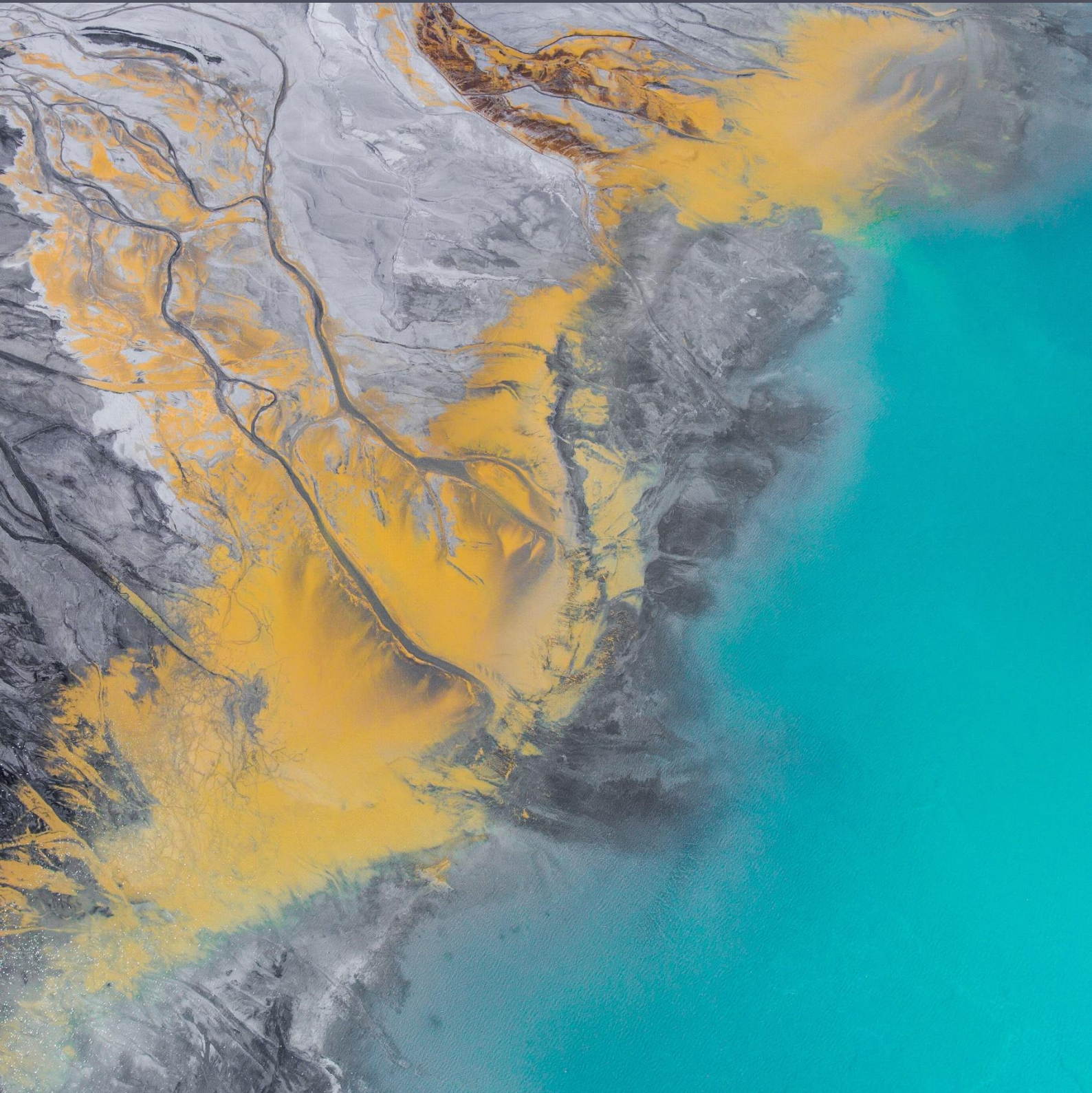


# MACROPRUDENTIAL RISK SCANNER

*2020 – Second Half*

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Franje Račkoga 6

10000 Zagreb

[www.hanfa.hr](http://www.hanfa.hr)

Phone: +385 1 6173 200

Fax: +385 1 4811 406

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# 1 Introduction

Along 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 execution of payment transactions, 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 or of 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 any of its parts, thus causing a serious negative impact on the real economy, represents a *systemic risk*.

Over the past few years, global progress has been made as regards the 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, an appropriate set of instruments and tools, i.e. policies aimed at ensuring the stability of the system as a whole, called *macroprudential policies*, had to be developed. 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 intensifying, creating the need for a holistic approach, which views the system as an inseparable whole and which primarily involves 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, supervised by Hanfa, in order to take timely, appropriate measures to prevent their materialisation and the impairment of the financial system stability. This contributes to a 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.

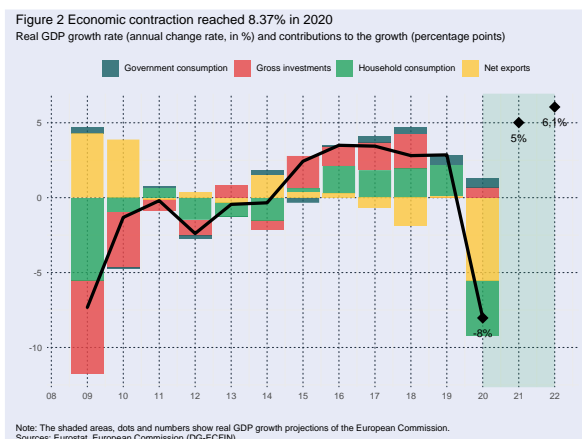
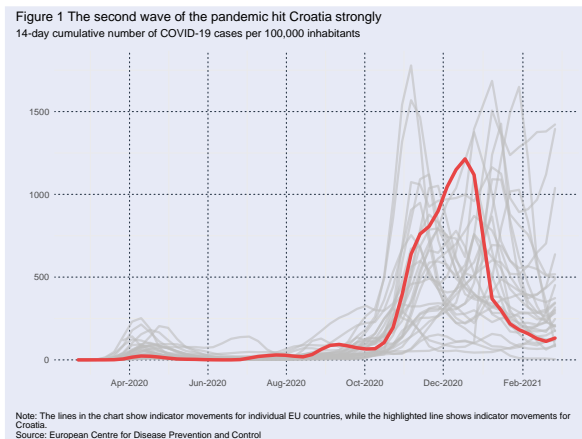
## 2 Macroeconomic overview

The coronavirus pandemic left a deep mark on the 2020 everyday life and continues to be a key source of uncertainty in the upcoming period. The short-term economic recovery will primarily depend on vaccination dynamics and the related opening of the economy, while its medium-term recovery will be based on the agility of the economy and the ability of the existing growth pattern to adapt to the new economic, political, and technological and digital circumstances.

Though successful in terms of health-related outcomes, restrictive measures aimed at combating the coronavirus in the second quarter of 2020 led to a strong contraction of the economic activity, that reached 15.1% on an annual basis. The relaxation of the measures over the summer, resulting from the reduced virulence of the virus, caused a moderate recovery of the economic activity. However, the total result in the third quarter was largely influenced by the orientation of the economy towards the tourism sector, whose activity is primarily dependent on arrivals and consumption of non-residents. Therefore, the third quarter of 2020 also saw a double-digit contraction of economic activity (10%), while the last quarter was affected by a new shutting down of the economy, resulting in a decreased activity (by 7 percentage points) relative to the same period of the last year. This made the 2020 value added loss reach 8.37% relative to the previous year, which is the largest contraction of the annual economic activity ever recorded (by 1 percentage point higher than the 2009 contraction), but still lower in comparison with expectations (Figure 2).

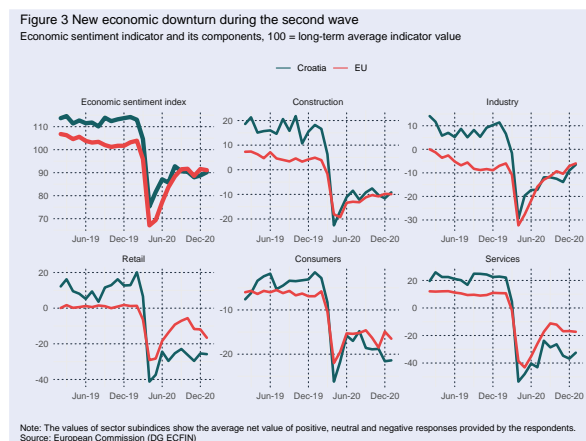
The rest of the year was marked by the feared, but expected second coronavirus wave, this time followed by relatively moderate epidemiological measures. It hit Croatia very strongly, causing the epidemiological curve to fall only after the lockdown was introduced again at the very end

of the year (Figure 1). The economy did not record any new contractions, but was still suppressed, which is evident from a decline in the economic sentiment indicator, again most prominent in the area of services provision (Figure 3).



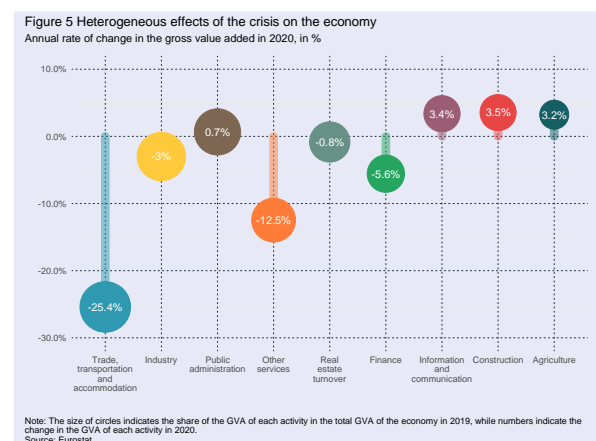
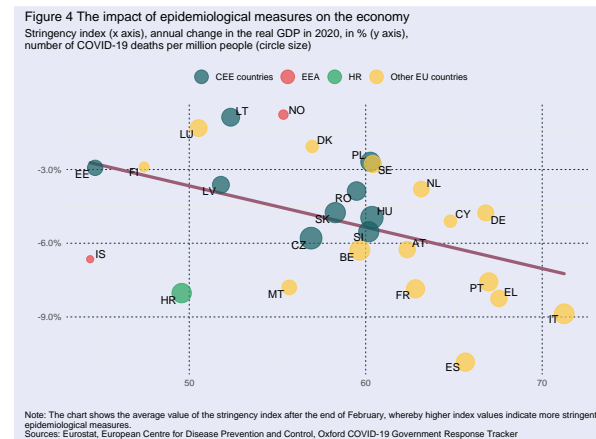
The fastest vaccine ever developed and the beginning of vaccination in December raised optimism and expectations of fast recovery of the global economy, which was evident from the increasing growth of prices in global financial markets (more information in Chapter 3.3 Market risks). Final effects will depend on the vaccination dynamics and an adequate level of vaccination rates, which proved to be a challenging issue at the beginning of 2021, considering logistical problems in the vaccine distribution process. An additional source of uncertainty is the occurrence of mutant virus

strains, whose characteristics or the level of resistance to the vaccine are still not known enough, which will definitely temporarily postpone decisions of various countries to relax the measures and open the borders. All these uncertainties, along with potential secondary shocks that could materialise in the case of a “disorderly” withdrawal of measures adopted to support the economy, will put optimistic assessments in financial markets and investor sentiment to the test.



The correlation between the stringency of lockdown measures and economic activity in 2020 shows a significant negative relationship (Figure 4). However, even though the intensity and duration of epidemiological measures account mostly for the reduced economic activity in 2020, the structure of the economy itself plays a crucial role in the devastating economic impact of the pandemic. Broken down by the stringency of the measures, Croatia ranks among countries with relatively moderate lockdown regimes; however, it has recorded a comparatively sharper economic slowdown. This is due to a heterogeneous effect of the coronavirus crisis on individual activities, which means that those activities that were not able to ensure physical distancing, such as trade, transportation and accommodation activities, were affected relatively more severely. These are also activities that depend largely on seasonal arrival and consumption of non-resident visitors, and which account for a relatively large portion of the gross value added of the economy (in

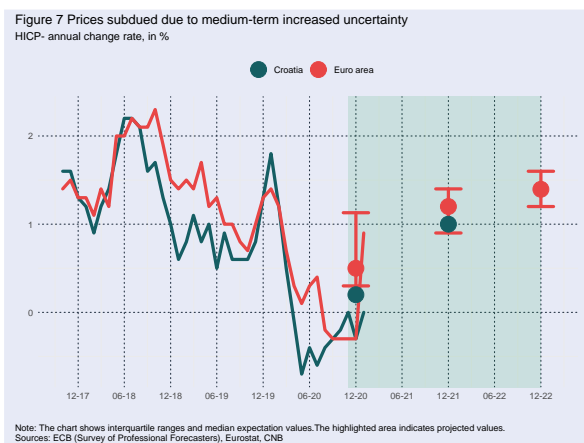
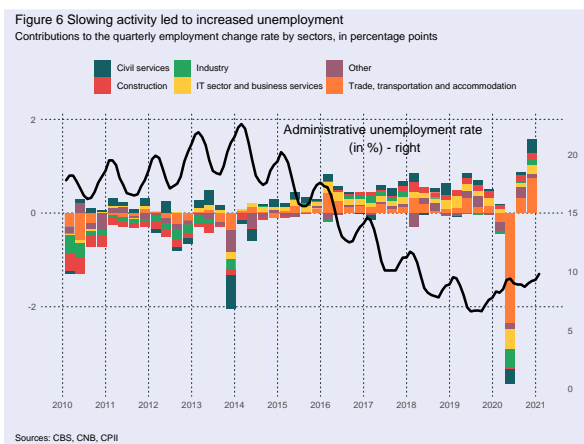
2019, it reached 23.1%). These activities recorded a 25% decline in the gross value added in 2020, while agriculture, construction and information and communication activities continued rising, even under “new normal” circumstances (Figure 5).



The economic downturn had a negative impact on the labour market as well, making the administrative unemployment rate, in spite of job preservation measures, reach 9.8% at the end of January 2021. The number of unemployed rose to 165,000, the level last time recorded at the beginning of 2018 (Figure 6), with the service sector having been impacted most severely. Even though the employment situation in service activities slowly recovered after a sharp fall in the second quarter of 2020 due to the relaxation of the epidemiological measures, the overall employment rate is still at a low level.

Negative economic developments accompanied by a sudden fall in prices of energy products led to strong deflationary pressures, that reached

their peak in mid-2020, when the annual deflation rate amounted to -0.7% (Figure 7). The prices recovered slightly by the end of the year; however, the recovery was interrupted by the second wave of the pandemic and introduction of new lockdown measures. This resulted in the annual inflation rate reaching -0.3% at the end of the year, which is by a half of the percentage point lower even in comparison with careful projections by the central bank. In 2021, prices are expected to recover at the global level on the basis of the anticipated gradual opening of the economy, but also of the existing growth in prices of energy products, that fell back to pre-crisis levels at the beginning of 2021.

