのロゴおよびロック・シンボルは、プルデンシャル・ファイナンシャル・インクおよびその関連会社のサービスマークであり、多数の国・地域で登録されています。

※PGIMジャパン株式会社は、世界最大級の金融サービス機関プルデンシャル・ファイナンシャルの一員であり、英国プルデンシャル社とはなんら関係がありません。

PGIMジャパン株式会社

金融商品取引業者 関東財務局長（金商）第392号

加入協会：一般社団法人日本投資顧問業協会、一般社団法人投資信託協会、一般社団法人第二種金融商品取引業協会

PGIMJ104067