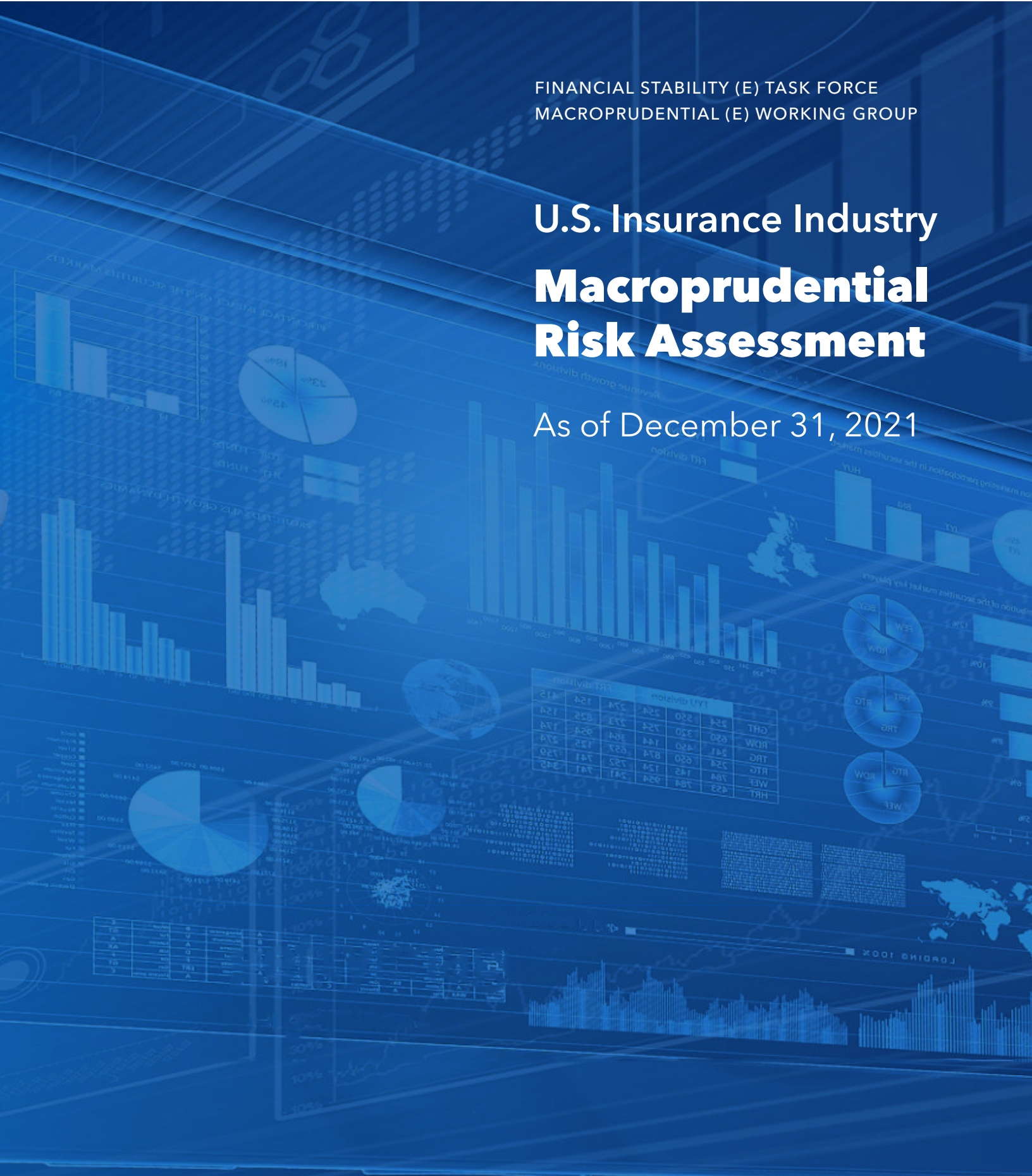


FINANCIAL STABILITY (E) TASK FORCE  
MACROPRUDENTIAL (E) WORKING GROUP

# U.S. Insurance Industry Macroprudential Risk Assessment

As of December 31, 2021





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## Disclaimers and Sources of Information

While the insights contained within this report are wide ranging, nuanced, and understand the context of the insurance industry's operations, the report itself is not intended to represent the whole of the regulatory response or the whole of the regulatory view of insurance industry risks. Instead, this Macroprudential Risk Assessment represents a summary of regulator views of risk appropriate for public discussion as of December 31, 2021. Were the report as of December 31, 2022, the macroeconomic risk may have been assessed differently.

Additionally, the risk assessment that follows is specific to the insurance industry. In cases where broader economic trends are analyzed, the assessment should be indicative of the macroeconomy as it relates to the insurance industry and not as an assessment of the economy itself for which an assessment with a different classification of risk maybe appropriate.

Moreover, while the report tends to focus on year-end data, state insurance regulators participating in the underlying risk assessment process were often presented with data beyond year-end and with metrics/data points beyond those discussed in the report. For instance, the underlying risk assessment analysis presented to state insurance regulators often includes a historical comparison, commonly a 10-year average, which is not often discussed in the risk assessment presented for sake of brevity.

This report draws heavily on the insights and the analysis provided by the NAIC's Insurance Industry Snapshots and Analysis Reports as well as the Special Reports published by the Capital Market's Bureau.



## U.S. Insurance Industry Risk Dashboard

RISK CATEGORY		SUMMARY OF 2021 RISK ASSESSMENT
Risk Assessment	Trend	Assessment is driven by:
<b>1. Macroeconomic</b> Moderate-High		Potential over-valuation of assets, previously prolonged low-interest rates, capital markets volatility and inflation concerns.
<b>2. Interconnectedness</b> Moderate-Low		Trend towards increased connections with private equity firms and asset managers, and numerous transmission channels with banking counterparties and financial institutions via invested assets.
<b>3. Underwriting &amp; Profitability</b> Moderate-Low		Generally stable underwriting and profitability performance offset by spread compression on life products, losses on LTCI and increased exposure to natural catastrophes.
<b>4. Market</b> Moderate -Low		Generally conservative asset portfolios impacted by increased market volatility (including interest rates), increased allocation to alternative assets and greater levels of equity investments.
<b>5. Credit</b> Low		Generally conservative asset portfolios impacted by a modest shift towards lower credit quality investments and increased allocation to structured securities to generate additional yield.
<b>6. Liquidity</b> Low		Positive trends in overall liquidity indicators including liquid assets, cash flows and Liquidity Stress Test results.
<b>7. Capitalization</b> Low		Historically high capitalization levels across sectors with strong aggregate RBC ratios and consistent increases in surplus.





## Executive Summary

Overall, the U.S. insurance industry continues its well-established pattern of adapting and responding to changing conditions, playing an important role in the financial sector and in helping policyholders manage risk. Aggregate capital levels continue to provide a significant buffer above regulatory capital requirements to absorb unforeseen risks. The NAIC continues to monitor inflationary indicators and the potential impact of interest rate changes on both the insurance industry and the broader economy in the remaining part of 2022 and beyond.

Several risks drove the regulator's views when conducting the risk assessment:

- **Macroeconomic Trends: Inflation and Interest Rates** – A couple of the more significant macroeconomic trends state insurance regulators are closely monitoring are inflation and interest rate trends while being mindful of the varying impact both may have on the industry. Recent years have presented a challenging low interest rate environment to insurers, which impacted investment strategies and prompted a search for additional yield in certain areas. Recently, interest rates have rapidly risen in response to the Federal Reserve Board's actions to limit rising inflation. High levels of inflation pose risk to various property insurance coverages, where the rising costs of materials and labor has the potential to impact underwriting results. For life insurers, rising interest rates have the potential to result in margin calls on hedging portfolios and alter policyholder behavior through increased lapses or surrenders.
- **Structural Changes in Ownership / Investment Strategies** – There has been a noted trend of strategies and changing ownership structures (including joint ventures and partnerships) to improve the performance and profitability of insurance operations. Some of these trends have been in response to the previous prolonged low interest rate environment and other market conditions. In many cases, these trends have been associated with private equity (PE) firms' involvement in the insurance industry. Other monitored trends include an increase in complex investment structures, acquisition of pensions and other retirement business, and cessions to offshore reinsurance structures, which are some of the key risk activities driving our risk assessment. These trends and risks are captured in more detail in the interconnectedness risk category.
- **Property Natural Catastrophic Losses** – While the insurance industry has long been a source of strength for the management of increasing catastrophe risk, the past decade has shown an increasing amount of insured losses from catastrophic property events. State insurance regulators are currently evaluating the impact of climate risks on the insurance industry via the NAIC's Climate and Resiliency Task Force. Climate risks also continue to be a key focus at the international, federal and state levels. Measuring and assessing impacts is a challenge, but there is clearly an increase in the incidence and severity of recent natural cat events. The NAIC continues to refine its methodology to assess climate risks and is exploring numerous opportunities to expand its knowledge in these areas. See the Regulatory Enhancements section at the end of this report for more information.
- **Cybersecurity Insurance** – The increased prevalence of cyber-attacks (including ransomware) has led to increased demand for and writings of cyber insurance. An increasing loss trend has caused insurers to continue to evolve product coverages to improve underwriting performance, which continues to be an area of increased focus and monitoring by state insurance regulators.



## Recommendations

With the conclusion of the initial risk assessment, regulators and NAIC staff have raised the following recommendations for further consideration either by the Financial Stability (E) Task Force or the Macroprudential (E) Working Group.

- **Interconnectedness** – While the analysis of interconnectedness risk is accurate, it may be possible to substantively enhance the information presented to enhance the ability to understand counterparty specific exposures across assets, liabilities, and insurer operations (including reinsurance related activity). For instance, it may be beneficial for regulators to understand the insurance industry’s exposure to financial institutions across stocks, insurance products, bonds, debt, etc. However, such work could require substantive efforts by FRS and CMB.
- **Climate Data** – While there are already substantive efforts under way to monitor and respond to climate risks via the Climate and Resiliency (EX) Task Force and the NAIC’s Catastrophe Modeling Center of Excellence, it may be appropriate for the Working Group to consider if additional data would help support the Working Group’s efforts to monitor risk exposures. Specifically, regulators should consider the identification of industry wide risk indicators (i.e., nat cat loss ratios, rate increases, and non-renewals) whether existing reporting requirements enable adequate monitoring of the underlying risk(s) at an industry wide level.
- **Cyber Insurance** – While the insurance market is currently relatively small, it may play an important role as the country attempts to address cybersecurity risk from an operational perspective. However, while the initial Report includes analysis of marketplace trends, it may be appropriate to perform further analysis including of the data available to regulators to better understand pricing, reinsurance, policy limits/exclusions and other underwriting trends in support of the Working Group’s macroprudential supervisory efforts.
- **Enhanced Data & Analysis** - There may also be other risks or exposures where regulators could benefit from additional data to enable a more thorough industry wide risk assessment, but that would require additional study which NAIC staff could assist with. For instance, regulators may benefit from additional data related to the use of, investment in, and exposure to Funding Agreement Backed Notes and liability duration data.



