Global and Emerging Market Inflation Linked Bonds

June 2025

Table of Contents

I. Why Inflation-Linked Bonds – are they an effective hedge against inflation?

The underlying rationale to hold inflation-linked bonds within a diversified asset portfolio is as a hedge against the erosion of purchasing power and as a protection against unexpected inflation. Experience in high inflation economies, particularly in Latin America, suggests that bonds providing a guaranteed real rate of return over the level of inflation provided better inflation insurance than exposure to a range of nominal financial assets or real assets. Intuitively this makes sense as the source or driver of inflation - cost push, demand pull, institutionalised indexation, unionised wage inflation, etc., - can vary through time. Accordingly, the sensitivity of different asset classes to inflation can also vary.

As inflation-linked bonds provide positive (and potentially negative) real returns over inflation they are increasingly being utilised in an array of portfolios with differing investment objectives. Inflation-linked bonds are used by pension funds to match future pension obligations that increase with cost-of-living adjustments, by endowment funds to preserve their purchasing power, by other entities for asset-liability matching purposes, and insurance companies to hedge against inflation risk for their long-term liabilities such as life insurance policies with inflation-adjustment features. Similarly, defined benefit pension schemes, and others with a need to match future indexed liabilities have an increasing demand for inflation-linked bonds. The asset class provides an effective hedge against future indexed liabilities provided there is no meaningful maturity mismatch.

Given the direct return link with inflation, it is not surprising that there is a high correlation of inflation-linked bond returns with inflation. Indeed, empirical studies of returns in the longer running inflation-linked bond markets like Brazil (and others) point to a strong correlation of returns with inflation. Furthermore, historically this correlation has increased with the investment horizon[i]. As inflation-linked bonds have been issued for a much shorter period of time in most developed markets (see below), it is more difficult to draw similar conclusions in those markets. Nonetheless, the body of evidence suggests that inflation-linked bonds may be expected to provide a consistent hedge against both 'expected' and 'unexpected' inflation through time.

In contrast, the academic and empirical evidence suggests that many other asset classes believed to be good inflation hedges have failed to provide consistent inflation protection through all different economic cycles. Asset classes proven to be a reasonable hedge against inflation in one cycle have not performed as well in others, as the source or type of inflation has varied; starting valuations have differed, etc. Studies show equities have historically been an ineffective hedge against inflation and even act as a perverse hedge[ii]. Similarly, the academic evidence suggests that they, along with nominal bonds, have been a poor hedge against unexpected inflation[iii]. Historically, real assets have not fared much better either. While the evidence supporting the inflation hedging characteristics of real estate is mixed, here too research suggests that it has not provided a consistent hedge against unexpected inflation[iv]. Here starting valuations and the potentially higher beta or exposure of property to the broader economic environment may have a greater influence. For example, commercial property prices in the UK, US, and elsewhere notably lagged domestic inflation in the post Global Financial Market (GFC) period. Similarly, in the post Covid-19 period, real estate returns have varied notably with significant divergence in residential, commercial office space, and other sector returns.

Lastly, commodities are often considered a good inflation hedge. This may be the case when commodity prices are a dominant driver of inflation but is less so when other inflation drivers such as domestic wage inflation or persistent wage or price indexation are more important. The high volatility of commodities also limits their potential role within a diversified portfolio as a core inflation hedge asset. With a volatility of almost three times that of inflation-linked bonds, the 'hurdle rate' for commodities to play a significant risk mitigation or hedge role within a diversified portfolio is high[v].

II. Domestic versus Global Inflation-Linked Bonds

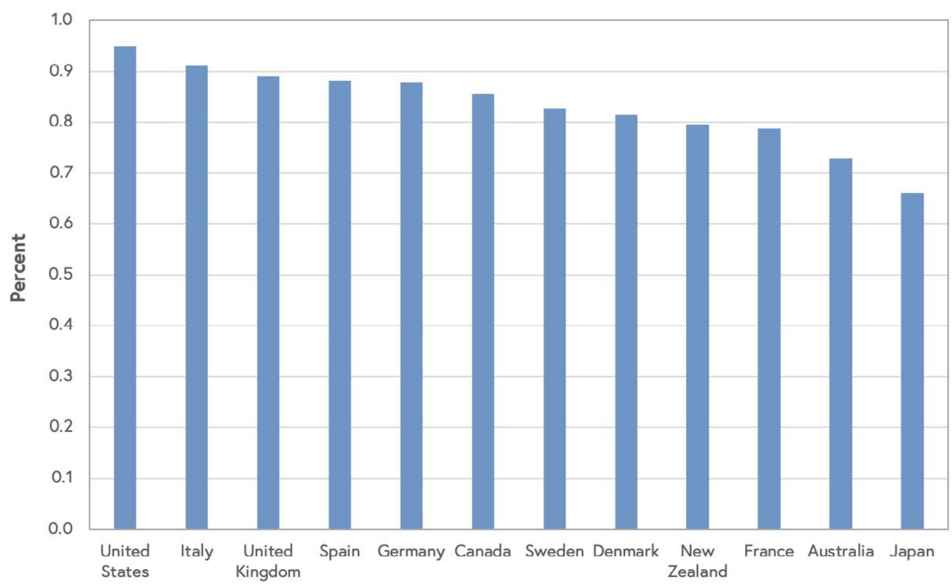
A desire to hedge domestic liabilities often constrains asset allocators to consider their inflation hedge purely in domestic market and domestic currency terms. This may be sub-optimal as, like any other asset class allocation decision, improved risk and return characteristics may be achieved by going global. The rationale to invest in global inflation-linked bonds, as opposed to staying domestic, rests on the enhanced real return potential and improved diversification characteristics (i.e. lower volatility) of the asset class. Importantly, this may be achieved with only a small 'give up' of the domestic inflation hedge.

Inflation rates are highly correlated around the world

Often overlooked in the debate about whether to invest in global, as opposed to domestic inflation-linked bonds, is the global beta of inflation. Namely, the drivers of inflation in one country are often highly correlated with those in another. For example, a rise (or fall) in commodity prices feeds through into all inflation rates, a demand driven global economic slowdown has a similar impact on global inflation, and so on. While the sensitivity of each country to different inflation shocks is in part a function of the composition of the Consumer Price Index (CPI) basket (e.g. more food and necessities in lower per-capita income countries' CPIs results in a greater price sensitivity to these components), this 'common' exposure results in a relatively high correlation of inflation rates across the world.

This high correlation of domestic inflation with global inflation has been widely observed in a number of academic studies. By way of example, work by Ciccarelli and Mojon (2010)[vi] suggests that the global inflation component among OECD countries may be as high as 70%, with a strong tendency for individual country inflation to follow long-term global trends. Similarly, work by Neely and Rapach (2011)[vii] looking at a much broader group of 64 countries, including developing economies, suggests that on average 35% of an individual country's inflation is explained by global inflation and 16% by regional inflation. Both studies covered a long time period spanning both the acceleration of inflation in the 1960s and 1970s and subsequent decline and fall in volatility in the decades that followed. The high correlation of inflation across the globe in the aftermath of the Covid supply and subsequent demand shock is also self-evident.

Chart 1: Correlation of Individual Country with Advanced World Inflation



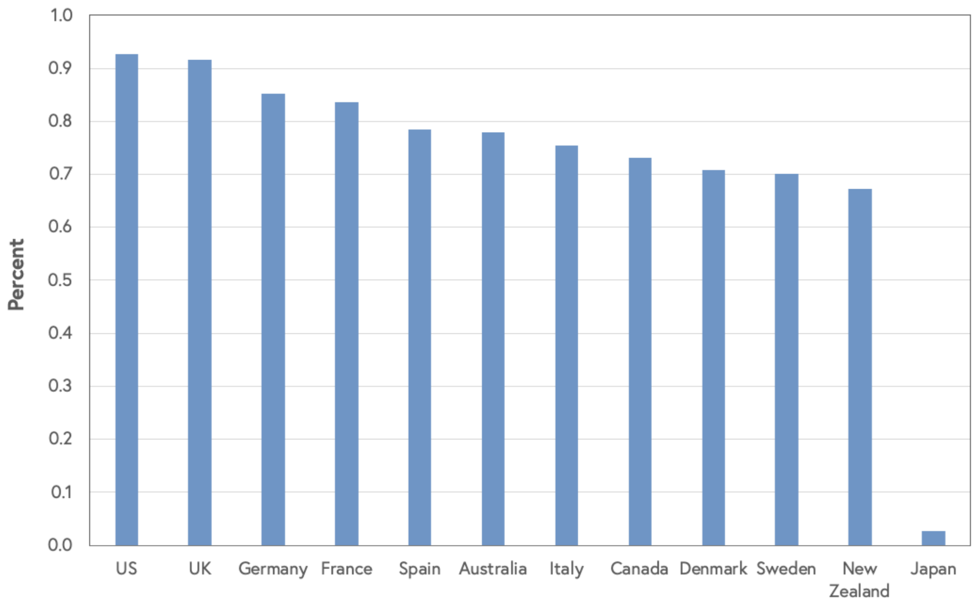
Source: IMF World Economic Outlook database April 2025, annual data series from 1980 to 2024.
The chart shows the correlation of selected countries with the combined advanced world inflation rate as defined by the IMF.

