HANFA

CROATIAN FINANCIAL SERVICES SUPERVISORY AGENCY

MACROPRUDENTIAL RISK SCANNER

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1 INTRODUCTION

Together with the Croatian National Bank and the Ministry of Finance, the Croatian Financial Services Supervisory Agency (hereinafter: Hanfa) is responsible for the stability of the financial system in the Republic of Croatia; therefore, promoting and preserving financial stability, in accordance with the Act on the Croatian Financial Services Supervisory Agency, is one of the basic goals of its work. A ***stable financial system*** implies the smooth functioning of all its segments (financial institutions, markets, services and infrastructure) in the process of resource allocation, risk assessment and management, and carrying out payments, as well as its resistance to sudden shocks.

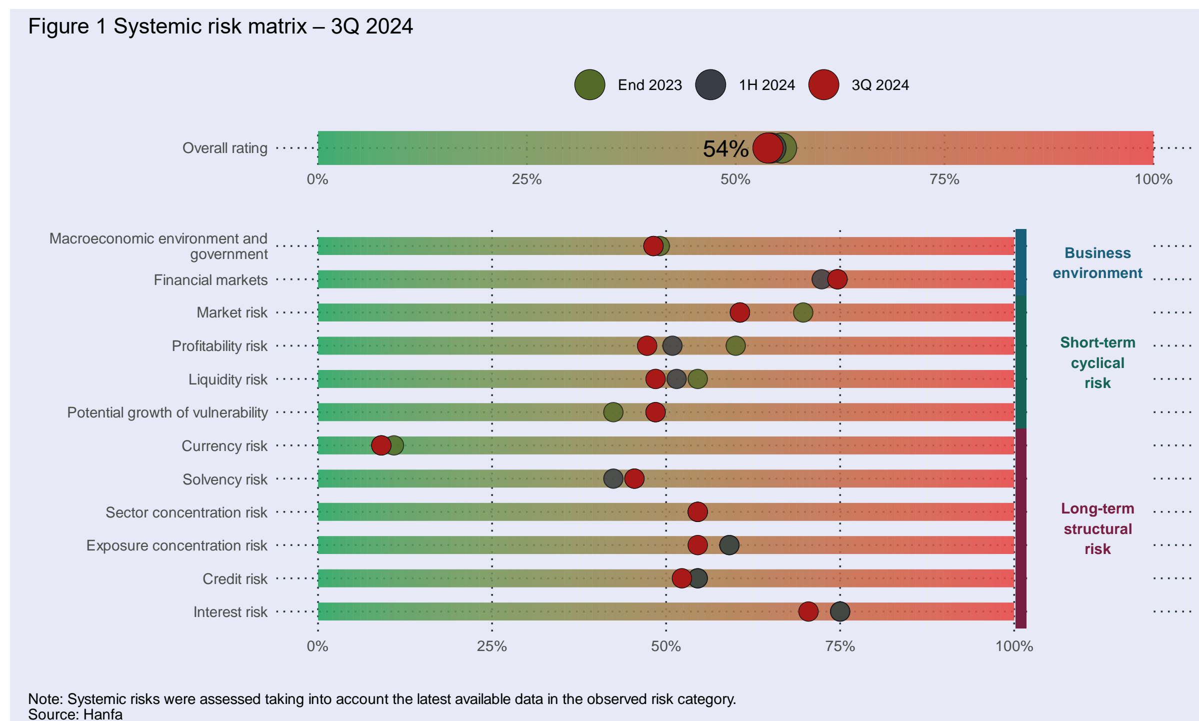
Financial stability can be disrupted by the processes that arise and develop within the system, creating vulnerabilities that may materialise in the event of certain shocks in the form of disturbed liquidity and capital positions of financial institutions, disabling the smooth functioning of a part of or the entire financial system. Such shocks can be external, i.e. transferred from the international environment, or idiosyncratic, i.e. generated by domestic macroeconomic and financial developments, economic policy or changes in the institutional environment. Therefore, any risk to which the system is exposed and which can have adverse effects on the functioning of the entire financial system or its part, thus causing a serious negative impact on the real economy, represents a ***systemic risk***.

Over the past few years, global progress has been made in the area of understanding and consequently identification, evaluation and monitoring of systemic risks of the financial sector. However, in order to prevent the identified risks in time, and to mitigate the effect of their materialisation, it is necessary to develop an appropriate set of instruments and tools, i.e. policies aimed at preservation of the stability of the system as a whole, called ***macroprudential policies***. Therefore, in the European Union (EU), bodies with macroprudential powers and mandates have been established at the national and international level after the global financial crisis, and frameworks for international cooperation have been developed along with macroprudential tools. Although the initial phase of macroprudential capacity development was primarily focused on the banking sector, the growing share and importance of the non-banking part of the financial system create structural changes and require further development of the macroprudential framework, as well as the expansion to the financial services sector in order to adequately address systemic risk and prevent regulatory arbitrage. In addition, financial integration is constantly deepening, creating the

need for a holistic approach, which views the system as an inseparable whole, the key part of which consists of monitoring and addressing vulnerabilities in a cross-sectoral, but also cross-border context.

The publication ***Macroprudential risk scanner*** therefore seeks to provide insight into the process of identifying, assessing and monitoring the evolution of systemic risks in the financial services sector under Hanfa’s supervision in order to timely take appropriate measures to prevent their materialisation and the impairment of the financial system stability. This contributes to better understanding of systemic risks, particularly as regards the identification of vulnerabilities and risk transmission channels, encourages action planning and measures that provide adequate protection against the effects of the materialisation of such risks and contributes to greater confidence in the financial system and to the strengthening of the system's resistance to shocks.

Figure 1 Systemic risk matrix – 3Q 2024



Note: Systemic risks were assessed taking into account the latest available data in the observed risk category.
Source: Hanfa

The level of systemic risks in the financial services sector decreased slightly in the third quarter of 2024. Mitigated inflationary pressures and resilience of the global economy reduced systemic risks stemming from the international macroeconomic environment. Although pronounced growth in real estate prices remains a prominent short-term risk, resilient economic growth and improved public finance indicators led to an upgrade in Croatia's credit rating, which further diminished systemic risks arising from the domestic economy. In the financial environment, the shift in the monetary policy stance and optimistic investor sentiment had a positive impact on valuations, as was reflected in the recovered profitability of the sector in the third quarter of 2024.

However, interest rate risk and related market risks remain the key risks for the domestic financial services sector. Structural characteristics of the domestic financial services sector, such as the concentration of institutional investors' exposure and low activity in the domestic capital market, have shown some improvements, but could still further exacerbate the sector's losses should the subdued global risk premium increase. The sector's liquidity and solvency buffers are holding steady at high levels, providing additional hedge against sudden shocks. Despite a slight decrease, systemic risks in the financial services sector remain elevated due to pronounced cyclical risks in the financial environment, including geopolitical uncertainties and relatively high market valuations that increase the probability and potential impact of a highly unlikely but plausible systemic shock.

2 MACROECONOMIC AND FINANCIAL ENVIRONMENT RISKS

2.1 Macroeconomic environment

The level of systemic risks stemming from the macroeconomic environment did not change significantly from the beginning of 2024 and was estimated to be moderate at end-September. This was largely due to stable economic growth, which supports a resilient labour market, and a continued decline in the inflation rate. The upgrade of Croatia's credit rating to the highest level ever also has a favourable effect on public debt stability and, indirectly, on the risks in the financial services sector, as the bulk of its investments is accounted for by Croatian government bonds. Although relatively favourable trends are expected to continue until the end of the year, in the event of an additional worsening of the sensitive geopolitical situation and unfavourable price shocks in international markets, inflationary pressures could deteriorate and economic developments might slow down, adversely affecting systemic risks in the financial services sector.

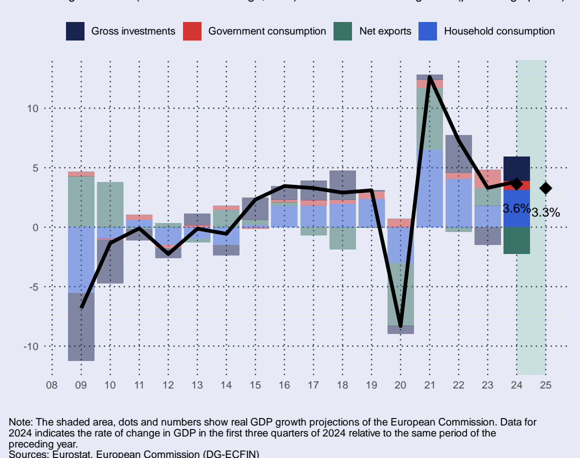
In the second and third quarters of 2024, the domestic economy continued to grow at a solid pace. After the annual growth rate of 4.0% in the first quarter of this year, annual economic growth rates stood at 3.5% and 3.9%[1], respectively, at end-June and end-September (Figure 2.1), remaining among the strongest in the EU[2]. despite more pessimistic expectations at the end of 2023. Favourable developments in the domestic economy reflected continued strong growth in personal consumption and gross investments, while net exports were the only component of GDP which declined in the observed period. Low unemployment and real income growth coupled with a slowdown in inflation supported personal consumption, which grew annually by 6.0% and 5.5% in the second and third quarter, respectively. Investment activity gained additional momentum[3] in the same period. Such developments partly reflect the use of EU funds and additional expansion of construction activity[4]. On the other hand, net exports contracted in the observed period, largely due to the drop in services exports[5], partly reflecting the subdued recovery in some EU Member States and the considerable increase in services prices, which adversely affected real tourist consumption during the pre-season. The slowdown of the European economy, driven by weaker industrial activity and mounting uncertainty, dampened foreign demand, further underlining Croatia's dependence on economic developments in the European environment and potential challenges for

[1] According to preliminary CBS estimates.
[2] According to Eurostat data, Malta (8.0%), Denmark (4.4%), Poland (4.3%) and Cyprus (3.7%) grew more strongly on an annual level in the second quarter.
[3] Gross investments increased by 11.7% in the second and 9.2% in the third quarter of 2024.
[4] According to CBS data, the calendar adjusted volume of construction works rose by 14.6% year-on-year in September 2024.
[5] In the second quarter, total exports fell by 1.3% on an annual level as a result of a decrease in services exports, which shrank by 5.2% in the same period.

maintaining dynamic growth in the context of the economic slump in the EU.

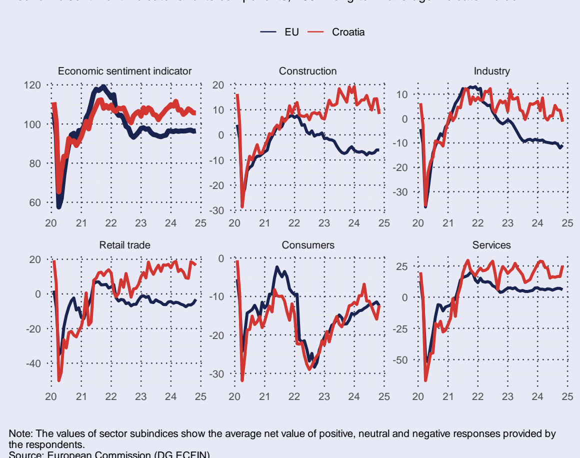
Favourable economic developments are also reflected in indicators of economic sentiment, which is still above the long-term average and significantly higher than the EU sentiment (Figure 2.2). The slight drop in consumer sentiment was offset by positive developments in the segment of construction, services and retail trade.

Figure 2.1 Stable economic growth continued in the second and third quarters of 2024
Real GDP growth rate (annual rate of change, in %) and contributions to growth (percentage points)



Note: The shaded area, dots and numbers show real GDP growth projections of the European Commission. Data for 2024 indicates the rate of change in GDP in the first three quarters of 2024 relative to the same period of the preceding year.
Sources: Eurostat, European Commission (DG-ECFIN)

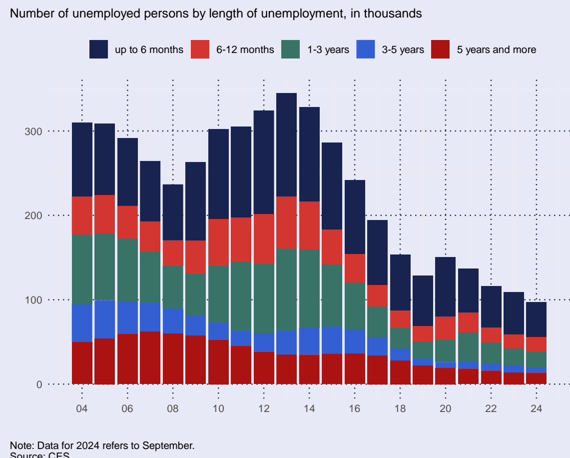
Figure 2.2 Domestic sentiment much higher than the European average
Economic sentiment indicator and its components, 100 = long-term average indicator value



Note: The values of sector subindices show the average net value of positive, neutral and negative responses provided by the respondents.
Source: European Commission (DG ECFIN)

A similar trajectory of Croatian economic growth is expected in the remainder of this year and in the next year[6], with the main sources of risk being related to the developments on the international scene. A potential further worsening of the already unstable global geopolitical situation would affect euro area economic activity and have an inevitable impact on domestic macroeconomic indicators, primarily through the renewed build-up of inflationary pressures, as well as on cross-border trade of goods and services. In addition to geopolitical risks, a significant source of risks are possible global trade disruptions that could arise due to a potential tightening of the US customs policy with respect to its trading partners following the recent presidential elections.