## Systemic Risk and Macroprudential Assessment

Macroprudential policies and practices are intended to provide regulatory oversight to the overall financial system. The financial crisis of 2008 demonstrated that substantial consequences can arise from insufficient capital, liquidity, and transparency in the financial sector during times of stress. In response to the financial crisis, state insurance regulators have increased their focus on the stability of the insurance industry within the overall financial system. The primary aim of macroprudential policy is to ensure that financial disruptions are identified and addressed prior to posing a systemic threat. The U.S. Insurance Industry Macroprudential Risk Assessment shall serve as our primary tool to identify, measure and monitor risks to the insurance industry as well as the risks the insurance industry may pose to the overall financial sector (i.e., both inward and outwards risk).

- Macroprudential risk assessment is the analysis of systemic risks within the financial sector.
  - Systemic risk is the risk of disruptions to financial services caused by impairments of all or parts of the financial system.
  - Further, *these impairments must have the potential to induce serious consequences for real economic activity to be considered systemic.*
  - Macroprudential risk is distinct from microprudential risk, which is focused on financial risk faced by individual institutions.
- In addition to examining aggregate financial risks in specific financial sectors, macroprudential risk assessments consider the interconnectedness of financial sectors.
  - This macroprudential assessment of the insurance industry considers the insurance industry's connections with other financial industries, such as commercial banking and the capital markets.
- Macroprudential efforts within the NAIC reflect state insurance regulators' commitment to protect policyholders by ensuring financial strength of the insurance sector at large.
- Macroprudential measures also serve as a stabilizing force that contributes to financial stability in the insurance industry when financial markets are stressed.



## Macroeconomic Risk: Summary

Following over the past two years, economic growth toward the end of 2021 and heading into 2022 has been restrained by supply chain disruptions and tight labor markets, and the inflation rate has spiked to its highest level in 40 years. However, capitalization and moderately higher interest rates should help the insurance industry weather economic challenges.

Assessment Level: Moderate-High

Trend: Increasing 

### Macroeconomic: Overarching Observations

The macroeconomic environment is foundational to the health and stability of the financial sector. Historically, the performance of financial markets has been closely tied to macroeconomic performance. However, the causal direction works both ways. Notwithstanding geopolitical risk, financial crises usually have their beginnings from a macroeconomic disruption. Additional macroeconomic analysis is provided in Appendix C.

The broadest measure of economic output is gross domestic product (GDP), the sum total value of annual output.

- Adjusted for inflation (real GDP), economic output enjoyed vigorous growth in 2021, well above the historical average over the past few decades.
- Going into 2022, economic growth reversed course and declined modestly. The U.S. economy is expected to see tepid growth at best for the remainder of the year and in 2023. S&P Global puts the risk of a recession in 2023 in the range of 40% - 50%.
- Supply-side issues, such as the availability of labor and intermediate production inputs, are largely to blame for recent stagnation.

Declines or stagnation in economic activity typically reduce the profitability of insurers.

- Premium growth is slower (or negative).
- Growth in premium rates tends to moderate.
- With increased household financial stress, annuity withdrawals are more likely, as are loans against or surrender of cash-value life insurance products.
- Claims on disability insurance tend to move with the business cycle.

The most significant macroeconomic impact on insurers is the influence of interest rates. The “headline” inflation rate (CPI) was at its highest level in almost four decades in 2021 and has failed to moderate with any consistency in 2022.

- Climbing rates of inflation can destabilize financial markets and the real economy.
  - Inflation has the potential to significantly impact the underwriting performance of Property/Casualty and Health insurers as the cost of goods and services covered rises.
- Nominal (posted) interest rates increase with inflation.
  - Higher interest rates provide greater returns on newly issued debt holdings and may allow life insurers more room to widen the spread on annuities.
  - Existing bond holdings fall in market value as interest rates increase. Outside of a major disruption, however, this effect is subdued for insurers holding bonds to maturity.





## Macroprudential Risk Assessment

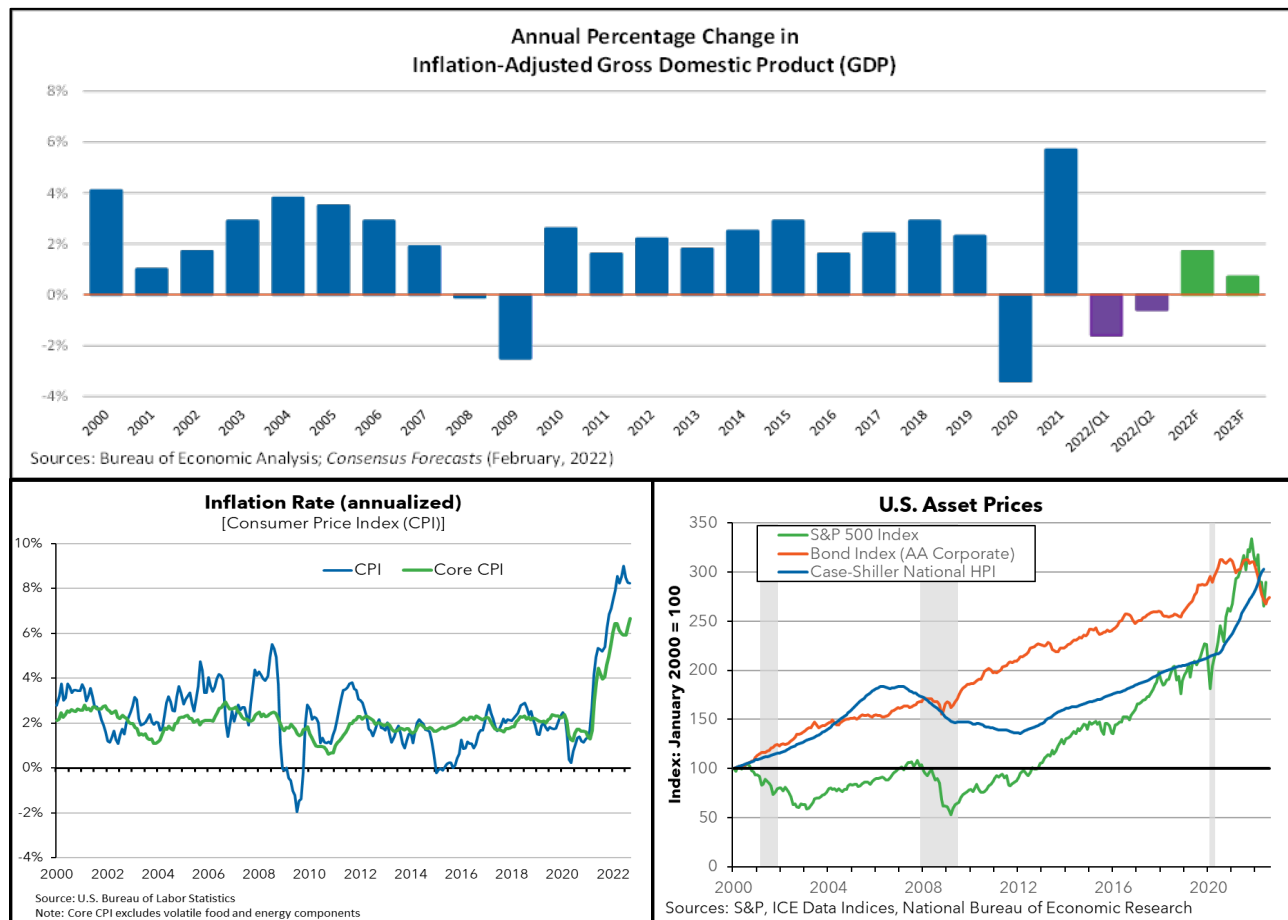
- If the demand for money remains sufficiently low, nominal interest rates are not certain to rise significantly, and inflation could feasibly push *real* interest rates lower.

### Macroeconomic: General Economic Trends

Growth in inflation-adjusted U.S. Gross Domestic Product (real GDP) was well above trend growth at 5.7% year-over-year in 2021. This performance follows a 2.5% decline in real GDP in 2020, which was driven by the immediate impact of COVID-19 in the second quarter of that year. GDP dropped off modestly in the first two quarters of 2022 but growth for the year is expected to be 1.7%, or modestly below average for the decade preceding the onset of the COVID-19 pandemic (*Consensus Forecasts*, Aug. 2022). Economic growth is expected to be even softer in 2023 at 0.6% (*Consensus Forecasts*, Aug. 2022). S&P Global puts the chance of a recession in 2023 in the range of 40% - 50%. Supply disruptions, including labor supply, are the primary culprits in moderated growth.

The inflation rate, as measured by the Consumer Price Index (CPI) began to surge in mid-2021, ending the year at an annualized rate of 7.1%, compared with 1.3% at the end of 2021. Inflation has continued to rise unabated, reaching over 8% in 2022.

Asset prices were arguably much over-valued in 2021, but in 2022 (as of third quarter), bond prices have moderated and aggregate stock valuations, such as the S&P 500, have fallen to 2020 levels. Home prices have risen at a nearly unprecedented 17% percent over the past year. High asset prices could spur increased investments in less traditional securities. If money markets continue to tighten, downward pressure on bond prices will provide more attractive yields on more traditional balance sheet assets such as corporate and municipal bonds.