This phenomenon can also be seen in Chart 1. The average correlation of domestic inflation in developed countries (where there is issuance of inflation-linked bonds) with Advanced World[viii] inflation has been in the order of 0.83 since the late 1980s. This suggests that the 'actual' tracking error of substituting global for domestic inflation-linked bonds is significantly lower than generally assumed.

As a result, global inflation-linked bond market returns are also reasonably correlated

This relatively high correlation of domestic with global inflation has historically resulted in a meaningful correlation of individual inflation-linked bond market returns with the global inflation-linked index returns (see Chart 2). Unsurprisingly given the high weight of both the US (approximately 52%) and the UK (21%) in the Bloomberg World Government Global Inflation-Linked Bond benchmark as at the end of May 2025, their respective return correlations with the global index are relatively high and are in the order of 0.9. However, even the much smaller weighted countries like Australia, Canada, Denmark, France, New Zealand, Sweden and Germany all have return correlations in the order of 0.7 - 0.8[ix]. This suggests that an investor in global inflation-linked bonds is getting most of the domestic 'inflation insurance' by investing globally, whilst also accessing the potential to benefit from the increased return opportunities afforded by a larger opportunity set. Accordingly, the historically high correlation between the returns of US Treasury Inflation Protected Securities (TIPS) and global inflation-linked bonds suggests that the latter may provide a reasonable hedge against US inflation while potentially offering higher returns and enhanced diversification.

Chart 2: Correlation of Individual Country Inflation-Linked Bond Returns with Global Inflation-Linked Bond Returns

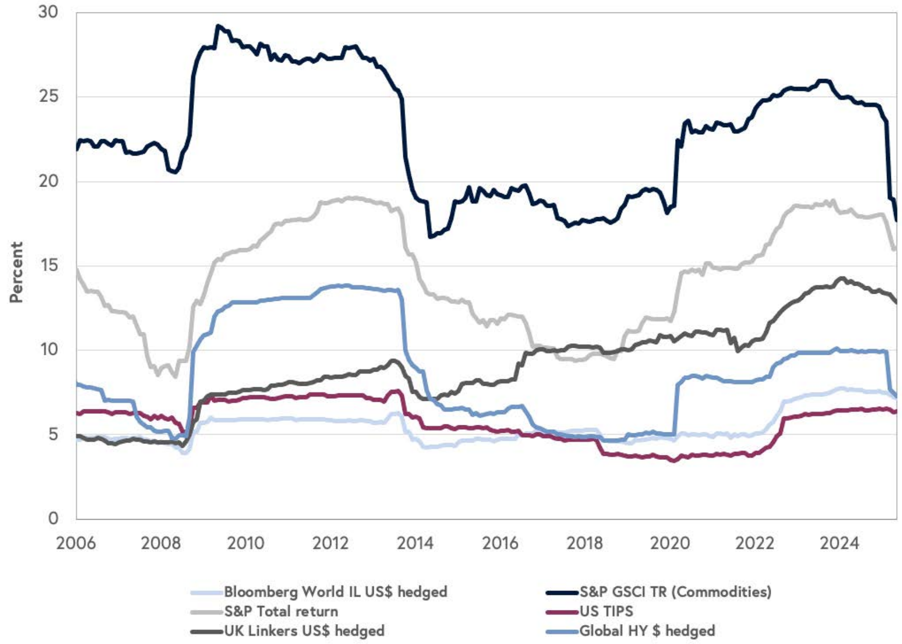


Source: Bloomberg. Monthly Index return data in US Dollar hedged terms. Correlation estimates use monthly data for the 5 years to end May 2025.

Global diversification produces lower volatility

The volatility of global inflation-linked bonds in hedged US dollar terms has been similar to that of US TIPS since the emergence of this asset class, albeit slightly lower in the post covid period. Both have been notably lower than other alternative asset classes (Chart 3). While the relatively short time period since inception of most of these inflation-linked bond markets suggests some caution in interpreting this data, it should be apparent that the volatility of the global index has (as expected) been low and similar to the domestic alternative over this period. Furthermore, the asset class has lower volatility than a number of other asset classes, including commodities, that are often touted as inflation hedges.

Chart 3: Five Year Rolling Annualised Volatility



Source: Bloomberg. All the return data are in US Dollar hedged terms, five years rolling to end May 2025.

Notwithstanding the relatively high correlation at the aggregate index level, there is notable diversity across the global opportunity set. Table 1 highlights the low correlation between some of the alternative markets in the opportunity set. While the correlation between the US and UK is in the order of 0.73, that between Germany and Mexico is 0.29, and New Zealand and Colombia 0.17. Similarly, the Australian market has had a negative correlation of -0.03 with the Japanese inflation-linked market. Such low correlations provide excellent diversification potential, improving the overall risk reward characteristics of a global portfolio.

Table 1: Correlation of Inflation-Linked Bond Market 5 Year Monthly Returns USD Hedged

	Australia	Canada	Denmark	France	Germany	Italy	Japan	New Zealand	Spain	Sweden	UK	US	Mexico	Colombia	Chile
Australia	1.00														
Canada	0.68	1.00													
Denmark	0.65	0.48	1.00												
France	0.71	0.59	0.84	1.00											
Germany	0.70	0.59	0.85	0.97	1.00										
Italy	0.66	0.55	0.82	0.91	0.88	1.00									
Japan	-0.03	0.12	0.01	0.08	0.09	0.09	1.00								
New Zealand	0.73	0.66	0.52	0.59	0.59	0.49	0.07	1.00							
Spain	0.68	0.58	0.84	0.97	0.95	0.91	0.09	0.56	1.00						
Sweden	0.67	0.53	0.58	0.64	0.67	0.51	-0.08	0.55	0.60	1.00					
UK	0.64	0.60	0.57	0.67	0.70	0.61	0.01	0.55	0.60	0.57	1.00				
US	0.76	0.74	0.64	0.76	0.77	0.66	0.02	0.68	0.72	0.71	0.73	1.00			
Mexico	0.38	0.56	0.23	0.31	0.29	0.33	0.19	0.42	0.28	0.33	0.39	0.63	1.00		
Colombia	0.27	0.09	0.11	0.05	0.06	0.19	0.20	0.17	-0.03	0.04	0.23	0.15	0.32	1.00	
Chile	0.40	0.44	0.42	0.36	0.34	0.41	0.12	0.41	0.34	0.41	0.35	0.44	0.50	0.22	1.00

Source: Bloomberg. All the return data in USD hedged terms.
Correlation estimates use monthly data for the 5 years to end May 2025.

III. The Evolution of Inflation-Linked Bond Markets

An investor looking to invest globally in inflation-linked bonds is confronted by a diverse and growing opportunity set in both developed and developing markets. Their use is more entrenched in a number of developing economies, with most developed economies only beginning issuance from the 1990s onwards. Not surprisingly, the Latin American countries were at the forefront of developing the use of inflation-linked bonds. The persistent and diverse nature of the inflation shocks that frequently rolled across the continent promoted the growth of the asset class. Brazil, for example, issued its first inflation-linked bond in 1964. Even though the threat of hyperinflation has subsequently eased on the continent as many countries have adopted orthodox macro-economies polices, they have remained an asset of choice in many Latin economies. In addition to Brazil, they are now firmly entrenched in Chile, Colombia and Mexico.