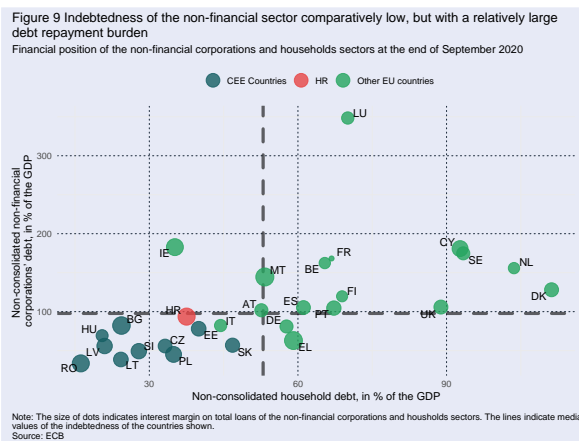
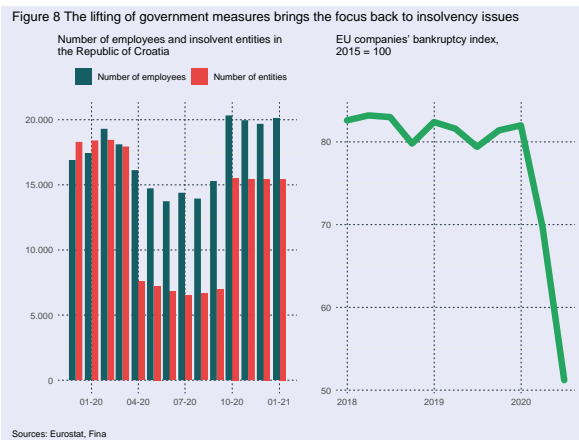


A sharp rise in prices in 2021, although possible, is little likely to happen in a scenario of rising costs of goods on the basis of the combination of increased demand and reopening economies stimulated by expansionary monetary and fiscal policies and simultaneous decreased supply of goods in the still challenging business environment. Such a sharp rise in the general

price level would put to the test the determination of leading central banks to preserve favourable financing conditions in international financial markets, and could produce a strong systemic shock reflected in the correction of securities prices, which would jeopardise the recovery expected in the coming year (Figures 2 and 7).

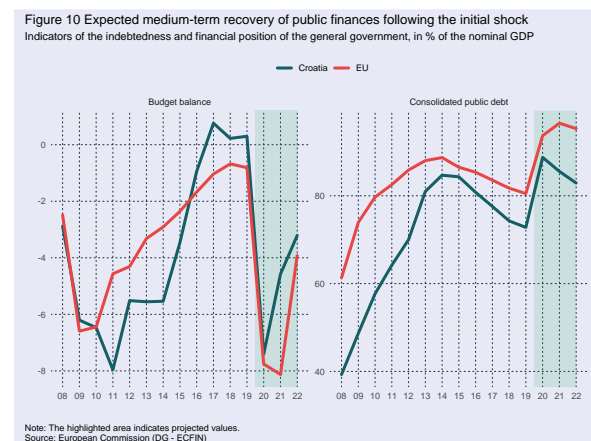
The pace of the recovery will depend significantly on the efficiency and duration of fiscal policy measures, whose early and sudden withdrawal may result in the materialisation of credit risk through increased insolvency of companies and the resulting rise in unemployment. Economic support measures led to reduced insolvency in 2020, with the number of bankrupt companies in the EU being almost halved in comparison with the previous year (Figure 8). In this manner, the full extent of the impact of the crisis on non-financial undertakings' business operations has been disguised and will be visible only after the support measures are lifted (more information on potential effects of the lifting of the moratorium relating to leasing companies in Box 1). The materialisation of credit risk will largely depend of the level of companies' indebtedness, as well as on their ability to adjust to the new business environment. Even though domestic companies and households are relatively less indebted compared to the EU average (Figure 9), their repayment burden is still relatively high, which exposes them to interest rate risk in a scenario involving a rise of the currently subdued risk premium. In addition, the availability of funding they will be forced to search for on the market after the measures are lifted will also determine the pace of recovery of the economic activity, whereby adequate detection of insolvent companies will be of special importance for a fast recovery. Market-based funding as an alternative to bank financing, in particular including the implementation of measures to be adopted within the framework for the establishment of the Capital Market Union, should facilitate

recapitalization of small and medium enterprises and speed up their recovery by reducing their administrative burden.



Due to a very high sovereign exposure, the stability of the financial services sector will primarily depend on the sustainability of public finances, i.e. on the preservation of the stability of government bond yields in the period to come. A double impact on the state budget that occurred in 2020 by means of the contraction of tax revenues and increased expenses through the implementation of fiscal measures resulted in a large deficit, expected to reach -6.5% of the GDP, thus making the public debt rise to 87% of the GDP (Figure 10). Relatively high and rising levels of the public debt make both the public

sector and the economy in general vulnerable to a potential change in interest rates. This would also have a negative effect on the value of assets of the financial services sector given that domestic government bonds are the main investment class, in spite of a slight shift in the investment strategy noticed in funds and insurance companies towards other issuers (foreign government bonds with higher secondary liquidity) or investment types (deposits, cash and real estate).



Despite the stabilisation of financial markets following the initial shock in the first half of 2020, a new economic shutdown due to the second wave of the pandemic at the end of the year increased the uncertainty and medium-term risks to the economic recovery. Account should also be taken of potential cliff effects resulting from the withdrawal of support measures, that are largely still in force. The vaccine approval at the end of 2020 boosted chances that the economy might begin to recover soon; however, this will primarily depend on the vaccination dynamics. Macroeconomic risks at the beginning of 2021 remained therefore at a high level, thus placing additional emphasis on the importance of preserving the stability of the financial sector.

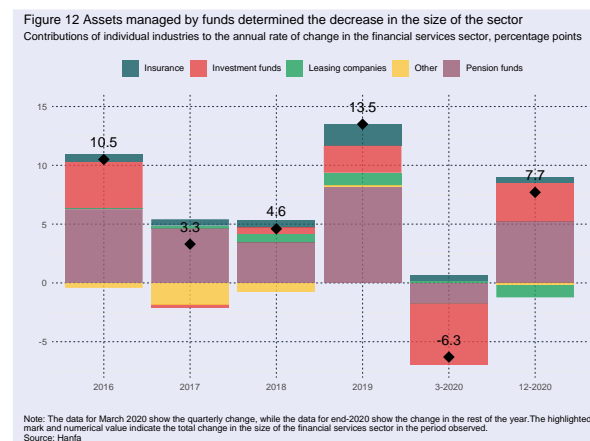
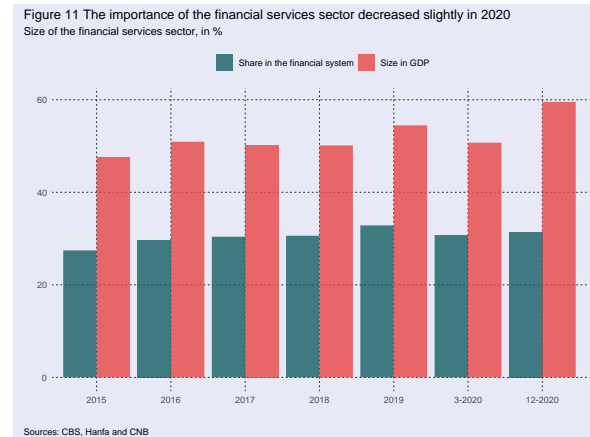
### 3 Overview of risks in the financial services sector

#### 3.1 Key trends

The escalation of the COVID-19 pandemic had a strong and sudden effect on financial markets, making investors react to the general uncertainty and price correction by transferring their funds to safer investment types. The several-year-long upward trend in the importance of the financial services sector in the Republic of Croatia was therefore temporarily halted at the beginning of 2020, with its asset falling by HRK 9.5bn (4.3%) in the first three months of the year relative to the end of 2019 (Figure 12). Given their availability, the largest fund outflows were recorded by investment funds (Figure 12). However, the markets stabilised soon following the reaction by economic policy makers, which resulted in a significant part of the funds being brought back to the system by the end of 2020. Positive market developments made assets of the financial services sector rise at the end of 2020 by HRK 1.8bn (0.8%) relative to end-2019, and make 31.6% of total financial sector’s assets, or 58.9% of the nominal GDP (Figure 11).

In less than two months, from the beginning of the crisis<sup>1</sup> to the mid-April 2020, the value of investment funds’ net assets declined by HRK 8.3bn (a 35% decrease). This was mostly due to outflows from bond funds (Figure 50), whose conservative, primarily retail investors (Figure 52) reacted to negative market developments and a high level of uncertainty related to the pandemic by withdrawing their funds and partly transferring them to safer bank deposits. A decrease in net assets of equity funds was primarily caused by negative market trends, while net assets of balanced funds were equally

affected by market revaluations and investors’ reactions.



However, as soon as end-April 2020, the value of the funds’ net assets rose, given the stabilisation of the domestic bond market based on interventions by the central bank and other measures implemented or announced by economic policy makers for the purpose of reducing the impact of the coronavirus crisis on the economy. This, along with the stabilisation and recovery of financial markets (Figure 32), brought some comfort to investors, which resulted in positive net payments being recorded again. By the end of 2020, one third of the value lost in the first several months of the pandemic had been compensated for, and the

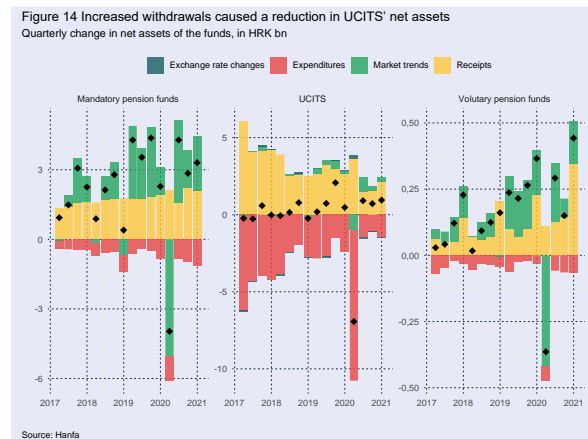
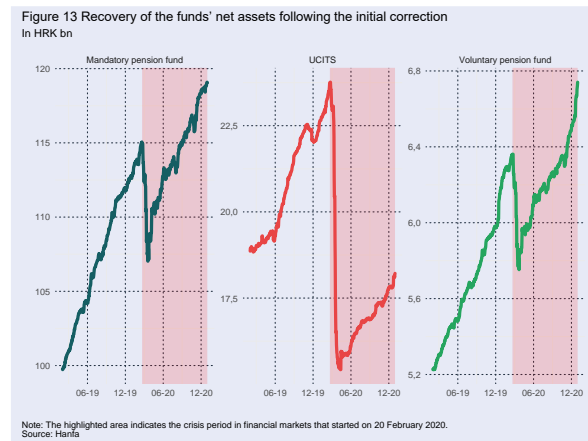
<sup>1</sup> The beginning of the health crisis is considered to be 20 February 2020, when the crisis related to the coronavirus in Europe deteriorated.

net asset HRK 18.2bn, rising by HRK 2.8bn (18,1%) compared to the minimum level recorded in April, and declining by HRK 4.4bn (19.3%) in comparison with end-2019.

In 2020, the highest level of volatility was recorded by bond funds' net assets, that rose, after a sharp decline in March/April, by HRK 2.1bn, of which more than HRK 530m related to net assets of the newly established Stability Fund. The purpose of this special bond fund, that allows investors to participate with a minimum unit of HRK 1m for a period of 3 years, is to increase the liquidity of transferable debt securities and money market instruments issued or guaranteed by the Republic of Croatia. This brings a new stability factor on the sovereign debt market, temporarily shaken by the pandemic, and its purpose is both to ensure additional liquidity on the market and to protect the value of bonds in investors' portfolios.

In spite of the turbulences, investment funds were able to redeem their investors' units without any difficulties even in the most challenging period of crisis. The massive withdrawal of funds recorded during this period pointed to the importance of managing liquidity risk in funds. The majority of UCITS recorded positive returns by the end of the year, rounding off a turbulent 2020, at least in terms of unit values, with a zero.

Negative market trends from the beginning of the year reduced net assets of pension funds by 3.6% compared to the end of 2019 (Figure 13). Stable net payments, partly resulting from job preservation measures, and the recovery of financial markets by the middle of the year (Figures 13 and 14) offset the fall in pension funds' net assets by the end of 2020, when they reached HRK 125.8bn, increasing by HRK 7bn (5.9%) relative to end-2019. The value of pension benefits of future retired persons remained preserved in spite of an extremely uncertain year, considering that annual Mirex index returns for all mandatory pension categories at the end of the year were positive.



The overall insurance sector business was relatively unaffected by the coronavirus crisis in 2020, with the total gross written premium remaining at the same level as in the preceding year (Figure 15). However, increasingly diverging trends were noticed between life insurance premium (a 13.7% annual decrease) and non-life insurance premium (a 5.6% growth). The strongest impact of the pandemic on the insurance market was felt relating to reduced credit activity under the uncertain circumstances, that largely affects insurance distribution. This relates primarily to life insurance activities, that depend extremely on the banking distribution channel, due to which almost all insurance companies recorded a decreased gross written premium in life insurance business (Figure 16). At the same time, a decline in bank lending also caused financial losses due to a fall in credit insurance premium (27.5% at an annual level), that had recorded the sharpest rise in the non-life insurance sector in the past years.

In spite of the reduced economic activity and increased uncertainties, there was no significant

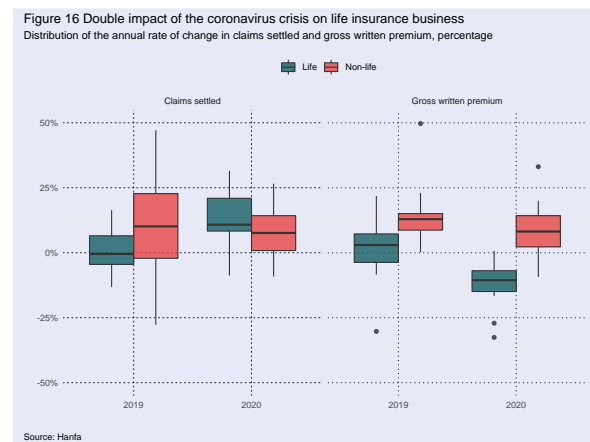
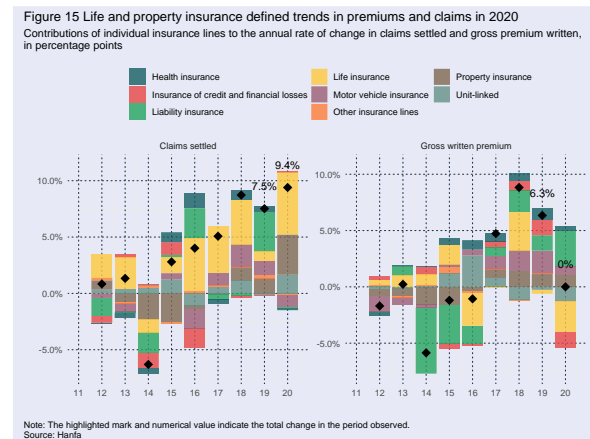
rise in early terminations of insurance contracts in 2020. However, the slower-than-expected economic recovery, considering the vaccination dynamics reached and aid modalities for supporting those segments of the economy that were hit most severely by the pandemic, could lead to a rise in early terminations of contracts and accompanying liquidity pressures in 2021, in particular on the companies with lower liquidity levels (more information in Chapter 3.5 Liquidity risk).

Such trends could create added pressure on the profitability of life insurance business, already burdened with large liabilities arising from the existing contracts in the prolonged period of low interest rates. However, reduced guaranteed rates in life insurance products have been posing a new challenge to insurance companies as regards attracting new clients, i.e. concluding new contracts and achieving profitability.

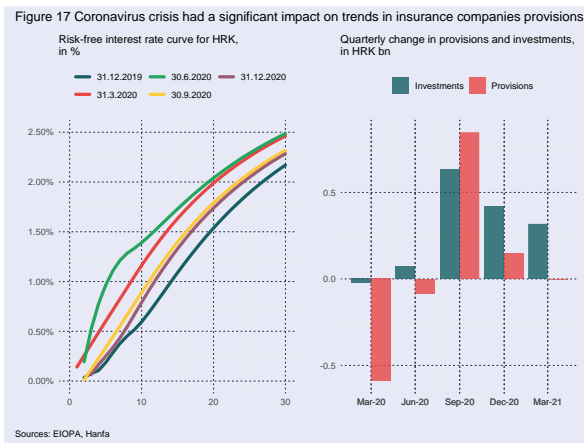
Claims settled rose in 2020 by 9.4% at an annual level (Figure 15), primarily due to a claim increase in life-insurance business (18.3%), where the rise is largely linked to portfolio maturity, and only partly to policy surrenders (the surrender rise in 2020 relative to 2019 amounted to 15% of the total growth in claims settled in life insurance business). Considering the maturing portfolios of domestic insurers, claims are expected to continue rising in the coming periods as well.