Figure 2.3 Most of registered unemployed persons remain unemployed for less than 6 months
Number of unemployed persons by length of unemployment, in thousands



Note: Data for 2024 refers to September.
Source: CES

The labour market supports favourable economic trends, with a historically low unemployment rate of 4.6% in September and the fall in the number of unemployed workers to below 85 thousand[7]. Labour market developments in the third quarter of 2024 were marked by continued declines in unemployment and rising employment coupled with an increase in nominal and real wages. The rate of registered unemployment dropped to a historical low of 4.6% at the

[6] According to the **Autumn 2024 Economic Forecast of the European Commission** Croatia's GDP is projected to grow by 3.6% in 2024 and by 3.3% in 2025.

[7] According to CBS data.

end of September, while net wages were higher by 14.4% in nominal terms and 12.6% in real terms on an annual basis. Wage growth was also strongly influenced by the increase in the personal deduction and tax changes at the beginning of the year, as well as the reform of the public sector wage system, which covered almost 55 thousand civil servants and employees and 186 thousand public servants[8]. The strengthening of real incomes and the stretched labour market contribute positively to personal consumption and overall economic growth (Figure 2.1). An additional boost to consumption should come from the **announced government tax reforms**, which, among other changes[9], should relieve a tax burden on the income of employees and pensioners[10].

In the observed period, structural characteristics of the labour market did not change much, in particular labour shortages. As shown by the CES data, the number of unemployed persons has been continuously below the number of requested workers since 2016, with the online job vacancy index[11] also pointing to high demand for labour. As a result, most unemployed persons find employment within a year[12] (Figure 2.3). The liberalisation of imports of foreign labour in recent years and increasing participation of foreign workers in the labour market have only partially mitigated the pressures on the domestic labour market. The larger mismatch between the number of unemployed persons and requested workers is also influenced by the low activity rate in Croatia, which is among the lowest in Europe[13]. Looking ahead, these developments will continue to support nominal wage growth. Although this will boost private consumption, it may hinder the containment of services inflation and the return of overall inflation to target levels.

Price developments continued to improve in the third quarter, but inflation remained above the European average. At the end of August, the HICP inflation rate dropped to 3.0% (Figure 2.4), the level last seen three years earlier, after which it picked up again to 3.6% in October 2024. The overall price level was positively influenced by relative stability of the prices of energy products and raw materials[14], with the largest contribution to current inflation coming from restaurants and hotels and other goods. Services inflation is more pronounced than other components, partly due to the impact of the tourist season, as well as the higher sensitivity of services prices to

[8] More information on the reform can be found at the following **link**.

[9] First announcements related to tax amendments aimed at the taxation of property, primarily real estate.

[10] According to the first announcements regarding labour tax relief, the new tax reform will imply an increase in the tax-exempt part of the wage, an increase in the number of taxpayers covered only by a lower income tax rate, an increase in the amount of specific non-taxable income and a lowering of the ceiling for setting income tax rates.

[11] At end-October, the online job vacancy index (OVI) was 7.2% lower on an annual basis.

[12] Almost 60% of unemployed persons actively looking for work are registered for less than a year.

[13] According to Eurostat, at the end of June 2024, only Greece, Italy and Romania had a lower activity rate than Croatia, where the rate stood at 54.1%.

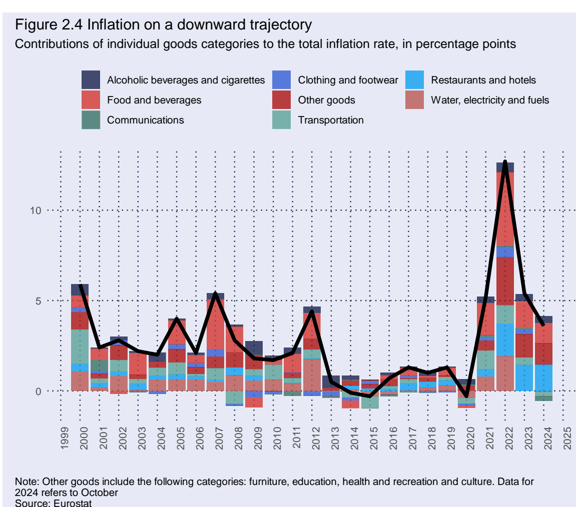
[14] Oil prices decreased annually by 15.6% at the end of October 2024, while the price of natural gas decreased by 4.5% over the same period.

wage growth than other components of inflation. The persistence of services prices is also reflected in indicators of core inflation, which stood at 4.3% at the end of November and remained above the aggregate inflation rate; however, the gap narrowed significantly from the first quarter (Figure 2.5). The food category continued to have a significant impact on price growth in the first ten months of 2024, similarly as in 2023%.

The expected slowdown in price growth by the end of this year should narrow the gap between domestic and European inflation rates[15]. The gradual reduction of energy subsidies envisaged by the Government in the new, **seventh package of measures to protect households and the economy from price growth** should not have a significant impact on widening this gap. Containing inflation and keeping it at the target will ultimately depend on a number of external factors, namely the evolution of the geopolitical situation and the success of European monetary policy, as well as domestic factors such as continued economic growth fuelled by personal consumption, inflation expectations of consumers and businesses, and labour market developments, primarily wage dynamics.

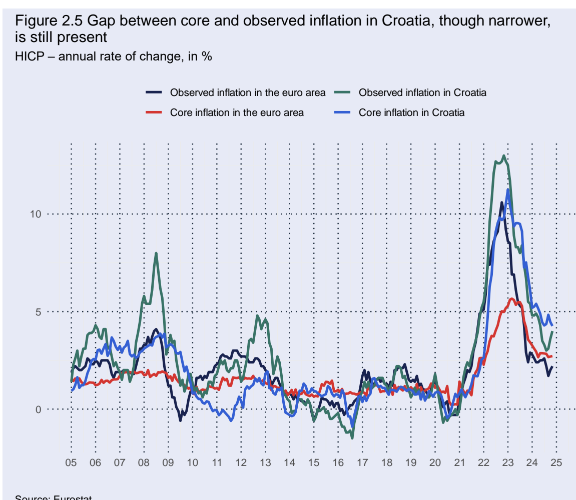
Developments in the real estate market are an important potential source of risks for the domestic macroeconomic environment. Residential property prices, which started to rise as early as 2017, continued to trend up in the second quarter of 2024, growing annually by 10%, above the EU and euro area average. This was mainly due to strong domestic demand, which did not falter in the conditions of the robust labour market and growing disposable income, while foreign demand remained moderate in the same period. Such developments are also important for the financial services sector in view of its connectedness with the real estate market, with 2.3% of total investment accounted for by this form of assets[16].

Figure 2.4 Inflation on a downward trajectory
Contributions of individual goods categories to the total inflation rate, in percentage points



Note: Other goods include the following categories: furniture, education, health and recreation and culture. Data for 2024 refers to October
Source: Eurostat

Figure 2.5 Gap between core and observed inflation in Croatia, though narrower, is still present
HICP – annual rate of change, in %



Source: Eurostat

Favourable macroeconomic developments and fiscal discipline led to a further upgrade of Croatia's credit

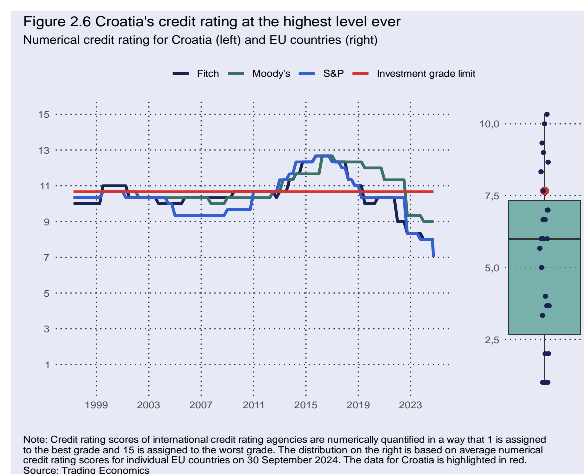
[15] At the end of October, HICP inflation was 2.3% in the EU and 2.0% in the euro area.
[16] See **Box 1 Real estate investments: an alternative form of investment that significantly affects the stability of the financial services sector in Croatia?** in Financial stability, No 3.

rating[17], which reached its highest level ever at end-September (Figure 2.6). The improvement reflects positive economic indicators, continued fiscal consolidation, successful implementation of the National Recovery and Resilience Plan, as well as political stability. Improved risk perception of the domestic economy will have a favourable impact on overall financial stability and, indirectly, on the financial services sector. More specifically, in view of the high share of Croatian government bonds in investments of the financial services sector (Figure 3.10), yields on government bonds, which, among other things, depend on the market perception of government debt, strongly affect the value of existing investments. The better credit rating also increases the investment appeal of Croatian government bonds from the perspective of foreign investors, which could reduce government borrowing costs and increase liquidity in the sovereign debt market. Such developments contribute to public debt stability, while the parallel decrease in the risk premium reduces the exposure of the financial services sector to potential market shocks.

Together with a rating upgrade, the relative indicator of general government debt also continued to improve in the observed period, primarily under the influence of nominal GDP growth. As a result, public debt stood at 60.1% of GDP at the end of June, decreasing annually 5.7 p.p. (Figure 2.7). With the expected continuation of economic growth, public debt should come close to the Maastricht criterion of 60% of GDP by the end of 2024. In contrast to public debt, the general government deficit is expected to widen to 2.1% of GDP this year (Figure 2.7), as a result of an increase in expenditures due to changes in the law on public sector wages and social assistance measures, as well as expenditure related to compensation for energy costs based on the Government package of measures. The dynamics and level of the budget deficit in the following year will also be affected by the previously announced new tax amendments, the aggregate effect of which has yet to be assessed. However, the general government deficit is projected by the European Commission to remain within the convergence criterion of 3%.

Figure 2.6 Croatia's credit rating at the highest level ever

Numerical credit rating for Croatia (left) and EU countries (right)



Note: Credit rating scores of international credit rating agencies are numerically quantified in a way that 1 is assigned to the best grade and 15 is assigned to the worst grade. The distribution on the right is based on average numerical credit rating scores for individual EU countries on 30 September 2024. The data for Croatia is highlighted in red.
Source: Trading Economics

The issuance of the second national bond took place in early July; it was the fifth issue of government securities that could be directly purchased by citizens from February 2023[18]. Although demand was slightly lower than last year, when the first national bond[19] was issued, the

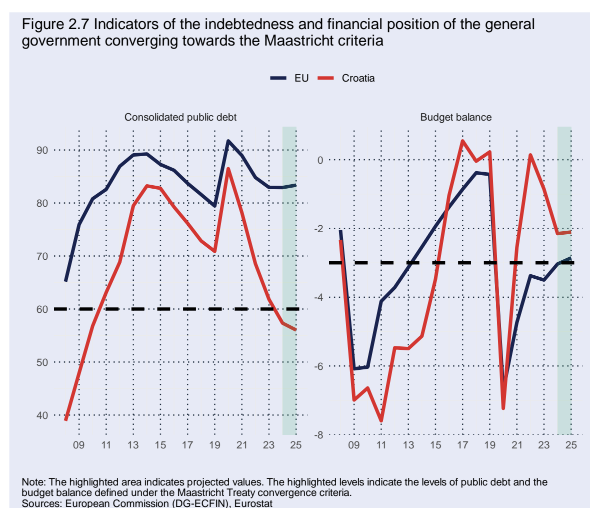
[17] In September Fitch upgraded Croatia's credit rating to A– with a stable outlook, while S&P upgraded the rating to AAA with a positive outlook.

[18] Individuals participated in the issue with EUR 158.3m, while the remaining amount of EUR 591.7m was paid by institutional investors.