In contrast, the asset class is relatively new in the developed world. While the UK established the 'linker' market in 1981 most other developed countries like Australia, Canada, Sweden, France and the US only started issuing inflation-linked bonds in the 1990s. The largest market – the US TIPS market – only began in 1997. A second wave saw the likes of Germany[x], Japan, Denmark, Spain, to name a few, issue inflation-linked bonds throughout the 2000's. The Germans however ceased further issuance in 2024, the existing four German inflation-linked bonds will however remain tradable but will not be reopened.

While the number and size of issuance varies by market, a number of countries have now developed deep and liquid inflation-linked yield curves extending from 2 through to 30 years. The US and the UK, for example, both have some 53 and 33 inflation- linked bonds on issue respectively across the entire maturity spectrum. The UK even issued a 52-year bond that stretched the curve out to 2073. The Australian government restarted its inflation-linked bond program in 2009 and now has a developed inflation-linked curve extending out to 2050. Latin America's historical experience has resulted in many of those countries developing full maturity yield curves, with the likes of Mexico and Brazil having maturities all the way out to 2054 and 2060, respectively. In contrast, South Korea who begun issuance in 2007, have six bonds with the longest maturity limited to 10 years. More recently, New Zealand has re-entered the market and has four bonds with maturities stretching out to 2040. While the length of maturity and market depth varies across countries, there is a clear commitment across many sovereign debt management offices to develop this market and to continue to improve liquidity in this asset class to meet increasing demand.

IV. Colchester's Approach to Investing in Inflation-Linked Bonds

Colchester believes its real yield value based approach to managing bond portfolios is particularly well suited to managing inflation-linked bond portfolios. At the heart of Colchester's philosophy is the belief that investments should be valued in terms of the income they will generate in real terms. The approach was developed using key actuarial principles which have at its core inflation-adjusted income and present valuing techniques. The investment approach is therefore based on the analysis of inflation, real interest rates and real exchange rates, supplemented by our Financial Stability Score (FSS). FSS combines an assessment of a country's overall balance sheet strength (fiscal, external and monetary etc.), governance and other Environmental, Social and Governance (ESG) factors[xi] .Portfolios are constructed to benefit from those opportunities with the greatest relative risk adjusted real investment potential for a given level of risk.

Underpinning the investment approach is a forecast of inflation. The forecasts are underpinned by standard monetary theory, commodity and nominal currency movements and capacity utilisation considerations. Armed with these forecasts and supplemented with an assessment of the financial strength of a country, Colchester then makes an assessment of the potential real return on offer in both inflation-linked and nominal bond markets and across various segments of the yield curve.

An optimal bond portfolio is then constructed, utilising the highest risk adjusted real yielding global government bonds and segments, subject to a tracking error target, concentration limits and other risk considerations.

Within this framework, Colchester seeks to add value in its inflation-linked bond programs by:

- Investing in the highest real yielding inflation-linked bond markets;
- Investing in the highest value part of a country's inflation-linked yield curve;
- Investing in high real yielding nominal bonds in a limited and constrained fashion when appropriate; and,
- Adding additional alpha through currency management.

Colchester invests only in sovereign bonds. For the developed global-linked inflation program, the universe includes markets that are investment grade or higher although different minimum credit ratings may be applied at the discretion of separate account clients. Colchester applies a qualitative screen to all countries to decide upon their inclusion, or otherwise, in the opportunity set. Size of market, liquidity, institutional structure, regulatory environment, capital regulations, political environment, stability issues, etc., are all considered by Colchester in its determination of the suitability of a country to be included in the opportunity set. Colchester considers the current global inflation-linked investment universe to be broken down as follows:

Table 2: Colchester Global Inflation-Linked Investment Universe

Developed World Inflation-Linked Bond Universe (investment grade or higher at time of purchase)					
Australia	Canada	Chile	Colombia	Denmark	France
Germany	Israel	Italy	Japan	Mexico	New Zealand
Poland	Spain	South Korea	Sweden	United Kingdom	United States

Developing World (EM) Inflation-Linked Universe					
Brazil	Chile	Colombia	Israel	Mexico	Peru
Poland	South Africa	South Korea	Thailand	Türkiye	Uruguay

Lastly, Colchester's well-established currency valuation framework uses estimates of real exchange rates, short-term real interest rate differentials and external balance sheet and ESG factors to determine value. Optimal currency portfolios are built, and as noted above, risk managed within this framework to provide another potential source of lowly correlated alpha. Together, Colchester's independently constructed optimal bond and currency portfolios deliver a well-diversified overall global inflation-linked government bond portfolio.

V. The 2022 Return Paradox

After a decade or more of low and stable inflation in the aftermath of the Global Financial Crisis, inflation returned forcefully in response to the Covid shock to remind everyone of its potential destructive powers. It also bought into focus the use of inflation-linked bonds as an asset diversifier and a potential hedge against inflation.

In the aftermath of the Covid shock inflation rose to multi-decade highs across the globe. Policymakers were slow to respond in many countries, initially viewing the upward pressure on inflation as transitory. Only in 2022 when price pressures had broadened, and inflation was becoming entrenched, did the major central banks embark on an aggressive interest rate hiking cycle. In the early stages of the inflation shock, inflation-linked bonds outperformed nominal bonds returning +5.49% in 2021 versus nominal bond returns of -2.29%[xii]. However, inflation-linked bonds are particularly sensitive to movements in real yields. The cashflow structure means that they are typically of a longer interest rate duration and so are more sensitive to changes in interest rates compared to nominal bonds with a similar maturity. This interest rate sensitivity negatively impacted on the total return of inflation-linked bonds in 2022 as interest rates rose sharply, offsetting the inflation indexation component of return. As a result, global inflation-linked bonds suffered double-digit negative returns in 2022 and underperformed nominal bonds by 4.1% as both real and nominal yields rose. This came as a surprise to some.

The longer duration exposure of inflation-linked bonds paradoxically led to a situation where inflation-linked bonds underperformed nominal bonds in a rising interest rate environment triggered by higher inflation. This may suggest to some that inflation-linked bonds may be a poor hedge against unexpected inflation shocks. However, as with all asset prices, the starting point matters, and it is especially important in understanding the performance of inflation-linked bonds in the great interest rate unwind in the aftermath of the abnormal post GFC decade. Real yields were close to historical lows going into 2022, so any adjustment back to historical norms would have an adverse impact on the price of both inflation-linked and nominal bonds as the real yield component in both reset. The longer duration exposure of inflation-linked bond benchmarks relative to nominal bond benchmarks explains this apparent relative return paradox. The outsized impact of the rise in the real yield element can be seen in the magnitude of the increase in the 10 year US inflation linked bond (TIPS) from a low of around -1.1% at the end of 2021 towards +1.5% to +2% at the end of 2022, and into 2023 (please see Chart 4). While the current outlook is clouded, in our opinion the likelihood of a further 3% increase in real yields is unlikely in the near term. This suggests that it is more likely than not that going forward the potential impact of any further upward adjustment in global real yields will have a more muted impact on price, and thus not overwhelm the inflation indexation element of returns.