A significant claim increase in non-life insurance business was recorded in the property insurance line (27.3%) as a result of the Zagreb earthquake. Taking account of recent devastating earthquakes in Petrinja and its surroundings, property insurance claims are expected to keep growing in the next months; however, this should not jeopardise insurance companies' business operations due to a relatively small share of premiums for earthquake insurance in the non-life insurers' portfolio (1.4% at the end of 2020) and adequate reinsurance programmes of insurance companies, as the largest part of this portfolio is reinsured. Other insurance lines recorded a decline in claims, as a result of the

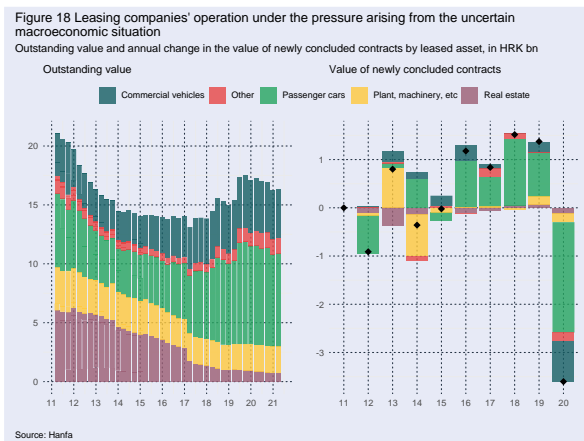
decreased economic activity and citizen mobility.



In 2020, technical provisions of insurance companies were significantly affected by the volatility of sovereign bond yields, which influences the discount rate for determining the present value of future liabilities. However, considering the adequate maturity match between insurance companies' assets and liabilities, even in a scenario involving the materialisation of the systemic shock and a significant rise in long-term sovereign debt yields, their capital, i.e. the excess of assets over liabilities, would be relatively stable (more information in Box 1 Simulation of the effects of the coronavirus crisis on the stability of the financial services sector in [Macroprudential risk scanner No 4](#)), and their capital adequacy satisfactory, which is also partly due to the regulator's measures taken for the purpose of preserving the companies' liquidity and solvency.



A steady growth in leasing companies' business operations over the past few years relied largely on the financing of passenger cars and commercial vehicles. There was therefore an expected decline in the number of newly concluded contracts in 2020, as transportation services belong to the activities most severely affected by the crisis, due to limited tourist activity and mobility in general. Additional pressure felt by leasing companies in the crisis was caused by lower income following the application of moratoria to existing lease agreements. Depending on the pace of recovery of individual segments of the economy, resulting from measure withdrawal dynamics and the ability to return fast enough to normal business operations, credit risk might materialise to a considerable extent in the medium term (more information in Box 1 Business operations of leasing companies during the coronavirus crisis).



### 3.2 Structural characteristics and risks

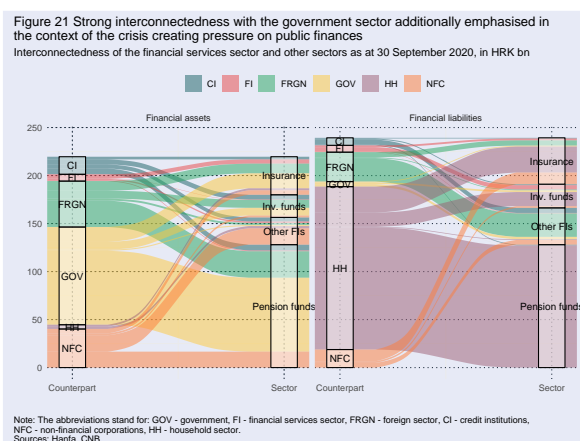
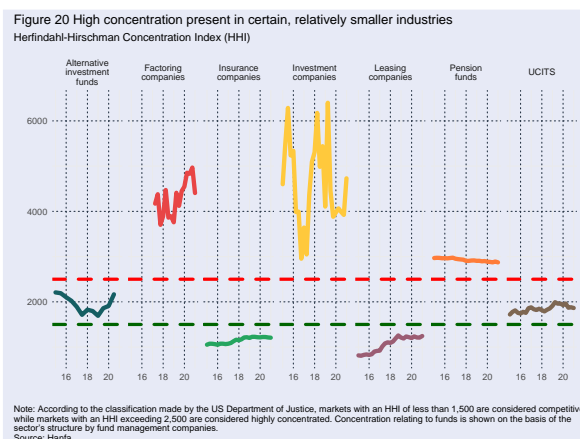
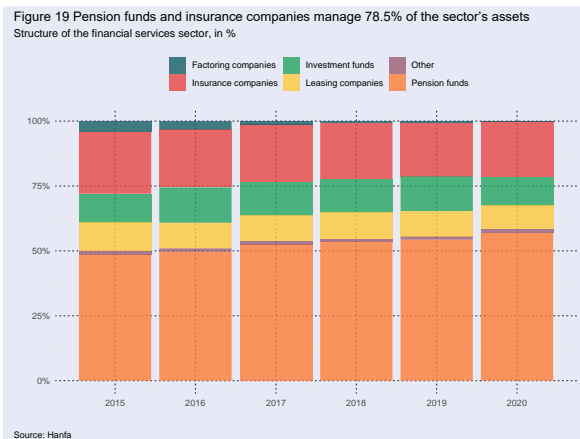
Structural vulnerabilities of the financial services sector in 2020 remained mostly at high levels, or even increased slightly. Concentration risk is the most significant structural systemic risk. Following the initial impact of the pandemic on financial markets at the beginning of 2020, partial materialisation of the risk related to a change in investor sentiment, combined with investment concentration, led to a growth in cross-sectoral concentration due to a relative increase in the importance of pension funds, already extremely dominant owing to their size. Extended portfolio maturity in the search for yield increases the exposure of the sector to interest rate risk, considering the expected downward trend in interest rates. Credit risk could impose a burden on leasing companies' operation if lessees, in particular those engaged in activities most adversely affected by the crisis, fail to achieve a fast recovery once the moratorium is lifted.

#### Concentration risk

A decline in assets of the financial services sector following the initial systemic shock at the beginning of the year made the already high cross-sectoral concentration reach an even higher level. Pension funds increased their participation in total assets of the financial services sector by nearly three percentage points and managed 57.1% of the sector's total assets by the end of the year. Since the coronavirus crisis caused the most significant decrease in net assets of investment funds and leasing companies, relative importance of insurance companies rose, with their assets accounting for 21.4% of total assets of the financial services sector in 2020 (Figure 19).

There were no major changes in concentration within individual segments of the financial services sector (Figure 20). The greatest risk arises from a high level of concentration of pension funds, due to their size and relative importance for the financial system. Even though there was no significant consolidation of

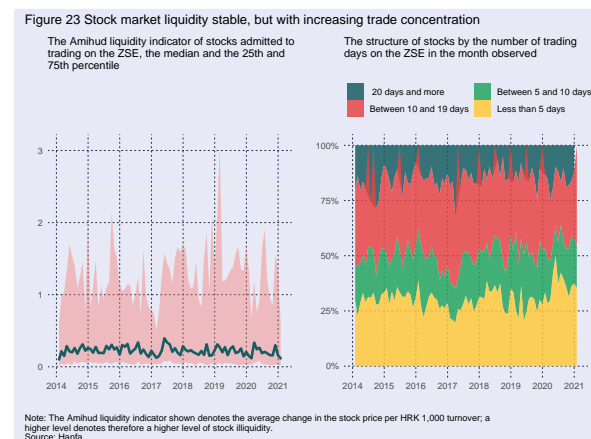
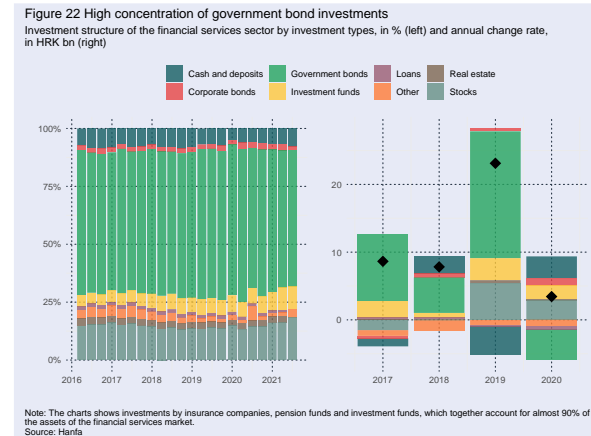
the market in 2020, reduced business volume in certain industries, caused by the pandemic, increases consolidation pressures, already present in the pre-crisis period due to a prolonged period of low interest rates. Although currently at a moderate level in most industries, intersectoral concentration risk could therefore rise considering that business models of some companies could come under pressure due to a challenging macroeconomic and investment environment.



In addition to the cross-sectoral and intersectoral concentration, another significant structural characteristic and a source of systemic risk is a high level of concentration of assets, i.e. of investments of the financial services sector in sovereign debt instruments (Figure 22) and household liabilities (Figure 21), which makes the financial services sector vulnerable to the risk of investor sentiment change. This risk manifested in the first quarter of 2020 and was reflected in disruptions in the government bond market caused by a direct and indirect investor withdrawal, which could have had an effect on the entire financial sectors via contagion channels. However, the central bank’s direct purchase of government bonds prevented any significant decline in their prices, thus stabilising the sovereign debt market prior to the large public expenditure owing to COVID-19 support measures. The establishment of the Stability Fund, along with closer monitoring of the liquidity of UCITS and certain changes in the funds’ investment policy arising from the experience acquired during the turbulent period at the beginning of the coronavirus crisis, present additional mechanisms that are supposed to contribute to the stabilisation of the Croatian bond market. Even though the disruptions on the domestic bond market were successfully mitigated, some smaller changes in investment policies still occurred, since in 2020 the financial services sector made a slight shift towards more liquid investment types, such as deposits and cash, while bond investments made by some entities reflected the search for yields similar to those on domestic sovereign bonds, although the liquidity of those markets was still somewhat higher than that of the domestic market.

A relatively low level of the liquidity of the domestic bond market was accompanied by the several-year-long upward trend in trade concentration (Figure 23). This creates structural instability as it increases the contagion probability and the spread of the disturbances across individual parts of the financial system, presenting a limiting factor to economic growth.

In the long run, growing diversification on the domestic capital market, followed by increased investments by funds and financial institutions, will also be supported by measures adopted within the process of the establishment of the Capital Market Union.



### Currency risk

The exposure of the financial services sector to currency risk remained stable in 2020 (Figure 24). Observed by open currency position, pension funds’ currency risk exposure held steady at a high level, accounting for 54.5% of net assets at the beginning of March 2021. Investment funds’ currency risk exposure accounted for less than 17.8% of net assets at the beginning of March 2021, but it recorded a stable growth in the last quarter. Although the nominal exposure of domestic pension and investment funds and insurance companies to currency risk is relatively high, it is predominately denominated in euro, whose historical exchange rate stability, achieved due to a dominant influence of the central bank’s monetary policy

and exchange rate regime, mitigates the impact a potential currency shock could generate. The stability of the exchange rate of the kuna against the euro was preserved in 2020 as well due to foreign exchange interventions by the Croatian National Bank (Figure 35), that prevented any systemic disturbances, considering a relatively high level of euroisation of the financial sector and the entire economy. In mid-2020, Croatia joined the European Exchange Rate Mechanism II, which only proves the commitment to the exchange rate stability, considering the convergence criteria required for introducing the euro, and reduces the possibility of currency risk to materialise.

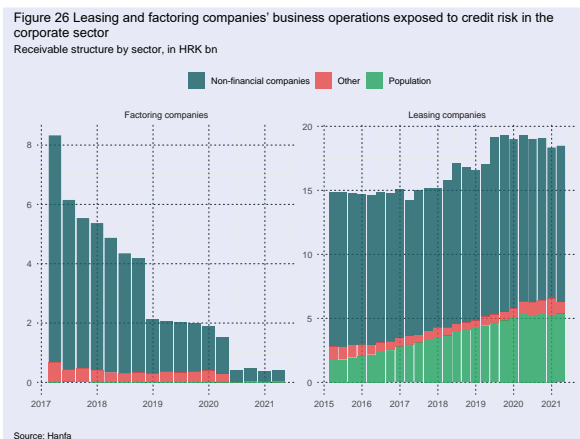
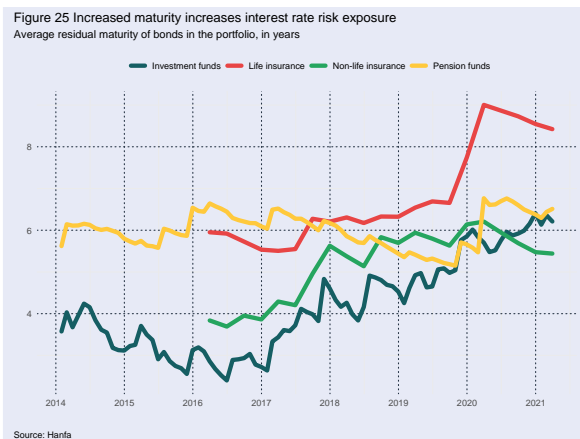
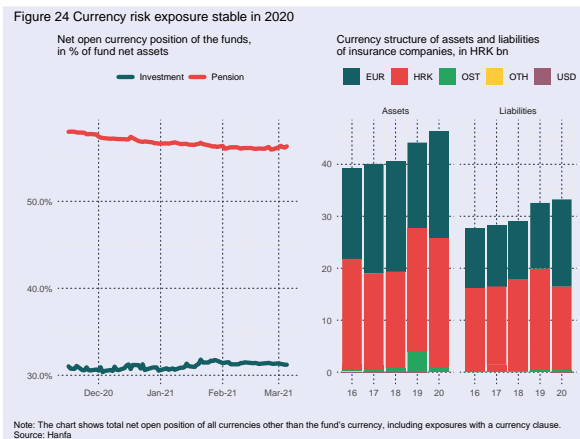
### Interest rate risk

In accordance with the nature of their business, portfolios of pension funds and insurance companies pursuing life insurance business are characterised by longer maturity (Figure 25); however, due to a long-term low interest rate environment followed by a search for yield, the last few years have seen increased maturity of bond investments, in particular those made by investment funds and non-life insurance companies. Even though increased portfolio maturity limits the current yields due to an expected further long-term decrease in interest rates, it makes the sector vulnerable to a potential yield growth following a change in the investor sentiment in crisis situations, such as the recent ones.

### Credit Risk

Discontinued or reduced operation of the non-financial corporations sector in the COVID-19 environment made it difficult for these corporations to meet their financial obligations and increased the exposure of leasing and factoring companies to credit risk due to their exposure to the corporate sector (Figure 26). A potential increase in delinquent contracts in the corporate sector due to withdrawal of support measures and moratoria to lease agreements will build up pressure on their business operations significantly. The exposure to leasing companies' credit risk is rising even more due to

a high level of the concentration of their portfolios in certain activities, particularly those that have been most severely affected by the coronavirus crisis (trade, transport and accommodation activities). The results of the coming tourist season will have a major impact on the level of credit risk materialisation in leasing companies' business operations (more information on the impact of the crisis on leasing companies in Box 1 Business operations of leasing companies during the coronavirus crisis).



