ECONOMIC SURVEY

1. THE EXTERNAL ENVIRONMENT AND THE EURO AREA

In the second quarter of 2024, real GDP expanded at a stronger pace in the United States and at a slower pace in the United Kingdom and in the euro area. During the quarter under review, the unemployment rate rose slightly in the United States, eased marginally in the United Kingdom and remained unchanged in the euro area.

Consumer price inflation eased in both the United States and the United Kingdom but rebounded slightly in the euro area. The increase in inflation in the euro area mainly reflected energy price dynamics and faster growth in the prices of unprocessed food and services. In the United States, inflation fell to 3.0% in June from 3.5% in March, while in the United Kingdom, inflation declined to 2.0% in June from 3.2% in March. By contrast, in the euro area, inflation edged up to 2.5% in June from 2.4% three months earlier. The Federal Reserve (Fed) and the Bank of England kept their key interest rates unchanged whereas the ECB cut its policy rates during the quarter under review.

Brent oil prices fell in the review period, mainly on account of lower growth in global oil demand amid a more abundant supply. By contrast, the price of European natural gas rebounded as demand increased in a tightening global market.

Key advanced economies

US economic activity expands at a faster pace

In the United States, real GDP grew at a quarterly rate of 0.7% in the second quarter, up from 0.4% in the preceding quarter, driven by stronger growth in domestic demand (see Table 1.1). Higher personal consumption expenditure was the main contributor to growth during the quarter under review, followed by a marked increase in private inventory investment. Government consumption and investment spending contributed to a lesser degree. By contrast, net exports contributed negatively to economic growth, as imports outpaced exports.

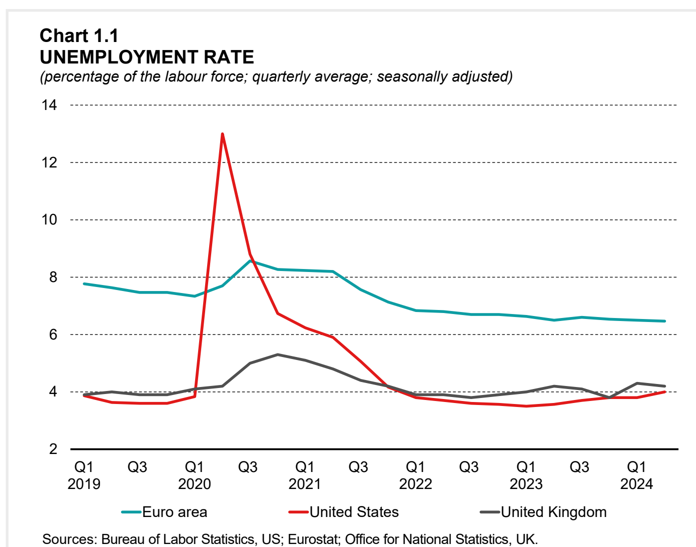
Meanwhile, labour market conditions showed some signs of easing. Non-farm payroll data show that employment grew by 0.4% on average during the quarter, compared to 0.5% in the previous quarter. These data suggest that the increase in employment was driven by private services. In turn, within private services, employment growth was most pronounced in education and health, followed by trade, transportation and utilities. Government employment increased mildly when

Table 1.1
REAL GDP GROWTH IN SELECTED ADVANCED ECONOMIES
Quarter-on-quarter percentage changes; seasonally and working day adjusted

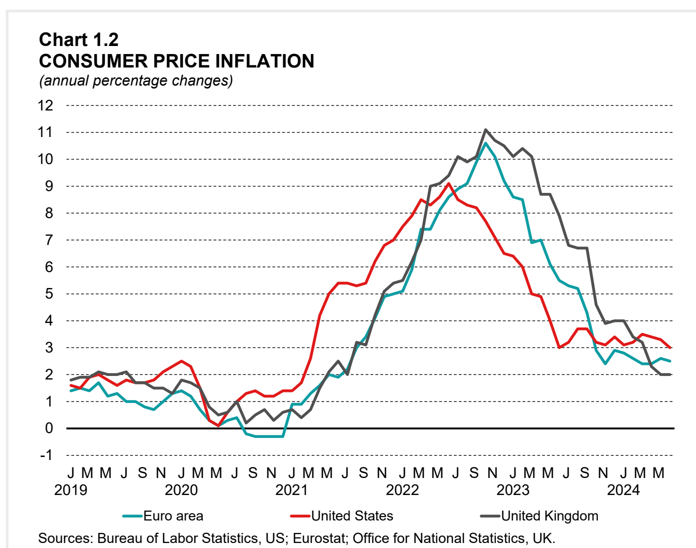
	2022			2023				2024	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
United States	0.1	0.7	0.8	0.7	0.6	1.1	0.8	0.4	0.7
Euro area	0.9	0.5	-0.1	0.0	0.1	0.0	0.1	0.3	0.2
United Kingdom	0.3	0.1	0.3	0.1	0.0	-0.1	-0.3	0.7	0.5

Sources: Bureau of Economic Analysis, US; Eurostat; Office for National Statistics, UK.

compared to private services. The participation rate remained unchanged at 62.6% during the review period. On average, the unemployment rate rose slightly to 4.0% in the second quarter, compared to 3.8% in the previous quarter (see Chart 1.1).



Inflationary pressures eased in the quarter under review, largely reflecting a drop in prices of goods (less food and energy) as well as lower energy and services inflation. Thus, the annual inflation rate based on the consumer price index (CPI) stood at 3.0% in June, compared to 3.5% three months earlier (see Chart 1.2). The annual rate of change of prices of goods excluding food and energy, became even more negative, falling to -1.8% in June, compared to -0.7% in March, partly reflecting a steeper decline in the prices of durables. Annual energy inflation declined to 1.0% in June, compared to 2.1% in March, while services inflation eased to 5.0% in June, from 5.3% three months earlier. On the other hand, food inflation (including beverages) stood at 2.2% in June, unchanged from March. Inflation excluding food and energy eased to 3.3% in June, from 3.8% in March.