VI. Current Valuations of Inflation-Linked Bonds

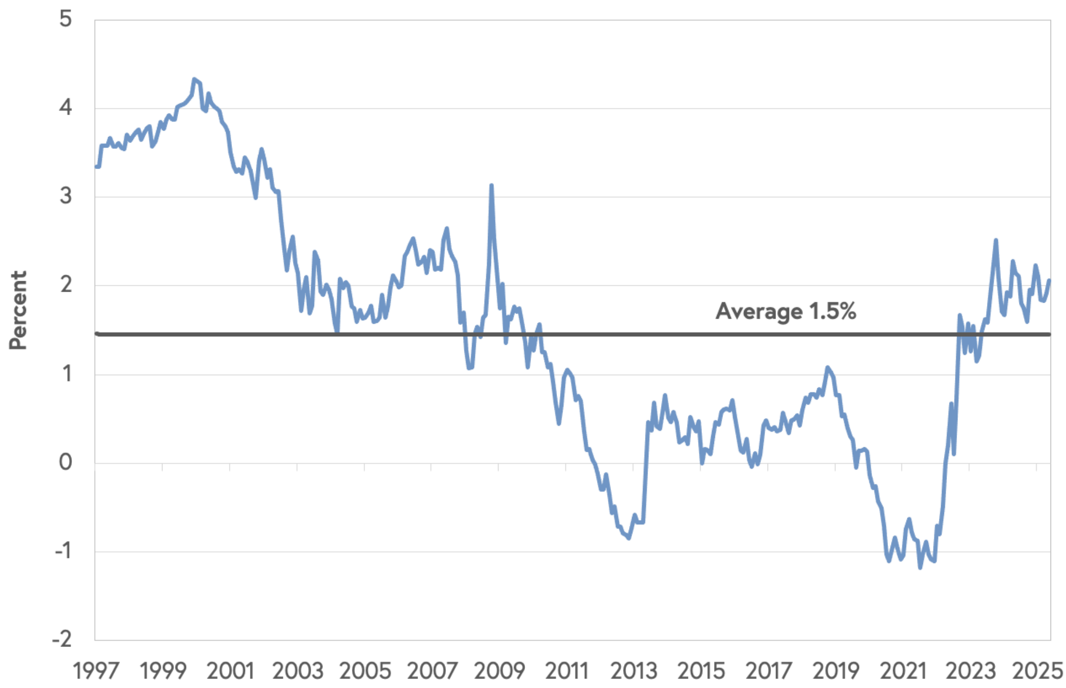
To the extent that asset allocators may be concerned about an increasingly uncertain and potentially diverse inflation outlook in 2025, inflation-linked bonds may have a part to play. Inflation expectations have risen in 2025, particularly in the US, amid concerns that the US Administrations tariff agenda will lead to higher prices. However, uncertainty surrounding the scale, duration, and scope of tariffs complicates their potential impact on a global level. Initially, tariffs may be expected to act like a supply shock – pushing inflation up – especially in the US, where tariffs on imports are likely to be passed onto consumers. Outside the US, direct inflation effects depend on whether retaliatory tariffs or barriers emerge. The second-round effects on inflation are even less clear. As tariffs raise prices, this is expected to reduce consumer income and demand, potentially slowing growth and exerting downward pressure on inflation. Additionally, goods redirected from the US market to other countries could also potentially lower prices there.

Furthermore, while inflation has fallen from its 2022 highs in most countries, the "last mile" of restoring inflation to target levels has proven to be difficult. Core inflation remains elevated across a number of developed countries. Moreover, inflationary pressures coming from increasing protectionism, trade barriers, realignment of supply chains, and tightening immigration are all immediate manifestations of a broader reversal of the drivers of the previous decades' secular disinflation trend. All these factors suggest inflation is likely to be more uncertain and structurally tilted to the upside going forward. Such inflation uncertainty and improved valuation metrics compared with the early 2020's suggests global inflation-linked bonds may now provide a prudent hedge against future unexpected inflation at a relatively low "insurance" cost.

The post 2021 back up in real yields has translated through into attractive value in the global inflation-linked bond space. The rise in real yields seen in the US (Chart 4) has been mirrored in other inflation-linked bond markets around the globe. The UK Linker market, for example, followed a similar path to the US (Chart 5). Historically the UK had been one of the most expensive, if not the most expensive market, in the global inflation-linked opportunity set for a number of years. There was and continues to be strong demand for UK Linkers from Britain's large defined benefit pension schemes who use the bonds to help derisk their portfolios. This demand was key in driving down UK real yields into deeply negative territory. However valuations have improved significantly and as at the end of May 2025, UK 10 year Linkers were offering a real yield of around 1.5%, the highest level it has been since 2009 and meaningfully above its long-term historical average.

In our opinion, the real yield levels currently on offer in global and emerging market bond space suggests that investors are being paid to own bonds today compared to the last decade when real yields were near zero (or even turned negative in some cases) and inflation remained muted. Furthermore, as illustrated in Chart 6 showing the real yield valuations as at the end of May 2025, there are a number of markets showing attractive valuations. This suggests that a diverse portfolio of global inflation-linked bonds could be constructed including the likes of New Zealand, Australia, Canada, Mexico, and Colombia, along with some US TIPS, that would offer relatively attractive valuations, as well as providing some diversification benefits relative to a single country portfolio (such as a standalone US TIPS portfolio). In addition to Mexico and Colombia, Chart 7 shows Brazil and South Africa are offering real yields of 7.3% and 5.2% respectively in the emerging inflation-linked opportunity set.

Chart 4: 10 Year US Treasury Inflation Protection Real Yield

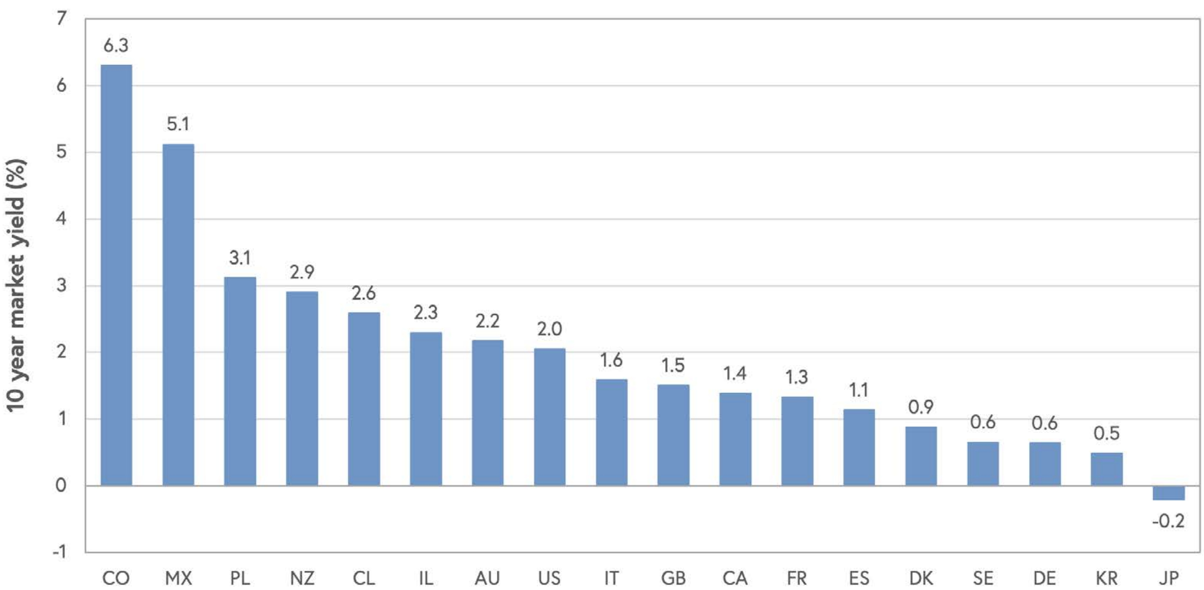


Source: Bloomberg. Data from Jan 1997 to May 2025.

Chart 5: 10 Year UK Linker Real Yield

Source: Bloomberg. Data from Jan 1993 to May 2025.

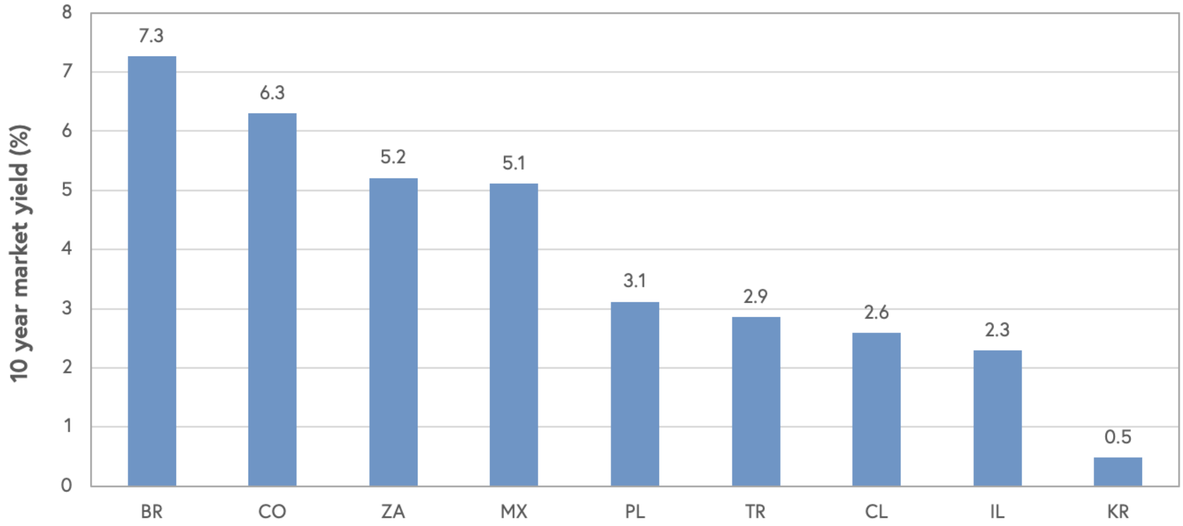
Chart 6: Market Real Yield on 10 Year Inflation-Linked Bonds as at May 2025



AU	Australia	**DE**	Germany	**GB**	United Kingdom	**KR**	South Korea	**SE**	Sweden
CA	Canada	**DK**	Denmark	**IL**	Israel	**MX**	Mexico	**US**	United States
CL	Chile	**ES**	Spain	**IT**	Italy	**NZ**	New Zealand		
CO	Colombia	**FR**	France	**JP**	Japan	**PL**	Poland		

Source: Colchester Global Investors.