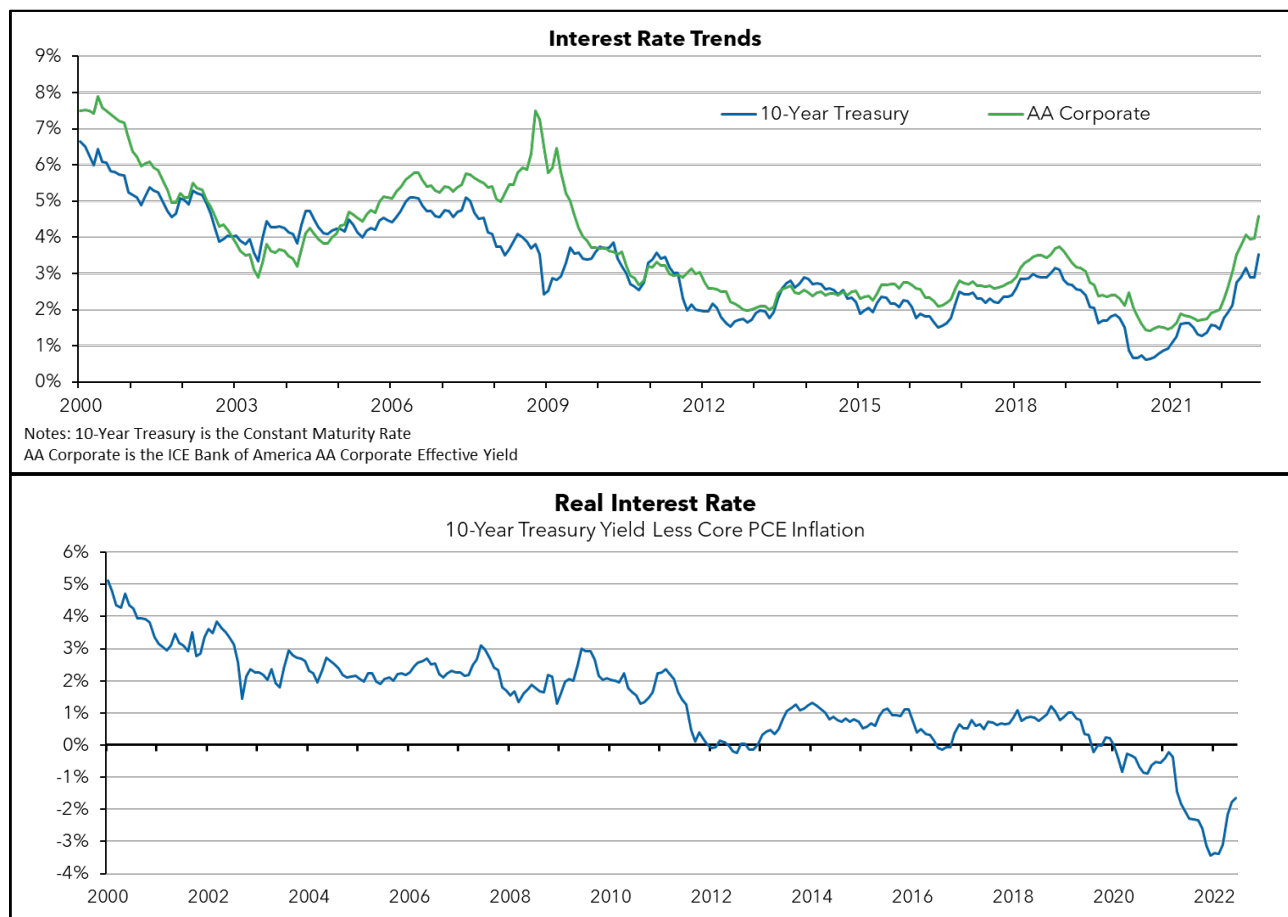


## Macroeconomic: Interest Rate Trends

Persistently low interest rates over the last several years have been a considerable threat to the insurance industry, particularly for life insurers. Interest-earning bonds dominate the balance sheets of all insurance firms but are especially prominent on life insurer balance sheets.

The benchmark (risk-free) rate for long-term bonds is the yield on (constant maturity) 10-year Treasury bonds. With a few minor exceptions, the yield has been less than 3% since mid-2011, and at times less than 1% (2020). The 30-year Treasury bond has shown similar poor trends over the same period, which is notable for life insurers, which tend to hold longer duration bonds. Although bond prices have been falling, which increases yields, insurers may for some time effectively remain in a low-interest rate environment because they typically hold debt with long maturities, most of which were purchased when yields were exceptionally low. Selling the bonds would not free them of this position because the lower price they would get for their existing bonds would offset gains from higher yields on newly purchased bonds.

The pickup in inflation in 2021 and into 2022 has put upward pressure on nominal (posted) interest rates, but long-term rates remain quite low by historical standards in the 3% to 4% range. Interest rates have not kept pace with inflation, and as a result, real interest rates (accounting for inflation) are negative.





## Macroeconomic: Labor Market Conditions

Labor market conditions deliver mixed signals. The unemployment rate surged with the onset of the COVID-19 pandemic, rising from below 3% to 13.1% between February and April 2020. The unemployment rate has since come down sharply with a most recent reading of 3.5%, which is historically low, especially given negative to minimal growth in real GDP. Indeed, a 3.5% unemployment rate is unsustainable over the long run, as natural frictions in the labor market, such as workers moving or job obsolescence, would normally result in a higher rate of unemployment, even during periods of economic expansion. The average unemployment rate since 2000 is 5.9%. Especially low unemployment rates tend to be inflationary. A significant labor market concern is the steep decline in the labor force participation rate (LFPR) since the onset of COVID-19. Even well after a gradual return to normalcy in the business environment, labor force participation has remained stubbornly low. The paucity of workers has put upward pressure on prices, which has contributed to higher inflation rates.





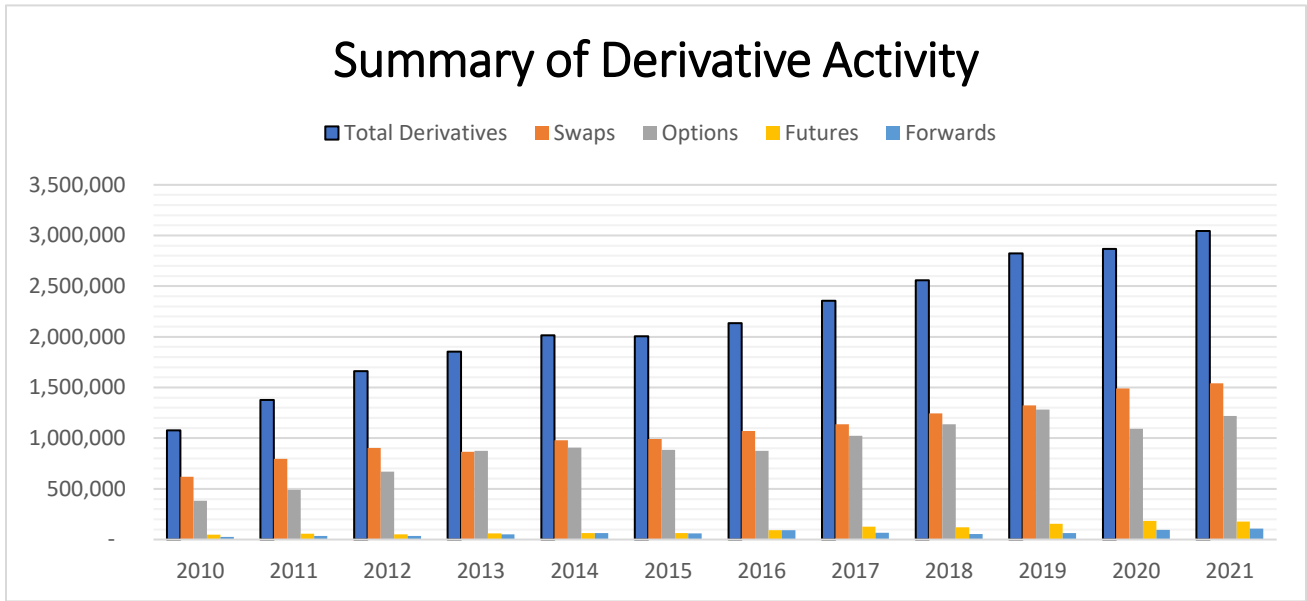
## Interconnectedness Risk: Summary

Given the rising levels of interconnection between the U.S. insurance industry and other financial entities across the globe (i.e., reinsurance, PE, derivatives, FHLB/FABN, etc.), state insurance regulators assessed this risk as follows:

Assessment Level: Moderate-Low	Trend: Increasing
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In evaluating interconnectedness, state insurance regulators are mindful that risk can accumulate across activities and thus, should be focused on counterparties. This initial analysis is constructed based on activities and asset classes given the availability of data. Subsequent analysis may be bolstered by enhanced counterparty disclosures. Additional observations include:

- Derivatives are generally viewed as a risk mitigation tool as evidenced by 96% of derivative activity being held for hedging purposes. However, the increasing derivative exposure (measured in terms of notional amount) stood at \$3 trillion at 2021 which compares to industry wide cash and invested assets (C&IA) of \$8 trillion showing a growing interconnection with derivative counterparties.
- Another connection or transmission channel to the banking system and capital markets is FHLB loans and Funding Agreement Backed Notes (FABN's) respectively. The total reliance across the industry on FHLBs/FABNs is relatively low, but for individual insurers, the reliance may be more significant. At year-end 2021, FHLB and FABN balances compared to C&IA stood at 1.45% / 1.9%, respectively compared to 1.51% / 1.52% positions at 2020 year-end.
- Reinsurance represents another significant interconnection albeit one that is monitored by jurisdiction/country. In 2021, of the total direct property & casualty (P&C) premiums written by U.S. insurers, 11.9% was ceded to foreign reinsurers which is up from 10.4% in 2020. In comparison, 10.8% of total direct Life premiums were ceded to foreign reinsurers in 2021, compared to 7.1% in 2020. This demonstrates a growing interconnectedness and reliance on foreign reinsurers.
- Insurer investments in financial institutions (i.e., banks, non-affiliated insurers, etc.) within the stock and bond asset classes remained relatively stable from 2019 to 2021. As a percentage of C&IA, insurer investments in financial institutions totaled 6.7%, 7%, and 6% from 2019 to 2021.
- Bermuda is the largest reinsurance partner to US insurers when evaluated by country. Bermuda receives over \$75 billion of cessions across all lines of business with much of the business ceded representing CAT risk while also including significant recent growth in life cessions. This could represent a growing and important interconnection between the US and Bermuda for reinsurance support.
- The state insurance regulators are also aware of the activities of PE owned insurers partially because of the heightened potential for interconnection including but not limited to asset managers, capital markets and other (re)-insurance companies. PE owned insurers' C&IA decreased to \$472 billion down at year-end 2021 from \$487 billion at year-end 2020. However, this decrease is generally due to an increase in life reinsurance cessions noted above, which results in C&IA being moved to an offshore affiliate and no longer incorporated in the domestic totals.
- Other transmission channels in this category include securities lending and repurchase agreement activity and consideration of counterparties.







## Underwriting & Profitability Risk: Summary

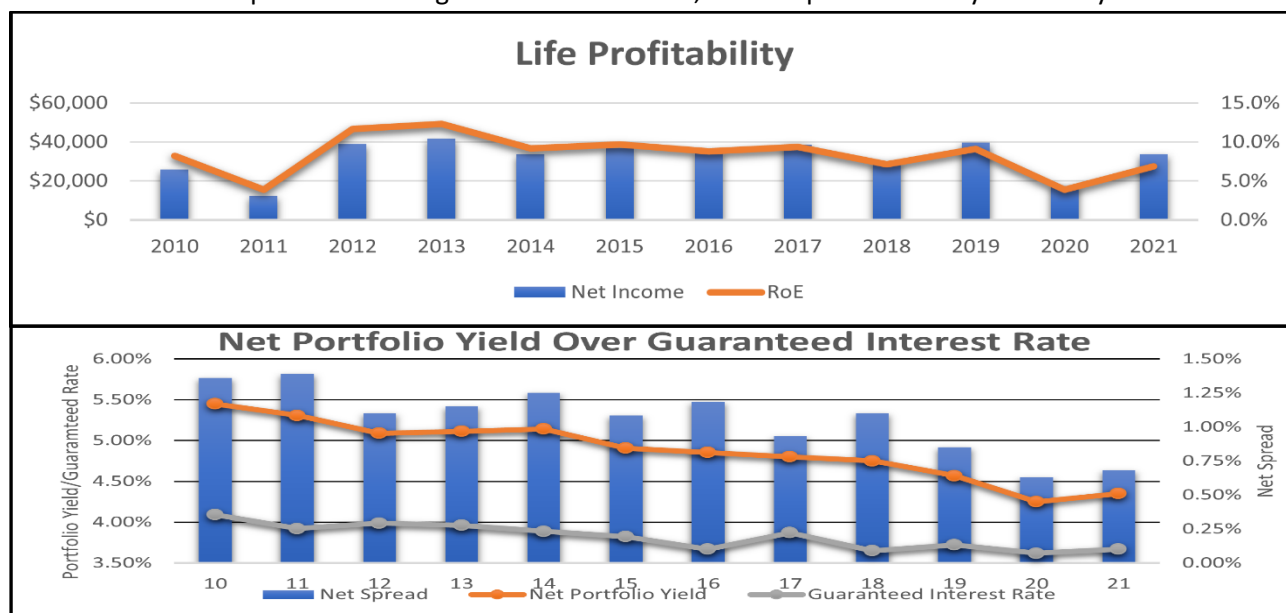
Although the insurance industry generally demonstrates resilience in underwriting and profitability, specific trends related to long-term care insurance, natural catastrophe exposure, and interest rate spreads/rapidly rising interest rates, led to the following assessment:

Assessment Level: Moderate-Low	Trend: Increasing
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### Underwriting & Profitability: Life Sector

The life sector has consistently produced stable, but somewhat modest operating gains for several years. While results vary by products and insurers, there has been a noted shift towards fee-based products from spread based products. This is largely because fee-based products can provide a valuable source of consistent earnings when interest rates are reduced, such as during the past decade. However, fee-based products, such as variable annuities, have the potential to result in greater short-term volatility, as fees can decline with equity values during down markets. Additional observations include:

- Return on equity for the whole sector improved in 2021 up to 6.9% compared to 3.9% in 2020, partially driven by a small recovery in spreads observed in 2021 but mostly attributable to 2020 activity during which mortality was higher, fee income from variable annuities dropped from lower asset prices, and partially unhedged equity and interest rate risks lead to increases in net reserves. However, this 2021 level remains lower than the observed trend from the ten-year period ending 2019 which saw average RoE of 8.9%.
- The prolonged low interest rate environment adversely affected earnings over the past few years, although interest rates have risen rapidly since year-end driven by the Federal Reserve’s attempt to bring inflation levels back down closer to their target of 2%. However, rapidly rising interest rates may present separate challenges to insurers, brought on by customers surrendering lower yielding products in favor of products with a greater return.
- In addition to the general industry monitoring, state insurance regulators are also closely monitoring the continued challenges, including cost-of-care inflation and the impact of Covid-19, as well as experiences in long-term care insurance, which is predominantly written by life insurers.

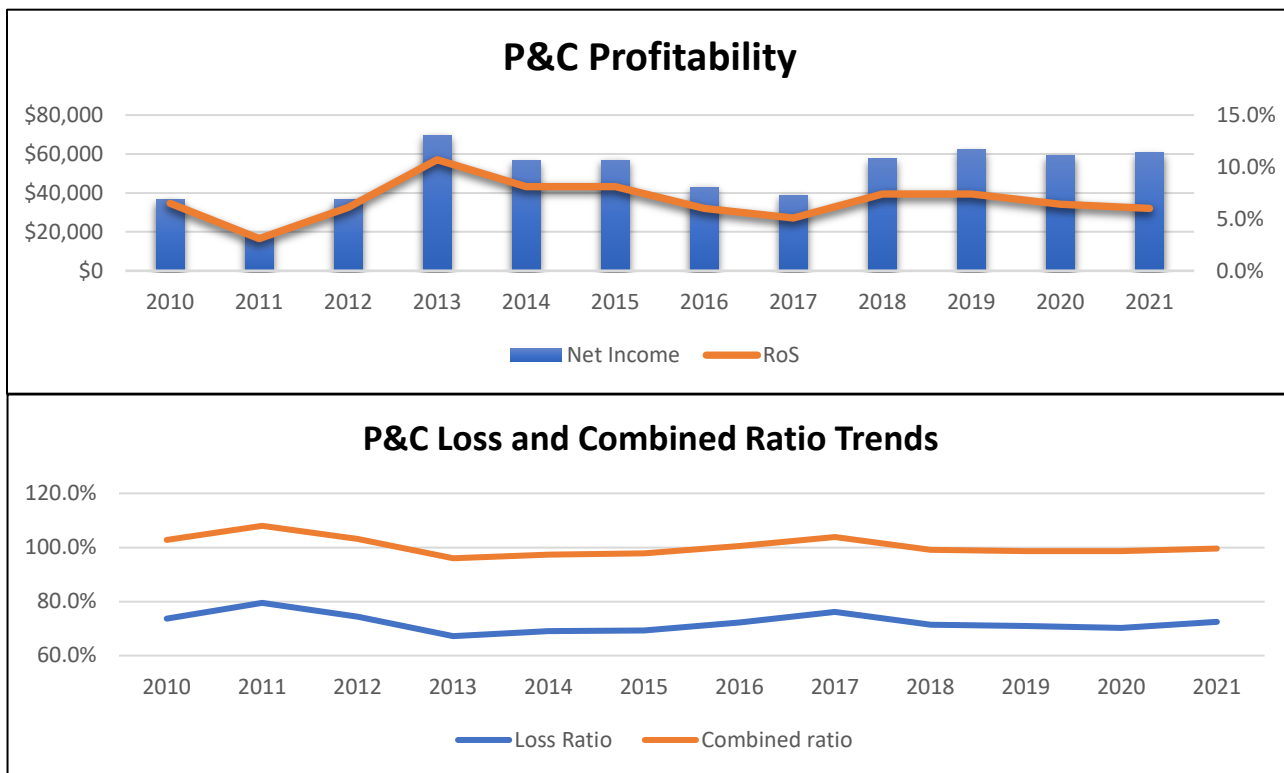




## Underwriting & Profitability: P&C Sector

The P&C sector experienced some challenges in 2021 driven by catastrophe losses and worsening results in personal auto driven by inflation and increases in driving activity, as well as in commercial liability lines driven largely by social inflation. In aggregate, the industry saw aggregate underwriting losses in 2021 after three years of aggregate underwriting gains. Additional observations include:

- Underwriting results continue to benefit from prior year reserve releases, driven primarily by favorable development of workers' compensation reserves. However, prior year reserve releases have diminished in the last three years, partly due to social inflation driving loss costs higher in certain commercial coverages (other liability occurrence, commercial auto liability, and products liability occurrence), leading to a strengthening of prior accident year reserves for these lines.
- The P&C sector remained profitable when including \$71 billion in investment gains for the year.
- Climate risk and increasing natural catastrophe exposure may create an increasingly challenging business environment going forward. According to the National Oceanic and Atmospheric Administration, in 2021, the US saw natural catastrophes costing in excess of \$148 billion with losses coming from many types of weather events, 20 of which resulted in losses in excess of \$1 billion.
- Specific to cybersecurity, state insurance regulators are monitoring the balance of growing the line of business while still making prudent underwriting decisions noting the overall trend towards increasing losses (65% loss ratio in 2021 up from 44.6% for the top 20 insurance groups in 2019) and therefore leading to large premium increases.
- Specific to InsurTech growth, which may come with innovation to the industry, many "full-stack" InsurTech companies have had challenges in producing net income.

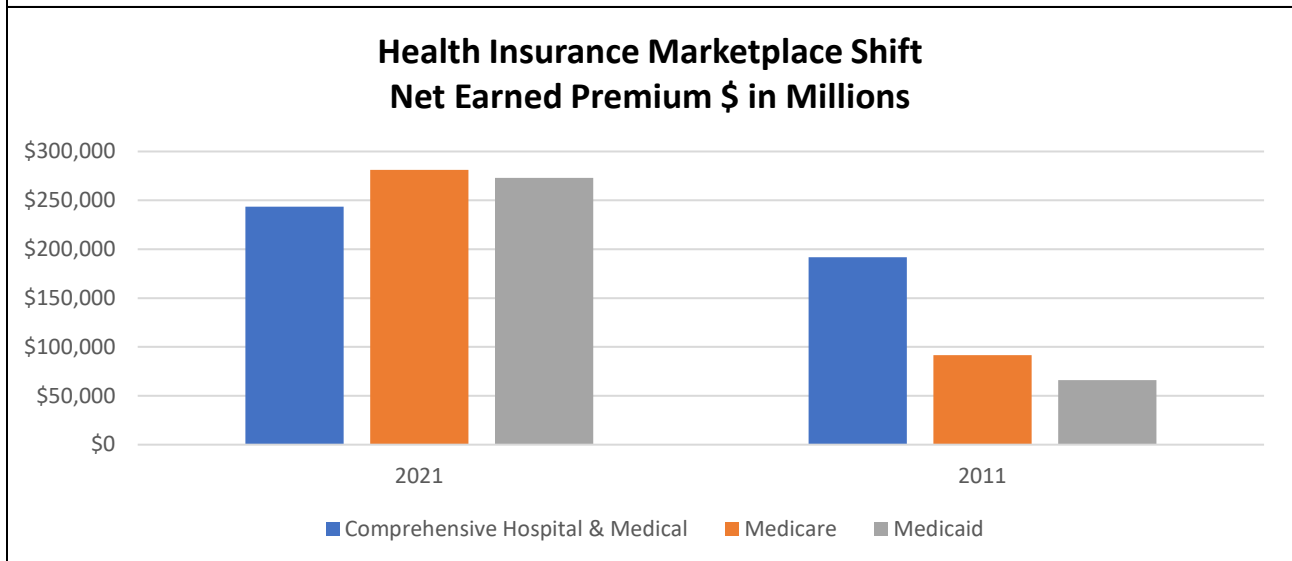
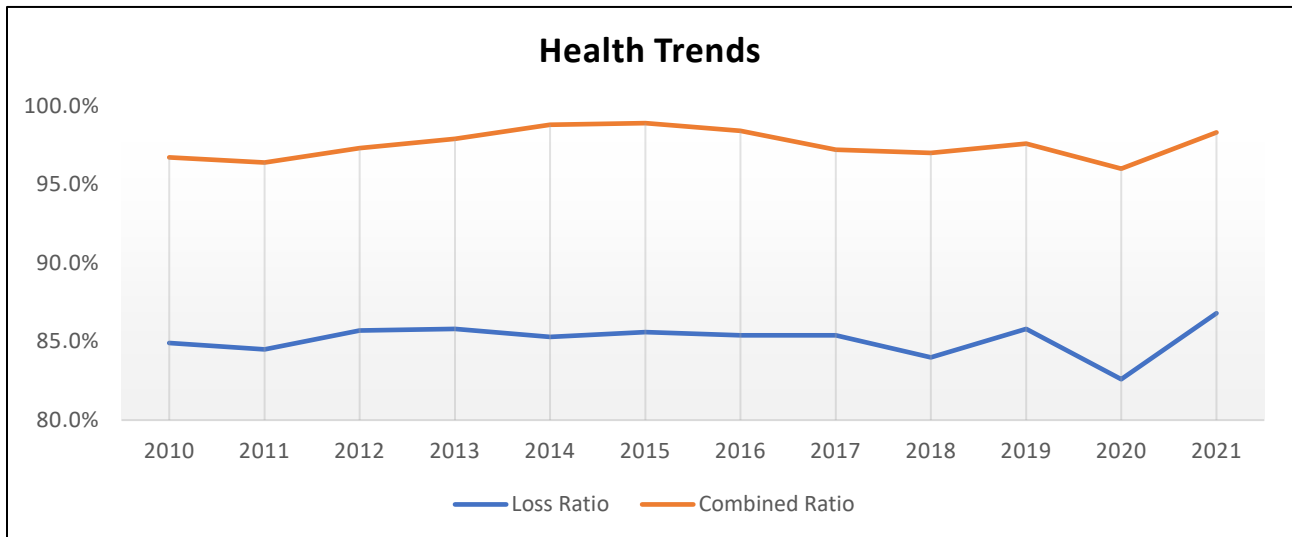




## Underwriting & Profitability: Health Sector

Since the start of the pandemic, state insurance regulators have been closely monitoring health insurers to understand and proactively address the impacts of the pandemic on the broader insurance industry and more specifically, the health insurance sector. Additional observations include:

- In 2021, the health insurance industry saw increases in both the loss and combined ratio to 86.8% and 98.3%, respectively, up from 82.6% and 96% in 2020. However, loss and combined ratios are in line with 10-year averages.
- The increase in loss and combined ratios was largely attributed to increasing hospital and medical benefits partially as a response to policyholders receiving care that was deferred at the start of the pandemic but is also consistent with the long running trend in increasing hospital and medical benefits associated with medical inflation. This was partially offset by decreases in administrative expenses primarily due to the repeal of the annual health insurer fee after December 31, 2020.
- Over the course of many years, state insurance regulators observed a trend in the types of business driving the health insurance sector. What was previously a business driven by commercial and individual health care policies, has increasingly transitioned its focus to governmental programs (i.e., Medicaid/Medicare).