[19] A total of 6457 individuals invested in the second issue of national bonds.

participation of individuals in government financing has a favourable impact on the expansion of the investor base and public debt stability, with potential positive implications for the development of the domestic capital market. Declining public debt and improved borrowing conditions driven by lower reference interest rates and the upgrade of the country's credit rating have reduced public debt sustainability risks and, indirectly, systemic risks in the financial services sector.

Figure 2.7 Indicators of the indebtedness and financial position of the general government converging towards the Maastricht criteria



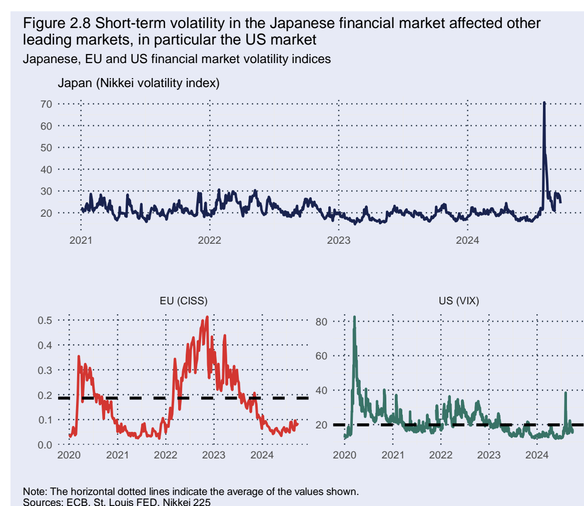
Note: The highlighted area indicates projected values. The highlighted levels indicate the levels of public debt and the budget balance defined under the Maastricht Treaty convergence criteria.
Sources: European Commission (DG-ECFIN), Eurostat

2.2 Financial environment

Despite several volatility spikes in the third quarter, global financial markets continued a positive performance driven by solid macroeconomic indicators and the peak of the interest rate cycle. The subdued risk premium is still reflected in a potential overvaluation of stock markets, with strong concentration of trading, particularly in the growth companies segment. Global trends also have a positive impact on the domestic capital market. Optimistic investor expectations and ongoing geopolitical tensions may trigger a sudden valuation correction, which would adversely affect the profitability of the financial services sector should new shocks materialise.

The start of the third quarter of 2024 was marked by short-term spikes in volatility, which highlighted the sensitivity of financial markets to monetary developments in the context of weaker economic indicators of leading world economies (Figure 2.8). After a decline in volatility from early 2023, markets responded strongly to the 25 b.p. increase in interest rates by the Japanese central bank in early August, which led to the appreciation of the yen and prompted investors to make massive assets sales to cover their debts.[20]

Figure 2.8 Short-term volatility in the Japanese financial market affected other leading markets, in particular the US market
Japanese, EU and US financial market volatility indices



Note: The horizontal dotted lines indicate the average of the values shown.
Sources: ECB, St. Louis FED, Nikkei 225

In addition, data on the weakening of the labour market and corporate earnings in the USA added to the fears of some investors and briefly increased recession

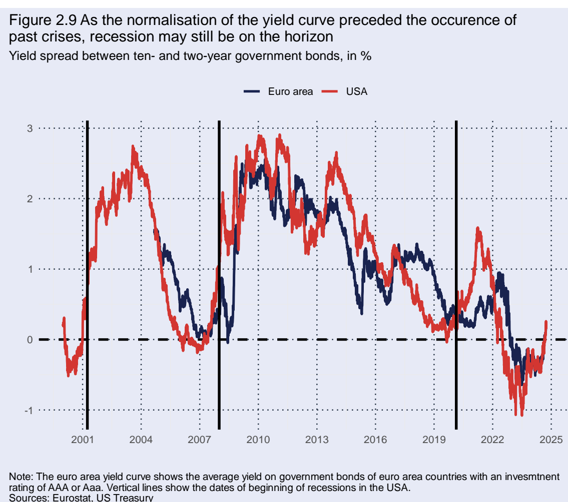
[20] Investors used the so-called currency carry trade strategy, which is based on an interest rate differential and implies borrowing in the domestic currency at low interest rates and investing in foreign financial assets at relatively higher interest rates. The increase in interest rates and currency appreciation led to the liquidation of a significant number of positions, as well as panic sales by some investors.

expectations. Leading global indices recorded a sharp one-day correction in early August[21], but losses were soon offset by positive investor sentiment. Although they proved to be short-lived, volatility hikes indicate a high level of sensitivity in financial markets, which will remain elevated until the end of the year, given the uncertain geopolitical situation and implications of the US presidential election results.

However, general investor optimism about economic growth is also evident in the normalisation of the yield curve, which left negative territory in September (Figure 2.9). Stable macroeconomic fundamentals in the USA and avoidance of a technical recession in the EU kept yields on long-term government bonds at the levels seen at the beginning of the year (Figure 2.10). While expected and then realised cuts in interest rates by the Fed (50 basis points in September) and the ECB (25 basis points in June and September) reduced yields on short-term debt, long-term government bond valuations had already reflected the mentioned decrease in interest rates, as well as increasingly strong macroeconomic indicators that kept euro area ten-year yields at 2.2%.

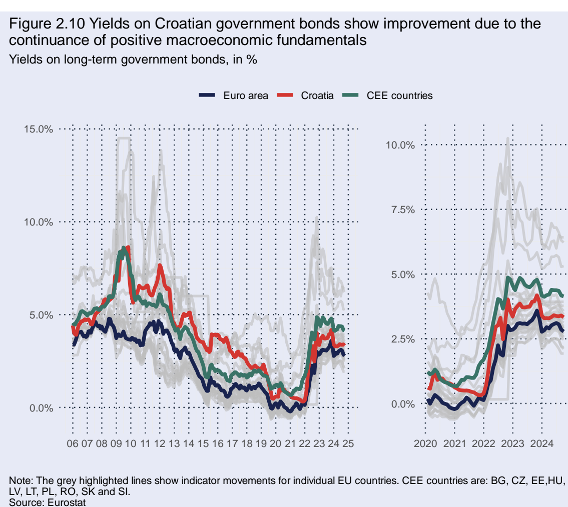
The return of the positive slope of the yield curve points to optimistic expectations of market players. However, the phase of the curve normalisation has historically proved to be a critical moment in the emergence of recessions. As a result, market expectations about a successful "soft landing" are still considered optimistic and potentially premature.

Figure 2.9 As the normalisation of the yield curve preceded the occurence of past crises, recession may still be on the horizon
Yield spread between ten- and two-year government bonds, in %



Note: The euro area yield curve shows the average yield on government bonds of euro area countries with an invesmtnent rating of AAA or Aaa. Vertical lines show the dates of beginning of recessions in the USA.
Sources: Eurostat, US Treasury

Figure 2.10 Yields on Croatian government bonds show improvement due to the continuance of positive macroeconomic fundamentals
Yields on long-term government bonds, in %



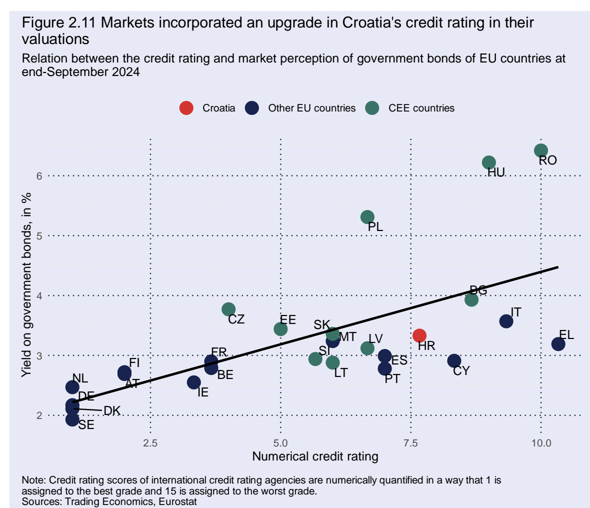
Note: The grey highlighted lines show indicator movements for individual EU countries. CEE countries are: BG, CZ, EE,HU, LV, LT, PL, RO, SK and SI.
Source: Eurostat

The start of the ECB's monetary policy easing in the third quarter affected euro area yields, which fell by 26 basis points in early September from June, when the cycle of interest rate reduction began. Yields on Croatian government bonds peaked at 4.2% in November 2023 and then dropped to levels between 3% and 3.5% at the beginning of 2024, with the yield spread relative to euro area government bonds being at 0.55 basis points at end-September 2024 (Figure 2.10). Economic growth that exceeded the European average and expectations of public debt reduction towards 60% of GDP prompted Standard & Poor's to

[21] On 5 August, S&P 500 and Eurostoxx recorded a correction of 3% and 1.8% respectively.

upgrade the country's 's credit rating to A– with a positive outlook, which is the highest credit rating in Croatia's history. As Croatia's market yields are below average relative to the assigned credit rating, it is evident that market players have already incorporated in their expectations the credit rating improvement and the maintenance of stable public finances of the Republic of Croatia in the short run (Figure 22.11).

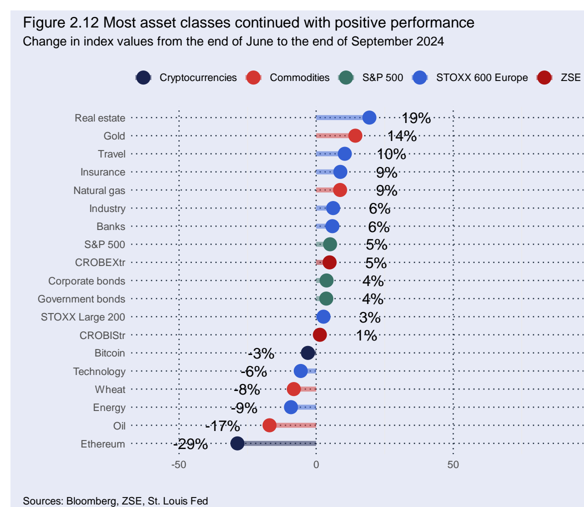
Figure 2.11 Markets incorporated an upgrade in Croatia's credit rating in their valuations
Relation between the credit rating and market perception of government bonds of EU countries at end-September 2024



Note: Credit rating scores of international credit rating agencies are numerically quantified in a way that 1 is assigned to the best grade and 15 is assigned to the worst grade.
Sources: Trading Economics, Eurostat

The general global increase in the prices of almost all classes of financial assets continued in the third quarter, spurred by a decrease in benchmark interest rates and optimistic investor sentiment (Figure 2.12). Monetary policy easing provided room to the equity market for further valuation growth (the S&P500 index grew by 5% in the third quarter) and raised the value of asset classes whose valuations have traditionally moved in opposite directions from interest rates, such as real estate (an increase of 19%) and government and corporate bonds (growth of 4%). Short-term volatility and worse-than-expected corporate performance resulted in a slight and short-lived deflation of the prices of cryptocurrencies (the 3% fall in the price of Bitcoin) and the technology sector (of 6%), which hit record highs in the previous period. The steady 14% rise in the price of gold in the third quarter of 2024 suggests somewhat higher investor caution than in the first half of the year as a result of intensifying geopolitical tensions in Europe and the Middle East. The slowdown of the Chinese economy and the anaemic growth in Europe contributed to the fall in oil prices (–17%), while heightened geopolitical tensions in the Middle East raised concerns about natural gas supply, leading to a 9% increase in prices.

Figure 2.12 Most asset classes continued with positive performance
Change in index values from the end of June to the end of September 2024



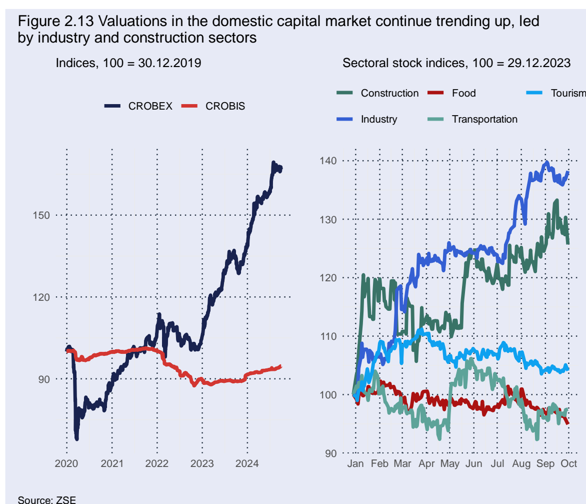
Sources: Bloomberg, ZSE, St. Louis Fed

The risk of a sudden and severe price correction is still significant in the US capital market, given the high valuations led by the stocks with high market capitalisation in the growth companies segment. The subdued risk premium and the rise in corporate profits[22] have spurred further growth in valuations on the US stock market, which could continue into the remainder of 2024. There is noticeable dispersion of earnings across sectors, with

[22] At the end of August, the S&P 500 index components reported a 10% increase in profits in the second quarter relative to the same period of the previous year.

the best performance in the second quarter being seen in the technological and financial sectors. On the other hand, the European capital market does not deviate significantly from fundamentals due to concerns about economic growth and geopolitical tensions, but valuations remain vulnerable to a potential surge in the subdued global risk premium.