Chart 7: Emerging Market Real Yield on 10 Year Inflation-Linked Bonds as at May 2025



BR	Brazil	**CO**	Colombia	**KR**	South Korea	**PL**	Poland	**ZA**	South Africa
CL	Chile	**IL**	Israel	**MX**	Mexico	**TR**	Türkiye		

Source: Colchester Global Investors.

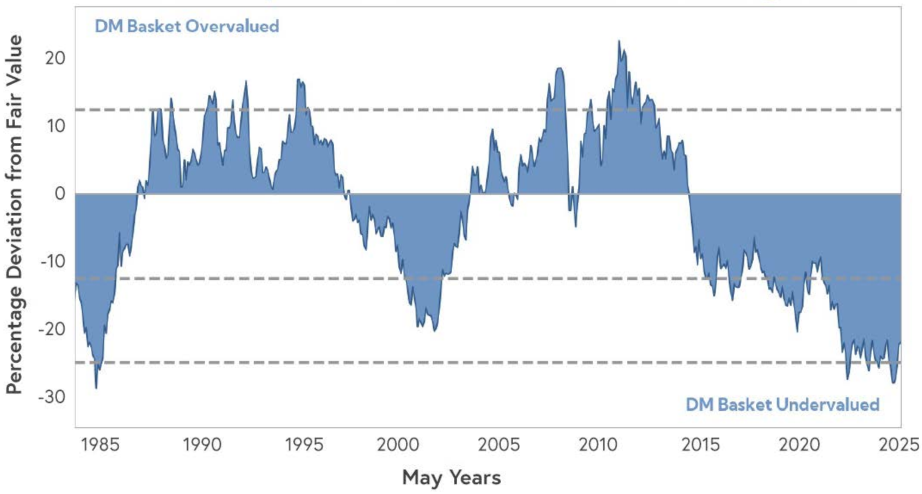
VII. Summary – Potential Implications for a US Dollar Based Investor

History shows that the perceived "inflationary hedge" provided by certain asset classes, such as property, commodities and others, is time dependent and typically a function of the driver or "type" of inflationary shock. Unsurprisingly commodity returns have been high at times of positive commodity price shocks, and so on. The empirical evidence suggests that inflation-linked bonds provide the most consistent hedge against inflation and are therefore the most likely to provide some degree of inflation protection, on average over time. Naturally investors who determine that there is a role for such a hedge within their diversified aggregate portfolio, are drawn to holding their own domestic inflation-linked bonds. In other words, a US dollar investor would look to own US TIPS in the first instance. However, history also suggests that there is a high correlation of inflation around the world. Accordingly, inflation in the likes of US moves broadly in a similar way to that observed elsewhere in the world. Not a surprising result if one considers the transmission of higher oil prices, global supply chain disruptions, etc., around the globe and their inflationary consequences. Given this interconnectivity, most developed world inflation-linked bond market returns – including those in United States – have been highly correlated with "global" returns. Whilst clearly not "hedging" all country specific inflation risks – such as those stemming from a natural disaster, wayward policy, or country specific economic shocks – this high correlation of returns suggests the majority of the inflation risk may be hedged with exposure to a diversified basket of global inflation-linked bonds. Doing so opens up the opportunity to benefit from both potentially higher returns on offer elsewhere, and the diversification afforded by the low correlations between some countries in the broader global opportunity set. This suggests that a US dollar investor may improve the overall risk reward characteristics of their portfolio by introducing some exposure to global inflation-linked bonds into their aggregate portfolio, either in place of, or alongside, US TIPS.

Furthermore, additional alpha may be gained from active currency management. The strength of the US dollar in recent years has pushed its real exchange rate, by our estimates, close to 40-year highs. Chart 8 below shows our estimate of the US dollar real exchange against an equally weighted basket of six developed market currencies. Despite some weakening of the US dollar in the first half of 2025, the current level remains close to the most expensive the US dollar has been since the early 1980's.

Estimates of the real exchange rate are the cornerstone of our currency valuation and current valuations suggest a significant overvaluation of the US dollar and undervaluation of a number of developed market currencies. Accordingly, this suggests that a US dollar investor could potentially benefit from gaining exposure to undervalued non-US dollar currencies that have the potential to deliver higher returns as the US dollar reverts to fair value. History suggests this is not a matter of if, but rather, when.

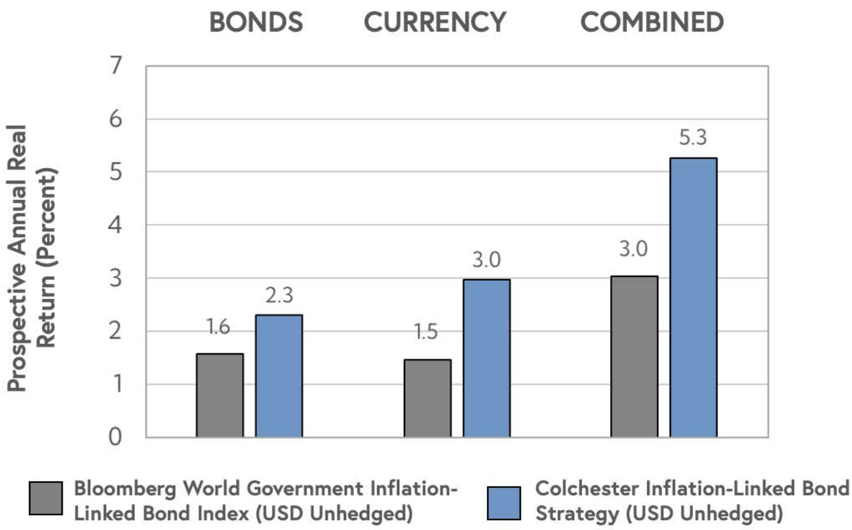
Chart 8 : DM Currency Basket - US Dollar Real Exchange Rate



Note: The grey bands represent multiples of the standard deviation, with the innermost bands representing 1 and -1 standard deviation. DM Currency Basket is the equally weighted real exchange estimate of the Australian Dollar, Euro, Japanese Yen, British Pound, Canadian Dollar, Norwegian Krone . Source: Colchester Global Investors, National Statistical Services CPI and PPI data, Bloomberg and WMR exchange rates. Data is as at 31 May 2025

Taken together, Chart 9 shows Colchester's estimate of the potential "value" on offer in both the Bloomberg World Government Inflation-Linked Bond Index and in the Colchester Global Inflation-Linked Bond Strategy in US dollar unhedged terms as at the end of May 2025. The attractive real yields on offer combined with the currency prospective returns suggests a compelling potential real return of 3% on the benchmark and potentially over 5% on the Colchester program.