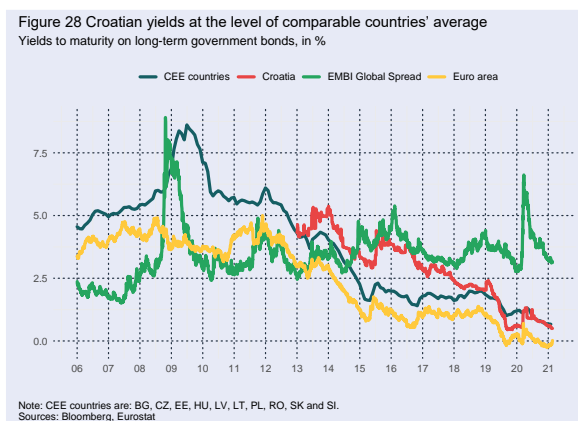
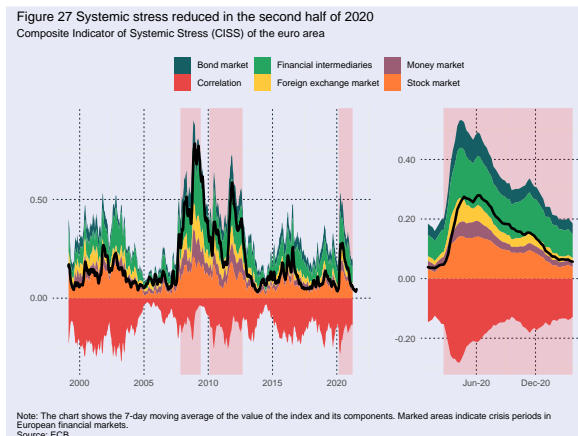
### 3.3 Market risks

Over the last few months of 2020, there was a lot of concern in financial markets relating to the timely availability of a sufficient quantity of vaccines and consequent normalisation of economic activity, circumstances regarding the American presidential election, and finalisation of negotiations on the withdrawal of the United Kingdom from the EU. However, the beginning of vaccination improved the medium-term outlook and investor expectations, which was followed by increased market activity, that continued into the beginning of 2021. The continued high uncertainty regarding vaccination dynamics, vaccine efficacy against new virus strains, the impact of the withdrawal of support measures on companies' business operations and a potential rise in insolvencies gave rise to the risk of short-term market volatilities.

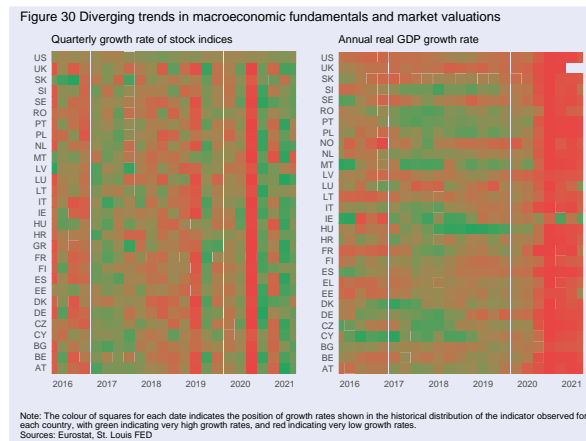
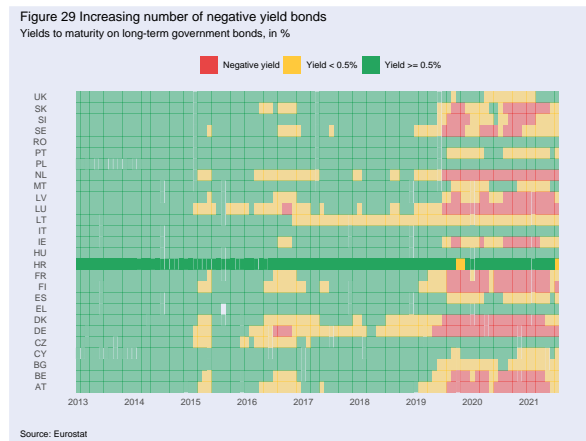
A sudden systemic shock caused by the pandemic in March 2020 affected all financial markets to a similar extent. Fast reactions by economic policy makers, followed by a decrease in the number of new infections and the relaxation of the epidemiological measures during summer, reduced the stress in the second and third quarter of the year (Figures 27 and 34). However, an increase of the new coronavirus cases and the reintroduction of a partial lockdown of most economies at the end of 2020 led to a new rise in the systemic stress in financial markets. Investors' expectations and sentiment recovered soon after the vaccination plan was approved, leading to a fall in the indicator of financial market systemic disruptions to the levels recorded prior to the outbreak of the pandemic, which caused a rise in the activity and valuation in financial markets at the beginning of 2021.

Measures used to control the effects of the pandemic on financial markets through expansionary monetary policy marked the entire 2020, at the same time holding interest rates at extremely low levels. The long-term government bond yield fell therefore at the beginning of the

year after the initial rise to the level of the average yield of comparable Central and Eastern European countries, reaching 0.63% at the end of December 2020 (Figure 28). The upgrade of Croatia's credit rating to BBB- with stable outlook by Moody's in November brought about a further improvement in the outlook of Croatian bonds on the global market and anchored the yields to the level of the region's average.



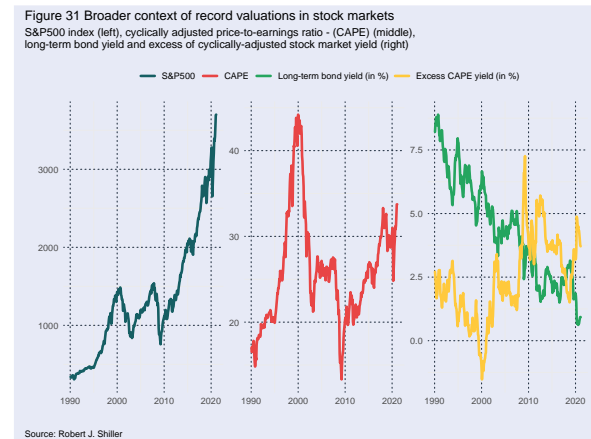
Favourable financing conditions in global financial markets reflected in low or negative interest rates on long-term sovereign debt (Figure 29) are a mitigating circumstance in the period when budget deficits rise and public debt increases in many countries due to countercyclical activities. On the other hand, low yields and high liquidity of the system contributed to an increase in prices in certain financial markets, that diverged significantly in 2020 relative to underlying macroeconomic factors, increasing the risk of a significant and sudden asset revaluation in the case of a change in investors' risk appetite or other shocks.



Global stock markets recorded historically high valuations compared to real economic developments in 2020 (Figure 30). Even though the escalation of the pandemic led to a stronger divergence of trends in different activities, depending on how strongly they were affected by lockdown measures that resulted in the so-called K-trends in financial markets, the news on the discovery of the vaccine at the beginning of November were followed by a strong recovery of activities most affected by the crisis as well, such as the energy sector and aviation industry.

The first look at nominal market growth rates, or even at standardised valuation indices such as the cyclically adjusted price-to-earnings ratio (CAPE)<sup>2</sup>, points to the overestimation of S&P stocks and very probable creation of a price bubble. However, historically low interest rates increase the relative value of expected cash flows from stock investments, which is reflected

in the rise in implicit real cyclically-adjusted excess yield generated by S&P500 stocks (Figure 31). This again highlights the importance of the indirect stimulative impact of central banks' expansionary monetary policies on developments in stock markets, but also of the vulnerability of these developments as regards a potential turn in monetary policies.



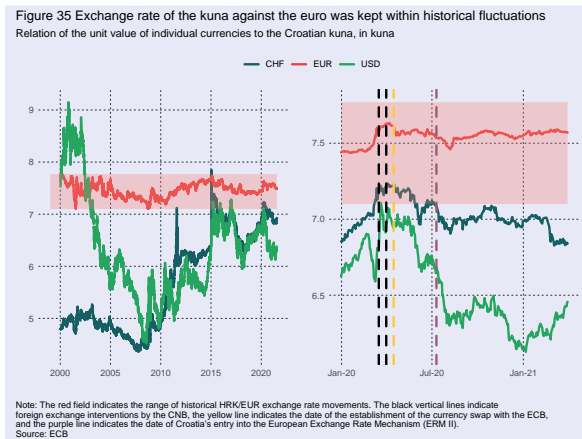
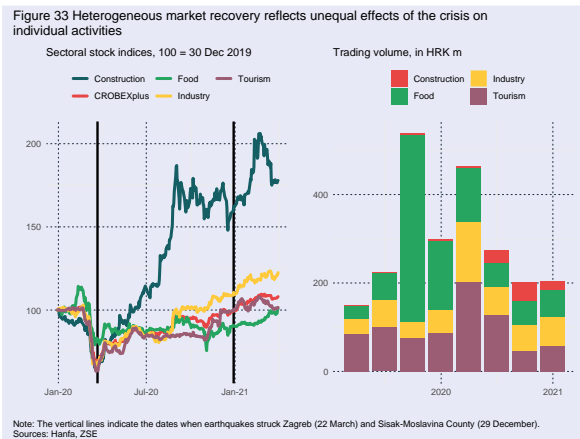
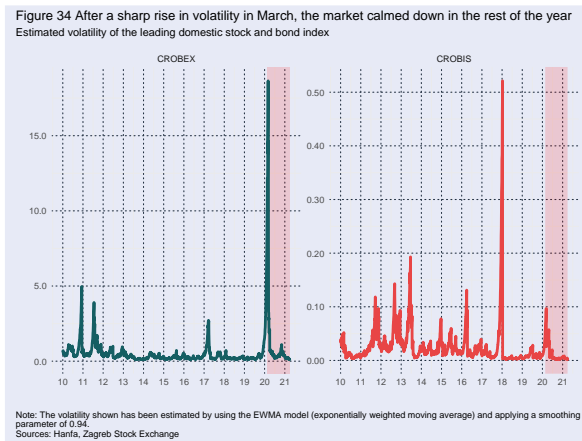
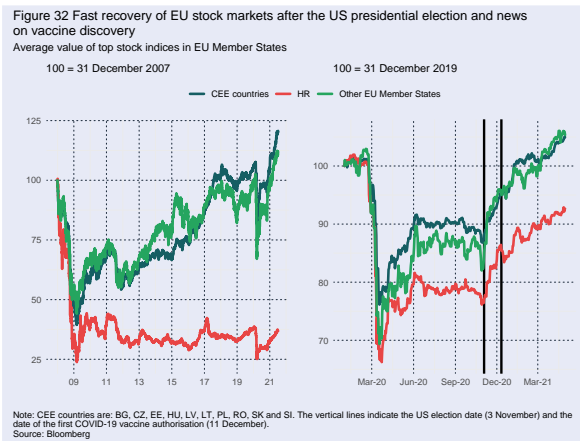
The positive investor sentiment from the American market, primarily fostered by presidential election results, but also by the beginning of vaccine distribution and deployment in November 2020, spilled over to European financial markets, including the domestic capital market (Figure 32). Although slower than in comparable countries, the value of domestic stock indices rose in the 4th quarter of 2020, considering the recovery of investor sentiment (Figure 38). The activity in the stock market was stimulated additionally by the start of operation of the first domestic exchange traded fund (ETF), which provides a new impulse for the liquidity of the domestic capital market (Figure 23). The investor sentiment recovery reflects the improvement in its so-called indirect component, which is calculated on the basis of macroeconomic indicators, while the direct component, based on data on the keyword search volume, recorded the usual fluctuation

<sup>2</sup> The cyclically adjusted price-to-earnings ratio shows how many times a stock's value is higher than the average 10-year earnings a company generates per stock, where a higher value

indicates a relative overvaluation compared with the fundamentals, or the added value the company generates.

range<sup>3</sup>. However, the economy is facing a lengthy period in which the risks related to the expected recovery of economic activity will depend on vaccination dynamics and potential secondary effects of the crisis on the economy (reflected in a rise in indebtedness and/or financing costs), due to which sentiment index will remain highly volatile, with a possibility of its sudden deterioration.

expectations regarding the planned reconstruction process after the devastating earthquakes in 2020. The optimistic expectations and improvement in investor sentiment were reflected in the price recovery in the tourism sector, that recorded positive numbers at the end of the year after a strong contraction in the first half of the year, exceeding the end-2019 level.



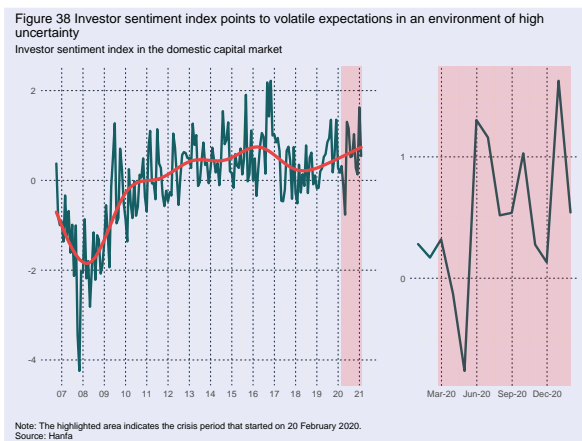
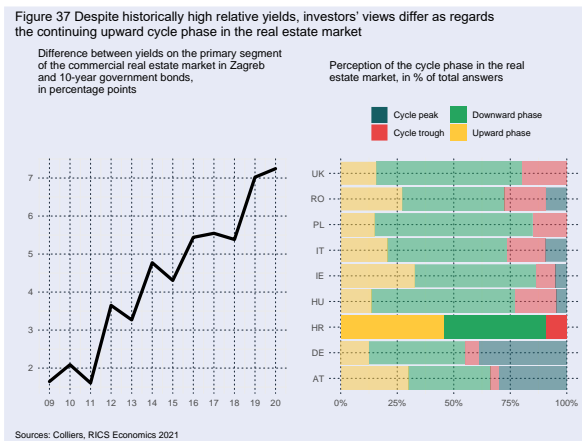
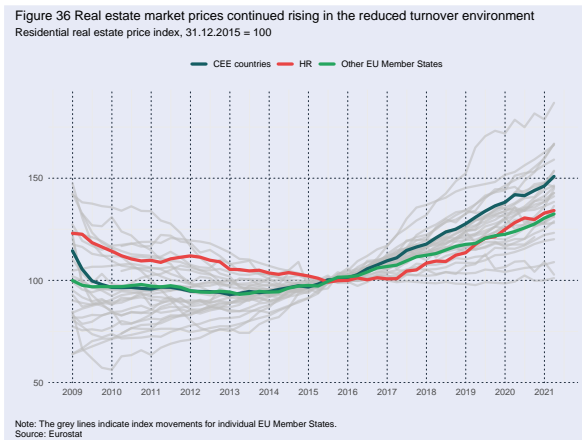
Following the initial contraction in the first quarter of 2020, optimistic market expectations and a slight economic rise marked the capital market in the second half of 2020. In line with the heterogeneous effects of the crisis on the economy, the rest of the year saw an uneven recovery of prices in the stock market, with most of the sectoral stock indices still recording a full recovery following the initial contraction (Figure 33). The sharpest increase was recorded by the construction sector, whose valuations doubled in 2020. This rise was also encouraged by investors'

There were no significant disturbances in the foreign exchange rate market in 2020 after the exchange rate of the kuna against the euro was stabilised due to foreign exchange interventions by the CNB and the establishment of close cooperation with the ECB. The HRK/EUR exchange rate ranged between historical limits, thus reducing the uncertainties related with currency risk in the domestic market. Even though the currency risk exposure of the financial services sector is relatively low, Croatia's entry into the ERM II in the middle of the year

<sup>3</sup> The methodology for calculating sentiment index and its direct and indirect components was described in Macprudential Risk

Scanner No 3, [Box 1: Croatia's Sentiment Index: are domestic investors irrational?](#)

and particularly the planned adoption of the euro as the official currency (possible as early as the beginning of 2023) would reduce this risk significantly.