Figure 2.13 Valuations in the domestic capital market continue trending up, led by industry and construction sectors



Source: ZSE

The domestic capital market continues to record strong price increases, reflecting stable economic growth, i.e. positive performance in the corporate sector (Figure 2.13). The main stock index CROBEX rose by 3.8% in the third quarter, approaching the threshold of 3000 index points, while the bond index CROBIS slightly improved in the same period, by 0.7%, remaining below the recent peak from the end of 2022. Sectors that have been at the forefront of growth in the domestic stock market since the beginning of 2024 are the sectors of industry (36.7%) and construction (22.4%), primarily due to the rise of corporate profits and agreed transactions of individual components[23]. Relatively weaker growth was recorded in the tourism sector (4.9%), despite a good tourist season, while the transportation and food sectors reported a slump of 3.5% at the end of September.

In view of the growing interest in investing in the domestic market[24], in addition to debt securities, an increase was seen in the supply of passive investment forms, the main characteristics of which are simplicity, low costs and investors' access to foreign markets. The positive trend of supply expansion is evident in the listing of the fifth ETF in June, which entails exposure to Romanian government bonds maturing in 5 to 10 years, and in the issuance of two new government bonds[25] in the bond market in July. As a result, total ZSE turnover increased by almost 28% in the third quarter, with stocks accounting for the largest share (83%), followed by bonds (9.5%). Given their low share in market capitalisation, of 0.13%, ETFs accounted for around 7% of the total turnover in the third quarter, indicating the growing appeal of this type of financial instruments. The combination of supply expansion and stock price growth led to a 5.7% increase in total market capitalisation on the ZSE in the third quarter, to a record high of EUR 47.4bn at the end of September, of which stocks

[23] Swift growth in the industry sector from the beginning of 2024 was registered by Končar d.d. (96%), Končar D&ST (102%) and Brodogradilište Viktor Lenac (34%), while the construction sector was led by Dalekovod d.d., with a growth of 45%.
[24] In the first 18 months following the issuance of the first national bond, more than 43,500 new accounts were opened in the CDCC.

[25] Three-year bonds worth EUR 750m were issued, of which EUR 158.3m was purchased by individuals, while the second issue of 10-year bonds worth EUR 1.25bn was exclusively subscribed for by institutional investors.

and bonds accounted for 53.8% and 46.1% respectively.

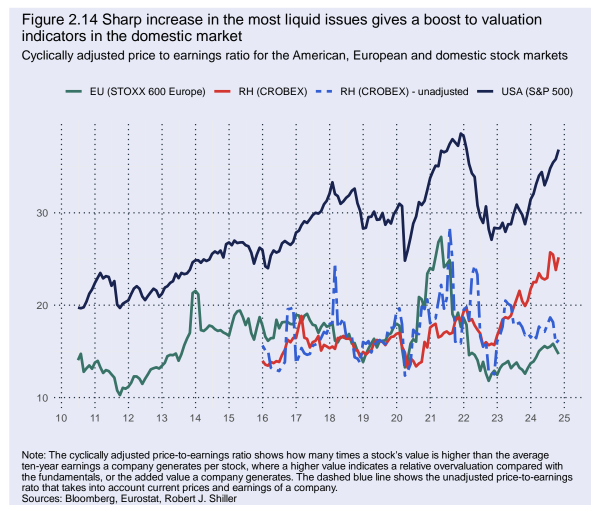


Figure 2.14 Sharp increase in the most liquid issues gives a boost to valuation indicators in the domestic market
Cyclically adjusted price to earnings ratio for the American, European and domestic stock markets

Note: The cyclically adjusted price-to-earnings ratio shows how many times a stock's value is higher than the average ten-year earnings a company generates per stock, where a higher value indicates a relative overvaluation compared with the fundamentals, or the added value a company generates. The dashed blue line shows the unadjusted price-to-earnings rato that takes into account current prices and earnings of a company.
Sources: Bloomberg, Eurostat, Robert J. Shiller

A noticeable increase was also observed in the price-to-earnings ratio in the domestic market. This was a result of positive business performance, solid economic growth rates and favourable investor sentiment. The cyclically adjusted price-to-earnings ratio (PE)[26] suggests a potentially stronger overvaluation due to relatively lower earnings in the past decade, with estimates showing that prices are 26 times higher than earnings. On the other hand, the unadjusted PE ratio is at moderate levels, with stock prices 18 times higher than issuers' earnings (Figure 2.14), suggesting that issuers' earnings in the recent period have followed domestic market valuations. Although valuations in the domestic capital market are far from the valuations recorded in the cycle preceding the 2008 crisis, a possible further departure of market prices from company business indicators may augment the risk of a sudden price correction in case of shocks, indirectly exposing investors to market risk and the risk of a profitability decrease.

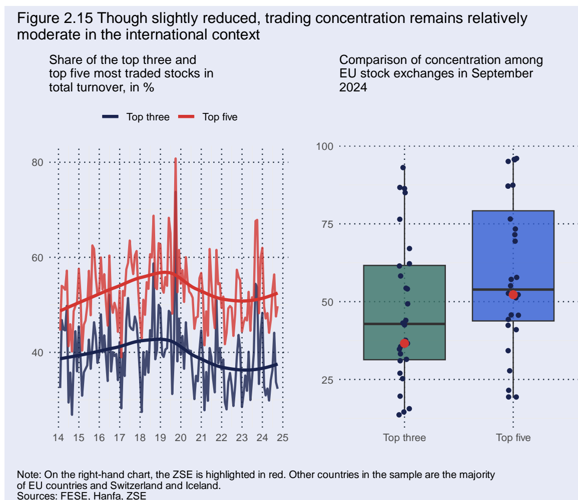


Figure 2.15 Though slightly reduced, trading concentration remains relatively moderate in the international context

Note: On the right-hand chart, the ZSE is highlighted in red. Other countries in the sample are the majority of EU countries and Switzerland and Iceland.
Sources: FESE, Hanfa, ZSE

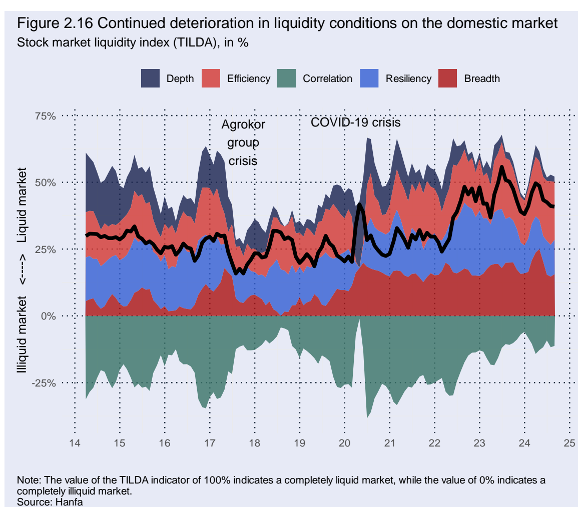


Figure 2.16 Continued deterioration in liquidity conditions on the domestic market
Stock market liquidity index (TILDA), in %

Note: The value of the TILDA indicator of 100% indicates a completely liquid market, while the value of 0% indicates a completely illiquid market.
Source: Hanfa

The growth of valuation and market activity affected also the indicators of trade concentration in the domestic stock market. The share of the top five and the top three most traded stocks in the total turnover stood at 49.7% and 32.3%, respectively, in September, suggesting that concentration was relatively lower than the long-term average. In late September, the domestic capital market was in the lower part of the distribution according to trade concentration indicators (Figure 2.15) when compared with similar EU markets. By contrast, the indicator of domestic market liquidity has slightly deteriorated from March (Figure

[26] The cyclically adjusted price to earnings ratio represents the ratio of stock price to average company earnings over the last 10 years adjusted for inflation.

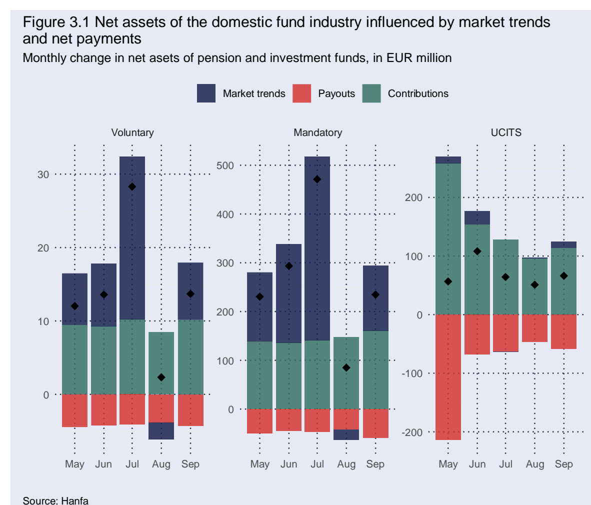
2.16). The breadth and depth were the TILDA components that recorded a substantial decrease. This implies that the reported increase in trading was concentrated in a relatively small segment of more liquid stocks and accentuates the structural risk of trade concentration in the domestic market, which shows signs of divergence between the most liquid issues and the rest of the market that remained unaffected by the observed growth in activity and valuation.

3 RISKS IN THE FINANCIAL SERVICES SECTOR

3.1 Short-term risks

The exposure of the financial services sector to short-term cyclical risks decreased slightly in the third quarter of 2024. The sector assets continued to grow owing both to the increase in the valuation of investments and new net payments, so that profitability also improved from the first half of the year. However, uncertainties in the macroeconomic and financial environment, such as increased geopolitical risks and subdued market risk premiums, kept exposure of institutional investors to short-term vulnerabilities at a slightly elevated level.

Figure 3.1 Net assets of the domestic fund industry influenced by market trends and net payments
Monthly change in net assets of pension and investment funds, in EUR million



Source: Hanfa

Assets managed by the domestic fund industry continued to grow steadily in the third quarter of 2024, driven by favourable market developments and positive net payments of members' funds[27]. Total net assets of pension funds reached EUR 23.8bn, growing by EUR 3.6% from the end of June (Figure 3.1). Assets of mandatory pension funds rose by 3.7%, to EUR 22.4bn, whereas the assets of voluntary pension funds increased by EUR 3.3%, to EUR 1.4bn. The growth in pension funds' assets in the third quarter of 2024 was influenced by standard inflows of new members and payments, which amounted to EUR 478.5m[28]. In addition, a strong impact was made by positive market developments that reflected optimistic investor sentiment at the beginning of the cycle of monetary policy easing (for more details, see Chapter **2.2 Financial environment**).

The assets of UCITS reached EUR 3.0bn at end-September, up by 7.5% from the end of June. This was due to strong net inflows, which were in positive territory for three consecutive quarters and stood at EUR 170.4 m in the third quarter. The stable net inflow was given a significant boost by the growth of money market funds (accounting for over 68.3% of total net inflows in the third quarter), which returned to the domestic investment scene[29] following the establishment of two new funds at the end of 2023.

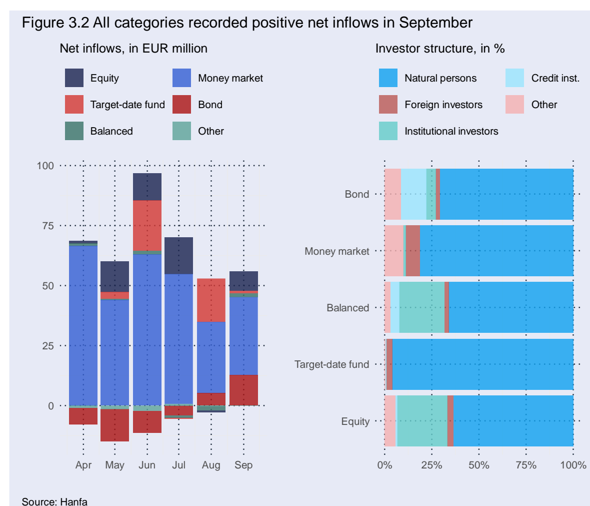
[27] Assets grew by 3.7% from the second to the third quarter, slightly more than the 2.8% growth between the first and the second quarter. Nevertheless, growth was below 5.2% recorded in the first quarter of 2024. These trends point to slow but stable growth towards the end of the year, in line with the expected base effects.

[28] In the first eight months, the number of beneficiaries of mandatory and voluntary pension insurance rose by 2.6% and 3.5% respectively.