During the second quarter of 2024, the Federal Open Market Committee (FOMC) kept the target range for the federal funds rate unchanged at between 5.25% and 5.50% as it awaited firmer signs that inflation is moving sustainably towards 2%. In considering any adjustments to the target range for the federal funds rate, the FOMC reiterated that it would carefully assess incoming data, the evolving outlook and the balance of risks. In May, the Committee announced that, beginning in June, it would slow the pace of quantitative tightening by reducing the monthly redemption cap on Treasury securities from USD 60 billion to USD 25 billion. The Committee would maintain the monthly redemption cap on agency mortgage-backed securities at USD 35 billion and would reinvest any principal payments above this cap into Treasury securities. In June, the FOMC restated

that it would continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities.[1]

UK economy expands at a slower pace

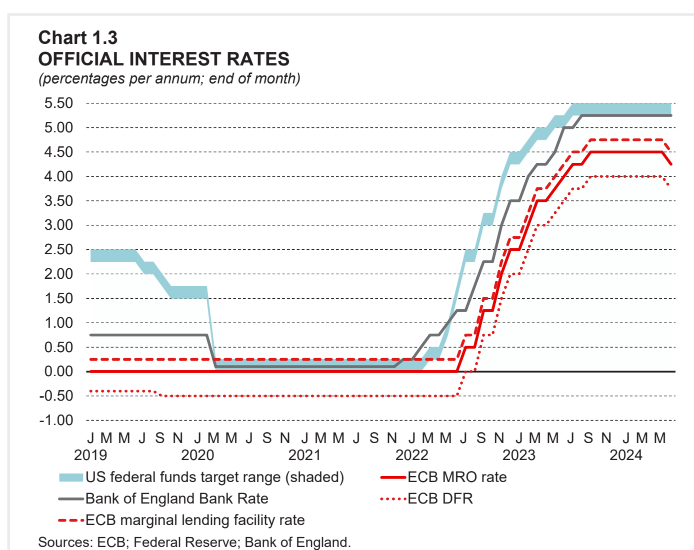
Real GDP in the United Kingdom grew at a quarterly rate of 0.5% in the review period, compared to 0.7% recorded in the first quarter (see Table 1.1). An expansion in inventories, increases in government and household consumption as well as higher business investment outweighed a more negative international trade balance, reflecting higher imports and lower exports.

Labour market conditions were largely stable during the quarter reviewed. The employment rate remained unchanged at 74.5%, on a quarterly-average basis, while the unemployment rate averaged 4.2% during the review period, compared to 4.3% in the previous quarter (see Chart 1.1).

Consumer price inflation in the United Kingdom continued to decline during the review period, with the annual rate falling from 3.2% in March to hit the Bank of England's 2.0% medium-term target in May. Inflation remained unchanged at 2.0% in June (see Chart 1.2). Inflation fell across the major components. Energy prices fell further during the quarter and did so at a faster pace than that recorded in the previous quarter. Thus, the annual rate of energy price inflation fell to -16.0% in June, compared to -12.7% three months before. The annual rate of change of prices of non-energy industrial products turned negative during the quarter, falling to -0.1% in June, compared to 1.5% in March. Although both food and services inflation continued to ease, falling to 3.0% and 5.7%, respectively in June, services inflation in particular remained high. The annual rate of inflation based on the CPI excluding energy, food, alcohol and tobacco fell to 3.5% in June, from 4.2% in March.

During the quarter under review, the Bank of England's Monetary Policy Committee (MPC) kept the Bank Rate unchanged at 5.25% (see Chart 1.3). The MPC considered that although the restrictive monetary policy stance was dampening inflationary pressures and key indicators of inflation persistence continued to moderate, they remained elevated.[2]

Chart 1.3
OFFICIAL INTEREST RATES
(percentages per annum; end of month)



Sources: ECB; Federal Reserve; Bank of England.

[1] On 18 September, the FOMC decided to lower the target range for the federal funds rate by 50 basis points to 4.75%-5.00% as inflation moved closer to target. The FOMC also reaffirmed that it would continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities.

[2] On 31 July 2024, the MPC reduced the Bank Rate by 25 basis points, to 5.0%. The MPC stated that the impact from past external shocks had abated and some progress was registered in moderating risks of persistence in inflation, while the restrictive stance of monetary policy was bearing down on inflationary pressures. However, the Committee reiterated that monetary policy needed to continue to remain restrictive for sufficiently long until the risks to inflation returning sustainably to the 2% target in the medium term would have dissipated further. Indeed, on 18 September, the MPC kept the Bank Rate unchanged.

The euro area

GDP in the euro area grows moderately

Economic activity in the euro area continued to recover modestly in the second quarter of 2024. In real terms, GDP rose by 0.2% on a quarter-on-quarter basis, compared to 0.3% recorded in the previous quarter (see Table 1.2). Growth was driven by the services sector, as activity in manufacturing and construction decreased, and occurred in the context of a continued improvement in global trade. Consumer confidence increased further but remained short of its long-term average despite unemployment being at historic lows and headline inflation having fallen significantly. Meanwhile, business sentiment indicators moved broadly sideways, with sentiment in industry below the long-term average.

In the second quarter, net exports contributed 0.5 percentage point to economic growth, as a rise in exports outweighed an increase in imports. In contrast, domestic demand deducted 0.3 percentage point from GDP growth. Investment fell sharply, leading to a negative contribution to GDP growth. This reflected a marked fall in Irish non-construction investment, but also a further decline in housing investment. Excluding developments in Irish non-construction investment, it is estimated that the contribution from domestic demand would be practically neutral. Private consumption expenditure and business inventories remained almost unchanged, while government consumption contributed 0.1 percentage point to GDP growth.

Table 1.2
CONTRIBUTIONS TO QUARTERLY REAL GDP GROWTH IN THE EURO AREA[(1)]
Percentage points; quarter-on-quarter percentage change

	2022			2023				2024	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Private consumption	0.6	0.6	-0.5	0.1	0.2	0.1	0.0	0.2	0.0
Government consumption	0.0	-0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.1
GFCF	0.0	0.2	0.0	0.1	0.0	0.0	0.2	-0.4	-0.5
Changes in inventories[(2)]	0.1	0.1	-0.1	-0.6	0.3	-0.4	-0.3	-0.3	0.0
Exports	1.0	0.7	0.2	-0.2	-0.6	-0.6	0.2	0.6	0.7
Imports	-0.8	-1.0	0.2	0.5	0.2	0.8	-0.2	0.3	-0.2
GDP	**0.9**	**0.5**	**-0.1**	**0.0**	**0.1**	**0.0**	**0.1**	**0.3**	**0.2**

Source: Eurostat.
[(1)] Data are seasonally and working day adjusted. Figures may not add up due to rounding.
[(2)] Including acquisitions less disposals of valuables.

Labour market remains strong

The labour market in the euro area remained robust during the second quarter. Indeed, employment continued to expand, growing at a quarterly rate of 0.2% during the review period, compared to 0.3% in the preceding quarter.[3] Meanwhile, the seasonally adjusted unemployment rate stood at 6.5% in June, the same as three months before, also averaging 6.5% in the quarter under review (see Chart 1.1).

Inflation rises marginally

After having abated notably since around mid-2023, inflation in the euro area picked up again in the second quarter. The annual rate of inflation based on the HICP stood at 2.5% in June, up

[3] Employment data refer to the national accounts, total employment domestic concept. Data are seasonally and calendar adjusted.

from 2.4% three months before (see Chart 1.4). The increase in overall inflation reflected a rebound in energy prices and in the prices of unprocessed food, coupled with slightly faster growth in services prices. On the other hand, slower growth in the prices of processed food and in non-energy industrial goods (NEIG) inflation mitigated the increase in overall inflation.