## Market Risk: Summary

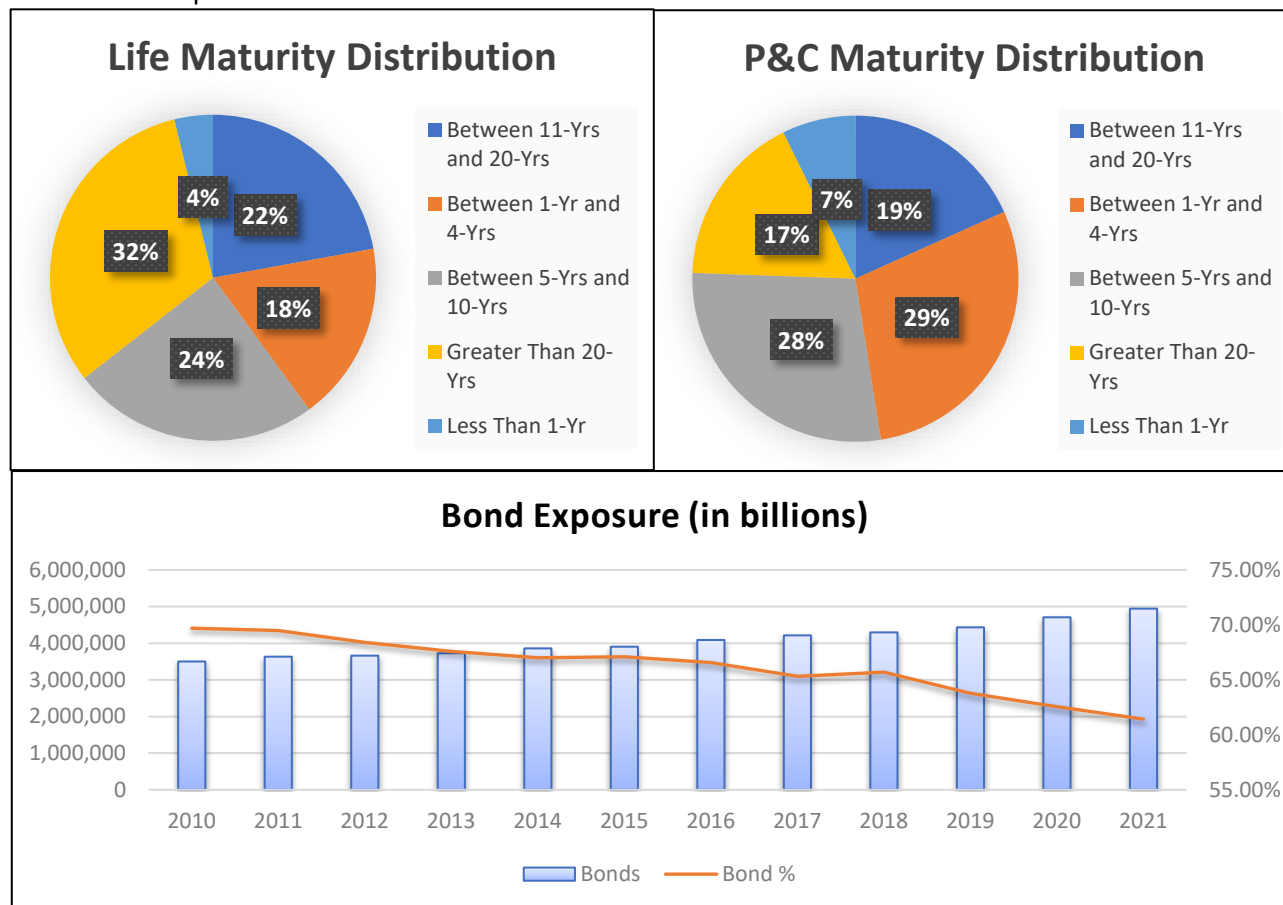
Based on increasing common stock and BA asset exposure and volatility moving forward, the state insurance regulators reached the following assessment:

<b>Assessment Level: Moderate-Low</b>	Trend: Increasing
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### Market Risk: Bond Exposure

The following bond analysis is focused on the life and P&C sectors. Fixed income market risk, driven by interest rate volatility, is typically minimal for insurers. Recent large increases in interest rates lead to decreases in bond fair values and may increase GAAP unrealized losses. However, this is significantly tempered by statutory accounting treatment in which insurers carry most of bonds at book adjusted value as they hold most bonds to maturity consistent with asset-liability matching practices (as reflected in the maturity distribution charts below showing maturities largely aligned with liability timelines) rather than selling them at a discount when interest rates rise.

- Measured at 12/31/2021, bond rate expectations were relatively high as measured by the YLDVOL index which ended the year at 72.76 relative to 12/31/2020 ending rate of 55.41.
- This is consistent with the raises in interest rates we've seen both at the Fed Funds rate and in the marketplace.



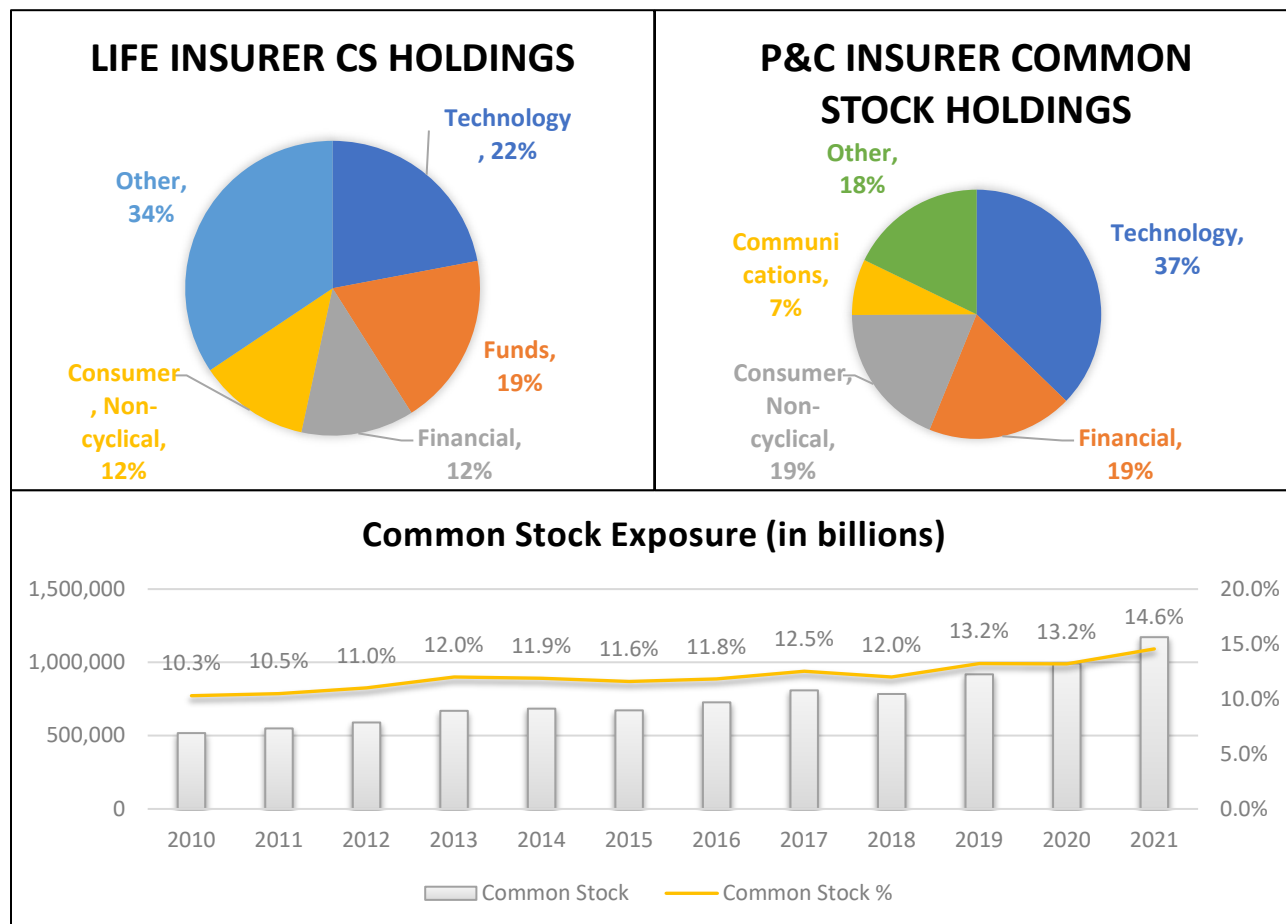


**Macroprudential Risk Assessment**

**Market Risk: Common Stock Exposure**

The following common stock analysis is focused on the life and P&C sectors, however, the life sector’s exposure to common stocks is comparatively limited. In evaluating the common stock related market exposure across the industry, the state insurance regulators are closely monitoring both the growing asset balance as a percentage of insurer asset portfolios and the volatility in prices going forward. While the exposure may be appropriate for individual insurers and groups, it may also represent a risk worth monitoring at the industry level if only to enable timely responses in the event of a more significant market downturn in the future.

- Unaffiliated common stock holdings remain relatively consistent from 2020 to 2021 with technology holdings leading the way.
- State insurance regulators are closely monitoring market volatility for its potential impact on industry wide and legal entity/group portfolios.
- The VIX (ticker symbol and the popular name for the Chicago Board Options Exchange's CBOE Volatility Index) measure traded widely both in 2021 and 2020 but ended each period at relatively low levels of expected volatility based on measures of 17.22 and 22.75, respectively with increased volatility expected going forward given geopolitical tensions and the Federal Reserve Board’s ongoing efforts to bring down levels of inflation.
- At least part of the increased common stock exposure is attributed to rising prices in the equity market noting S&P annual returns in excess of 15% in 2020 and 2021.