Just as prices of financial instruments grew rapidly during the pandemic 2020, the real estate market also remained relatively unaffected by negative trends, with prices in the domestic market mostly stagnating or even rising in some market segments (Figure 36). Residential real estate price correction was not recorded, primarily due to a government subsidy programme for real estate purchase,

which, along with a temporary increase in demand, also affects the supply by discouraging or postponing a price decrease in the expectation of a new cycle of subsidies. Although residential real estate prices have so far proven to be relatively resistant to the coronavirus crisis, the number of transactions in 2020 was reduced compared with the previous years, considering the uncertainty about negative implications of the pandemic on the labour market, that were temporarily postponed by support measures to the economy. Moreover, during the part of the year when the economy was shut down, purchase and sale transactions were difficult to carry out. The uncertainties in the real estate market were additionally amplified by earthquakes, which might have had an impact on buyers' preferences as regards the location or age (earthquake resistance) of the real estate.

Commercial real estate market was directly affected by the pandemic and business closures considering new working arrangements (working from home), a rise in online sales and a fall in physical retail sales of non-food products, and a tourist season that was worse than usual ones. Even though this had a certain impact on the transaction volume in that market and on rental prices of certain commercial real estate, the prices and rent, in particular in the high-quality commercial space segment, remained stable in 2020. The difference between the yield on real estate investments and yield on debt securities investments in an extremely low interest-rate environment recorded therefore an additional increase, amounting to 7.25 percentage points in 2020 (Figure 37). However, high uncertainties related to trends in the domestic real estate market resulted in differing perceptions among investors as regards the continuation of the upward trend, as almost equal shares of respondents believe the market is in the upward or the downward phase of the cycle. Considering the relative attractiveness of investments in commercial real estate, insurance

companies are still most exposed to this market<sup>4</sup> due to somewhat greater freedom in selecting their investments compared to other financial services sector participants, with some companies slightly increasing their investment in this property class.

Trends in global financial markets will largely depend on vaccination dynamics, which affects the pace of recovery of individual economies. This, along with new accommodative monetary policies and ample fiscal stimuli announced from

both sides of the Atlantic Ocean, will support the current medium-term and long-term downward yield trends and upward price trends in financial markets, keeping the risk of a sudden and strong contraction at an increased level. Such short-term, volatile dynamics will be dependent on investor sentiment and expectations, that will be shaped by each new piece of information on the economic situation and related measures. This reflects a high level of fundamental uncertainty still present regarding a sustainable global economic post-pandemic recovery.

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<sup>4</sup> Exposure to real estate of insurance companies in the Republic of Croatia is 11.1%, which is 3 percentage points more than the EU average.

### 3.4 Profitability and capitalisation of financial services providers

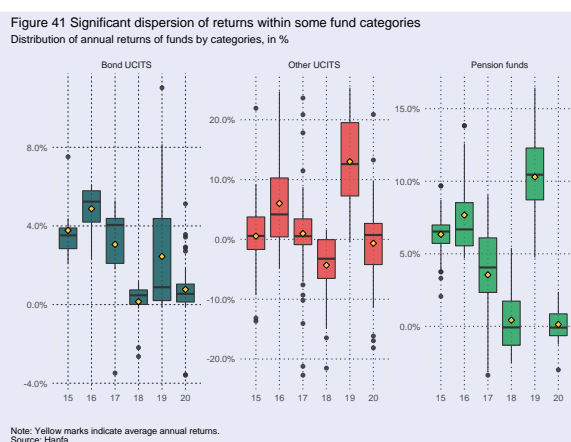
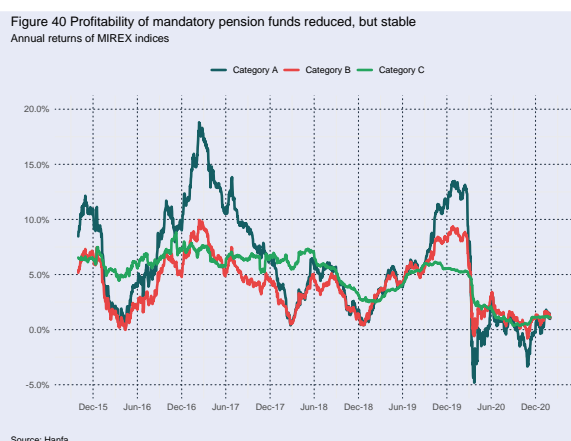
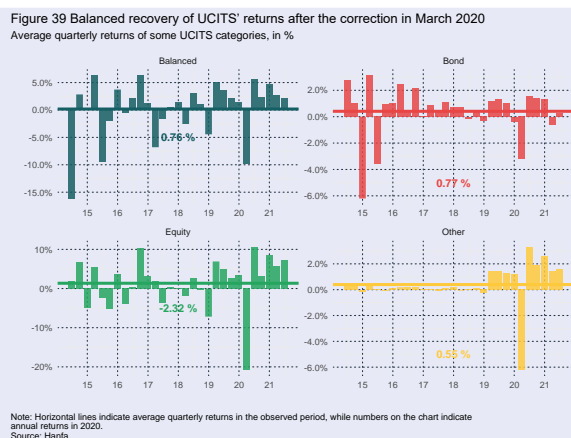
The global economic crisis caused by the coronavirus pandemic and aided by the already long environment of low interest rates was mainly reflected in the decline in the profitability of the financial services sector, whereby the previous and future intensity of this decline directly depends on the type of business and investment strategies of financial service providers. Although initially the most affected by the pandemic, investment and pension funds ended 2020 with slightly positive returns. Capital protection was preserved despite a drop in profitability through introduced regulatory measures, which will be an important absorber of possible materialisation of credit risk and other risks in 2021 and 2022, with the abolition of measures to help the economy and the establishment of normal economic activity, which could be a challenge for some non-financial companies.

#### Funds industry

Despite the systemic shock in the first quarter of 2020, the returns of almost all categories of UCITS funds turned positive by the end of the year, supported by a robust valuation recovery on foreign and domestic capital markets (more information in Chapter 3.4 Market risks). Bond funds, the most represented funds with respect to size, concluded 2020 with positive returns of 0.9%, which is 1.54 percentage points lower than their long-term average returns (Figure 39). At the same time, balanced and other funds also achieved positive annual returns of 1.9% and 1.1%, respectively. Negative annual returns were achieved only by equity funds which, despite a stable recovery until the end of the year, failed to offset the effects of price contraction on stock markets from March and concluded the year with returns of -1.5%.

Positive developments in financial markets and the recovery of investment fund returns resulted

in the return of investors, so positive net payments to domestic UCITS funds were realised in the second half of the year. The recovery of investor sentiment is certainly helped by the experience of efficient functioning of the sector in the episode of systematically significant pressures on payments, where all investors were able to draw invested funds without difficulty (more information in Chapter 3.5 Liquidity risk).



The stability of pension funds as long-term institutional investors also came to light in this crisis episode in which profitability indicators did not deteriorated significantly, so all three categories of mandatory pension funds concluded the year with positive returns (Figure 40). Although mandatory pension funds recorded relatively significant initial reductions in the unit prices due to growth in returns in the domestic bond market caused by liquidity pressures on investment funds, with the stabilisation of the government debt market and recovery in the second half of 2020, the unit prices recovered. At the end of 2020, category A mandatory pension funds recorded returns of 0.43%, while categories B and C recorded returns of 0.94% and 1.15%, respectively.

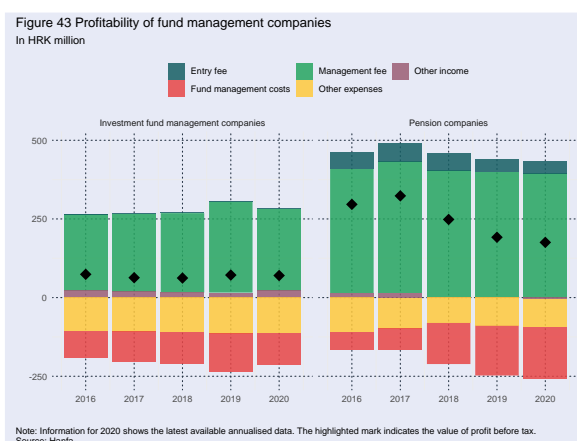
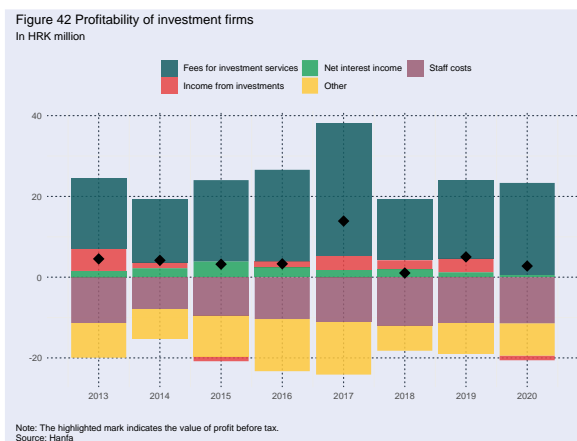
Although aggregate indicators at the level of the funds industry indicate the stabilisation and recovery of returns irrespective of the fund category, a significant heterogeneity of realised returns exists within all categories (Figure 41). Therefore, in addition to the systemic trends to which all financial entities are exposed, their idiosyncratic characteristics and investment policies are extremely important for the profit performance of funds. Trends in 2020 showed that exposure to market risks cannot be fully diversified, especially in the context of the global crisis, but its consequences on the value of investors' financial assets can be mitigated through a balanced investment strategy.

### Investment firms and fund management companies

The profitability of investment firms was also affected by market instability caused by the health and economic crisis, in two ways. The escalation of the pandemic intensified trade, particularly in foreign markets, which affected the growth of fees from investment services. However, at the same time, firms incurred losses from investments and the overall profitability decreased in relation to the very good 2019 (Figure 42), by 34.8%.

Profitability of investment fund management companies remained at the same level as in

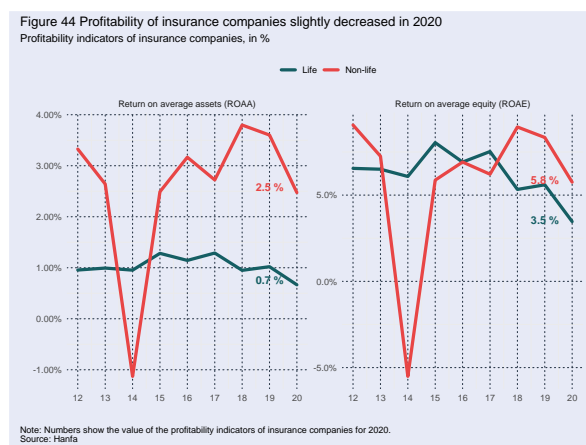
2019. The slight reduction in management fees was compensated by somewhat lower management costs (Figure 43). Profit before the tax of investment fund management companies at the end of June 2020 stood at HRK 35.1 m, which represents a decrease of only 2% compared to the same period of the previous year.



On the other hand, there has been a decrease in profitability among pension fund management companies in the last few years, primarily related to amendments to the provisions of the Mandatory Pension Funds Act ([Official Gazette, No 115/2018](#)) that entered into force at the beginning of 2019. These amendments reduced the input fees and management fees and defined the long-term dynamics of further reduction of fees in the forthcoming period. This reduced the dominant source of income of pension fund management companies, as well as their profit before tax, which amounted to HRK 132 m at the end of September 2020, which is a 9.8% reduction on an annual basis.

### Insurance companies

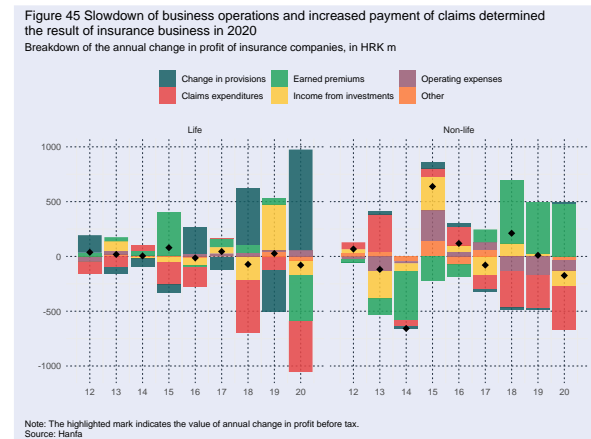
Unlike funds, whose business operations reacted almost instantly to market trends caused by the pandemic, the business operations of insurance companies during 2020 were not significantly affected by the consequences of the coronavirus crisis, although it is unprecedentedly the biggest challenge that insurance companies will face in the coming period. This primarily refers to the postponed effect of the pandemic on the labour market which will affect the behaviour of clients under the existing contracts (early termination and surrender), i.e. the contracting of new policies, and thus the profitability of companies.



The biggest impact on the decline in profitability in 2020 is evident through a reduced volume of premiums with life insurance companies, while the impact of early terminations of policies at industry level is still not significant. At the end of 2020, the drop in total gross written premium of life insurance was HRK 418.9 m or 13.7% compared to the previous year<sup>5</sup>. This drop is mainly related to products associated with lump sum payment of insurance premiums sold through bank distribution channels, which was influenced by a significant reduction in bank lending to citizens. The early termination rate stood at 3% and was slightly lower than in the previous year, however, the amount of surrender value was by 13% higher. Given the negative economic trends, early surrenders may

<sup>5</sup> In class 19 Life insurance this drop stands at 11.5%, while in the class 23 UL/IL a decrease of 30.9% was recorded.

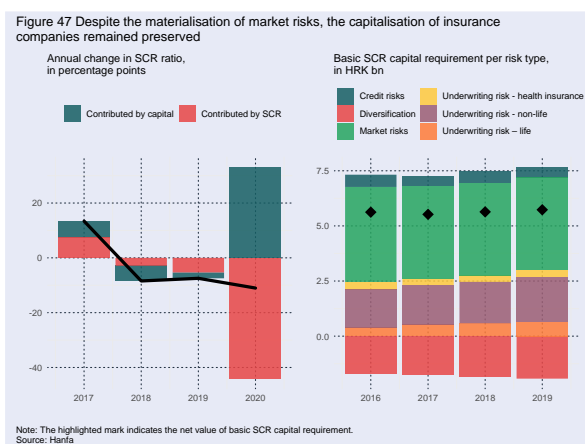
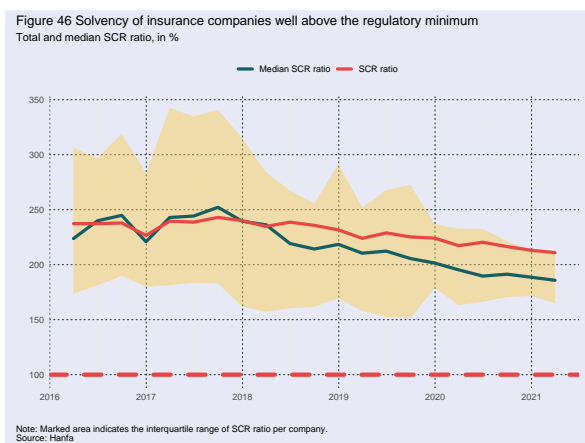
increase in 2021. However, a significant proportion of policies with relatively high guaranteed returns a systematically significant pressure on early terminations and related payments of insurance companies' funds not likely (more information in Chapter 3.5. Liquidity risk).



Life insurance companies are also faced with pressures on the claims payment side given the regular maturity of a part of the portfolio. At the end of 2020, the increase in total claims settled of life insurance amounted to HRK 430.7 m or 18.3% more than in the previous year<sup>6</sup>. Premium income indicators and payment of claims per insurance class from non-life insurance segment are under much lower pressure because the current crisis situation does not have as pronounced and direct impact as on life insurance, but also because of the fact that one third of the portfolio consists of legally regulated compulsory insurance.

These trends in the insurance sector led to a significant decrease in profitability compared to 2019 (Figure 44), with life insurance profitability indicators under additional pressure of low interest rate environment, lasting for years now. In 2020, the return on average insurance assets in non-life insurance amounted to 2.5%, while in the life insurance segment it amounted to 0.7%.