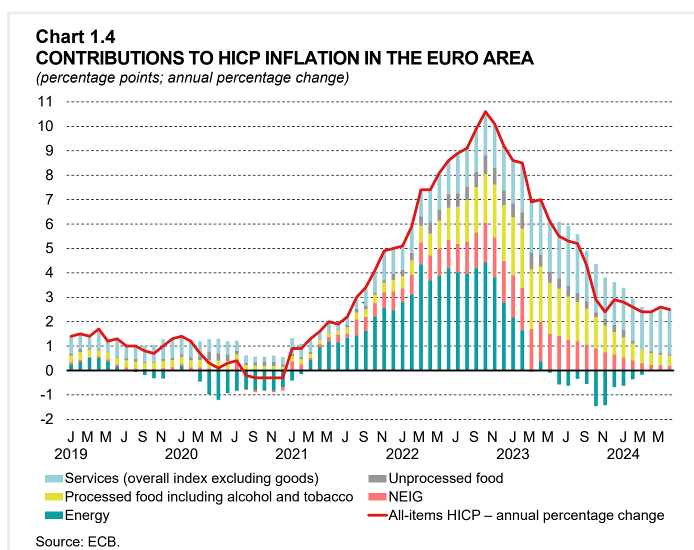


Chart 1.4
CONTRIBUTIONS TO HICP INFLATION IN THE EURO AREA
(percentage points; annual percentage change)

Source: ECB.

Turning to the major HICP components in more detail, energy prices rose at an annual rate of 0.2% in June 2024, as against a drop of 1.8% in March. Similarly, unprocessed food prices increased at an annual rate of 1.3% in June, in contrast to a decrease of 0.5% in March. The annual rate of change of services prices edged up to 4.1% in June, from 4.0% three months earlier. On the other hand, processed food inflation (including alcohol and tobacco) eased to 2.7% over the review period, compared to 3.5% in March. Also, the annual rate of NEIG inflation slowed down to 0.7% in June, compared to 1.1% three months earlier.

Underlying inflationary pressures stabilised during the review period. HICP inflation excluding energy and food eased in April but intensified in the following month so that the annual rate stood at 2.9% in June, the same as in March.

Real GDP expected to expand further, inflation projected to continue easing

According to the ECB staff macroeconomic projections, published in September 2024, real GDP growth in the euro area is estimated to increase to 0.8% in 2024. Real GDP is then expected to expand further by 1.3% and 1.5% in 2025 and 2026, respectively (see Table 1.3). Although the

Table 1.3
MACROECONOMIC PROJECTIONS FOR THE EURO AREA[1]
Annual percentage changes

	2023	2024	2025	2026
GDP	**0.5**	**0.8**	**1.3**	**1.5**
Private consumption	0.7	0.8	1.4	1.5
Government consumption	1.0	1.2	1.1	1.1
GFCF	1.2	-0.5	1.2	2.1
Exports	-0.3	1.2	2.6	3.0
Imports	-1.1	0.0	2.8	3.3
HICP	**5.4**	**2.5**	**2.2**	**1.9**
HICP excluding energy and food	4.9	2.9	2.3	2.0

Source: ECB.

[1] ECB staff macroeconomic projections (September 2024).

latest economic indicators suggest below-expectations growth in the euro area in the short term, ECB staff foresee a consumption-driven economic recovery. A continued rise in real disposable income and a gradual increase in confidence are expected to support this recovery. Over the medium term, the recovery would also be underpinned by the gradual dissipation of the impact from the ECB's monetary policy tightening, a likely continued easing of financial conditions and an expected rise in foreign demand. Meanwhile, the labour market is expected to remain resilient, while the unemployment rate will likely stay at historically low levels. Against this background, real GDP is expected to expand at rates similar to historical averages.

Compared to the June 2024 projections, the latest projections are conditioned on lower commodity prices (though some energy prices are higher), a stronger euro as well as slightly lower short-term interest rates and long-term sovereign bond yields. Real GDP growth is revised downwards by 0.1 percentage point for 2024, 2025 and 2026, respectively. The downward revision to the 2024 forecast mainly reflects lower private consumption and investment as well as slower export growth in light of ongoing competitiveness issues. The downward revision for 2025 reflects the effects of the revisions to the growth profile in the second half of 2024, which carry over into the following year. For 2026, the change mainly reflects downward revisions to both private consumption growth and the contribution from net trade.

Turning to the outlook for prices, ECB staff foresee HICP inflation to decline from 5.4% in 2023 to an average of 2.5% in 2024 and to ease further to 2.2% and 1.9% in 2025 and 2026, respectively. Following its recent moderation, HICP inflation is expected to rebound somewhat in the fourth quarter of 2024, before declining further to the ECB's 2% target by the end of 2025, in line with the June 2024 projections. The expected rebound in the near term largely reflects energy base effects. Over the medium term, however, energy inflation is expected to settle at low positive rates in the context of market expectations for energy prices as well as planned climate-change related fiscal measures. After progressively declining until July 2024, food inflation is expected to remain largely unchanged in the near term. It is then expected to fall modestly, reflecting moderate developments in input costs.

HICP inflation excluding energy and food is expected to remain above headline inflation for almost the entire projection horizon. Nevertheless, it is also expected to continue moderating gradually from an average of 4.9% in 2023 to 2.9% in 2024 and further to 2.3% and 2.0% in 2025 and 2026, respectively. Although services inflation has remained persistently high over recent months, a gradual decline is still expected later in the horizon as wage growth and other cost pressures will likely ease, while past monetary policy tightening measures continue to exert downward pressure on consumer prices.

Compared to the June 2024 projections, the outlook for HICP inflation remains unchanged. For 2024, an upward revision to underlying inflation is offset by a downward revision for energy and food. Underlying inflation projections are revised upwards by 0.1 percentage point for both 2024 and 2025, mainly on account of higher data outturns for services inflation. As from the second half of 2025, however, underlying inflation has been revised slightly downwards, mainly reflecting the downward revision of real GDP and wages as well as the downward impact from the appreciation of the euro. The underlying inflation projection for 2026 is unrevised.

ECB cuts interest rates

On 6 June, the Governing Council lowered the three key policy rates by 25 basis points since the inflation outlook had improved markedly, underlying inflation eased and monetary policy kept financing conditions restrictive. Accordingly, the interest rates on the deposit facility, the MROs and the marginal lending facility were decreased to 3.75%, 4.25% and 4.50%, respectively. This was the first adjustment in official interest rates since September 2023.