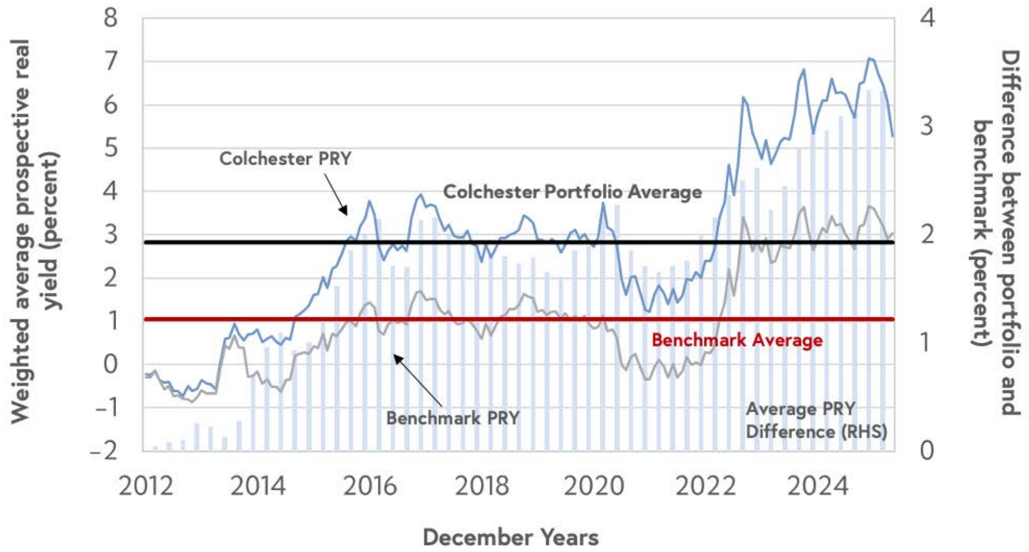
Chart 9: Potential Real Value on Offer



Source: Data as at end May 2025. Currency real value is a function of the real exchange rate and real yield differential. Currency is translated into an equivalent real yield by dividing portfolio aggregate real exchange rate undervaluation (versus the USD) by 5. This assumes a 5-year reversion to fair value. This enables bonds and currency to be added to produce a prospective real yield for the combined portfolio. Note numbers may not add due to rounding.

The valuations above reflect conditions as at the end of May 2025, a broader historical perspective as shown on Chart 10 furthers the value proposition. The current levels represent some of the most compelling valuations in the past 15 years or so of the inflation-linked bond asset class.

Chart 10: Colchester Programme and Index Combined Currency and Bond Valuation



Source: Combined bond 10yr real yield* and currency real yield (equivalent real yield by dividing portfolio or benchmark aggregate real exchange rate undervaluation (versus the USD) by 5). The difference shown is the 3-month moving average of the difference between the portfolio and benchmark combined valuations. Benchmark is the Bloomberg World Government Inflation-Linked Bond (WGILB) Index. Data as at end May 2025.

*For Colombia, Denmark, New Zealand and Poland where there is insufficient historical 10yr real yield data, the real yields for those markets have been taken from the ICE BofA All Maturity Inflation-Linked Government Index series.

Appendix: Market Overview

Information on each market can be found in the following table. Today's global government inflation-linked bond markets in the developed world originated in their current form in the UK in 1981. Issuance subsequently followed chronologically in Australia, Canada, Sweden, New Zealand, the US, France, Italy, Japan, Germany, Denmark and Spain.

Inflation-linked bonds were first issued in emerging markets well before developed markets, although not in their current form. Israel was the first emerging market country to issue inflation-linked bonds in 1955, followed by Chile in 1956. Both countries struggled at that time with stubborn and high inflation, and inflation-linked bonds were the only means of market funding in local currency at medium-term maturities. Brazil and Colombia launched inflation-linked bonds in the 1960s, the popularity of inflation-linked bonds in these markets and elsewhere in Latin America increased significantly as those countries went through crises during the 1980s and 1990s. Other smaller markets followed suit throughout the 1990s and in the 2000s like South Korea (2007) and Türkiye (2007).

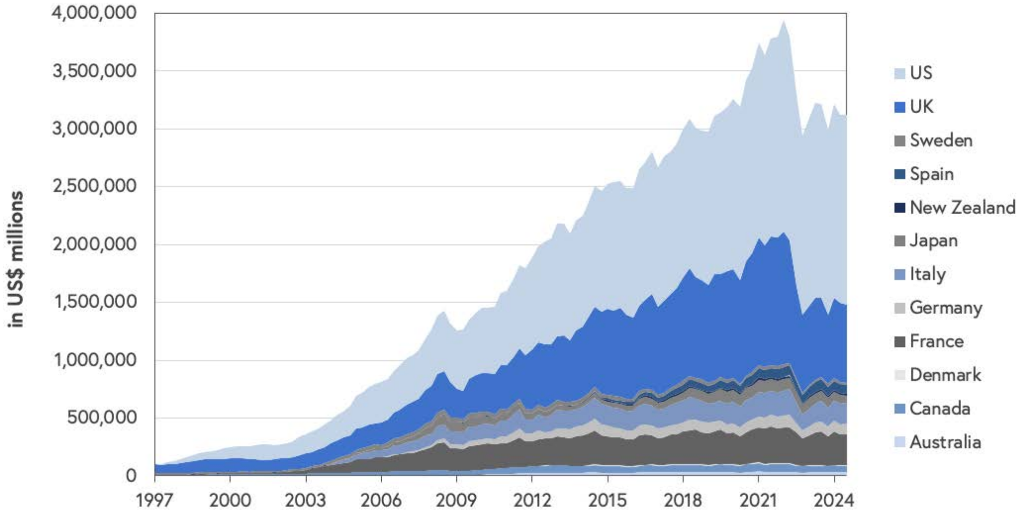
Colchester assesses the depth and limitations of each inflation-linked market rigorously. Each new market Colchester identifies for inclusion within the inflation-linked investment opportunity set is subject to an assessment before investment commences. The review includes:

- Institutional arrangements and market operations, including settlement, restrictions on local currency, registration and certification requirements, etc.

- The range and nature of active market counterparties.
- The key features of acceptable securities within the market.
- Market liquidity.
- Withholding tax framework, including the income and capital gains tax consequences of investment in the market and the potential impact of those costs (broad implications based on jurisdiction and entity type). The understanding of the tax framework is not to provide tax advice to clients, but rather to understand its impact on the potential real yield.

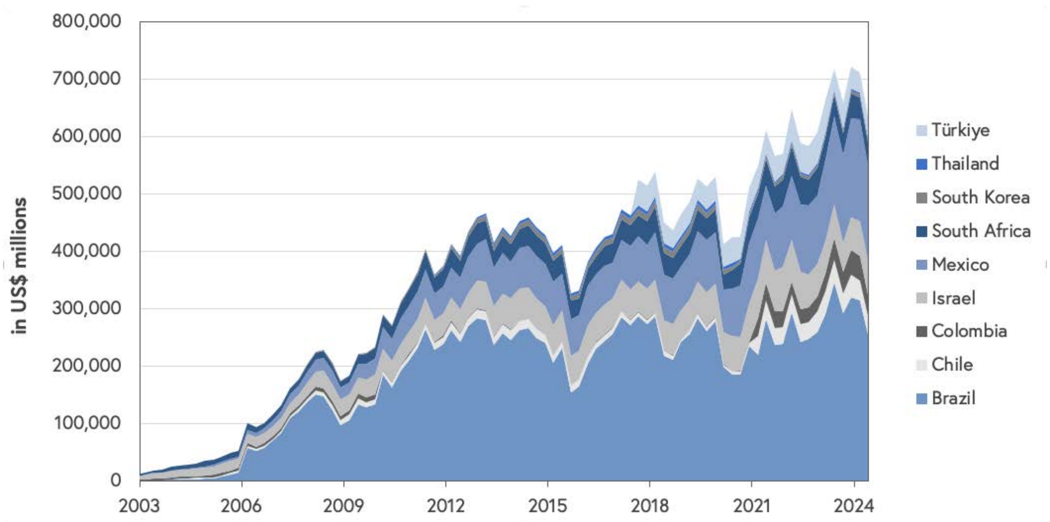
The following charts show the growth of the developed or advanced country and developing government inflation-linked bond markets.

Chart 11: Growth of Inflation-Linked Issuance in Developed Markets



Source: Bloomberg – data from Jan 1997 to May 2025
Note: The chart includes only those Inflation-linked government bond markets in the Bloomberg World Government Inflation-Linked Bond (WGILB) Index

Chart 12: Growth of Inflation-Linked Issuance in Developing Markets



Source: Bloomberg Barclays – data from Dec 2002 to May 2025.
Note: The chart includes only those Inflation-linked government bond markets in the Bloomberg Emerging Markets Tradable Inflation-Linked Bond (EMTIL) Index.