<sup>6</sup> It is mainly generated by an increase in class 19 Life insurance with an increase of 15.7% and class 23 UL/IL with an increase of 49.4% in claims settled.



Despite negative market trends in 2020, the insurance sector remains highly capitalised. After a decrease in the first half of the year, the level of capitalisation remained stable for the rest of 2020, and it is still significantly above the regulatory minimum, as the median SCR ratio at the end of the year stood at 188,6%. SCR ratio at system level at the end of 2020 stood at 213.1%, indicating that relatively larger companies are also better capitalised and more prepared for possible additional systemic shocks (Figure 46).

In addition to insurance risks, business operations of insurance companies are highly exposed to market risks due to the nature of the investments and exposure to market valuation. The significance of market risks in the risk profile of insurance companies is also evident in the very structure of the underlying SCR requirement where the market risk module accounts for more than half of the capital requirement<sup>7</sup> (Figure 47). Strong systemic shock

on financial markets in the first quarter (more information in Chapter 3.3 Market risks) increased the capital requirement of insurance companies. However, it was largely depreciated by the capital increase in 2020, which was significantly contributed by the dividend ban issued by Hanfa at the very beginning of the crisis (more information in Box 2 Macprudential preservation of insurers’ capital buffers in stressful circumstances) which halted the trend of capital decrease in the system after two years. Consequently, in 2020 the SCR ratio showed a relatively stable trend of being at the level slightly below 200%, which is almost double the prescribed regulatory level.

While expectations related to solvency indicators remain negative, in particular due to the high level of uncertainty regarding the further development of the pandemic in terms of vaccination dynamics and new virus strains, low interest rate environments, the possibility of credit rating reduction in view of the state debt expansion, increased credit spreads in bond markets and volatility in stock markets, the current high level of capitalisation makes the insurance sector relatively resilient and ready to absorb potential new shocks.

In order to ensure an even more stable capital position and additional liquidity of companies, in March 2020 Hanfa adopted a decision prohibiting insurance companies in Croatia from paying dividends from realised profits until 30 April 2021 (more information in Box 2 Macprudential preservation of insurers’ capital buffers in stressful circumstances).

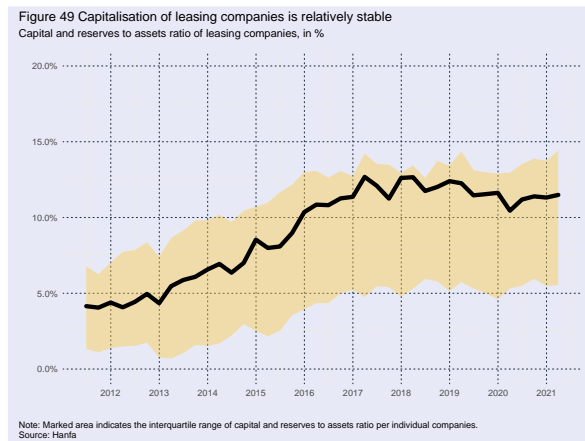
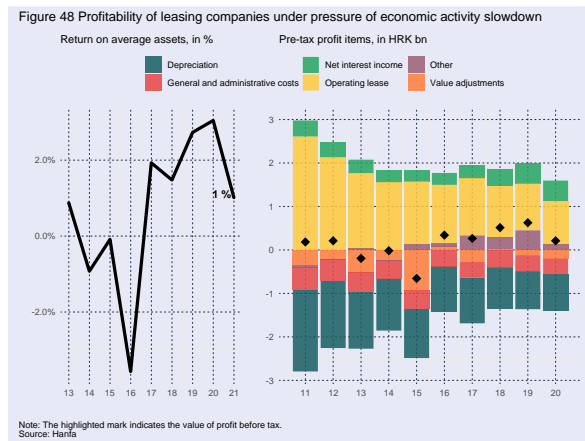
### Leasing companies

Leasing market is the segment of the financial services sector that was most affected by the economic crisis caused by the pandemic in 2020. The main reason for this is high exposure to the tourism sector, i.e. related activities of trade, transport, accommodation and food preparation and serving, which were most

<sup>7</sup> Excluding the diversification module, market risks at the end of 2019 accounted for 55% of the basic SCR ratio.

affected by lockdown measures and the suspension of economic activity. The profitability of leasing companies decreased significantly compared to 2019, primarily due to a significant decrease in the number and value of newly concluded contracts in all segments of operations. For operating lease, the number of newly concluded contracts decreased by more than 30%, while the value under such contracts decreased by 16.7% on the annual level. This decline was even more pronounced in the segment of financial lease, since the number of contracts decreased by more than 40%, while the value of newly concluded contracts decreased by 37.6% compared to 2019. At the end of 2020, this resulted in a decrease in profit after tax by as much as 67.9% on the annual level.

It can be expected that this downward trend in business activity of leasing companies will continue in 2021, while a more pronounced materialisation of credit risk that is expected with the abolition of measures to help the economy and the increase in insolvency of non-financial corporations could be an additional burden on business operations. The effect of the pandemic on business operations was temporarily halted by government and regulatory measures, so in 2020 the increase in value adjustment of leasing companies was relatively mild (Figure 48). It is reasonable to expect that, after a longer period of inactivity, some businesses will have difficulties in establishing regular business operations and thereby the return of leasing contracts to regular repayment after the expiry of approved moratoriums.



The capitalisation of leasing companies in 2020 remained at a relatively high level of 11.3% (Figure 49). However, a significant reduction in the number and value of newly concluded contracts in 2020, combined with the expiry of the moratorium on debt repayment in line with Hanfa’s recommendation from March (more information in Box 1 Business operations of leasing companies during the coronavirus crisis), which recommended that companies contract moratoriums while temporarily releasing the obligation to form a value adjustment for exposures to clients whose business is significantly threatened by the coronavirus crisis, could worsen the capitalisation indicators of leasing companies in 2021. For some relatively smaller companies, this could mean a challenge to keep business continuity, since they are still at relatively low levels of capitalisation.

### 3.5 Liquidity risk

After the investment funds were under liquidity pressure in March 2020, due to increased requests for payment of units, the stabilisation of the bond market lowered this pressure and liquidity was further increased by establishing a special investment fund. However, the experience from the first quarter of 2020 indicated the unpredictable nature of liquidity risk and the potential for transformation into a systemic disturbance, which could be particularly important for some insurance companies.

Uncertainty surrounding the sudden health and economic crisis resulted in a strong outflow of funds from UCITS in March (Figure 50). The most significant were the outflows of retail investors, which are also the most represented investors in investment funds (at the end of 2020 they accounted for 64% of net assets, Figure 52). Since domestic retail investors are mostly reluctant to take risks, the biggest outflows were recorded in funds with lower risk and more stable unit prices (funds with SSRIs 1 and 2). These were mostly bond funds, the most represented ones in terms of size (Figure 51). Despite increased pressure on payments of funds, no difficulties in payments were recorded given the intervention measures stabilising the sovereign debt market. In addition to monetary measures of the Croatian National Bank, an additional reason for stabilization was certainly the establishment of the Stability Fund in April 2020. This investment fund should contribute in the medium term to the stabilisation of the Croatian bond market and create a mechanism for maintaining liquidity through the purchase of bonds and other money market instruments from institutional investors (mostly from pension funds) established in the territory of the Republic of Croatia. A positive signal to investors came from credit agencies which maintained or raised

the credit ratings<sup>8</sup> of government bonds of the Republic of Croatia.

Figure 50 No pressures on the liquidity position of UCITS were recorded until the end of the year

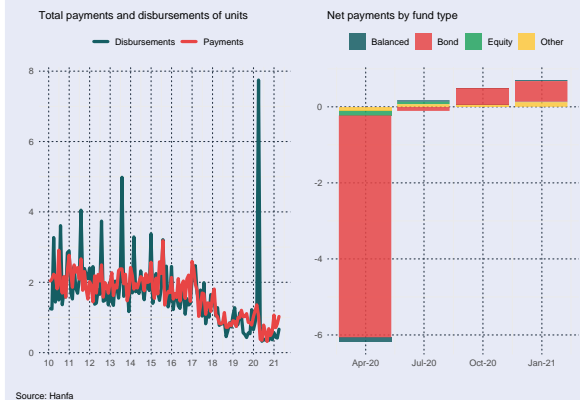


Figure 51 Biggest outflows were recorded in the most conservative funds

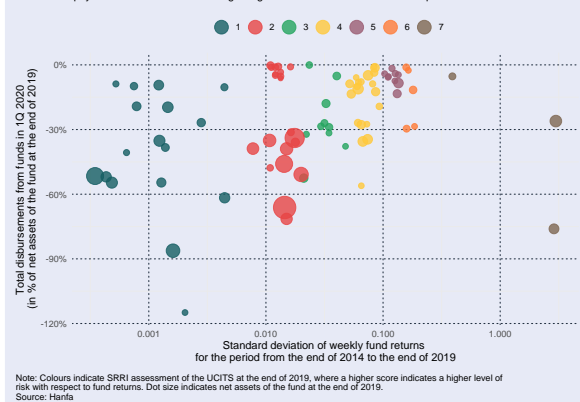
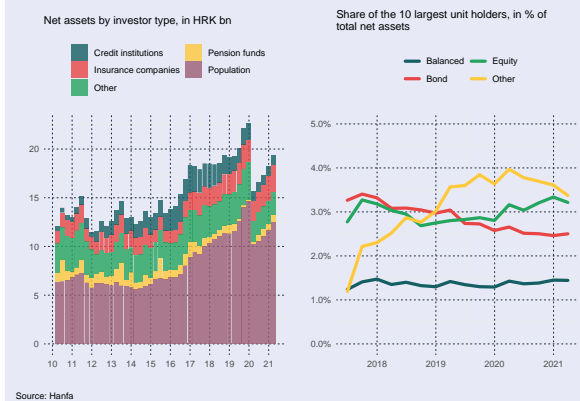


Figure 52 The simultaneous reaction of a large number of retail investors caused a liquidity shock in March 2020



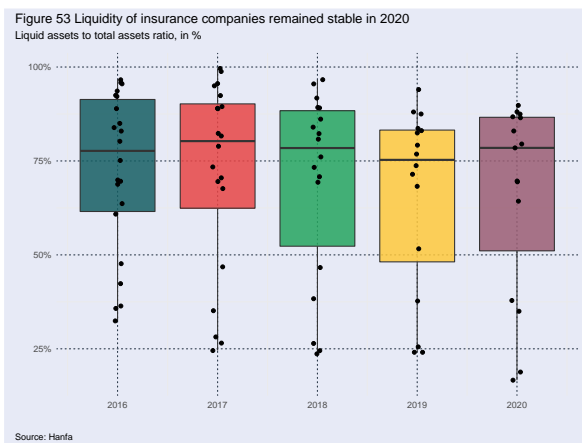
Despite continued high uncertainty in the second half of 2020, trends in financial markets were mostly positive and no new major shocks were recorded, contributing to the continuation of the stabilisation and recovery trend with respect to investment funds. The total value of units issued in the second half of 2020 amounted to slightly over HRK 3.7 bn, while in

<sup>8</sup> S&P and Fitch maintained their credit rating in the BBB- class, while Moody's upgraded its credit rating to Ba1 in November

the same period the value of approximately HRK 2.5 bn was purchased. Out of the total value of units issued in the second half of the year, 80.8% referred to bond funds, while the purchased value in them accounted for 65.3% of the total purchased value.

The liquidity of the insurance sector in 2020 was positive and stable. The median share of liquid assets in the insurance sector at the end of the year stood at 78,5%, with a trend of increase as compared to the end of 2019, when it accounted for 75.3%. However, some insurance companies nevertheless show the potential for materialisation of liquidity problems, i.e. during 2020 their liquidity further decreased (Figure 53).

In the following period, certain pressures on the liquidity of the entire insurance sector are likely in view of the fall in the inflow of funds from the newly concluded insurance premiums, as well as possible increase in early terminations of contracts and the increase in the payment of claims. Therefore, companies having a low and inadequate share of liquid assets that can be marketed to cover such unfavourable net cash flows, especially in the event of a prolonged or slow recovery of the economy from the crisis, could face liquidity problems. This could be particularly problematic if net cash outflows increase in view of the importance of some companies with a weaker liquidity position in certain segments of the insurance market.



### 3.6 Operational risks

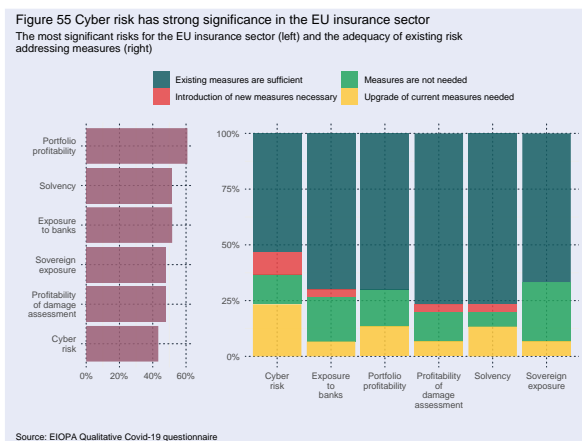
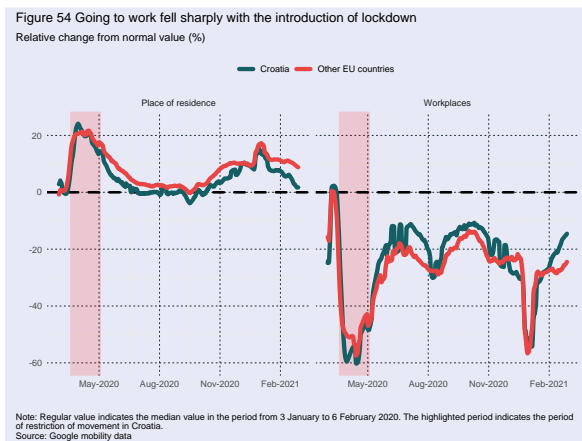
The coronavirus crisis and sudden change in business conditions faced by many employers during 2020 put an additional emphasis on the importance of operational risks in everyday business. Although partly mitigated, operational risks remain at elevated levels and the digitalisation of many business activities catalysed by the coronavirus crises simplifies the possibility of materialisation of individual operational risk, as well as its transformation into a systemic disturbance.

The new conditions of teleworking have highlighted the significant technical and logistical challenges in ensuring business continuity. Therefore, in order to facilitate and ensure business continuity in the financial services sector, Hanfa adopted measures and issued recommendations supporting business continuity in the financial services sector, which it extended and adapted as necessary during the year to ensure that operational difficulties in business operations do not result in a worsened relationship between companies and clients.

Another deterioration of the health situation in the second wave of the pandemic in many EU Member States, including Croatia, again affected the decline in the mobility of citizens (Figure 54). This also emphasized the dependence of business processes on technological stability and information security, which will be pronounced in the period "after the coronavirus" because certain segments of the economy, stimulated by positive aspects of teleworking, will continue to operate in virtual offices. The digitalisation process was accelerated in 2020 in the financial services sector as well, where a growing number of operational processes are carried out digitally, such as claims processing and distribution of insurance contracts.

This increases the exposure of the entire economy, in particular the financial sector, to cyber risks. In the second half of 2020, there were no significant cyber attacks that could

threaten the stability of the domestic financial system, but global attacks are becoming increasingly frequent. The importance of addressing cyber risks is also illustrated by the responses of national regulators to EIOPA's survey according to which cyber risk is one of the most pronounced risks faced by EU insurance companies, with this risk requiring the greatest improvement of existing measures (Figure 55).