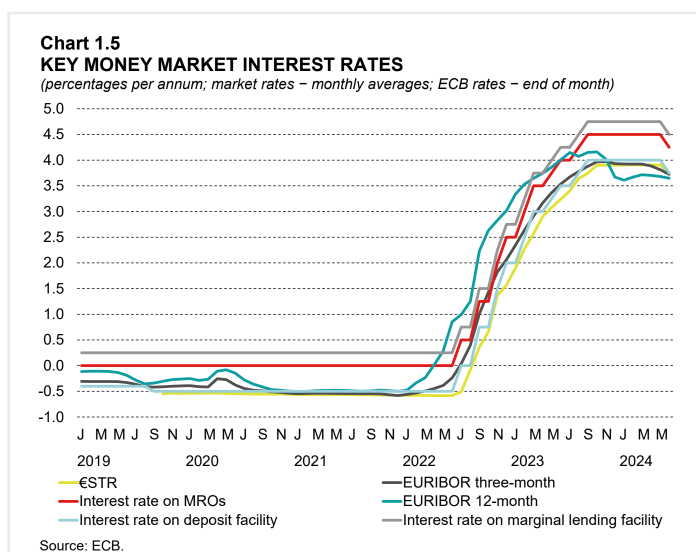
In light of persisting domestic price pressures, the Governing Council reiterated that it would keep policy rates sufficiently restrictive for as long as necessary to ensure that inflation would return to its 2% medium-term target in a timely manner. The Governing Council restated that it would continue to follow a data-dependent and meeting-by-meeting approach to determining the appropriate level and duration of restriction.

The Governing Council also confirmed that it would reduce the Eurosystem's holdings of securities under the PEPP by €7.5 billion per month, on average, over the second half of the year.[4]

Money market rates drop

Money market interest rates in the euro area tended to fall during the review period, reflecting market expectations of lower official interest rates. Hence, the euro short-term rate (€STR) averaged 3.75% in June, compared to 3.91% in March (see Chart 1.5).[5] The three-month euro interbank offered rate (EURIBOR) averaged 3.72% in June, as against 3.92% three months earlier. The 12-month EURIBOR averaged 3.65% in June, compared to 3.72% in March.[6] The 12-month EURIBOR thus remained below the DFR, indicating market players' expectations of further lowering of interest rates.

Chart 1.5
KEY MONEY MARKET INTEREST RATES
(percentages per annum; market rates − monthly averages; ECB rates − end of month)



Source: ECB.

Euro area government bond yields rise further

The euro area ten-year benchmark government bond yield rose further to 3.17% in June, compared to 2.95% three months earlier. This was mainly because market participants reassessed

[4] On 12 September, the Governing Council decided to lower the DFR – the rate through which it steers the monetary policy stance – by 25 basis points. Additionally, the spread between the DFR and the interest rate on the MROs was set at 15 basis points. By contrast, the spread between the rate on the marginal lending facility and the rate on the MROs was kept unchanged at 25 basis points. Accordingly, the DFR was decreased to 3.50% and the interest rates on the MROs and the marginal lending facility were decreased to 3.65% and 3.90%, respectively.

[5] The €STR is a reference rate based on money market data collected by the Eurosystem, reflecting the wholesale euro unsecured overnight borrowing costs of banks located in the euro area. The €STR is published on each T2 business day based on transactions conducted and settled on the previous T2 business day.

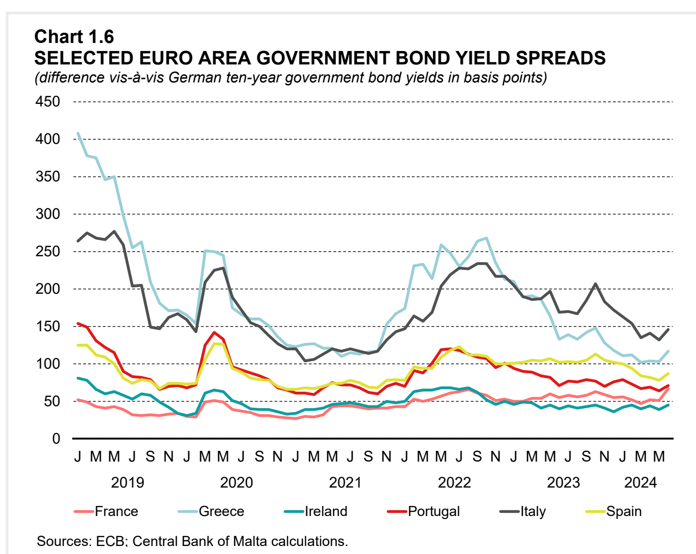
[6] The EURIBOR is an interest rate benchmark indicating the average rate at which principal European banks lend unsecured funds on the interbank market in euro for a given period.

their expectations about the timing and extent of official interest rate cuts in the United States, which spilled over to the euro area.

Individual sovereign bond yields rose to varying degrees in almost all euro area countries. In Germany, ten-year sovereign bond yields increased by 13 basis points to 2.48%. Yields went up by 33 basis points, to 3.15%, in France, while in Italy yields rebounded by 24 basis points, to 3.94%. Moreover, in Spain they rose by 16 basis points, to 3.35%. In all the remaining euro area jurisdictions (except Lithuania), yields were up, with increases ranging from 28 basis points in Estonia and Greece to just 4 basis points in Latvia.

Spreads between yields on the ten-year German bonds and those on the bonds issued by most of the other euro area jurisdictions widened. This applies particularly to spreads between German benchmark yields and those on French government bonds, which increased by 20 basis points to 67 basis points during the quarter, reflecting increased political uncertainty (see Chart 1.6).

Chart 1.6
SELECTED EURO AREA GOVERNMENT BOND YIELD SPREADS
(difference vis-à-vis German ten-year government bond yields in basis points)

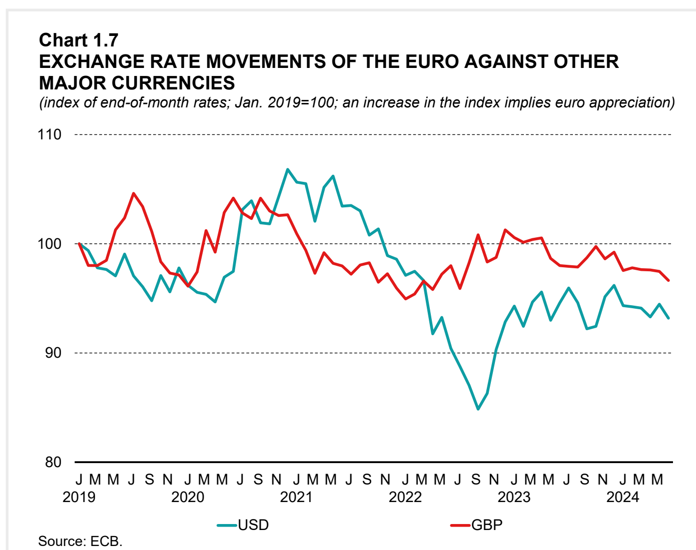


Sources: ECB; Central Bank of Malta calculations.

The euro falls versus the US dollar and in effective terms

During the second quarter of 2024, the euro depreciated by 1.0% against the US dollar, extending the losses recorded in the previous quarter (see Chart 1.7). Divergent economic fundamentals between the United States and the euro area, elevated geopolitical tensions as well as market expectations of a later start of monetary policy easing in the United States, supported the dollar. The single currency also depreciated by 1.0% versus the British pound mainly on account of economic-growth and interest-rate differentials between the United Kingdom and the euro area.