[29] Hanfa approved the establishment of two new money market funds in October 2023. They were the first new money market funds in the Croatian

The structure of UCITS investors did not change significantly from the previous periods or the long-term average. At the end of June, natural persons (retail investors) were the largest category of investors, accounting for 76.9%, much above their long-term average of 50.2%. Institutional investors accounted for 11.9%, below the long-term average of 18.3%, while other investors accounted for 5.7%, also below the long-term average of 14.2%. While natural persons continue to dominate the investor structure, their much larger share compared to the historical average may point to a return of retail investors or a growing interest in UCITS in the recent period. On the other hand, smaller shares of institutional investors and the category of other investors highlight this change and the growing significance of natural persons in the overall investor structure.

Figure 3.2 All categories recorded positive net inflows in September



Source: Hanfa

Although this investment structure suggests relatively diversified liabilities of funds given their size and importance for the domestic and international financial markets, the sector remains vulnerable to liquidity risk, as retail investors often react quickly and strongly to negative news and market shocks, which can cause significant fund outflows. On the other hand, while the larger share of institutional investors increases concentration, it may reduce the risk of sudden outflows and improve the funds' resilience in potential crisis episodes (Figure 3.2).

The domestic market of open-ended investment funds has been undergoing some structural changes in the supply and shares of individual fund categories since mid-2023, with this trend intensifying further in 2024 (Figure 3.3). Net assets of target-date and money market funds have grown sharply since their establishment, so that together with bond funds, they have become the most represented category of UCITS. These three categories of funds, which mainly invest in fixed income instruments, tend to attract similar conservative retail investors who prefer lower risk and more stable returns, as well as the maintenance of real investment value (for more details on an analysis of potential systemic risks, see **Box 1 Target-date funds – safe returns or silent risk?**).

Although the business volume of insurance companies measured by the number of new contracts did not grow significantly during the first nine months of 2024, their operating profitability improved given the inflation-driven increase in premiums. As a result, the collected premium stood at EUR 1.4bn at the end of September, up by 10.9% year-on-year. The increase in the life and non-life insurance segments

market after the last such fund was discontinued in January 2021.

reached 12.2% and 10.6% respectively. In 2024, premiums increased primarily owing to higher policy prices driven by inflationary pressures, whereas the number of policies remained relatively stable[30]. While the amounts of claims settled grew more rapidly[31] than the amount of premiums collected in the same period, the surplus of premium income over the costs coupled with investment returns improved the profitability indicators of insurance companies in 2024 (Figure 3.4). At the end of June, profitability of non-life and life insurance business stood at 4.5% and 1.7%, an annual increase of 2.0 p.p. and 3.3 p.p. respectively.

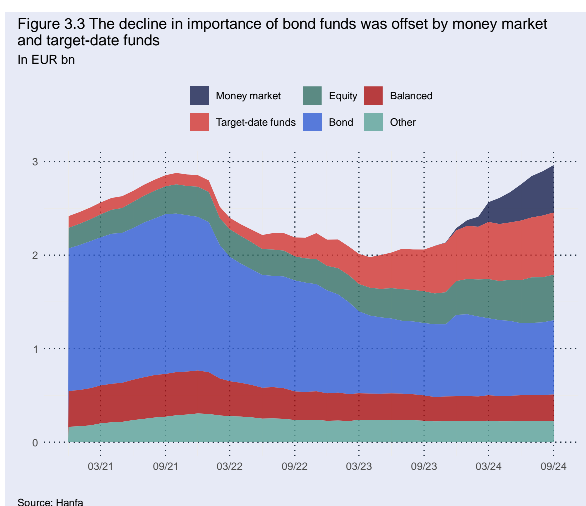


Figure 3.3 The decline in importance of bond funds was offset by money market and target-date funds
In EUR bn

Source: Hanfa

The rise in premiums, when driven by inflation rather than the larger number of insurance contracts, creates a number of systemic risks for the insurance sector and the economy in general. However, such risks have not been observed in the past period. On the one hand, increased premiums reduce insurance affordability for clients, which may lead to a decline in coverage and widen the insurance gap, especially among vulnerable groups. Increased insurance costs further propagate inflationary pressures as higher premiums increase costs for business entities. At the same time, insurers expose themselves to higher risk of a decrease in the policy renewal rate, as well as liquidity risk associated with possible policy cancellations.

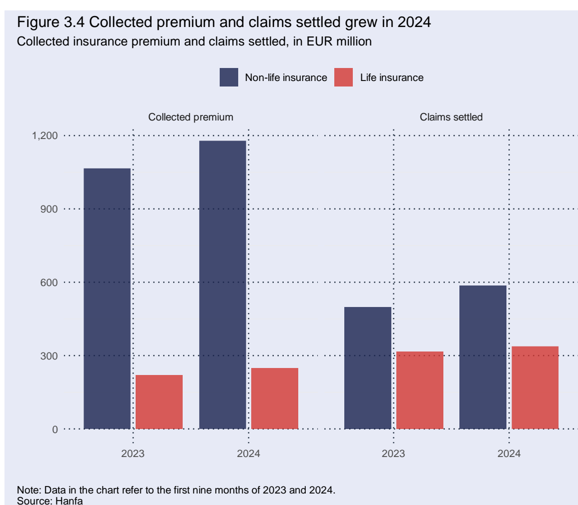


Figure 3.4 Collected premium and claims settled grew in 2024
Collected insurance premium and claims settled, in EUR million

Note: Data in the chart refer to the first nine months of 2023 and 2024.
Source: Hanfa

Spurred by GDP growth and the record tourist season, the operations of leasing companies grew steadily both in terms of value and the number of newly concluded contracts. In the first half of 2024, the value and number of new contracts were 21.7% and 14.8% higher,

[30] The largest contribution to the growth in non-life insurance was made by the 12.8% increase in the collected insurance premiums for motor vehicle liability insurance (despite the 1.7% fall in the number) and the 15.9% increase in premiums for land motor vehicle insurance (with a 0.1% fall in the number). In the life insurance segment, the collected premium for basic life insurance increased by 3.5%, while the number of policies increased by 0.3%.

[31] At end-September, claims settled reached EUR 924.4m, growing annually by 13.6%. In the non-life and life insurance segments, this increase stood at 17.8% and 7.1% respectively. The largest growth in claims settled in non-life insurance business was generated by motor vehicle liability insurance, of 16.8%, land motor vehicle insurance, of 23.4%, and health insurance, of 28.0%. In the life insurance segment, basic life insurance contributed the most to this increase, rising annually by 4.4%.

respectively, than in the same period of the previous year. The increase was mostly due to the growth in the financial leasing segment, which at the end of June accounted for 86.3% of the total value of active contracts, up by 21.4% from the same period of the previous year. Profitability of leasing companies (ROAA) remained relatively unchanged in the first half of the year compared to the previous quarter, standing at 1.8% at the end of June (Figure 3.5). Despite favourable results, the strong sector growth and the high share of finance leasing make the sector vulnerable to market changes, such as interest rate growth or a slump in economic activity, which may affect the timely payment of clients' liabilities and, consequently, the leasing business.

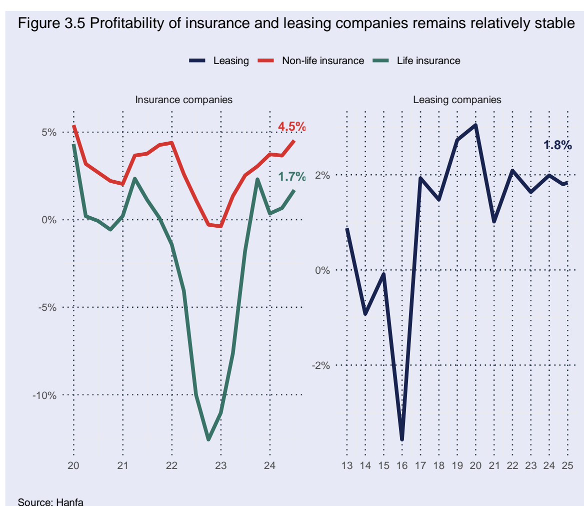


Figure 3.5 Profitability of insurance and leasing companies remains relatively stable

Source: Hanfa

Favourable macroeconomic and market developments considerably reduced profitability risk in all segments of pension and investment funds in 2024. In the first nine months of the year, category A pension funds generated a return of 10.3%, followed by category B and category C funds, with returns of 7.0% and 2.6% respectively. At the same time, equity funds generated a return of 16.6%, followed by balanced funds and bond funds, which reported returns of 6.4% and 1.8%, respectively (Figure 3.6 and Figure 3.7). Although the first nine months of 2024 were marked by an additional rise in geopolitical risks, strong corporate earnings and slower inflation developments coupled with robust growth in the global economy supported financial market growth in the third quarter as well. A strong increase was also recorded in the domestic market[32] (for more details, see Chapter **2.2 Financial environment**), and an additional market impulse is expected in the remainder of the year, driven by the ongoing downward cycle of central bank benchmark rates. Despite the currently favourable outlook, risks in the macroeconomic and financial environment remain pronounced, together with profitability risk for institutional investors.

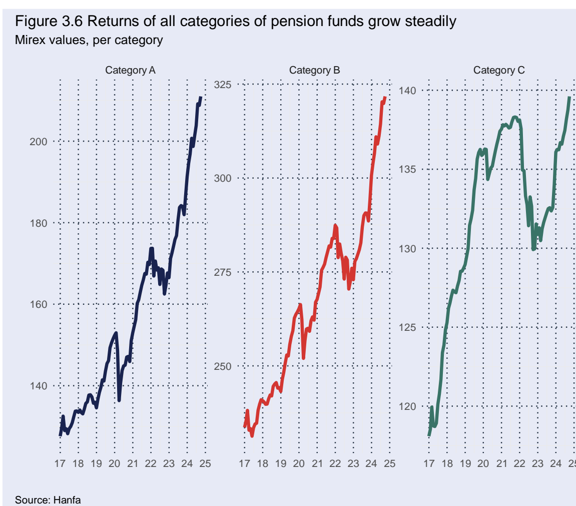


Figure 3.6 Returns of all categories of pension funds grow steadily
Mirex values, per category

Source: Hanfa

After decreasing in 2023, the overall liquidity of all UCITS steadily increased during the first nine months of 2024, with the share of highly liquid assets in

[32] In the first nine months, CROBEX went up by 16.6% and CROBIS grew by 1.6%.

total assets standing at 33.1% at the end of September, up by 13.7 percentage points from the end of 2023 (Figure 3.8). The improvement in overall liquidity is primarily a result of the establishment and greater importance of money market funds, whose total assets are invested in highly liquid instruments; at the end of September, they managed 16.8% of the total assets of all UCITS. Similarly, the last year's decrease in total liquidity buffers of UCITS reflected the growth of target-date funds, which manage their liquidity risk by charging much higher exit fees than other open-ended funds. At the same time, liquidity buffers in other UCITS categories did not change significantly in 2024[33]. Maintaining sufficient liquidity in the investment fund sector is a key precondition for system resilience as it enables funds to respond to unexpected investor outflows in a timely manner and thus reduce the risk of forced assets sale and creating additional pressures on financial markets.

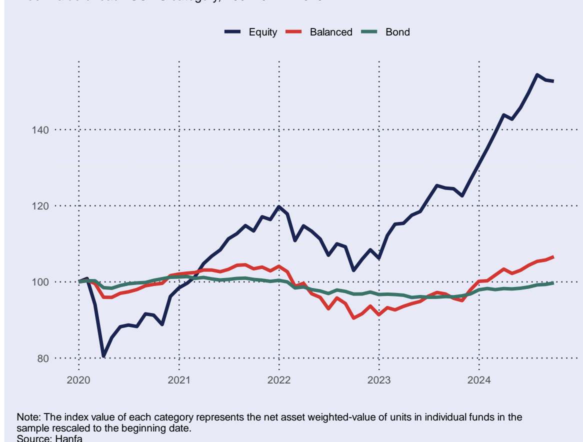


Figure 3.7 Profitability of investment funds continues to record good results, particularly in the category of equity funds

Note: The index value of each category represents the net asset weighted-value of units in individual funds in the sample rescaled to the beginning date.
Source: Hanfa

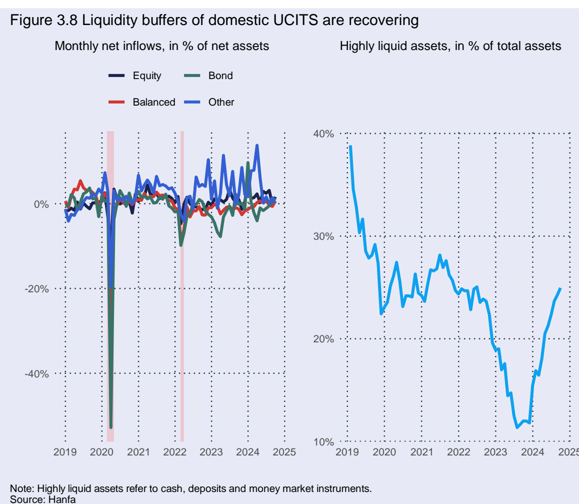


Figure 3.8 Liquidity buffers of domestic UCITS are recovering

Note: Highly liquid assets refer to cash, deposits and money market instruments.
Source: Hanfa

Liquidity buffers of insurance companies remained at a stable level of 61.5% at the end of June 2024 (Figure 3.9). Despite the high average liquidity level, there are significant variations among individual companies, particularly because of their large exposure to real estate and loans. These asset classes are characterised by relatively lower liquidity, as their sale often requires longer time and more complex processes, while their prices may vary significantly depending on market conditions. In addition to liquidity risk, real estate investments expose companies to the risk of a price correction associated with the real estate market, which continues to show signs of significant overvaluation in 2024 (for more details, see Chapter **2.1 Macroeconomic environment**). This further highlights the significance of adequate valuation of real estate investments, which is important for the stability of insurance companies because market corrections may affect their assets and capitalisation[34].