**Macroprudential Risk Assessment**

## Market Risk: Derivative & Other Asset Exposures

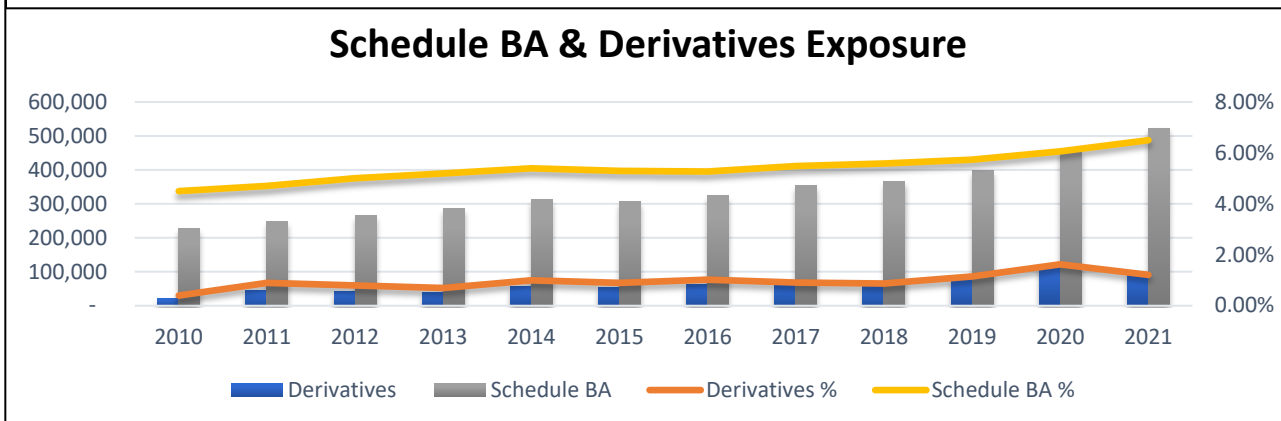
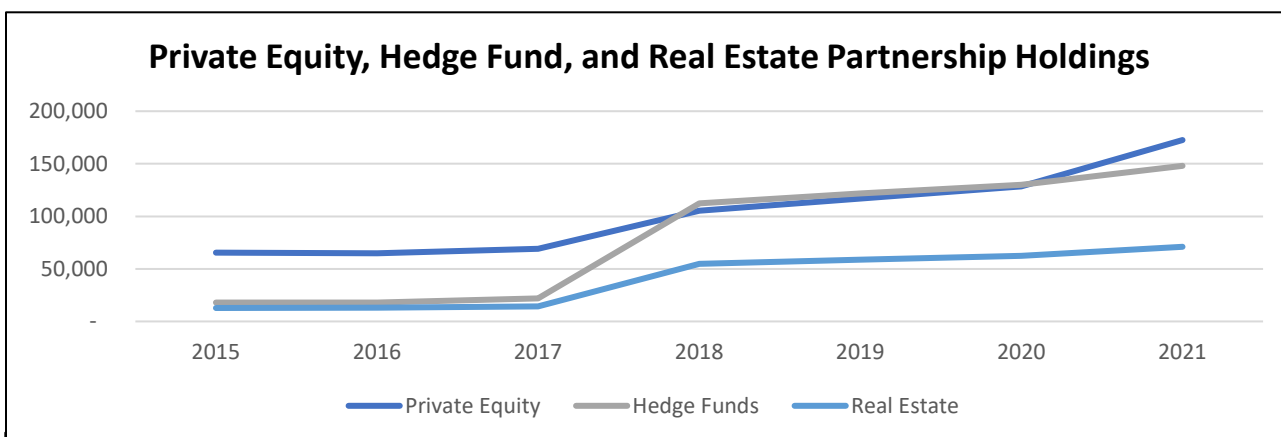
State insurance regulators are also closely monitoring other assets (i.e., assets that don't meet the traditional definitions of bonds, stocks, cash and short-term, real estate and mortgage loans), for varying reasons described below. The insights that follow are provided by the Capital Markets Bureau.

**Derivatives:**

- At 2021, 96% of derivatives are held for hedging purposes, which is consistent with historical use of derivatives. Refer to the Interconnectedness section of this report for further discussion of derivatives.

**Other Assets:**

- At 2021, private equity, hedge funds, and real estate holdings represent 33%, 28.3%, and 13.6% of other asset holdings, which as noted below represent 6.5% of C&IA across insurance industry holdings.
- 76% of the industry's exposure to other assets was in insurers with greater than \$10 billion of C&IA.
- Unaffiliated other asset exposure increased by 28% and accounted for 48% of total other asset exposure, the largest share since 2010.
- The private equity investment share of total other asset exposure has increased and surpassed hedge fund investments to become the largest component of the exposure.





## Credit Risk: Summary

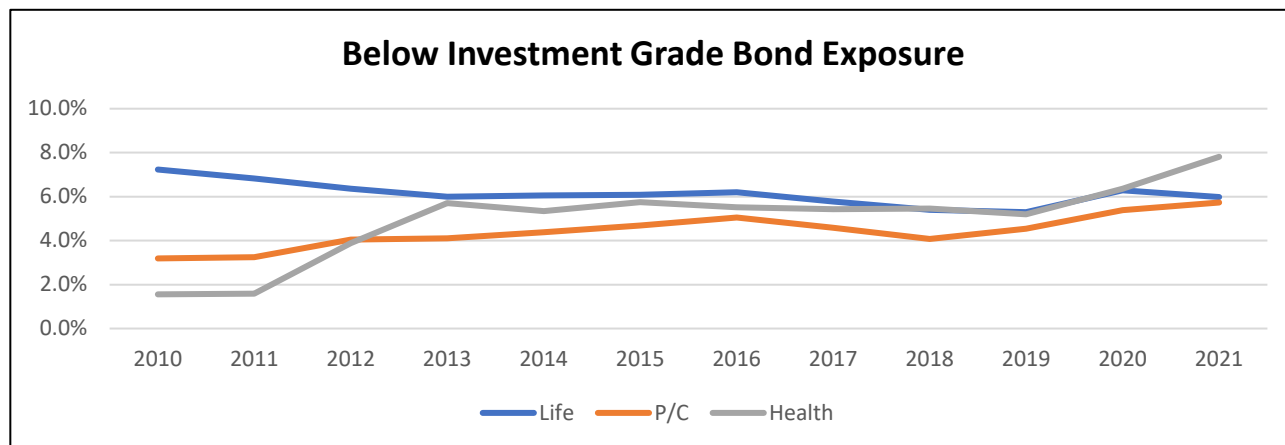
Although the insurance industry has taken on some increased level of credit risk in an effort to generate yield in a low interest rate environment, the bond and broader asset portfolios are still largely conservative and support a risk assessment as follows:

Assessment Level: Low	Trend: Increasing
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### Credit: Bond Credit Quality

In 2021, regulators continued to see a general shift away from bonds and within bonds, a continued shift towards higher levels of risk with insurers reacting to the persistent, low interest rate environment. As the Capital Market’s Bureau noted in their 2021 Asset Mix Special Report, “the share of bonds in the U.S. insurance industry’s investment portfolio has declined to 61.4% at year-end 2021 from 70% at year-end 2010, while the share of common stocks, mortgages, and Schedule BA assets have gradually increased to 14.6%, 8.3%, and 6.5%, respectively.” Refer to the Market risk section of this report for further analysis on common stock and other asset industry exposures. Additional observations include:

- The insurance industry’s bond portfolio included a recent modest increase in the percentage of bonds rated below investment grade (BIG) at 6%. This compares to the 10-year average from 2019 to 2010 of 5.6%.
- While insurers modestly increased their exposure to bond credit risk at year-end, both corporate spreads and high yield corporate spreads were relatively narrow compared to recent historical norms, which can be indicative of a challenging investment environment and may be limiting the incentive to take on additional credit risk. At year-end 2021, the ICE BofA US High Yield and Corporate Index spreads were measured at 3.1% and .98% although both have risen since year-end.



### Credit: Structured Security Exposure

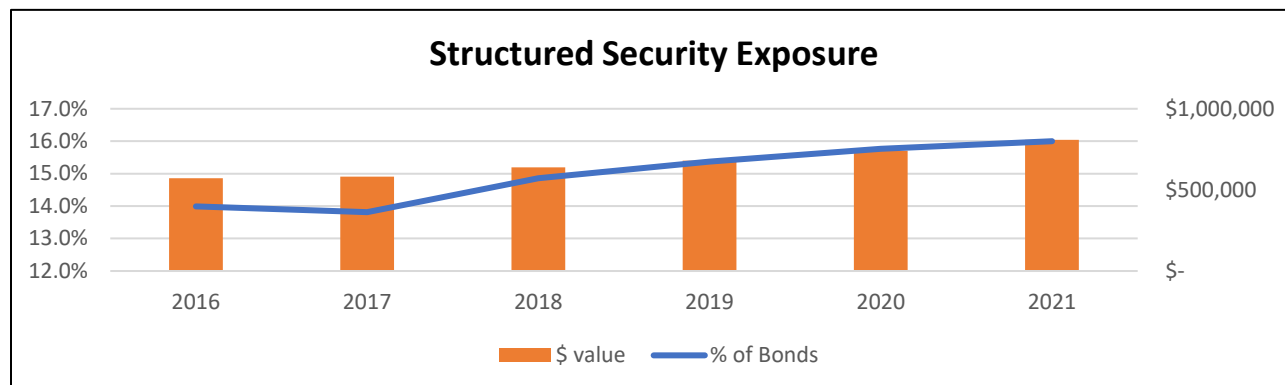
Further analysis of bonds held by insurers, reveals an increasing mix of structured security exposure, which includes residential mortgage-backed securities (RMBS), and private-label commercial mortgage-backed securities (CMBS). Additional observations include:

- As a % of bonds, structured securities comprised 16.4% of bonds, up from 14% in 2016.



## Macroprudential Risk Assessment

- As a subset of structured securities, regulators are also monitoring the increasing acquisition of Collateralized Loan Obligations (CLO), which have increased to 4.4% of bonds up from 3.5%.



## Credit: Other Exposures

Other assets are also subject to credit specific monitoring by state insurance regulators including the subset of bonds that are either of sovereign or foreign entities. Additional observations include:

- The total of sovereign/foreign bond exposure is down from 7.6% as a percentage of C&IA in 2019 to 5% of C&IA in 2021, with the largest portion held associated with relatively stable countries/economies including the United Kingdom, Canada, and Australia (20.6%, 19.7%, and 11% of sovereign/foreign bond exposure in 2021 respectively).
- Exposure to specified countries with heightened geopolitical tensions/circumstances (China, Russia, & Ukraine) represent less than 1% of sovereign/foreign bond exposure at 2021.
- Industry wide mortgage loan exposure stands at \$647.7 billion or 8% of C&IA at year-end 2021. In monitoring this exposure, state insurance regulators assess the types of properties underlying the loan exposures for which the most significant at year-end were multifamily/apartment and office related loans coming in at \$188 billion or 29% of mortgage loans and \$137 billion or 21.4% of mortgage loans, respectively.
- As the CMB notes in the 2021 Mortgage Loan Special Report, “delinquencies for the various property types have improved following the economic impact of the COVID-19 pandemic. Retail and lodging continue to be the most stressed, with 7.6% and 10.5% of retail and lodging loan balances, respectively, being delinquent—i.e., 60 or more days past due—as of Dec. 31, 2021”.

Future credit analysis will also be enhanced to consider reinsurance related credit risks.