Chart 1.7
EXCHANGE RATE MOVEMENTS OF THE EURO AGAINST OTHER MAJOR CURRENCIES
(index of end-of-month rates; Jan. 2019=100; an increase in the index implies euro appreciation)



Source: ECB.

Furthermore, the euro also registered losses against the Australian dollar, the Czech koruna,

the Hong Kong dollar and the Norwegian krone. To a lesser degree, it also weakened against the Swiss franc and the Chinese renminbi.

On the other hand, the euro appreciated further against the Japanese yen as very low interest rates in Japan compared to other major jurisdictions continued to exert downward pressure on the Japanese unit. The euro was up also against the Korean won and rose slightly versus some other currencies such as the Polish zloty and the Canadian dollar.

Overall, the nominal effective exchange rate (EER) of the euro against the EER-18 group of countries declined by 0.5% between the end of March and the end of June 2024.[7]

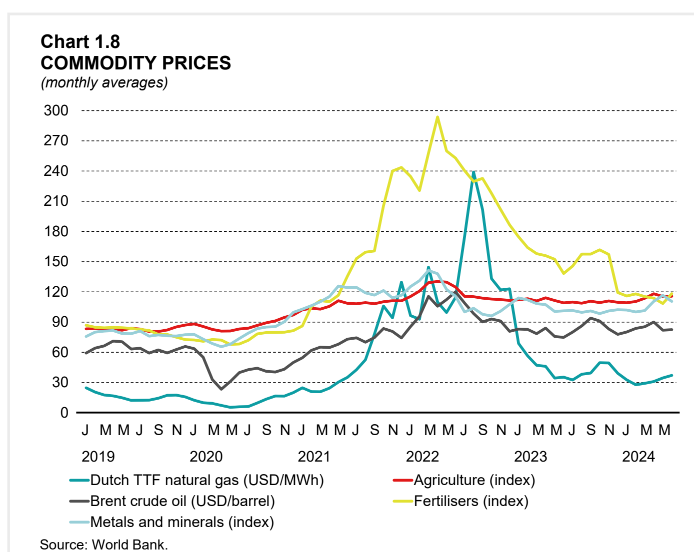
Commodities

Oil price drops but natural gas and other commodity prices rise during the quarter

Oil prices eased in the second quarter in the context of slowing growth in world oil demand and higher oil supply. The drop in oil prices was reinforced after the OPEC+ group of producer countries announced plans to gradually unwind last year's extra voluntary output cuts, starting in the fourth quarter 2024. The price of Brent crude oil averaged USD 82.6 per barrel in June, 3.4% lower than the level prevailing three months earlier. By contrast, the price of European natural gas rebounded in the quarter under review mainly on account of higher gas use in the power and industrial sectors and a tighter global market for liquified natural gas. The average price of Dutch TTF natural gas stood at USD 37.1 per megawatt hour in June, or 27.1% higher than in March (see Chart 1.8).

World Bank data show that non-energy commodity prices rose by 3.9% during the quarter under review. This reflected higher prices for metals and minerals, fertilizers and agricultural products. Meanwhile, prices of precious metals were up by 9.6%.

Chart 1.8
COMMODITY PRICES
(monthly averages)



Source: World Bank.

[7] The EER-18 is based on the weighted averages of the euro exchange rate against the currencies of Australia, Bulgaria, Canada, China, Czech Republic, Denmark, Hong Kong, Hungary, Japan, Norway, Poland, Romania, Singapore, South Korea, Sweden, Switzerland, the United Kingdom and the United States.

BOX 1: THE DEGREE OF SPILLOVERS FROM US TREASURIES TO THE EURO AREA GOVERNMENT BOND YIELDS INCLUDING THE MALTESE YIELD CURVE[1]

Introduction

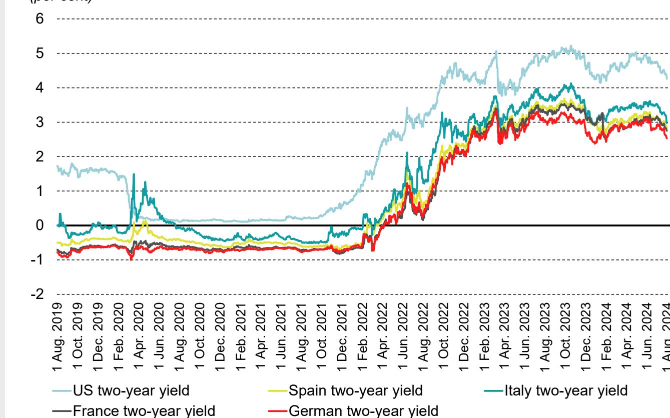
This box analyses the extent of spillovers from US Treasury yields to euro area sovereign bond yields, with particular focus on instances of very high and low correlation. It particularly focuses on the relationship between US Treasuries and the German sovereign bond market, with Germany being the benchmark for the euro area countries. Other major euro area government bond markets are also being referred to in this analysis. The indirect spillovers from the US Treasuries to the Maltese government bond yield curve, are also analysed hereunder.

Sovereign bond yield movements are usually driven by several factors. Due to the close interlinkages between markets globally, certain factors influencing yields in one jurisdiction tend to have spillover effects on another country's yields. This box studies the main factors driving the US and selected euro area government bond yields over the five-year period covering 1 August 2019 – 31 July 2024.

Over the period under review, sovereign bond yields were driven by different factors. These include, but are not limited to, the interest-rate decisions taken by major central banks, public comments made by central bank policymakers, the release of economic data and country specific factors.

Charts 1.1, 1.2 and 1.3 clearly show that yield movements across the two, five, and ten-year tenors for the United States and the selected euro area countries (Germany, France, Spain and Italy) moved in the same direction during the period under review. It can also be noted that between Q3 2019 and Q1 2022, the benchmark yields of Germany and other selected euro area countries, were in

Chart 1.1
TWO-YEAR US TREASURY AND SELECTED EURO AREA SOVEREIGN BOND YIELDS (1 AUGUST 2019 - 31 JULY 2024)
(per cent)



Source: Refinitiv.

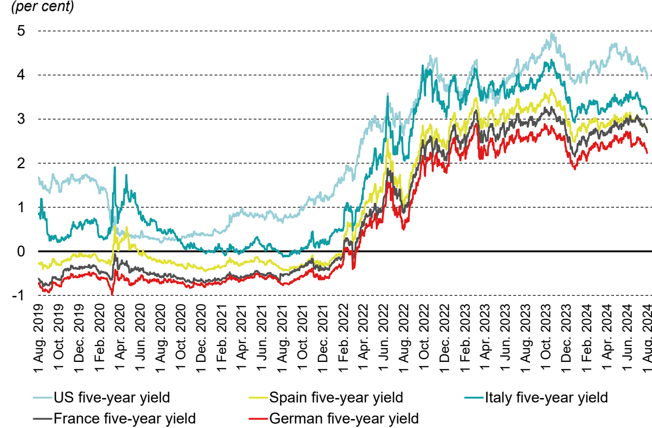
[1] Prepared by Ms Maria Dimech, Senior Market Analyst and Mr Audrin Tanti, Market Analyst, Market Analysis Office and Ms Maria Micallef, Assistant Executive, Government Securities Office and reviewed by Ms Josette Grech, Head, Monetary Operations and Government Securities Department and Mr André Psaila, Chief Officer, Financial Markets Division. The views expressed in the Box are the authors' own and do not necessarily reflect the views of the Bank.

negative territory whereas those in the United States remained positive.