Table 3: Inflation-Linked Bond Information by Country of Issuance

	Australia	Brazil	Canada	Chile	Colombia	Denmark	France	Germany	Israel	Italy	Japan
Generic Name	Australian Capital Indexed Bonds	NTN-Bs, NTN-Cs	Canadian Real Return Bonds	BCU	TES	DGBi	OATi, OAT€I, BTAN€i	OBL€i, DBR€i	Galil, ILCPI	BTP€i	JGBi
First Issued	1985	1964	1991	1956	1967	2012	1998	2006	1995	2003	2004
Linking Index	All Groups CPI	IPCA, IGPM	CPI All Items nsa	UF CPI	UVR CPI	Denmark CPI	French CPI ex-tobacco; Euro HICP ex-tobacco	Euro HICP ex-tobacco	Israel CPI	Euro HICP ex-tobacco	Nationwide CPI General ex-Fresh Food
Linking Index Bloomberg Ticker	AUCPI Index	BZPIIPCA Index	CACPI Index	CLUFUF Index	COCPI Index	DNCPINEW Index	FRCPXTOB Index, CPTFEMU Index	CPTFEMU Index	ISCPINM Index	CPTFEMU Index	JCPNGENF Index
Indexation Lag	6 months	Up to 4 weeks, includes forecasts	2-3 months	1 month to 9th of month	1 month to 15th of month	2-3 months	2-3 months	2-3 months	Up to 1.5 months adjusted on inflation reslease	2-3 months	2-3 months to 10th of month
Par Floor?	Coupon and principal par floor	No floor	No floor	No floor	No floor	Par floor	Par floor	Par floor	Coupon and principal par floor (Galil), No floor (ILCPI)	Par floor	Par floor for new issuances since 2013
Coupon frequency	Quarterly	Semi-annual	Semi-annual	Semi-annual	Monthly	Annual	Annual	Annual	Annual	Semi-annual	Semi-annual
Market value outstanding US$mn*	29,503	287,527	53,389	35,931	40,129	6,654	305,519	63,647	74,149	228,397	63,220

	Mexico	New Zealand	Peru	South Africa	South Korea	Spain	Sweden	Thailand	Türkiye	UK	Uruguay	US
Generic Name	Udibonos	New Zealand Inflation-Indexed Bond (IIB)	VAC	South Africa Index-Linked bond	KTBi	SPGB€i	Swedish Government Index-Linked	THAIGB	TURKGB	United Kingdom Index-Linked Gilts	UI	Treasury Inflation Indexed Securities, TIIS, TIPS
First Issued	1989	1995**	2003	2000	2007	2014	1994	2011	1997	1981	2007	1997
Linking Index	Unidas de Inversion (UDI)	New Zealand All Groups CPI	VAC Index linked to monthly CPI	South Africa CPI NSA	Korean CPI	Euro HICP ex-tobacco	CPI nsa	Thailand CPI	Turkish CPI	RPI	Uruguary Indexed Unit (Unidad Indexada)	CPI All Urban nsa
Linking Index Bloomberg Ticker	MXUDI Index	NZCPCCPI Index	PRVAC Index	SACPI Index	KOCPI Index	CPTFEMU Index	SWCPI Index	THCPI Index	TUCPI Index	UKRPI Index	URUIRUI Index	CPURNSA Index
Indexation Lag	up to 2 weeks	6 months	1 month	3-4 months	2-3 months	2-3 months	2-3 months	2-3 months	2-3 months	8 months or 2-3 months	1 month	2-3 months
Floor?	Par floor	Coupon and principal par floor	No floor	Par floor	No floor	Par floor	Par floor for new issuances since 1999	Par floor	Par floor	No floor	No Floor	Par floor
Coupon frequency	Semi-annual	Quarterly	Semi-annual	Semi-annual	Semi-annual	Annual	Annual	Semi-annual	Semi-annual	Semi-annual	Semi-annual	Semi-annual
Market value outstanding US$mn*	180,727	13,249	930	46,756	5,456	95,337	21,375	3,635	34,358	674,009	8,499	1,687,724

*as of 31st May 2025.

** relaunch of New Zealand's government indexed bond market (two different series of index-linked bonds were issued starting in 1977, but discontinued in 1984)

Source: Bloomberg; Colchester; National Treasury Department; Price, R. (1997) "The Rationale and Design of Inflation-Indexed Bonds", IMF WP 97/12, p.56-65; Deacon M., Derry A., and Mirfendereski D., (2004) "Inflation-indexed Securities: Bonds, Swaps and Other Derivatives", 2nd Edition, p179.

Note: Table 3 includes only those Inflation-linked government bond markets within Colchester's investment universe.

i See Brière, M. and Signori, O., (2011) "Hedging inflation risk in a Developing Economy" Available at SSRN: http://ssrn.com/abstract=1805512

ii See for example Fama, E. F. and Schwert, G. W., (1977) "Asset returns and inflation", Journal of Financial Economics, 5(2), p.115–146. And Fama, E.F., (1981). Stock Returns, Real Activity, Inflation, and Money, American Economic Review, 74 (4), p. 545-565.

iii See Bekaert G. and Wang X., (2010) "Inflation Risk and the Inflation Risk Premium", Economic Policy, 25(64), October, p. 755-806.

iv See Hoesli M., Lizieri C. and MacGregor B., (2008) The Inflation Hedging Characteristics of US and UK Investments: A Multi-Factor Error Correction Approach, Journal of Real Estate Finance and Economics, 36(2), p.183-206.

v For example, over the period January 2001 to May 2025, the annualized volatility of monthly returns of Bloomberg World Government Inflation-Linked Bond Index has been 5.9%, compared with 15.6% for the Bloomberg Commodity Index.

vi Ciccarelli M. and Mojon B., (2010). Global Inflation, The Review of Economics and Statistics, 92(3), p.524–535.

vii Neely C. and Rapach D., 2011. International co-movements in Inflation rates and Country Characteristics, Journal of International Money and Finance, 30, p.1471-1490

viii 'Advanced Economies' as defined by the IMF includes the following countries: Andorra, Australia, Austria, Belgium, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Malta, Macao SAR, Netherlands, New Zealand, Norway, Puerto Rico, Portugal, San Marino, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan Province of China, United Kingdom, and United States.

ix The notable exception is Japan, which shows a very low correlation with the global index – likely due to idiosyncratic factors in the Japanese bond market, such as distorted pricing from Bank of Japan's dominance and the persistence of negative real yields over the past decade.

x Germany's Finance Argentur announced that it would no longer issue or reopen inflation-linked bonds from 2024 onwards.

xi https://colchesterglobal.com/wp-content/uploads/esg-policy-june-2025.pdf

xii Return of nominal bonds measured by the FTSE World Government Bond Index (WGBI) and return of inflation-linked bonds measured by the Bloomberg World Government Inflation-Linked Bond (WGILB) Index, both in USD hedged terms.