The important events preceding the end of the year, significant for the development and materialisation of operational risks, relate to the results of the US elections and the final agreement between the EU and the United Kingdom, which concluded the years of negotiations on Brexit. The challenging and very uncertain year was marked by an agreement on UK's exit from the EU, reached shortly before the end of 2020, with the ratification of the Withdrawal Agreement after months of negotiations, which led to a reduction of uncertainty in financial markets. UK companies operating in the EU territory will have to adjust their operations to comply with European

regulations, because from 1 January, the UK is legally considered a third country<sup>9</sup>. Final agreement on the formal legal status of British financial institutions operating in the EU territory has not been reached yet as of February 2021,

which keeps operational risks high. An agreement would mitigate operational risks on the European financial services market, and Hanfa will continuously monitor them and act within the scope of its competence.

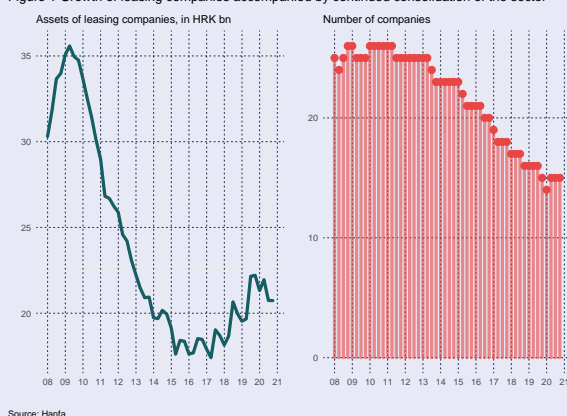
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<sup>9</sup> More information available on [Hanfa website](#).

## Box 1 Business operations of leasing companies during the coronavirus crisis

Following a long-term recovery from the previous financial crisis, which lasted almost six years<sup>10</sup>, leasing companies have been growing steadily since 2015 on the basis of economic recovery. In the five-year period from 2015 to the beginning of 2020, their assets increased by one quarter (Figure 1) to HRK 19.8 bn at the end of 2020, i.e. 5.3% of GDP and 10% of the total assets of the financial services sector (Figure 19). At the same time, profitability was at satisfactory levels (Figure 48 in Chapter 3.4 Profitability and capitalisation of financial services providers) reflecting relatively competitive operational profitability and suppressed value adjustment costs characteristic of the ascending phase of the economic cycle. Despite this increase in the sector's importance, its consolidation in the form of a reduction in the number of companies continued, thus increasing concentration. At the end of 2020, there were 15 leasing companies actively operating on the market, a decrease of 40% compared to the end of 2011.

Figure 1 Growth of leasing companies accompanied by continued consolidation of the sector



More active business operations and related sector growth were primarily stimulated by intensified financing of passenger and commercial vehicles due to the growing volume

of tourism activities, as well as the overall economic recovery. The demand for leasing services in the transport sector increased, especially in the car rental segment, so the largest number (and value) of newly concluded contracts referred to passenger vehicles with a marked seasonality, i.e. variations that were particularly noticeable during the second quarter, in the months preceding the summer tourist season (Figure 2).

Figure 2 Most of the new contracts relate to passenger and commercial vehicles  
Number and value of newly concluded contracts by leased assets

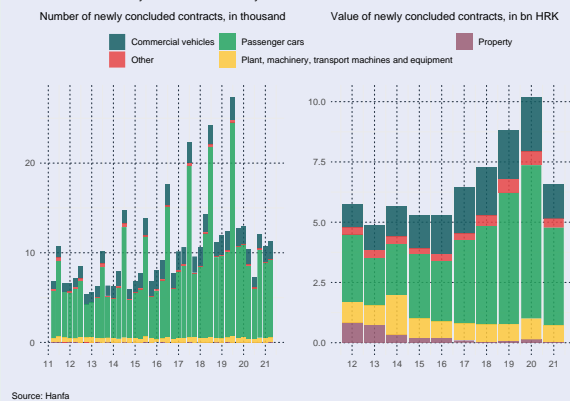
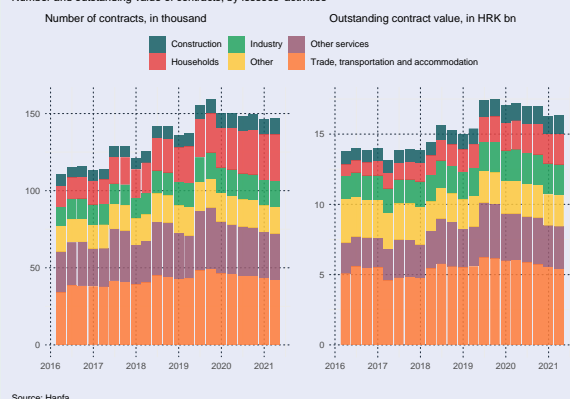


Figure 3 Most of the active contracts are related to activities connected with tourism  
Number and outstanding value of contracts, by lessees' activities



The activities of leasing companies did not increase in 2020, in view of the direct and indirect consequences of the crisis: the complete halt of almost all economic activities during March and April, accompanied by increased uncertainty and difficulties in the operation of a large number of companies during the rest of the year, which directly affected the operation of leasing companies.

<sup>10</sup> In the period from the beginning of 2009 until the beginning of 2015, the assets of leasing companies were halved.

The structure of leasing companies' exposure to lessees' activities additionally confirms the significant link between operations of leasing companies in Croatia and the tourism sector. Most of the outstanding claims of leasing companies relate to trade, transport and accommodation activities (activities G, H, I), and at the end of 2020 they accounted for 34% of the outstanding value of active contracts (Figure 3). Although the aforementioned link in the ascending phase of the cycle enabled stronger growth and better business results in the short term, such concentration of exposure increases the cyclicity of leasing companies' business operations by making them susceptible to sudden disruptions in the tourism segment.

With unfavourable conditions that occurred at the beginning of the year, when the rapid and sudden expansion of coronavirus slowed down the global economy in a very short period of time, the likelihood of materialisation of systemic risks with the potential to undermine financial stability increased significantly. Despite the relatively successful fight against the epidemic in the first wave of health crisis<sup>11</sup>, it was certain from the very beginning that the consequences for the economy would be significant. The regulator was required to react swiftly and adopt measures aimed at mitigating the economic consequences of the crisis.

Driven by the experience of the last financial crisis, which significantly affected the business operations of leasing companies as well as the users of these services, Hanfa adopted the first measures for leasing companies as early as in March 2020<sup>12</sup>. They referred to the three-month postponement of principal payment for those clients whose solvency was seriously damaged due to loss or reduction of income sources, as well as those whose income was significantly reduced in relation to the total revenue in the previous period. The initial shock soon acquired

systemic characteristics, so in the second iteration Hanfa amended the existing recommendations for leasing companies. Additional recommendations included the possibility of contracting a moratorium for a period of more than three months, the cessation of charging interest during the moratorium period, as well as penalty interest to those lessees that were granted a postponement of payment and the suspension of all forced collection procedures during the agreed moratorium period for previous regular payers<sup>13</sup>. In addition to consumer protection, with the recommendations Hanfa sought, within the limits of its legal powers, to facilitate the operation of leasing companies. Therefore, they were allowed to adopt a decision by which they are not obliged to classify these receivables as non-performing placements and to form value adjustments for them.

Figure 4 Out of the total number of requests for rescheduling, 81% were approved  
Total value of contracts, in HRK bn



Note: Data include leasing companies undergoing winding-up proceedings.  
Source: Hanfa

Companies promptly responded to Hanfa's recommendations and at the beginning of April 2020 approved as much as 30% of all previously cumulatively requested rescheduling. Analysing the dynamics of active rescheduling, the value of which halved by the end of December relative to the value at the beginning of July, it can be concluded that the reactions of the regulator and leasing companies were timely and necessary and enabled service users to adapt on an individual basis to meeting their obligations

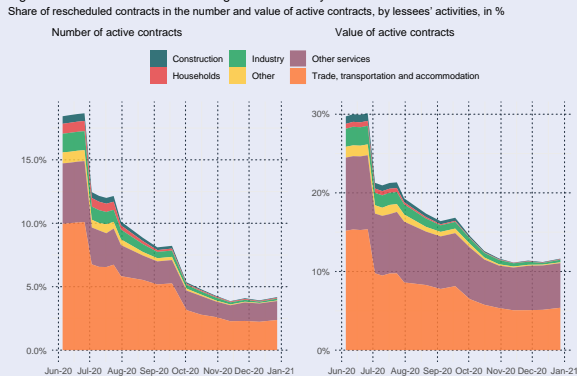
<sup>11</sup> More info about the epidemiological measures in the first wave of the pandemic and the initial reactions of the regulator can be found in the [Macroprudential Scanner No 4](#).

<sup>12</sup> Public announcement is available via this [link](#).

<sup>13</sup> Public announcement is available via this [link](#).

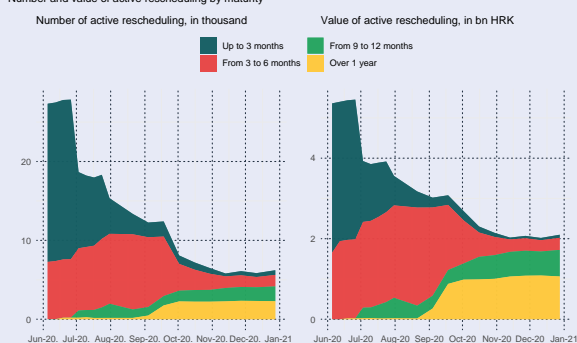
in new, stressful circumstances. At the end of December, the value of active rescheduled contracts stood at HRK 2.17 bn, which makes up about 11% of the value of active contracts at that moment (Figure 4).

Figure 5 The structure of rescheduling is dominated by activities connected with the tourism sector



Note: Data include leasing companies undergoing winding-up proceedings. Source: Hanfa

Figure 6 The largest number of active rescheduled contracts have a maturity longer than one year



Note: Data include leasing companies undergoing winding-up proceedings. Rescheduled contracts in which the initial moratorium duration was subsequently modified (extended) are classified in a period equal to the total moratorium duration. Maturity is defined as the sum of the initial maturity and any additional extension of the initial maturity. Source: Hanfa

The structure of approved rescheduling according to the activity of lessees is similar to the structure of active contracts: both the number and the value of contracts are dominated by users from trade, transport and accommodation activities (Figure 5)<sup>14</sup>. Such distribution of rescheduling largely reflects the contraction of tourism activities following the outbreak of the pandemic (Figures 4 and 5) and consequently the reduced business revenue of lessees from these activities. In most of the rescheduled contracts that were active at the end of December 2020 (as much as 84% of them), the initial moratorium period of three

months was subsequently extended reflecting the difficulties in operation and in paying current liabilities of some lessees. Therefore, the trend of rise in the share of rescheduled contracts with a maturity of more than one year is noticeable, as a result of the three-month extension of the reschedule to the next three months (Figure 6).

In the upcoming short-term period, it is expected that the leasing companies will continue with limited operation, which will remain to be burdened by lower revenues in view of the aforementioned extension of some approved rescheduling, but also the stagnation of new business deals, which is a very likely consequence (Figure 1) of negative macroeconomic trends.

In addition to these short-term uncertainties, an increase in the credit risk of leasing companies can be expected in the medium term, and the amplitude of growth will primarily depend on the further development of the macroeconomic situation. The withdrawal of the imposed measures to help non-financial corporations will almost certainly cause difficulties in the continuation of operations and the consequential insolvency of some companies, particularly those which will find it difficult to adapt to the new circumstances and conditions of operations, as well as those whose capital buffers were already exhausted by the year-long challenging period. Such developments in the non-financial corporations sector will affect the operations of leasing companies in the form of difficult repayment of existing liabilities as well as a smaller number of newly concluded contracts, which will increase the non-performing placements ratio (hereinafter: NPPR). In order to determine the range of influence of the coronavirus crisis on credit risk of leasing companies, a simulation of changes in aggregate share of NPPR was done. It should be noted that the impact of a cliff effect, i.e. the

<sup>14</sup> At the end of December, 57% of total active rescheduled contracts and 46% of value of total active rescheduled contracts

referred to retail trade, transportation and storage, accommodation and food service activities (G, H, and I activities).

disproportionate negative financial impact of the withdrawal of measures to help the economy, about which most international regulators are currently warning<sup>15</sup>, and which would be reflected in the sharp deterioration of business indicators of financial entities, due to the nature of leasing companies' business operations and the dynamics of credit risk booking and value adjustment of placements, is not likely; gradual deterioration of credit risk in the form of an increase in non-performing placements and the consequent increase in costs of value adjustment is expected instead.

In the simulation, the deterioration in the quality of leasing companies' portfolio, which is indicated by an increase of the NPPR, manifests itself through three channels: 1. a significant deterioration in the quality of existing receivables, which are currently covered by post-rescheduling moratorium measures, 2. a slowdown in the inflow of new contracts which are performing in the initial part of the repayment, thus improving the quality of the portfolio with the simultaneous maturity of part of the portfolio, and 3) an unfavourable macroeconomic situation, which adversely affects the quality of the overall portfolio of companies. Since it is not possible to unambiguously assess the evolution of the credit risk of non-financial corporations due to severe uncertainties, three scenarios were used in the simulation, aiming at covering the range of possible outcomes. In the most conservative scenario (Scenario 1), that assumes the prolongation of certain epidemiological measures in the second half of the year, the nominal decline in the gross domestic products amounts to -14,9 % on an annual level. A slightly more favourable epidemiological situation is assumed in Scenarios 2 and 3, which results in a slighter decline of the economic activity, reaching -12.5% and 10.4% respectively<sup>16</sup>. These

values were used to evaluate the third channel. A significant deterioration in the quality of receivables covered by moratoriums, i.e. the first channel in this simulation has the most pronounced effect on the evolution of the aggregate NPPR. The proportion of rescheduling agreements that will become non-performing after the moratoriums expire depends on the risk of the portfolio of each leasing company and the macro-economic scenario chosen (Figure 7). The higher risk profile of a company, the higher share of irrecoverable contracts, i.e. the share is horizontally increasing. Depending on the estimated level of risk, companies are divided into three groups: least risk, medium-risk and the highest risk group. The risk profile of each individual company, except those undergoing winding-up proceedings, is determined for the purpose of this simulation on the basis of historical levels of NPPR ratios and historical distribution of proportions of G, H, and I activities in the overall portfolio structure. All companies undergoing winding-up proceedings are a priori deemed as having the highest risk (Group 3). These used proportions of irrecoverable contracts are also growing vertically, i.e. it is assumed that the "portfolio deterioration" will be largest in the most conservative scenario, which assumes the most pronounced decline in economic activity. The range of used proportions of rescheduled contracts that will become non-performing after the moratorium expires in this most conservative scenario (Scenario 1) ranges from 0.75 for minimum risk companies to 0,95 for companies assessed as having the maximum risk, while the presumed proportions are noticeably lower in the most optimistic scenario, ranging from 0.25 to 0.75. The base value to which such proportions are applied is the amount of the rescheduled contracts with an initial maturity of

<sup>15</sup> See, for example [EIOPA Financial Stability Report](#) or [ECB Financial Stability Review](#).

<sup>16</sup> In principle, the scenarios correspond to those described in the [Macroprudential Risk Scanner No 4, Box 1 Simulation of the effects of the coronavirus crisis on the stability of the financial services sector](#).

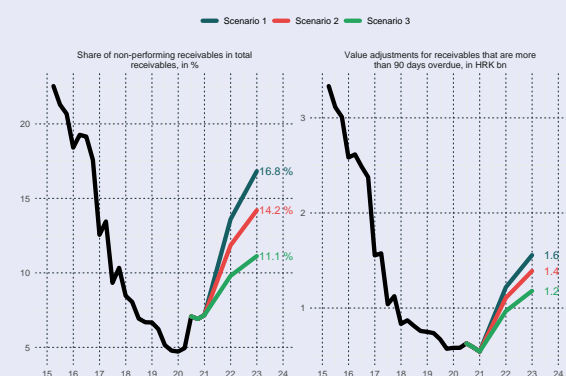
more than one year per each leasing company. It can be assumed that these are the companies with the most acute operating problems and the worst creditworthiness, which is why they are not able to properly pay their obligations after more than a year. The second channel refers to the estimate of total receivables, which are changed due to the combination of the expiry of the existing leasing contracts and inflows of newly concluded contracts. The expected value of new contracts for each of the scenarios has been estimated on the basis of the historically observed trend of newly concluded placements, taking into account the portfolio structure by activities<sup>17</sup> using the 90th, 75th and 60th percentile of distribution depending on the observed scenario.