Spillover from US Treasuries to euro area sovereign yields

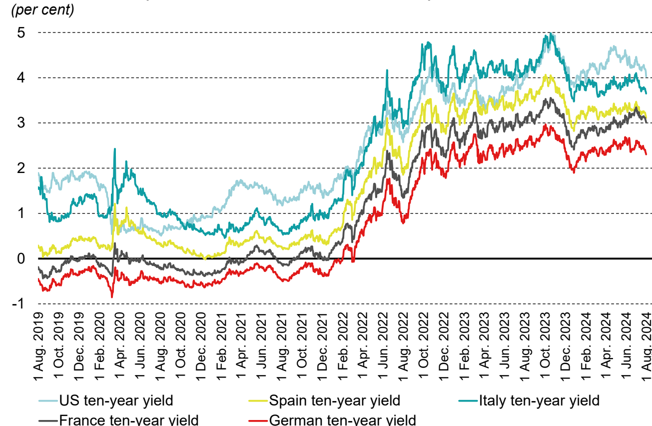
As shown in Charts 1.1, 1.2 and 1.3, during most of the review period, yields moved in tandem across the two continents. However, there were instances where the path of yields diverged somewhat. This may have been led by factors such as different central bank policies and the prevailing macroeconomic news emerging from the respective jurisdiction.

Chart 1.2
FIVE-YEAR US TREASURY AND SELECTED EURO AREA SOVEREIGN BOND YIELDS (1 AUGUST 2019 - 31 JULY 2024)
(per cent)



Source: Refinitiv.

Chart 1.3
TEN-YEAR US TREASURY AND SELECTED EURO AREA SOVEREIGN BOND YIELDS (1 AUGUST 2019 - 31 JULY 2024)
(per cent)



Source: Refinitiv.

The slowdown in economic activity due to disruptions in supply chains experienced in the euro area in 2021 may have been amongst the region-specific factors that contributed to this divergence in yields. Weak economic conditions led to an accommodative monetary policy by the ECB. Over this period, the ECB kept its three key interest rates at very low levels and intensified its open-market purchases of European sovereign bonds, further supporting bond prices and pressuring yields lower.

Apart from the adverse economic effects arising from the pandemic, another supply shock hit Europe when it was starting to recover from pandemic-related lockdowns. The Russian invasion of Ukraine brought about disruptions which unleashed cost-push inflation that resembled the 1970s OPEC-led oil crisis.

However, the timing of the monetary policy response by the respective central banks in these two jurisdictions was different. The Fed acted earlier than the ECB to try to curb

inflation pressures. In fact, the Fed hiked the range of the Fed Funds rate in March 2022, while the ECB acted in July of the same year.[2]

Against this background, the degree of spillover from yields in the US Treasury bond markets to yields in Eurozone government bond markets, was highest in 2022 as illustrated in Tables 1.1 to 1.4. This strong correlation was particularly evident for Germany, from Q1 2022 onwards,[3] as shown in Table 1.5.

Table 1.1
FULL-YEAR CORRELATION STATISTICS
Correlation between the two, five and ten-year yields on the US and DE benchmark bonds (1 August 2019 - 31 July 2024)
Annual data except for 2019 and 2024

	Correlation between two-year US and DE	Correlation between five-year US and DE	Correlation between ten-year US and DE
01/08/2019 - 31/12/2019	0.3833	0.8115	0.8851
2020	0.3819	0.4800	0.5059
2021	0.0467	0.6898	0.8159
2022	0.9586	0.9725	0.9831
2023	0.8481	0.7508	0.7842
01/01/2024 - 31/07/2024	0.8912	0.8308	0.8103

Sources: Refinitiv; Central Bank of Malta staff calculations.

Table 1.2
FULL-YEAR CORRELATION STATISTICS
Correlation between two-year yields of US treasuries and selected euro area bond yields (1 August 2019 - 31 July 2024)
Annual data except for 2019 and 2024

	Correlation between two-year US and DE	Correlation between two-year US and IT	Correlation between two-year US and ES	Correlation between two-year US and FR
01/08/2019 - 31/12/2019	0.3833	0.1245	0.4391	0.3865
2020	0.3819	-0.0885	0.0548	0.1203
2021	0.0467	0.5145	-0.6242	-0.5977
2022	0.9586	0.9576	0.9696	0.9572
2023	0.8481	0.8438	0.9191	0.9272
01/01/2024 - 31/07/2024	0.8912	0.9013	0.9070	0.4268

Sources: Refinitiv; Central Bank of Malta staff calculations.

Table 1.3
FULL-YEAR CORRELATION STATISTICS
Correlation between five- year yields of the US treasuries and selected euro area bond yields (1 August 2019 - 31 July 2024)
Annual data except for 2019 and 2024

	Correlation between five-year US and DE	Correlation between five-year US and IT	Correlation between five-year US and ES	Correlation between five-year US and FR
01/08/2019 - 31/12/2019	0.8115	0.1889	0.8126	0.7624
2020	0.4800	-0.0036	0.0428	0.3242
2021	0.6898	0.5671	0.4147	0.8230
2022	0.9725	0.9754	0.9755	0.9761
2023	0.7508	0.6972	0.8039	0.7823
01/01/2024 - 31/07/2024	0.8308	0.6843	0.7732	0.6798

Sources: Refinitiv; Central Bank of Malta staff calculations.

[2] The US headline CPI stood at 7.9% y/y in February 2022, whilst that in the Eurozone was 5.8% y/y. Even core inflation was higher in the United States. This justifies the Fed's intervention prior to that of the ECB.

[3] The correlation was low only in Q4 2022 during this period.

Table 1.4
FULL-YEAR CORRELATION STATISTICS

Correlation between ten-year yields of US treasuries and selected euro area bond yields (1 August 2019 - 31 July 2024)

Annual data except for 2019 and 2024

	Correlation between ten-year US and DE	Correlation between ten-year US and IT	Correlation between ten-year US and ES	Correlation between ten-year US and FR
01/08/2019 - 31/12/2019	0.8851	0.2964	0.8293	0.8593
2020	0.5059	-0.0862	-0.1799	0.1385
2021	0.8159	0.5928	0.8221	0.7546
2022	0.9831	0.9687	0.9768	0.9818
2023	0.7842	0.6869	0.7719	0.8035
01/01/2024 - 31/07/2024	0.8103	0.4293	0.6869	0.5436

Sources: Refinitiv; Central Bank of Malta staff calculations.