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[33] At the end of September, the share of highly liquid assets stood at 15.4% in bond funds, 11.3% in equity funds and 5.0% in balanced funds.

[34] For more details on the importance of adequate valuation of real estate investments, see **Box 1 in the publication Financial stability No 3: Real estate investments: an alternative form of investments that significantly affects the stability of the financial services sector in Croatia?.**

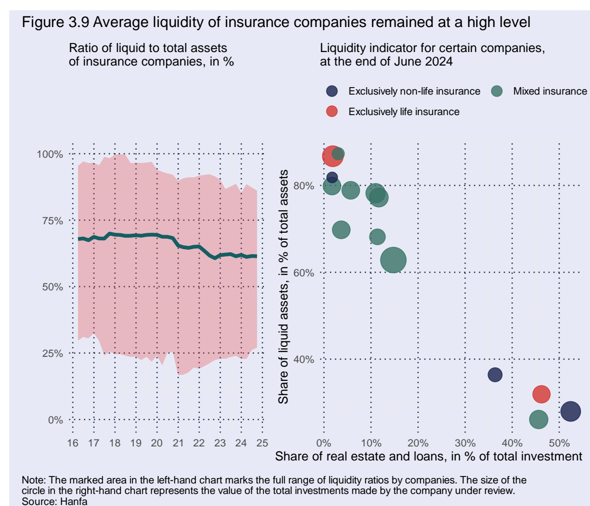


Figure 3.9 Average liquidity of insurance companies remained at a high level

Note: The marked area in the left-hand chart marks the full range of liquidity ratios by companies. The size of the circle in the right-hand chart represents the value of the total investments made by the company under review.
Source: Hanfa

3.2 Long-term risks

Favourable domestic macroeconomic and financial developments, the historically low level of credit risk and further reduction in investment concentration decreased the exposure of the financial services sector to long-term systemic risks in the third quarter of 2024. However, the exposure remained slightly elevated due to the globally subdued market risk premium, which, in view of heightened geopolitical tensions and global uncertainty, may lead to the materialisation of market and related interest rate risk in the global and domestic financial markets.

The several-year reduction in concentration of investments of the financial services sector continued in 2024 driven by the growth of equity and cross-border exposures (Figure 3.10). Reallocation of a part of the portfolio from bonds to more risky direct and indirect equity investments was the outcome of a combination of removal of currency limits due to euro introduction, relaxation of regulatory limits on pension fund investments and positive developments that have dominated global stock markets since the beginning of 2023. Government bonds thus accounted for 55.9% of total sector investments at the end of the third quarter of 2024, which represents a fall in exposure of 6.2 p.p. from the end of 2020.

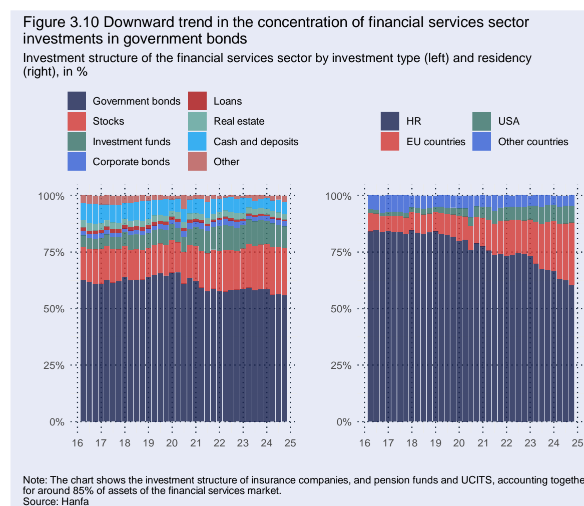


Figure 3.10 Downward trend in the concentration of financial services sector investments in government bonds

Note: The chart shows the investment structure of insurance companies, and pension funds and UCITS, accounting together for around 85% of assets of the financial services market.
Source: Hanfa

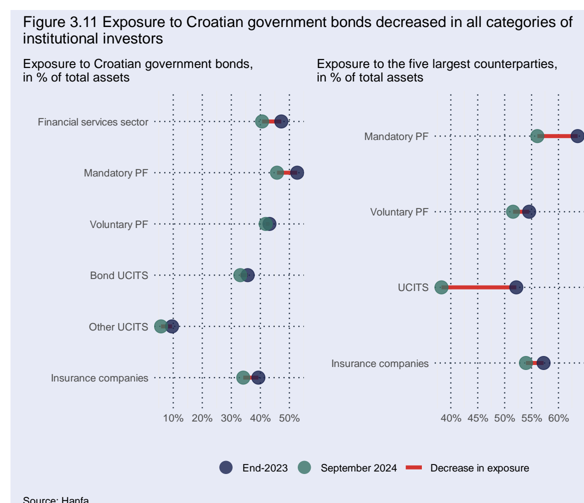


Figure 3.11 Exposure to Croatian government bonds decreased in all categories of institutional investors

Source: Hanfa

In search for higher coupon returns, institutional investors significantly reduced their exposure to the domestic government, to 72.6% of the bond portfolio[35], or 40.6% of all investments[36], while at the same time increasing exposure to government debt of other

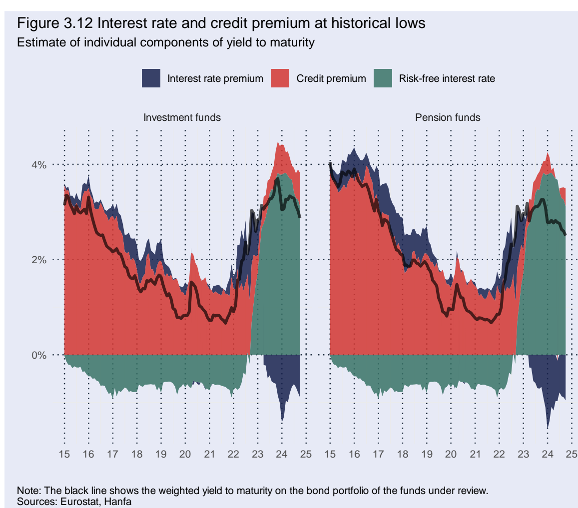
[35] 18.8 p.p. less than at the end of 2020.

[36] 6.6 p.p. less than at the end of 2023.

Member States[37], thereby increasing also exposure to market risks from the international environment. Over the same period, the sector's exposure to equity investment rose by 5.2 p.p. and reached 20.7% of total investment. This shift in investment structure towards more risky and profitable asset classes or issuers has had a favourable impact on the profitability of the financial services sector and the decline in investment concentration (Figure 3.11), while at the same time increasing exposure to potential market volatilities and larger unexpected price corrections.

Increased interest of domestic institutional investors in equity investments concurred with a greater degree of portfolio diversification across asset classes and individual issuers. This has slightly reduced market risk faced by the financial services sector in 2024, although this exposure remained elevated. The continuation of heightened geopolitical tensions, with a subdued risk premium (Figure 3.12) and current globally elevated valuations in financial markets, increases the probability of market risk materialisation through the risk of a sudden price correction in the event of economic slowdown and other systemic shocks. Although the correction in equity markets in early August proved to be short-lived and without broader consequences (for more details, see Chapter **2.2 Financial environment**), it underlined the high interconnectedness of equity markets and their vulnerability to negative news. Risks in the macroeconomic environment have decreased, as confirmed by the initiation of the cycle of reference interest rate cuts by the banks. However, investors remain very cautious about potential negative news related to inflation developments, labour market developments and the results of political elections. The election of Donald Trump as the new US president resulted in short-term market volatilities, triggered by announcements of deregulation and lower corporate taxes, as well as pre-election promises about protection of interests of the crypto community[38]. The impact of the election results on market sentiment and valuations in the medium term will primarily depend on the extent to which the announced significant changes in trade and tax policies will be implemented.

Figure 3.12 Interest rate and credit premium at historical lows
Estimate of individual components of yield to maturity

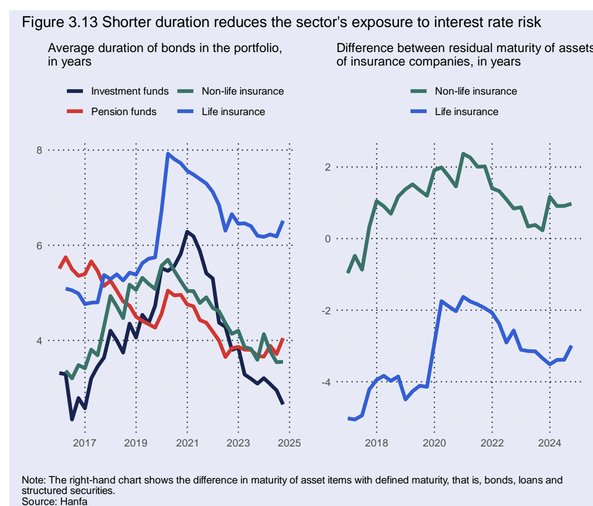


Note: The black line shows the weighted yield to maturity on the bond portfolio of the funds under review.
Sources: Eurostat, Hanfa

[37] At the end of the third quarter of 2024, EU Member States' government bonds accounted for 11.8% of total sector investment, which is an increase of 8.4 p.p. from the end of 2020.

[38] Cryptocurrencies reacted the most to the election results – two weeks after the elections, the bitcoin rose by 41.0%, while the Ethereum grew by 36.3% from the beginning of November, with the S&P 500 index increasing by 4.2% in the same period.

Figure 3.13 Shorter duration reduces the sector's exposure to interest rate risk



Note: The right-hand chart shows the difference in maturity of asset items with defined maturity, that is, bonds, loans and structured securities.
Source: Hanfa

With the fall in the share of bond investments and the shortening of their maturities in a period of high interest rates, the exposure of the financial services sector to interest rate risk was also reduced (Figure 3.13). However, amid the easing of monetary policy and the fall in interest rates, institutional investors, as expected, again started to increase the duration of their bond portfolios in an effort to reach the longer and, as a rule, higher end of the yield curve. This again increased exposure to interest rate risk. Nevertheless, given the expected further decrease in interest rates, this growth could in the short run have a positive impact on the profitability of the existing bond portfolio through revaluation effects, and partly reduce a possible lowering of coupon returns on new bond subscriptions. Interest rate cuts may reduce the capitalisation of insurance companies due to the maturity mismatch between their assets and liabilities. This is particularly true for companies dealing in life insurance, which usually have a longer maturity of liabilities than assets compared to companies predominantly engaged in non-life insurance. The negative maturity gap (Figure 3.13) in the balance sheets of the former companies may, in the context of falling interest rates, lead to a reduction in companies' own funds due to a higher increase in liabilities than in assets.