COLCHESTER GLOBAL INVESTORS - IMPORTANT INFORMATION

Risk Disclosures

- Colchester Global Investors ("Colchester") deems this to be a marketing communication and, for prospective fund investors, is qualified in its entirety by reference to the more complete information contained in the relevant fund's offering documents. This material has been prepared exclusively for use with professional or institutional investors and is not suitable for retail investors. Investors should seek professional advice before making an investment. Past performance is no guarantee of future performance and the value of any investment may fall as well as rise. Investment in the products mentioned in this document puts your capital at risk, and you may lose some or all of your investment. No part of this document may be reproduced or published in any form or by any means without Colchester's prior written permission.
- Unless otherwise stated, this document reflects Colchester's views and opinions as of 31 May 2025. In respect of the products and strategies mentioned in this document, the information is provided for illustrative purposes only and is intended only for professional clients and third-party intermediaries. Opinions expressed in this document may be changed without notice at any time after publication. Notwithstanding our fiduciary duties to existing clients, Colchester makes no representation or warranty as to the accuracy or completeness of the information in this document and disclaims all liability for any direct, indirect, consequential or other losses or damages including loss of profits incurred by you or any third party that may arise from reliance on this document.
- Performance for these purposes is defined as results of a portfolio (or portions of a portfolio that are included in extracted performance, if applicable). Unless shown otherwise, all returns are illustrated as gross of fees. Gross returns do not reflect the deduction of fees and expenses, which would inevitably reduce the client's returns. Additional information regarding policies and procedures for calculating and reporting returns is also available on request. Nothing in this document should be construed as providing any type of investment, tax or other advice, or be considered a solicitation, recommendation, endorsement or offer to purchase or sell any financial instrument.
- There is no guarantee that the investment approach, techniques, or strategies utilised by Colchester will be successful or profitable. There can be no assurance that the specific trading strategies utilised will produce profitable results. Any factor that would make it difficult to execute trades, such as reduced liquidity or extreme market developments could have an adverse effect on performance.
- Responsible investing is an integral part of the investment process, however Colchester never makes investment decisions based solely upon Environmental Social Governance (ESG) factors. Unless specified in the client Investment Management Agreement or offering documents, specific assets with poor ESG ratings may not be excluded from portfolios. Client strategies which invest on the basis of sustainability/ ESG criteria involves qualitative and subjective analysis. There is no guarantee that the determinations made by Colchester will be successful and/or align with the principles of specific investors.
- Prospective investors and clients should be aware that any investment involves a degree of risk. The return of your investment may increase or decrease as a result of currency fluctuations if your investment is made in a currency other than that used in the past performance calculation within this document.
- Where foreign securities are included in a portfolio there may be potential constraints on liquidity and the repatriation of funds, macroeconomic risks, political risks, foreign exchange risks, tax risks, settlement risks; and potential limitations on the availability of market information. Clients and potential investors acknowledge the inherent risk associated with the selected investments and that there are no guarantees.
- This is not a research report and is not intended as such. Certain information in this document may constitute forward-looking statements. Due to the various uncertainties and actual events, the actual performance of the markets may differ materially from those reflected or contemplated in such forward-looking statements. As a result, clients/investors should not rely on such forward-looking statements in making any investment decisions.

- This document may contain information obtained from third parties, including ratings from credit ratings agencies. Reproduction and distribution of third party content in any form is prohibited, except with the prior written permission of the related third party. Third party content providers do not endorse or recommend the securities or products discussed herein, nor do they guarantee the accuracy, completeness, timeliness or availability of any information, including ratings (negligent or otherwise), regardless of the cause, or for the results obtained from the use of such content. Third party content providers give no express or implied warranties, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use. Third party content providers shall not be liable for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including lost income or profits and opportunity costs or losses caused by negligence) in connection with any use of their content, including ratings. Credit ratings are statements of opinions and are not statements of fact or recommendations to purchase, hold or sell securities. They do not address the suitability of securities for investment purposes and should not be relied on as investment advice.
- All securities are rated by Nationally Recognized Statistical Rating Organizations (NRSRO) Moody's, Standard & Poor's (S&P), and/or Fitch. If a security is rated by more than one of these organisations, the highest rating assigned is used in our credit rating breakdowns. Ratings are measured on a scale that generally ranges from AAA (being the highest) to D (being the lowest).
- Information concerning the calculation of statistics used for portfolio characteristics is available upon request. Various industry standards, indices and industry performance comparative data are provided in this document and are detailed where appropriate. These include indices from FTSE, Bloomberg, MSCI, JP Morgan and ICE. Data is sourced additionally from Bloomberg and Datastream.
- London Stock Exchange Group plc and its group undertakings (collectively, the "LSE Group"). ©LSE Group 2025. FTSE Russell is a trading name of certain of the LSE Group companies. FTSE® is a trade mark of the relevant LSE Group companies and is used by any other LSE Group company under license. "TMX®" is a trade mark of TSX, Inc. and used by the LSE Group under license. All rights in the FTSE Russell indexes or data vest in the relevant LSE Group company which owns the index or the data. Neither LSE Group nor its licensors accept any liability for any errors or omissions in the indexes or data and no party may rely on any indexes or data contained in this communication. No further distribution of data from the LSE Group is permitted without the relevant LSE Group company's express written consent. The LSE Group does not promote, sponsor or endorse the content of this communication.
- Bloomberg Index Services Limited. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). Bloomberg or Bloomberg's licensors own all proprietary rights in the Bloomberg Indices. Neither Bloomberg nor Bloomberg's licensors approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.
- There can be no assurance that professionals currently employed by Colchester will continue to be employed by the firm or that a level of experience or past performance is indicative of future performance or success.
- Information about how to make a complaint, any right to compensation and any cancellation rights will be provided to you upon request.

Regulatory Information

- Colchester is an employee-owned firm headquartered in London and has regional offices in New York, Singapore, Dublin, Madrid, Munich, and Dubai with a representative office in Sydney, Australia.
- Colchester Global Investors Limited is authorised and regulated by the Financial Conduct Authority in the United Kingdom. Colchester is also registered with the Securities and Exchange Commission in the USA.

- Colchester Global Investors Limited is registered with the Securities Commission of The Bahamas, as the investment manager for an investment fund licensed as a Smart Fund model 003, in accordance with the provisions of the Investment Funds Act, 2019.
- Colchester Global Investors (Singapore) Pte. Ltd holds a capital markets services licence in fund management issued by the Monetary Authority of Singapore. Colchester Global Investors (Singapore) Pte. Ltd also holds an offshore discretionary investment management services licence issued by the Financial Services Commission of Korea.
- Please note the following in respect of Colchester's regulatory status in Australia: (i) neither Colchester Global Investors Limited nor Colchester Global Investors (Singapore) Pte. Ltd. holds an Australian financial services licence for the provision of certain financial services, and both entities are exempt from the requirement to hold an Australian financial services licence under the Corporations Act 2001 (Cwlth) in respect of the financial services Colchester provides; (ii) Colchester Global Investors Limited is authorised and regulated by the Financial Conduct Authority of the United Kingdom under UK laws, which differ from Australian laws; (iii) Colchester Global Investors (Singapore) Pte. Ltd. is regulated by the Monetary Authority of Singapore under Singapore laws, which differ from Australian laws. Therefore, Australian wholesale clients are not necessarily subject to the same types of legal protections or remedies that they would enjoy if Colchester was directly subject to the Corporations Act. Colchester is entitled to offer its financial services in Australia pursuant to an exemption from the requirement to hold an Australian Financial Services Licence under the Corporations Act, on the basis, among other things, that the clients are "wholesale clients" within the meaning of the Corporations Act.
- Colchester Global Investors (Singapore) Pte. Ltd is licensed as a financial services provider by the Financial Sector Conduct Authority (licence number 53343) in South Africa.
- Colchester Global Investors Middle East Limited is regulated by the Dubai Financial Services Authority for the provision of Managing Assets, Advising on Financial Products and Arranging Deals in Investments. All communications and services are directed at Professional Clients only. Persons other than Professional Clients, such as Retail Clients, are not the intended recipients of Colchester Global Investors Middle East Limited's communications or services. Colchester Global Investors Middle East Limited is a company established in the Dubai International Financial Centre (DIFC) pursuant to the DIFC Companies Law with registration number CL 3239.
- Colchester Global Investors Inc. is a wholly owned subsidiary of Colchester Global Investors Limited. It is not permitted to provide investment advice or otherwise engage in a regulated activity.
- Colchester Global Investors (Dublin) Management Limited is authorised and regulated by the Central Bank of Ireland in Ireland. Colchester Global Investors (Dublin) Management Limited, Sucursal en España is a branch of Colchester Global Investors (Dublin) Management Limited established in Spain and supervised by the CNMV. Colchester Global Investors (Dublin) Management Limited, German Branch is a branch of CGIE established in Germany and supervised by the Federal Financial Supervisory Authority (BaFin).

THIS DOCUMENT IS INTENDED FOR PROFESSIONAL USE ONLY AND IS NOT FOR PUBLIC DISTRIBUTION. IT MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL OR EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE DISREGARD AND DELETE IT AND DO NOT DISSEMINATE THE CONTENTS TO ANY OTHER PERSON.

THIS DOCUMENT DOES NOT CONSTITUTE A PROSPECTUS OR OFFERING CIRCULAR TO SUBSCRIBE FOR ANY SECURITIES. POTENTIAL INVESTORS MUST REVIEW THE RELEVANT PRODUCT OFFERING DOCUMENTS OR INVESTMENT MANAGEMENT AGREEMENT, AND IN PARTICULAR, THE RISK DISCLOSURES SET OUT THEREIN.