Table 1.5
QUARTERLY CORRELATION STATISTICS

Correlation between two, five and ten-year yields on the US and DE benchmark bonds (1 August 2019 - 31 July 2024)

Quarterly data

Period	Correlation between two-year US and DE	Correlation between five-year US and DE	Correlation between ten-year US and DE
01/08/2019 - 31/12/2019	0.3833	0.8115	0.8851
Q1 2020	0.6751	0.4966	0.6971
Q2 2020	0.4933	0.6487	0.7126
Q3 2020	0.5901	0.4941	0.5518
Q4 2020	-0.1016	0.1033	0.1092
Q1 2021	0.3687	0.7405	0.8939
Q2 2021	0.3391	-0.1312	-0.1250
Q3 2021	0.5350	0.7338	0.8375
Q4 2021	-0.0052	0.0810	0.7454
Q1 2022	0.7750	0.9330	0.9594
Q2 2022	0.9037	0.9299	0.9021
Q3 2022	0.9614	0.9755	0.9804
Q4 2022	-0.0044	0.1803	0.6213
Q1 2023	0.9126	0.9460	0.9377
Q2 2023	0.8787	0.7830	0.6668
Q3 2023	0.8909	0.7097	0.8804
Q4 2023	0.9778	0.9751	0.9790
Q1 2024	0.8926	0.8328	0.9062
Q2 2024	0.8289	0.8350	0.4951
01/01/2024 - 31/07/2024	0.8912	0.8308	0.8103

Sources: Refinitiv; Central Bank of Malta staff calculations.

From the beginning of March to end of Q3 2022, the yield on the ten-year US benchmark Treasury note rose by 211 basis points, with the German ten-year Bund yield rising by 218 basis points. The pronounced downward correction in yields in Q1 2024 was likely driven by the shift in market expectations that central banks would soon start cutting rates after an extended period of rate hikes. This broad shift in market participants' expectations likely led to a high correlation between yields in the United States and major euro area sovereign bond markets, especially evident in the two-year tenors.

Moreover, changes in fiscal stances by governments can also affect yields. For instance, in September 2022 the United Kingdom elected a new government and announced an aggressive tax plan. The new tax reduction plan was not substituted by other sources of government revenue. Investors thought that this would weigh on the debt sustainability of the country. Consequently, in October 2022 long-dated UK gilts sold off triggering a spill-over to European bond yields.

Other factors which can affect bond yields are specific banking turmoil such as the case of the Silicon Valley bank and Signature bank in March 2023. These two American banks collapsed as they held too much long-term debt in their portfolio. In a rising interest rate environment, these banks held more long-dated than short maturity bonds on their balance sheets. In turn, they both suffered significant losses and failed. In this environment, investors opted for safer securities like government bonds rather than corporate bonds. The higher demand for government bonds led to an increase in their prices and yields falling across the board, both in the United States and in selected euro area government bond markets.[4]

During Q1 2023, the correlation of the two, five and ten-year US and German bond yields was high as shown in Table 1.5 and remained elevated for the rest of the year. This episode, highlighted that the degree of spillover from US bond yields to European peers, remained strong especially during a financially stressful environment, as the safe haven characteristics of markets in both regions dominated.

Moreover, there are cases where other exogenous factors drove yields across both continents. One of these instances, is a change in monetary policy in countries other than the United States. The recent change in the Yield Curve Control policy by the Bank of Japan, impacted yields in the United States and the Eurozone in a similar way.

However, within the euro area, country-specific factors may also limit the correlation between sovereign yields in that country relative to the United States. For instance, political instability triggered by snap elections in countries like Italy (September 2022), Spain (May 2023), and France (July 2024) led to a temporary divergence in the direction of US Treasury yields versus these specific countries. The correlation may also be limited by divergent fiscal paths across these countries, taking into account debt sustainability considerations.

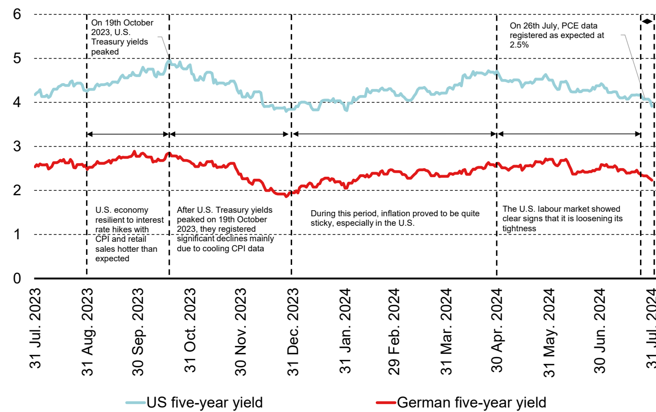
Episodes depicting spillovers from US Treasuries to German sovereign bonds

This section takes the one-year period 31 July 2023 till 31 July 2024 and delves into further detail on the spillover effect from five-year US Treasuries to their euro area counterpart. In this part, episodes that accentuate this spillover effect are examined. It is worth noting that the most significant movements in yields throughout this period can be explained by inflation releases and monetary policy response.

[4] Credit Suisse also failed during the same period of the collapse of the two American banks. This brought a sharp drop in euro area bond yields due to a plunge in European banking stocks which directed investment flows towards safer assets such as government bonds.

As highlighted in Chart 1.4, until October 2023 the US economy was quite resilient to interest rate hikes adopted by the Fed which cumulatively amounted to 525 basis points.

Chart 1.4
US AND GERMAN FIVE-YEAR SOVEREIGN BOND YIELDS (31 JULY 2023 - 31 JULY 2024)
(per cent)



Source: Refinitiv.

During the period 31 August – 19 October 2023, US Treasury yields rose significantly. This was mainly due to higher US CPI and retail sales data. In turn, European government bond markets also exhibited a rise in yields. In this period, the yield on the five-year US Treasury rose by 70 basis points while that of the German counterpart, increased by 37 basis points.

Between 19 October (when yields peaked) till end December 2023, yields on US government bonds registered significant declines, a move which was triggered by the release of the October 2023 CPI data. This showed that the US CPI remained unchanged from the previous month and that US inflation had possibly peaked. In turn, Fed policymakers' tone turned dovish with markets moving, from pricing in another rate increase, to no further hikes during the two remaining FOMC meetings for 2023. In Europe, however, inflation was also showing signs of easing with the annual consumer price growth slowing in all categories. In November, Germany's HICP stood at 2.3%, the lowest level in more than two years.[5] Thus, during this interval, the spillover from the US market might have been more limited due to softening of inflationary pressures in the euro area. The yield on the five-year US Treasury declined by 111 basis points while that of the German five-year, declined by 91 basis points during this period.