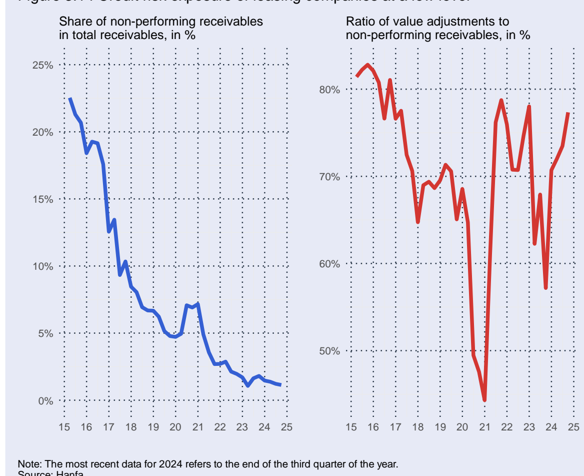
The exposure of domestic institutional investors to credit risk was also reduced slightly in the first nine months of 2024, given Croatia's highest credit rating ever, as well as favourable economic developments and performance of non-financial corporations. The improvement in fiscal indicators led to an upgrade of the country's credit rating to A– by two rating agencies in September, which has reduced the market perception of risk in the domestic bond market, making it more resilient to possible sudden changes in the global risk premium. With a strong inflow of new contracts and good business results of non-financial corporations, which account for over three quarters of active leasing contracts[39], credit risk of leasing companies held steady at a very low level. The share of non-performing receivables in total receivables stood at 1.1% at the end of the third quarter, while the coverage of non-performing placements was at a relatively high level of 77.3% (Figure 3.14).

The exposure to currency risk, which remained at a very low level following Croatia's accession to the euro area, is still the least risky structural characteristic of the financial services sector. While institutional investors continued to increase their cross-border investments in 2024, they are still focused

[39] At the end of the third quarter of 2024, contracts with non-financial corporations accounted for 76.4% of the value of all active contracts and for 77.6% of the value of new contracts.

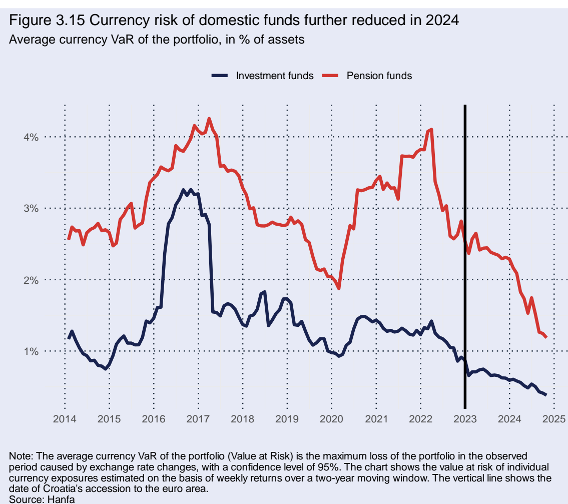
mostly on euro area issuers. The predominant source of currency risk is exposure to the US dollar, which decreased by 2.0 p.p. in the course of 2024 (to 10.4%) in terms of the share of USD-denominated investments in total investments.[40] Given moderate fluctuations in the exchange rate of the euro against the US dollar in 2024, the sector's exposure to currency risk was further reduced (average currency VaR of the portfolio[41] reached its lowest level in the last 10 years at the end of October, Figure 3.15). However, it is likely that in the forthcoming period the value of the US dollar will be strongly influenced by the results of the US elections, as evident in the post-election strengthening of the US dollar against a basket of six major global currencies in response to the expected protectionist policy of the new administration.

Figure 3.14 Credit risk exposure of leasing companies at a low level



Note: The most recent data for 2024 refers to the end of the third quarter of the year.
Source: Hanfa

Figure 3.15 Currency risk of domestic funds further reduced in 2024



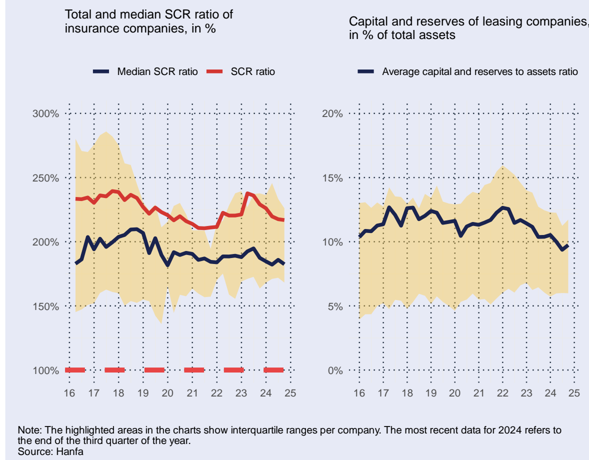
Note: The average currency VaR of the portfolio (Value at Risk) is the maximum loss of the portfolio in the observed period caused by exchange rate changes, with a confidence level of 95%. The chart shows the value at risk of individual currency exposures estimated on the basis of weekly returns over a two-year moving window. The vertical line shows the date of Croatia's accession to the euro area.
Source: Hanfa

The capitalisation of the financial services sector remained at high levels at the end of the third quarter of 2024, despite a slight decrease during the year. Aggregate capital buffers of insurance companies remained stable at levels well above the regulatory minimum (Figure 3.16). Thus, the aggregate SCR ratio at the end of September 2024 stood at 216.9% (down by 0.7 p.p. from the end of June), while the median SCR ratio was 182.5% (decreasing by 3.4 p.p. from the end of June). While the capitalisation of companies in the upper part of the distribution has decreased, the capital positions of companies in the lower part of the distribution have improved markedly over the past few years, further bolstering the resilience of the insurance sector as a whole.

[40] Investments by insurance companies and pension funds and UCITS, which together account for around 85% of financial services market assets, were taken into account.

[41] The average currency VaR of the portfolio (Value at Risk) represents a maximum loss of the portfolio in the observed period due to exchange rate changes, with a 95% confidence level.

Figure 3.16 Capitalisation level of the financial services sector remains relatively stable



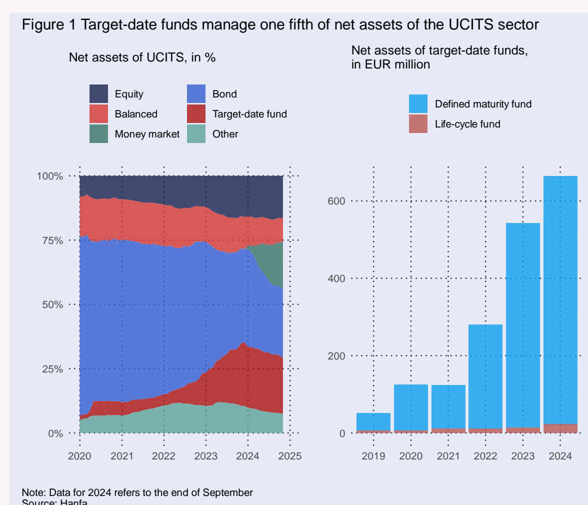
Note: The highlighted areas in the charts show interquartile ranges per company. The most recent data for 2024 refers to the end of the third quarter of the year.
Source: Hanfa

At the same time, the capitalisation of leasing companies slightly increased, with the aggregate ratio of capital and reserves to total assets standing at 9.7% at the end of the third quarter of 2024 (up by 0.4 p.p. from the end of June). This halted the downward trend in the capitalisation of leasing companies seen over the past years, driven primarily by a much faster growth in the volume of operations (assets) than in capital and reserves. In a context of robust economic growth, the rising operating profitability of leasing companies could, despite lower interest rates, continue to spill over to higher capital buffers, which are, however, still lower than a few years ago, particularly in some companies.

BOX 1 TARGET-DATE FUND – SAFE RETURNS OR SILENT RISK?

Increased investor demand for relatively safer investments, the primary purpose of which is to preserve the real investment value, has led to a structural change in the market for open-ended UCITS from the beginning of 2022 through the establishment of target-date funds (Figure 1). These are relatively conservative funds that predominantly invest in bonds and compete with standard bond funds that are traditionally preferred by investors in the domestic market. While they appear at first sight to be low risk given the conservative investment structure and relatively high exit fees, they still carry certain risks (such as credit risk and liquidity risk), which may spill over to the rest of the market in the event of sudden investor withdrawals and a drop in investment value.

Figure 1 Target-date funds manage one fifth of net assets of the UCITS sector



Note: Data for 2024 refers to the end of September
Source: Hanfa

New form of conservative investments

In the past two years, target-date funds have become an increasingly represented category of open-ended investment funds with a public offering in the domestic market. At the end of September, there were 43 target-date funds operating in the market, managing net assets worth EUR 667.6m (22.9% of the total net assets of all UCITS)[42]. These funds are established for a fixed period, after which they redeem investors' units and stop operating. The duration period is defined when the fund is set up and may, under certain circumstances, be extended or shortened over the fund's life. The funds may be established for any period and invest in any class of assets. In the domestic market, such funds take two most common forms: defined maturity funds and life-cycle funds. It should be noted that, despite the suggestive name, defined maturity funds do not have insured investments and do not guarantee a predefined return on investment. As their investments are relatively risk-free with predictable returns, these funds can be used for the purpose of asset value conservation strategies; however, this does not eliminate the existence of credit risk, whose materialisation may generate losses for investors.

[42] At the end of 2021, target-date funds managed only 4.3% of the net assets of the UCITS sector.

Defined maturity funds are most often established for a medium term and they predominantly invest in bonds whose maturity is aligned with the fund's life and are held until maturity (Figure 5). Such a passive investment strategy, covering a few years before the maturity of the instrument minimises market volatility of the price of assets, i.e. fund units and reduces management costs while offering diversification benefits of collective investment. The target market therefore consists of investors with low risk tolerance who want a more diversified bond portfolio.

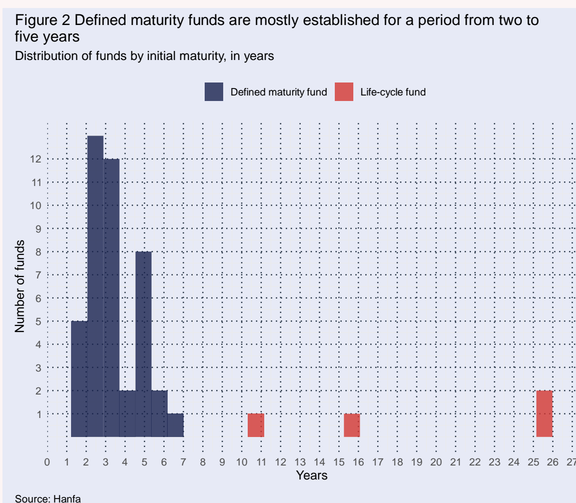
This is the dominant form of target-date funds in the Croatian market[43]. At the end of September 2024, there were 39 such funds with a total value of net assets of EUR 642.3m, or 21.7% of the assets of all UCITS. With 35 of them established over the past two years, they have become the most numerous type of UCITS in Croatia.

Life-cycle funds are characterised by longer remaining maturity (most often longer than 10 years) and have a variable investment strategy in terms of assumed risk over the fund's life. Thus, at the beginning of their operation, they invest a larger percentage of funds in relatively riskier assets with a view to generating higher returns, which are in a later period of the fund's duration transferred to less risky financial instruments in order to hedge the realised values.

At the end of September 2024, four such funds operated in the Croatian market, with total net assets worth EUR 22.6m. This represents 3.4% of the total net assets of target-date funds, i.e. only 0.8% of the assets of all UCITS.

Figure 2 Defined maturity funds are mostly established for a period from two to five years

Distribution of funds by initial maturity, in years



Source: Hanfa

Search for competitive returns in the external debt market

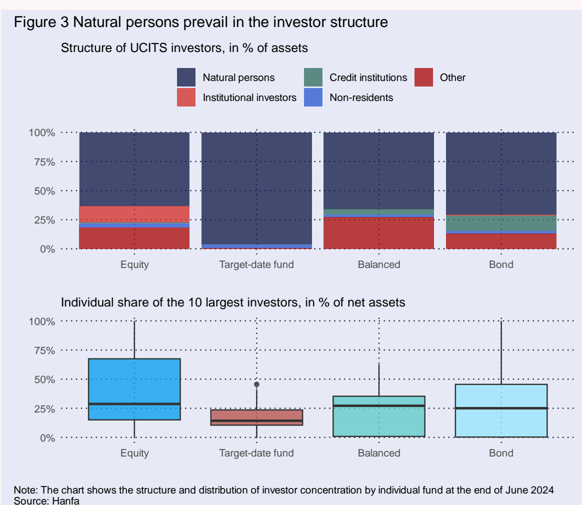
In view of their very conservative investment strategy, these funds are intended for risk-averse investors; therefore, it is not surprising that retail investors, i.e. natural persons, accounted for as much as 96% of all their investors at the end of June 2024[44]. However, while the share of natural persons in the investor structure is high, the concentration per individual investor is lower than in other UCITS (Figure 3). The individual median share of the ten largest investors is thus the lowest compared with other fund types, accounting for 14.4% of the net assets of target-date funds at the end of June 2024. Such investor structure, which is dominated by natural persons with high risk aversion, increases the possibility of major sudden (panic) outflows in the event of market shocks; however, the average, relatively smaller, individual holdings mitigate this risk, whereas exit fees are relatively higher

[43] That is 96.6% of the total net assets of target-date funds.