**Figure 7 Simulated proportions for the first simulation channel**  
The presumed proportion of rescheduled contracts that will become non-performing after the moratorium expires depending on the scenario



Note: Scenario 1 is the most conservative, while scenario 3 is the most optimistic. Group 1 consists of companies assessed as less risky than Group 2 and Group 3.  
Source: Hanifa

**Figure 8 In the upcoming two-year period, significant materialisation of credit risk is likely**



Source: Hanifa

Finally, the third channel assessed the deterioration of the overall existing portfolio of contracts due to macroeconomic instability not

directly covered by the first channel, and assessed the deterioration as a linear regression link between the quarterly rate of change in the NPPR and the growth rate of real GDP.

The results of the described simulation, which should be interpreted primarily under these assumptions, indicate that a significant increase in credit risk is possible by the end of 2022 (Figure 8). The estimated range of NPPR increase goes from 4.2% in the most favourable to 9.9% in the most conservative scenario. The first channel, i.e. deterioration of the quality of existing receivables covered by moratorium measures, will have the strongest impact on the aggregate NPPR, while the impact of the remaining two described channels is significantly smaller. However, since the simulated increase will not take place abruptly and suddenly (a more likely scenario is one of a gradual deterioration of the portfolio reflecting the results of the operations of non-financial corporations), leasing companies will more easily adapt to the new circumstances. The increase of NPPR would indirectly affect value adjustments. According to this simulation, value adjustments in the most optimistic scenario would amount to around HRK 0.66bn, while in the most conservative scenario this amount is, as expected, higher and stands at HRK 1.02 bn, which is approximately on the level of operating profit (before value adjustment) of leasing companies in the last two years.

The implications of the coronavirus crisis on the operation of leasing companies are under great uncertainty and will primarily depend on the further development of the epidemiological situation, the speed of economic recovery and the efficiency of the measures adopted in order to facilitate the position of leasing companies' clients. Therefore, the results of this simulation have to be read in this context, taking into account the numerous assumptions on which it is based. The simulation provides an insight into

<sup>17</sup> Historical distributions for lessees belonging to the households sector, as well as those belonging to B, C, D, E activities; G, H and

I activities; M, N activities and other activities, were analysed separately.

a range of possible outcomes of deterioration in the quality of leasing companies' portfolio and associated losses in the form of an increase in value adjustments.

Although significant at first glance, simulated losses of leasing companies have to be interpreted in the context of the described simulation assumptions. It should be borne in mind that the described processes will affect the

operation of leasing companies over a certain period of time, leaving them time to adapt to the new conditions. In addition, leasing companies faced the crisis caused by coronavirus relatively highly capitalised (more information in Chapter 3.4 Profitability and capitalisation of financial service providers), which will facilitate depreciation of the expected negative impact of the crisis.

## Box 2 Macroprudential preservation of insurers' capital buffers in stressful circumstances

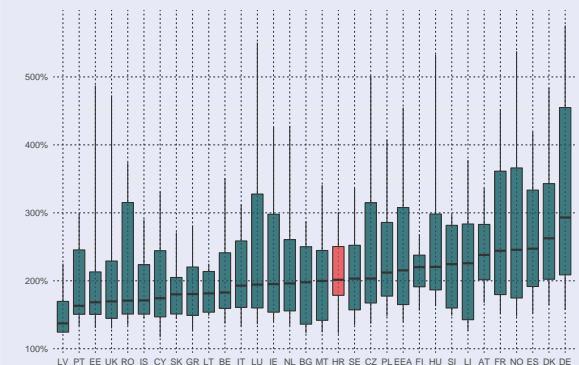
The operations of the entire financial services sector, including the insurance sector, have been under increased pressure in recent years due to the long-term environment of historically low interest rates. Despite the challenging business environment, the profitability of insurance companies in the period preceding the outbreak of the COVID-19 pandemic was satisfactory (Figure 44 in Chapter 3.4. Profitability and capitalisation of financial service providers). The capitalisation of the sector was also relatively stable, with a medium solvency ratio well above the regulatory minimum (Figure 46 in Chapter 3.4 Profitability and capitalisation of financial service providers) and in line with the EU average (Figure 1). Although the liquidity of the insurance sector has been at satisfactory levels in recent years (Figure 53 in Chapter 3.5. Liquidity risk), the high level of dispersion of liquidity indicator distribution by individual companies suggests that liquidity of certain companies might be jeopardised due to negative market trends in the sort run (more about these indicators during the pre-crisis period in the publication [Macroprudential Risk Scanner No 3](#)).

In only a few weeks of the first quarter of 2020, the health crisis caused by the pandemic has grown into a global economic crisis of an unthinkable scope and with an uncertain "expiry date". Governments, central banks and supervisory authorities promptly and decisively reacted by adopting a wide range of measures to support the economy and preserve financial stability.

By the end of March 2020, Hanfa adopted a set of [measures and recommendations](#) with the aim of facilitating and ensuring business continuity in

the financial services sector while protecting the interests and rights of service users, the public interest and safeguarding the stability of the financial system.

Figure 1 Capitalisation of domestic insurance market near EU average  
Showing SCR ratios of insurers per country as at 31.12.2019 (median, interquartile range, 10th and 90th percentile)



Source: EIOPA

One of the more prominent measures was the [measure adopted on 26 March 2020](#), whereby Hanfa temporarily banned insurance companies from paying dividends from profits earned in 2019, but also in previous years, until 30 April 2021. Prior to issuing this ban, in mid-March 2020, Hanfa recommended that insurance companies reduce and limit all unnecessary operating and investment costs, including the payment of awards and bonuses. This decision was made with the aim of stabilising the business operations of companies and providing additional liquidity support, protecting the interests of insured persons and ultimately maintaining a satisfactory level of the system's capitalisation. Taking into account exceptional market circumstances and the importance of the insurance sector for the domestic financial sector, this indirectly preserved financial stability. At the end of March 2020 insurance companies accounted for 22% of the domestic financial services sector, i.e. 7% of the entire Croatian financial system. Therefore, the stability of the insurance sector is of exceptional importance for the stability of the entire financial system in Croatia, especially taking into account significant indirect links with other parts of the financial system through concentration of investments in domestic sovereign debt securities.

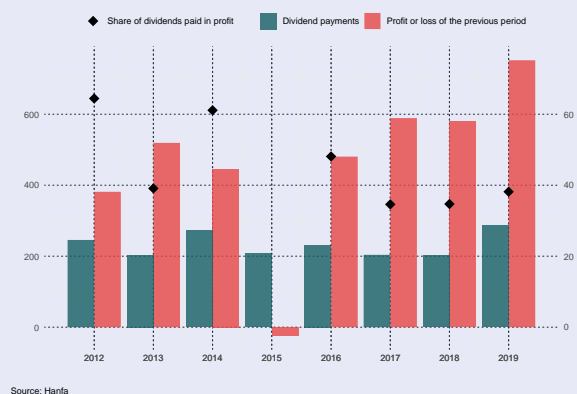
The sudden slowdown in economic activity, which occurred in early 2020, inevitably affects the operations of insurance companies, primarily through the reduction of the inflow of funds due to the fall of the newly concluded premium, particularly in life insurance, and the potential increase in early termination of contracts and liabilities in certain business lines. This increases the pressure on the liquidity position and profitability of companies, with potentially significant worsening of capitalisation. In addition, the prolonged period of low interest rates further increases the pressure on business operations of companies, particularly those engaged in life insurance in view of their long-term obligations under policies with high guarantees concluded in the past. If unstable market conditions result in a significant decline in the value of insurers' investments, accompanied by a decrease in their marketability, insurance companies might suffer additional losses provided they have to sell their illiquid investments in order to meet their obligations to their clients in a timely manner.

Given the uncertainties connected with the duration of the pandemic and the strength of its economic effects and the high sensitivity of the insurers' financial position to market trends, both on the assets side and on the liabilities side (Figure 17 in Chapter 3.1 Principal trends), it was necessary to ensure that insurance companies take all possible measures to protect their capital position and remain able to fulfil all their obligations to clients. In addition to these pandemic circumstances, domestic companies were at the same time affected by the earthquake that hit Zagreb and its surroundings in March and exposed them to potentially significant payouts. Therefore, on the basis of the proactive approach based on risks that insurance companies were exposed to at that time, Hanfa decided to impose a temporary ban on dividend payment. The measure was adopted taking into account the fact that in the period of systemic crises in case of need for additional capital, market recapitalisation is very

uncertain and limited, which makes it necessary to preserve internal capital stocks.

The decision referred not only to profit realised in 2019, but also to profits in previous years in view of certain medium-term pressure on the profitability of insurance companies and the dynamic history of dividend payments of companies in previous years, where approximately 50% of profits achieved in the previous year were paid through dividends in the observed period (Figure 2).

Figure 2 Insurance companies paid about 50% of realised profit through dividends  
Profit and payment of dividends, in HRK m (left), share of dividends paid in profit of the previous year, in % (right)



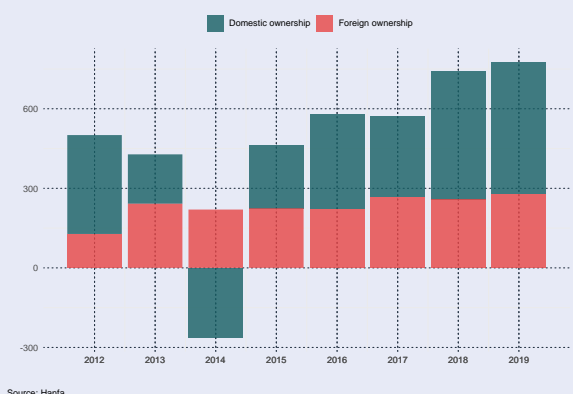
In the context of a global shock, such as the one caused by the pandemic, all national financial and economic systems are under equal or similar pressures and problems, which enhances the risk of withdrawing foreign capital with the aim of stabilising the potential problems of the parent company, i.e. the inability to provide support and help to subsidiaries if they find themselves in solvency problems. More than half of the insurers on the domestic market are foreign-owned (55.5% of the market's assets on 31.3.2020) and generate a large part of the market's profits (Figure 3), which further underlines the importance of preserving the capitalisation of the domestic market.

The need to preserve the capitalisation of financial institutions with the aim of mitigating systemic risk is also emphasised at the European level. At the beginning of April 2020, EIOPA issued a [Public statement](#) on dividends distribution and variable remuneration policies in the context of COVID-19, encouraging insurers to temporarily suspend all discretionary

dividend distributions and share buybacks aimed at remunerating shareholders, including variable remuneration policies. In addition, at the end of May 2020, the ESRB issued the Recommendation on restriction of distributions during the COVID-19 pandemic ([ESRB/2020/7](#)), recommending that national macroprudential authorities, within their powers, request from insurance and reinsurance companies, investment firms, credit institutions and central counterparties to refrain from the distribution of profits, at least until early 2021. The above-mentioned ESRB recommendation obliges the Croatian National Bank and Hanfa in Croatia to comply with it within their powers and legal options.

financial sector, are still largely in force. Therefore, in December 2020, the ESRB extended the recommendation ([ESRB/2020/15](#)) to refrain from the distribution of profits of certain financial institutions leading to a reduction in the amount or quality of own funds until 30 September 2021. However, it was pointed out that payments are still possible, but with extreme caution in the implementation of distributions, and the resulting decrease must not affect the fall in the solvency of companies below the conservative threshold set by their competent authority. EIOPA followed suit, recommending that insurance companies maintain extreme caution and prudence in the framework of capital management.

Figure 3 A large part of the market's profits is generated by foreign-owned insurers  
Profit or loss of the accounting period, in HRK m



During 2020, Hanfa regularly and closely monitored market trends to assess the impact of negative developments caused by the coronavirus crisis and the earthquake on the solvency and liquidity of companies, in particular in the context of contributions that the dividend ban had on their absorption. Analyses showed that the insolvency and liquidity positions of insurers remained relatively stable despite negative trends, thanks to high levels of capitalisation and sufficient liquidity of the sector prior to the start of the crisis, and to which the absorption capacity of the temporary dividend payment ban contributed positively.

In Croatia, in mid-January 2021, the Croatian National Bank issued the [Decision on temporary restriction of distributions](#), imposing a restriction on credit institutions' distributions until 31 December 2021, which includes dividend distribution, creation of an obligation to make dividend distribution, redemption of own shares, award of variable remuneration and other forms of distributions.

Although the domestic insurance sector has so far proved relatively stable during the crisis caused by the COVID-19 pandemic, it is certain that the impact of the crisis on insurance companies will occur with a certain time lag, primarily depending on the financial position of companies and households that will become affected by the crisis with the withdrawal of aid measures. In addition to the economic effects of the pandemic, the operations of insurance companies in the coming period will continue to be exposed to the challenges related to achieving adequate returns on investment, as well as to the likely increased payments of claims caused by the devastating earthquake that hit Sisak-Moslavina County at the end of December 2020. In such circumstances, it is still necessary to be cautious when making decisions that could affect the capital position of companies. Therefore, in line with the expected EIOPA

guidelines with a view to harmonising the approach to this issue at the EU level, Hanfa will, by the end of April 2021 at the latest, establish criteria for profit allocation taking into account all relevant aspects of companies' business operations – solvency, liquidity, profitability and business models, current risks to which they are exposed, but also potential risks that could arise in the coming period due to prevailing uncertainties and conducting stress tests in stressful circumstances. In addition, trends in the

insurance market will be closely monitored in the coming period in order to assess the impact of these negative developments on companies' operations in a timely manner, including the impact of potential dividend payments and other distributions.

## List of abbreviations

GDP – gross domestic product

GVA – gross value added

CBS – Croatian Bureau of Statistics

EEA – European Economic Area

EIOPA – European Insurance and Occupational Pensions Authority

EC – European Commission

ECB – European Central Bank

ESRB – European Systemic Risk Board

ETF – exchange-traded fund

EU – European Union

EUR – euro

HAMAG-BICRO – Croatian Agency for SMEs, Innovations and Investments

Hanfa – Croatian Financial Services Supervisory Agency

HBOR – Croatian Bank for Reconstruction and Development

CNB – Croatian National Bank

HR – Republic of Croatia

HRK – Croatian kuna

CES – Croatian Employment Service

MCR – Minimum Capital Requirement

IMF – International Monetary Fund

m – million

bn – billion

OECD – Organisation for Economic Cooperation and Development

pp – percentage point

SCR – Solvency Capital Requirement

CEE – Central and Eastern Europe

SRRI – Synthetic Risk and Reward Indicator

UCITS – undertakings for collective investment in transferable securities

Country codes: AT – Austria; BE – Belgium; BG – Bulgaria; CY – Cyprus; CH – Switzerland; CZ – Czech Republic; DE – Germany; DK – Denmark; EE – Estonia; EL – Greece; ES – Spain; FR – France; GB – Great Britain; HR – Croatia; HU – Hungary; IE – Ireland; IT – Italy; IS – Iceland; LI – Liechtenstein; LT – Lithuania; LU – Luxembourg; LV – Latvia; MK – Macedonia; MT – Malta; NL – Netherlands; NO – Norway; PT – Portugal; PL – Poland; RO – Romania; USA – United States of America; SE – Sweden; SI – Slovenia; SK – Slovakia; UK – United Kingdom