The following period under review, which is from 1 January till 30 April 2024, inflation figures from the United States turned out to be quite sticky mainly driven by housing rents. On the other hand, in Europe, the headline inflation was stable at 2.4%, year on year. Still, during this period, the yield on the five-year US Treasury rose by 88 basis points whereas that of the German five-year bond, increased by 67 basis points. Thus, the spillover on the European market was quite evident even as inflation remained stable in Europe while that in the United States came in higher for three consecutive months.

Between 1 May and 31 July 2024, the US labour market conditions eased. In the United States, the unemployment rate rose to 4.3% while in Europe, it was at 6.4%. At the same time, euro area inflation ticked up by 0.1%. When comparing the drop in yields of the

[5] That was down from 3% a month earlier, and from a peak of 11.6% a year before.

five-year benchmark across the two continents, one can notice again that the magnitude of the decline in yields in the United States was larger when compared to that of the German counterpart, with the former declining by 74 basis points while in the latter dropping by 38 basis points.

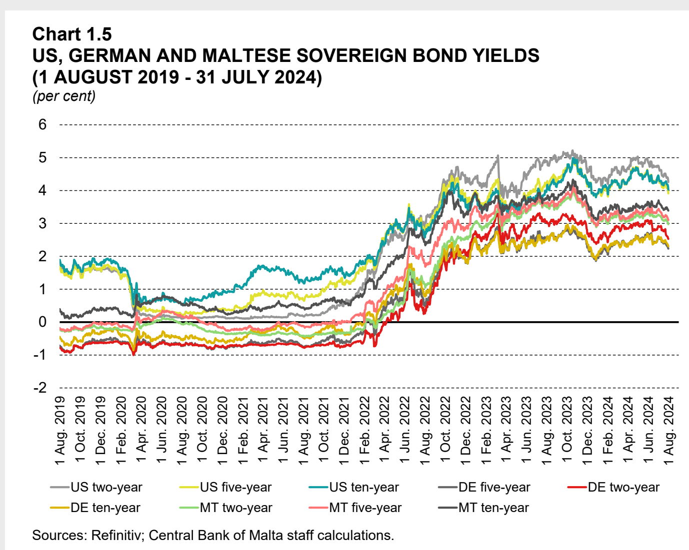
Spillover on Maltese sovereign yields

Maltese government bond yields are usually benchmarked against a group of euro area jurisdictions. Hence, it is understandable that spillover effects from the US Treasury market on the German government bond market also indirectly impact the Maltese sovereign yields. Chart 1.5 shows that the Maltese government bond yields[6] followed their euro area counterparts over the period under review. In fact, Maltese yields dropped during the COVID-19 period, between March 2020 and March 2022. As from May 2022, when major central banks started hiking rates in response to elevated inflation rates, yields followed an upward trend.

Bond yields remained at elevated levels throughout 2023 as central banks continued their aggressive interest-rate hiking policies. The following year, bond yields experienced significant fluctuations, mainly driven by shifting market expectations for policy rate cuts by the Fed and the ECB following weak economic data and mixed inflation readings.

The spillover effect from the US Treasury market to the Maltese sovereign bond market is analysed through the correlation coefficients of the two, five and ten-year benchmark yields of the bund and Maltese government bond yields. Table 1.6, shows the annual correlation coefficients for all benchmark tenors. Results show that the correlation was substantially high during the years under review, except for the year 2020 and some quarters in 2021,[7] which were comparatively low, as both countries were impacted by an exogenous shock (COVID-19 pandemic). The same pattern was observed in Table 1.7 where quarterly correlation coefficients were computed.

Chart 1.5
US, GERMAN AND MALTESE SOVEREIGN BOND YIELDS
(1 AUGUST 2019 - 31 JULY 2024)
(per cent)



Sources: Refinitiv; Central Bank of Malta staff calculations.

[6] Two, five, ten-year MT yields are an average of the qualifying two, five, ten-year bonds for each year.

[7] The Maltese economy is a more open economy than the United States. During this period, it may have been more directly hit by supply chain disruptions.

Table 1.6
FULL-YEAR CORRELATION STATISTICS

Correlation between the two, five and ten-year yields for the German and MT benchmark bond yields during the period 1 August 2019 - 31 July 2024

Annual data except for 2019 and 2024

	Correlation between two-year DE and MT	Correlation between five-year DE and MT	Correlation between ten-year DE and MT
All years	0.99572664	0.99487501	0.99269990
01/08/2019 - 31/12/2019	0.83635561	0.93793425	0.92313774
03/01/2020 - 31/12/2020	0.35963195	0.39031043	0.40337542
03/01/2021 - 31/12/2021	0.52020031	0.65790602	0.73258974
03/01/2022 - 31/12/2022	0.98637058	0.97968036	0.98019079
03/01/2023 - 31/12/2023	0.85923852	0.87295991	0.94336637
01/01/2024 - 31/07/2024	0.72387914	0.79219300	0.81361860

Source: Central Bank of Malta staff calculations.

TABLE 1.7
QUARTERLY CORRELATION STATISTICS

Correlation between two, five and ten-year yields on the US and MT benchmark bond yields during the period 1 August 2019 - 31 July 2024

Quarterly data

	Correlation between two-year DE and MT	Correlation between five-year DE and MT	Correlation between ten-year DE and MT
Q1 2020	-0.00656960	0.62347608	0.58615558
Q2 2020	0.15205669	0.19161164	0.23582492
Q3 2020	0.59409673	0.57643006	0.62691025
Q4 2020	0.12187141	-0.02535046	0.28818373
Q1 2021	0.12313379	0.46036355	0.84737795
Q2 2021	0.85881848	0.75845442	0.91554332
Q3 2021	0.89076587	0.93436787	0.89750903
Q4 2021	0.32289616	0.44004870	0.82903837
Q1 2022	0.91651539	0.93690709	0.93737825
Q2 2022	0.96240781	0.96758613	0.97290248
Q3 2022	0.97361183	0.97962623	0.97748965
Q4 2022	0.94875484	0.88927356	0.85114273
Q1 2023	0.87059182	0.79610148	0.78851305
Q2 2023	0.91593320	0.83875999	0.80829819
Q3 2023	0.90510566	0.88798076	0.92259289
Q4 2023	0.97148714	0.98162258	0.98696633
Q1 2024	0.57952747	0.63238517	0.73408331
Q2 2024	0.54310866	0.73863375	0.68890891

Source: Central Bank of Malta staff calculations.

Concluding remarks

Overall, it can be noted that there have been instances when the correlation between US and European bond markets was rather high. This analysis shows that the correlation tends to be greater if central bank policy direction and shocks in both countries are similar. For instance, this was particularly evident during 2022, when central bank policy across major central banks was restrictive in order to try to address high inflation. More recently, expectations for the two major central banks to start their rate cutting cycle have likely re-strengthened the correlation between yields in both regions, particularly in the short end of the yield curve. It is also quite evident that the release of macroeconomic data in the United States can lead to differing degrees of spillovers onto the European government bond market. On the other hand, country idiosyncratic factors such as political instability, banking turmoil and instances of severe market distress may limit the correlation among the jurisdictions examined.