[44] For the sake of comparison, natural persons accounted for 77.3% of all investors in all UCITS at the same time.

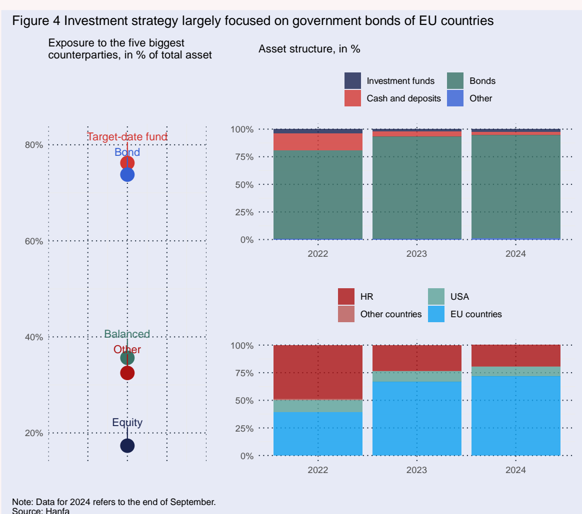
than in other UCITS. Investment concentration of target-date funds across individual asset classes is higher than in other, similar open-ended funds (Figure 4). At the end of September 2024, bonds accounted for 93.5% of investments of target-date funds; this is higher than in bond funds (82.0%), which hold some of their assets in cash and similar equivalents for the purpose of liquidity management.

Figure 3 Natural persons prevail in the investor structure



Note: The chart shows the structure and distribution of investor concentration by individual fund at the end of June 2024
Source: Hanfa

Figure 4 Investment strategy largely focused on government bonds of EU countries



Note: Data for 2024 refers to the end of September.
Source: Hanfa

This exceptionally high focus on a single class of assets, namely those bearing fixed income, exposes target-date funds to interest rate risk. However, as the remaining maturity of these investments is three times shorter (1.1 year at the end of September 2024) than similar investments made by bond funds (3.0 years), target-date funds are not significantly more exposed to this risk than standard bond funds. In this light, it is also important to note that interest rate risk is relevant for investors planning to withdraw assets before the fund's maturity, as changes in interest rates may affect the value of their investment at the time of withdrawal. Therefore, due to the nature of this investment form, which is predominantly holding funds to maturity, interest rate risk faced by investors is less pronounced than in other similar funds.

In the context of investment strategies of target-date funds, particularly specific are life-cycle funds, which in their early stages invest more in riskier instruments. For example, holdings in investment funds accounted for 70.9% of their investments at the end of September 2024, but this share gradually decreases as the funds approach maturity.

Compared to funds that are most similar to them, i.e. bond funds, investments of target-date funds are more concentrated and more oriented towards foreign markets. As much as 72.0% of target-date funds' assets is invested in bonds of other EU Member States, while in bond funds this share amounts to 52.1%. This is likely the consequence of a search for higher returns at similar or slightly higher levels of assumed risks given the convergence of domestic government bond yields towards euro-area averages. Higher returns of target-date funds relative to standard bond funds (Figure 5) reflect the higher level of assumed credit risk, which is particularly pronounced in the current global circumstances of the subdued risk premium (for more details, see chapter **2.2 Financial environment**). This risk

would materialise in the event of an abrupt and significant price correction due to an increase in the risk premium, which usually occurs in the event of economic or other financial shocks.

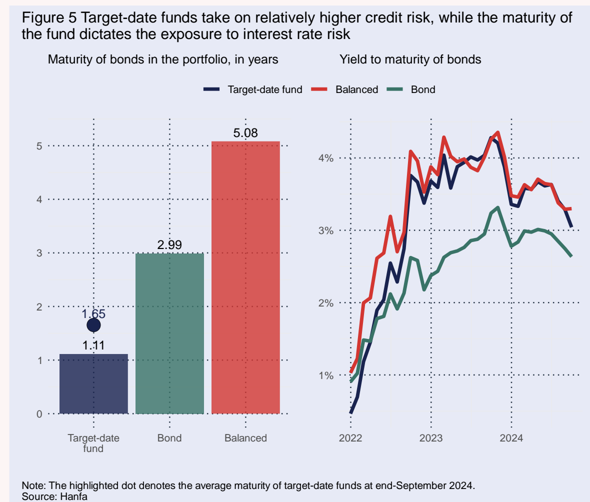


Figure 5 Target-date funds take on relatively higher credit risk, while the maturity of the fund dictates the exposure to interest rate risk

Note: The highlighted dot denotes the average maturity of target-date funds at end-September 2024.
Source: Hanfa

The mentioned investment structure that is highly concentrated in bonds and a higher exposure to foreign debt issuers reflect liquidity and profitability management of target-date funds. The investment in these funds is primarily intended for risk-averse investors who are able to align their investment horizon with the fund's duration, i.e. investors who do not need these funds during that period. However, in order to amortise possible earlier withdrawals by such investors, target-date funds generally charge higher exit fees than bond funds[45]. Therefore, given their relatively short maturity and discouraging exit fees for early redemptions, target-date funds may maintain lower levels of highly liquid assets (3.9%) compared with bond funds (16.2%). Although defined maturity funds had, on average, much smaller redemptions than other types of funds in the previous period (Figure 6), the low level of their liquidity buffers may still pose a systemic risk in a scenario of a sudden liquidity shock. In the light of the risk aversion of investors in target-date funds, market shocks may lead to sudden investors' withdrawals, partial sale of the portfolio and the fall in its value. Should at that time these funds account for a significant percentage of household savings and financial institutions' investments (which may happen in the future as these funds still offer a slightly more profitable, albeit somewhat more risky alternative to national bonds and time deposits), this could lead to a spillover of risks to other sectors of the economy.

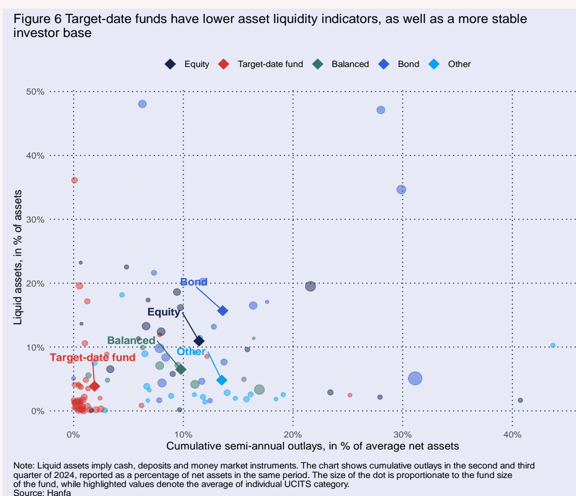


Figure 6 Target-date funds have lower asset liquidity indicators, as well as a more stable investor base

Note: Liquid assets imply cash, deposits and money market instruments. The chart shows cumulative outlays in the second and third quarter of 2024, reported as a percentage of net assets in the same period. The size of the dot is proportionate to the fund size of the fund, while highlighted values denote the average of individual UCITS category.
Source: Hanfa

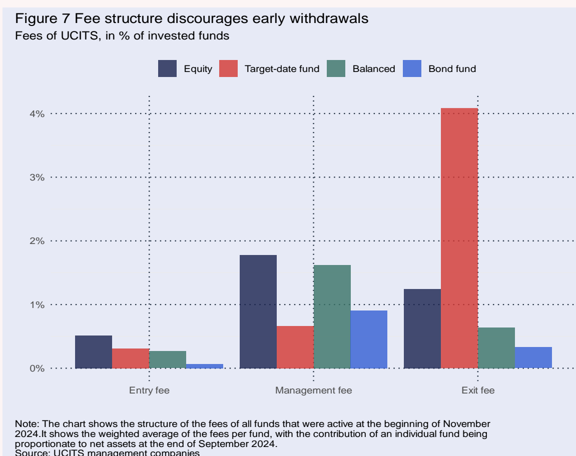
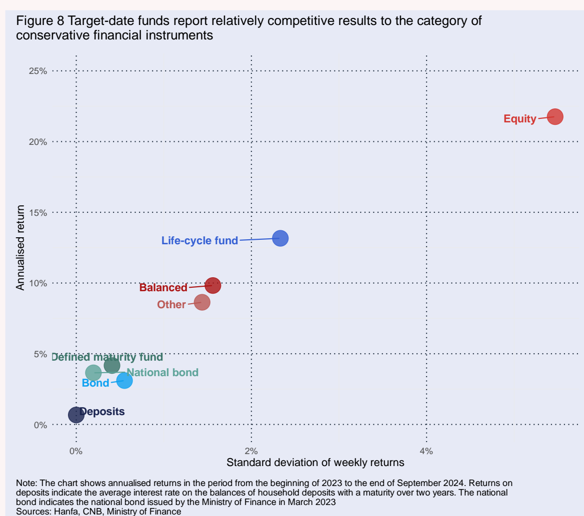


Figure 7 Fee structure discourages early withdrawals
Fees of UCITS, in % of invested funds

Note: The chart shows the structure of the fees of all funds that were active at the beginning of November 2024.It shows the weighted average of the fees per fund, with the contribution of an individual fund being proportionate to net assets at the end of September 2024.
Source: UCITS management companies

[45] Exit fees levied by target-date funds range between 3% and 5%, while the fee for exiting bond funds after 6 months is usually set at 0%.

Figure 8 Target-date funds report relatively competitive results to the category of conservative financial instruments



Note: The chart shows annualised returns in the period from the beginning of 2023 to the end of September 2024. Returns on deposits indicate the average interest rate on the balances of household deposits with a maturity over two years. The national bond indicates the national bond issued by the Ministry of Finance in March 2023
Sources: Hanfa, CNB, Ministry of Finance

While this is a relatively conservative form of passive investment, target-date funds generate somewhat higher returns than similar investments because of their increased focus on external debt, which also offers higher interest rates, and the placement of almost total assets in coupon issues, without allocating any significant amounts to less profitable cash equivalents. Thus, from the beginning of 2023, the returns of defined maturity funds and bond funds stood at 4.2% and 3.1% respectively (Figure 8). On the other hand, life-cycle funds, which are currently still in their early stages[46], generate much higher returns. Since the beginning of 2023, life-cycle funds have generated a return of 13.2%.

Latent liquidity risk behind competitive returns

In a market dominated by relatively conservative and risk-averse retail investors, such as the domestic market, it is not surprising that target-date funds have become a very popular form of investment. This is evident from their considerable growth in both the number and assets in the past two years.

Their competitiveness relative to similar investments (primarily direct investments in government bonds and standard bond funds) is achieved through higher coupon returns, generated by placing almost the entire assets in securities, particularly foreign debt investments. A passive investment strategy, on the other hand, also results in lower management costs.

Liquidity risk, which is more pronounced in these funds than in similar investment forms, is managed through higher, discouraging exit fees (Figure 7). While this profitability and liquidity management strategy is highly competitive in stable market conditions, a change in investment sentiment and risk perception, which, as a rule, arises suddenly in the event of certain unexpected disturbances, can easily result in increased outflows and liquidity pressures on these funds.

Although the potential for a significant spillover of this risk to the rest of the financial services sector is still limited in view of the relative size of target-date funds, their possible further growth and importance will increase the contagion potential, which could spill over to the rest of the investment fund sector through the liquidity spiral.

[46] At end-September 2024, the average remaining maturity of life-cycle funds was 10 years.

LIST OF ABBREVIATIONS

bn – billion

CBS – Croatian Bureau of Statistics

CEE – Central and Eastern Europe

CES – Croatian Employment Service

CISS – Composite Indicator of Systemic Stress

ECB – European Central Bank

EU – European Union

EUR – euro

Fed – Federal Reserve System

GDP – gross domestic product

Hanfa – Croatian Financial Services Supervisory Agency

m – million

MPF – mandatory pension fund

p.p. – percentage point

PF – pension funds

ROAA – return on average assets

SCR – Solvency Capital Requirement

TILDA – stock market liquidity index

UCITS – undertakings for collective investment in transferable securities

USA – United States of America

USD – US dollar

VAT – value added tax

VIX –Volatility Index

ZSE – Zagreb Stock Exchange

Country codes: AT – Austria; BE – Belgium; BG – Bulgaria; CY – Cyprus; CZ –Czech Republic; DE – Germany; EE – Estonia; EL – Greece; ES – Spain; FI – Finland; FR – France; HR – Croatia; HU – Hungary; IE – Ireland; IT– Italy; LT – Lithuania; LV – Latvia; MT – Malta; NL – Netherlands; PT – Portugal; PL – Poland; RO – Romania; USA – United States of America; SE – Sweden; SI – Slovenia; SK – Slovakia

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