## Liquidity Risk: Summary

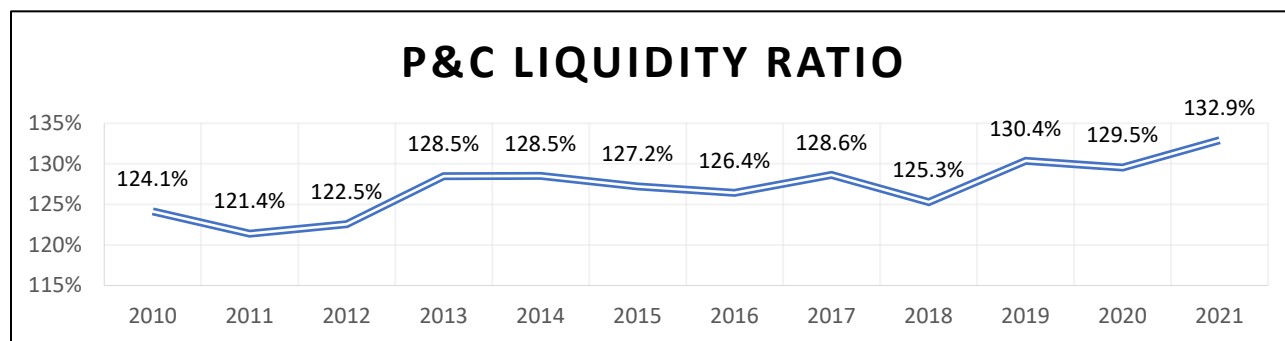
Given strong liquidity positions and access to additional sources of liquidity in a stressed environment across the insurance industry overall, state insurance regulators assessed this risk as follows:

<b>Assessment Level: Low</b>	Trend: Stable <span style="color: blue; font-size: 1.2em;">➔</span>
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### Liquidity: P&C Sector

In evaluating P&C industry wide liquidity, the state insurance regulators focused their analysis on liquidity ratios with consideration of other data. Additional observations include:

- When comparing operating cash flow to capital and surplus across the industry, the industry is trending up slightly among the periods observed with 2021 ending at 12% up from 10% in 2020 and a 7% average observed from 2010 through to 2019.
- Drawing from the NAIC’s industry analysis: net cash provided by operating activities increased 25.8% to \$124.3 billion. Premiums collected net of reinsurance rose 9.1% to \$713.1 billion while benefit and loss related payments rose 8.0% to \$378.7 billion leading to an 8.7% increase in operating cash inflows.
- P&C liquidity continued to reflect an increase in liquidity reaching a 10-year high liquidity ratio of 132.9% in 2021.



### Liquidity: Health Sector

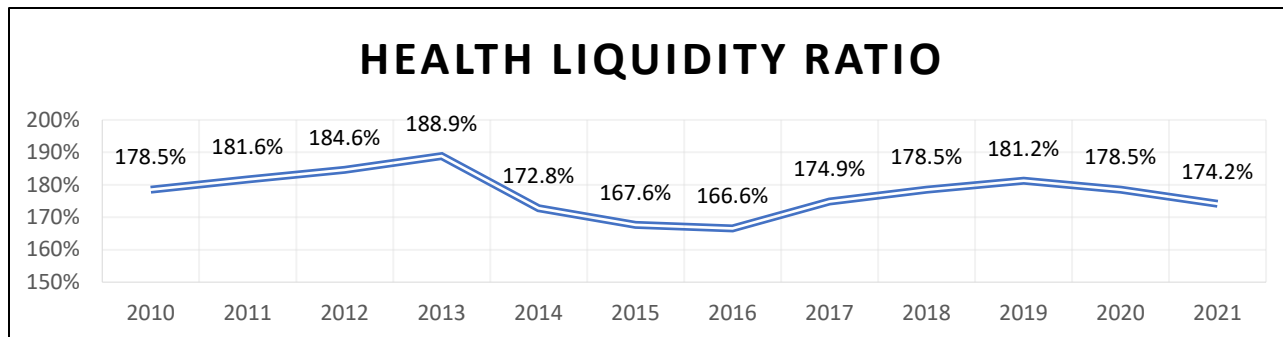
In evaluating health industry wide liquidity, the state insurance regulators also focused their analysis on liquidity ratios with consideration of other data. Additional observations include:

- When comparing cash flow to capital and surplus across the industry, the ratio was noted at 10% for 2021 compared to 32% for 2020. When comparing against recent historical norms, however, the ratio results for 2021 is in line with the average observed from 2010 through 2019 of 12%.



## Macroprudential Risk Assessment

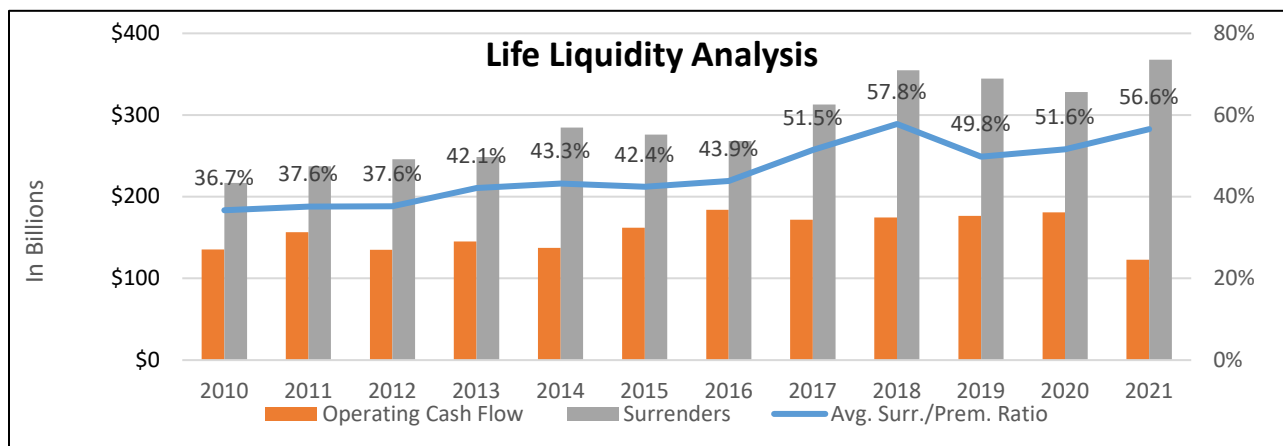
- Drawing from the NAIC’s industry analysis: The health insurance industry showed a significant decrease in operating cash flow to \$18 billion in 2021 as compared to operating cash flow of \$56 billion in 2020. The considerable decrease in positive cash flow is due primarily to a 14% (\$96 billion) increase in in benefits and loss-related payments premiums collected partially offset by a and a 7% (\$56 billion) increase in premiums collected net of reinsurance.



### Liquidity: Life Sector

In evaluating life industry wide liquidity, the state insurance regulators took a fairly broad view that included several key metrics. Additional observations include:

- The percentage of withdrawable reserves with little or no fee is relatively consistent with historical norms ending at 16% at year-end 2021 compared to 15.4% at year-end 2020. Withdrawable reserves with little or no fee going back 9 years (available data) have averaged 16.1%.
- Surrenders to net premium written (NPW) have followed an opposite trend increasing in the period observed and up to 56.6% in 2021 from 51.6% in 2020. Recent increasing surrenders are likely driven by the Federal Reserve raising interest rates 7 times starting in 2017 through to 2018 likely leading to policyholders’ higher investment returns. Surrenders staying high in 2020 and on is attributed to policyholder cashflow needs brought on by the pandemic.
- Drawing from the NAIC’s industry analysis: The life industry reported operating cash flow of \$123.1 billion in 2021, down 32.0% (\$57.9 billion) from \$180.9 billion in the prior year. The decline was primarily from an increase in benefits and loss payments of 13.0% (\$86.0 billion) and an increase in commissions of 3.1% (\$4.3 billion).







## Liquidity: Additional Indicators

In addition to the sector specific analysis, the state insurance regulators are closely monitoring the following activities/trends:

- **LST Stress Testing (LST) Results** – The LST is a regulatory tool intended to aid regulators in identifying amounts of asset sales by insurers that could impact the markets under stressed environments while also providing regulators with insights on the liquidity position of insurers subject to the filing requirement. Per the most recent filings reviewed, the impact of aggregate asset sales in the most severe stress scenario for the 21 large life insurers subject to the LST to the capital markets is not significant. Most insurers were able to absorb cash flow deficits in stressed scenarios with cash on hand. In extreme stresses where assets sales were required to satisfy cash flow deficits, corporate investment grade bond sales were only 3.8% of average daily trading volumes (ADTV) and only .04% of IG Corps Outstanding. Government bond sales were 3% of ADTV and .07% of Treasuries Outstanding
- **Federal Home Loan Bank (FHLB) and Funding Agreement Backed Notes (FABN) Balances** – Insurer draws of FHLB loans may be an indicator of liquidity needs in the industry or an attempt to increase spread based business. 2020 saw a large increase in drawings as insurers increased liquidity, mostly out of an abundance of caution during the pandemic. 2021 saw a decrease in drawings, however still in a historical trend up, mostly for spread based business rather than liquidity need. FABN's are mostly used for spread based business rather than liquidity needs. The amount of FABN's issued has significantly increased in the past few years according to Federal Reserve Bank data. Statutory insurance reporting in this area is limited and therefore presents a challenge to monitor and provide further analysis of any potential risks.



## Capitalization & Reputation Risk: Summary

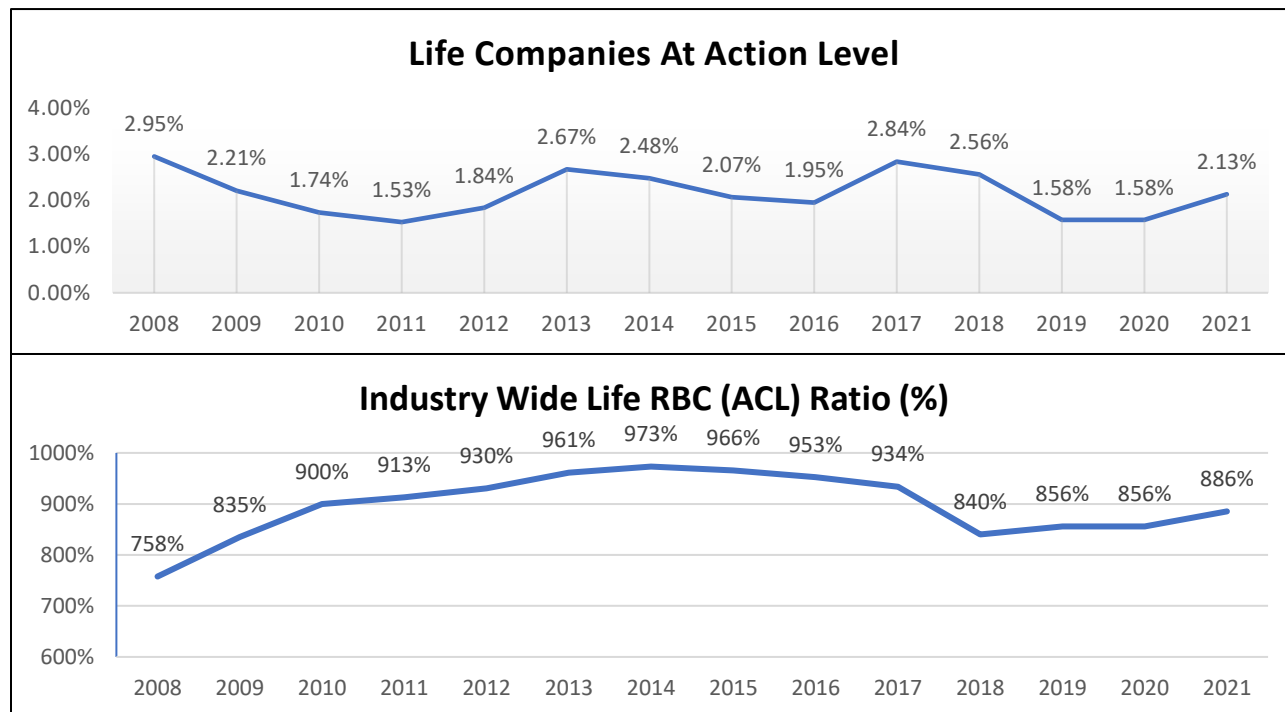
The assessment is driven by relatively strong capital levels and a low number of companies in receivership/liquidation proceedings:

Assessment Level: Low	Trend: Stable <span style="color: blue; font-weight: bold;">➔</span>
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### Capitalization & Reputation: Life Sector

Life insurers continued to face low interest rates and spread compression in 2021, which resulted in lower earnings and some search for additional yield through more aggressive investment practices (i.e., increased equity risk in structured products and increased affiliate exposures). This activity, along with recent RBC formula (C3) adjustments, has led to some flattening of growth in the median RBC and small declines in the aggregate RBC in recent years, outside of 2018 where a more significant and permanent downward adjustment was experienced due to a one-time change in the corporate tax rate. Additional observations include:

- Aggregate RBC continues to be well above the low point of the 2008 financial crisis (758%) and the industry continues to be very well capitalized overall as indicated by the historically low number of companies in RBC action levels (2.13% - 2021) and aggregate premium/reserve leverage positions.
- The industry wide capital levels are relatively consistent with rating agency upgrade/downgrade activity as well as industry outlooks, which generally assigned the life insurance sector a stable outlook at the end of 2021.
- See credit/market for related consideration of asset risks.

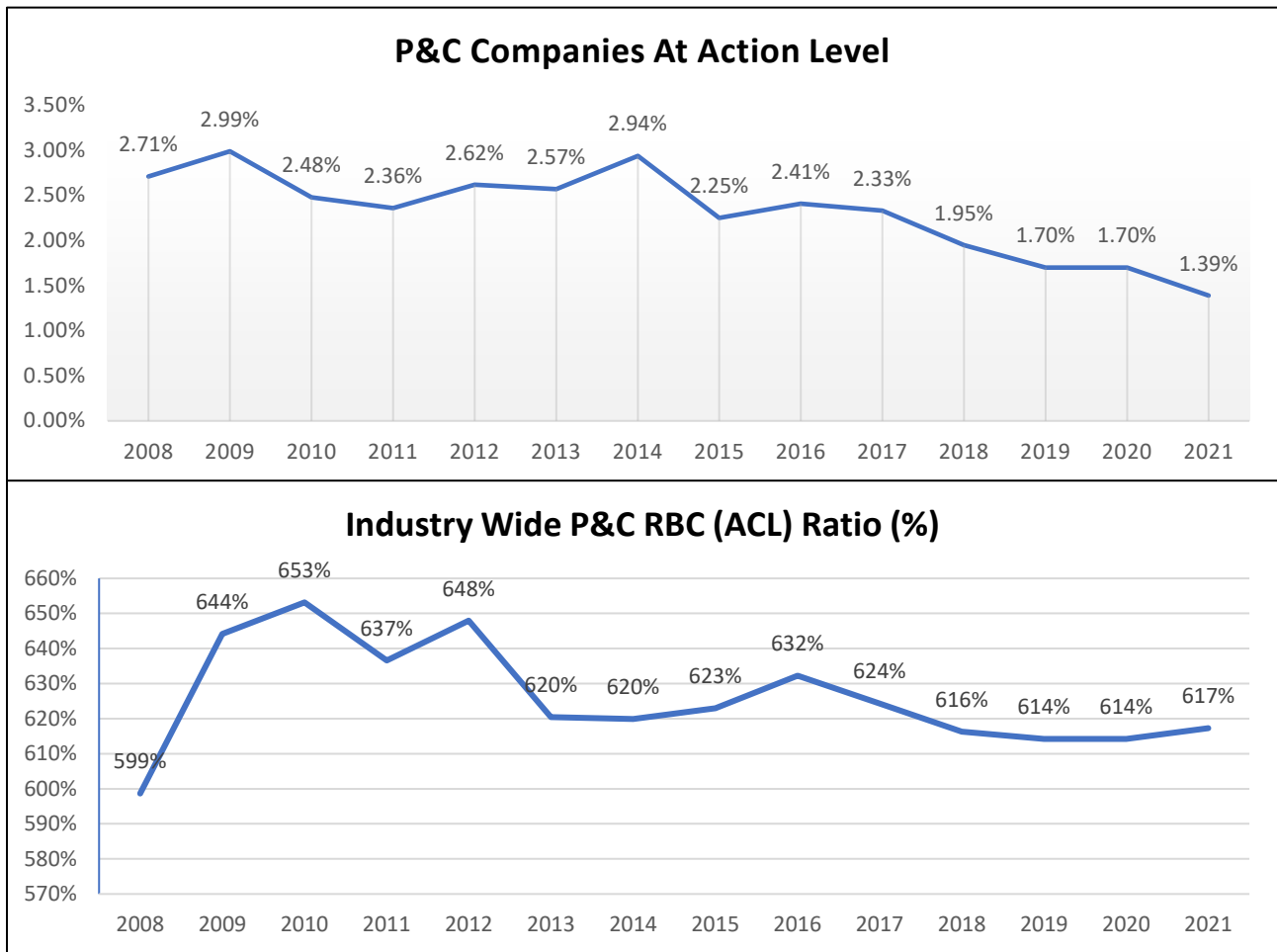




## Capitalization & Reputation: P&C Sector

The P&C industry generally experiences a fair amount of variation in its performance year-over-year due to Cat events and changing market conditions but has also experienced challenges in matching its historical returns in recent years due to the low interest rate environment. This has largely resulted in a flattening or even declining level of aggregate RBC over the last few years. Additional observations include:

- Top line premium growth (due largely to economic growth and rate increases) and increasing levels of unrealized gains in investment portfolios has allowed the industry to grow its overall level of capitalization and lower its premium/reserve leverage to historically low levels.
- Aggregate RBC remains well above the low point of 2008 (599%). The industry wide capital levels are relatively consistent with rating agency upgrade/downgrade activity as well as industry outlooks which generally assigned the P&C insurance sector a stable outlook at the end of 2021.
- State insurance regulators are also closely monitoring the impact of inflation and, potentially social inflation, may continue to have on capital levels and operating results in the coming years.

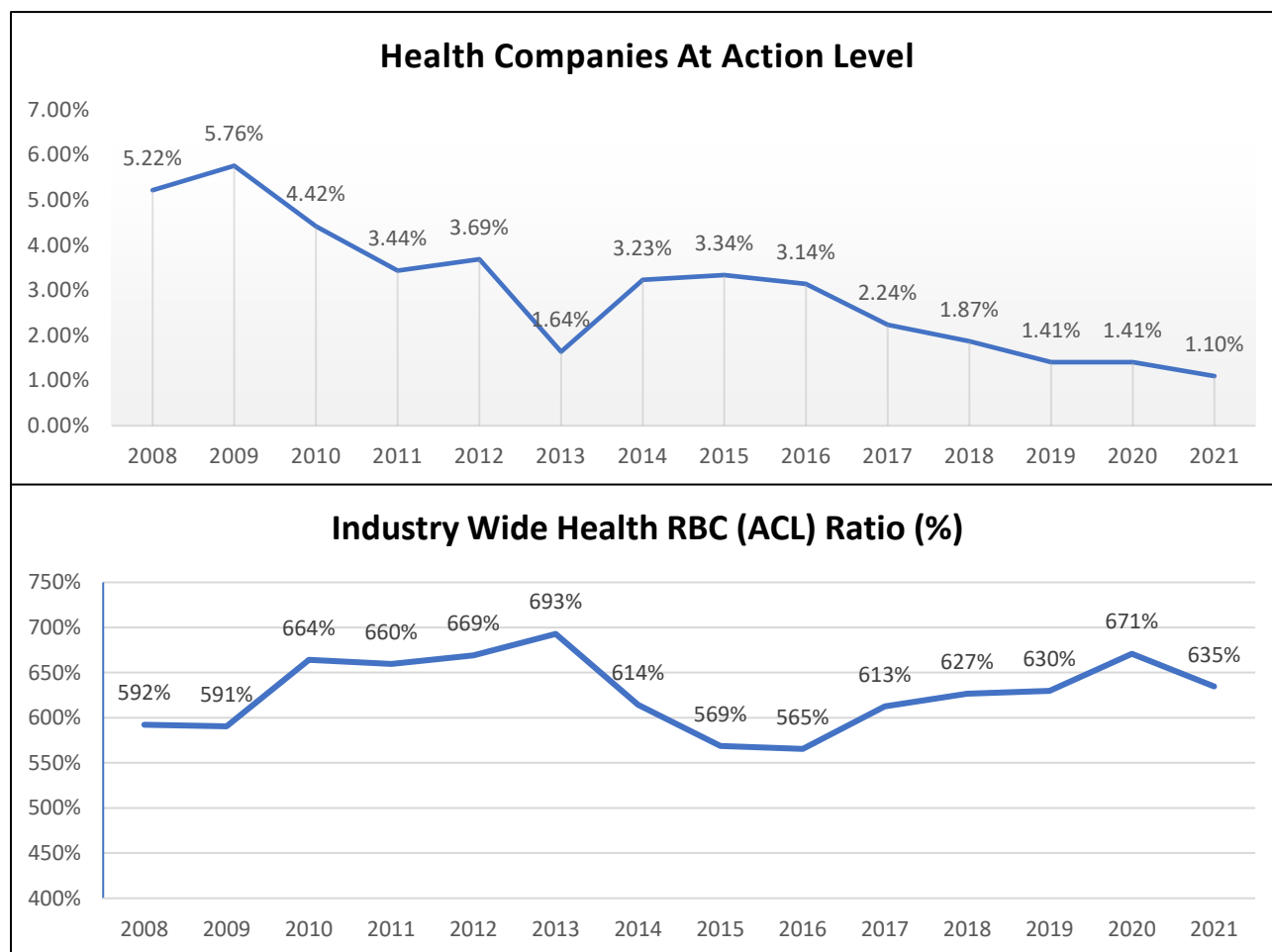




## Capitalization & Reputation: Health Sector

Health insurers have experienced increased profitability and stability in recent years as the impacts of the ACA have stabilized and markets have shifted towards a greater concentration in government business, which is generally subject to less variability in performance. The increased enrollment in government business has fueled overall premium growth, while improved underwriting performance has allowed the industry to increase its overall capitalization and maintain leverage metrics at a level consistent with historical standards. The drop in RBC from 671% in 2020 to 635% in 2021 is generally attributed to a temporary boost in surplus associated with pandemic impacts (i.e., deferral of treatment/surgeries during pandemic) reversing, as well as an increasing trend in asset charges (due to increasing asset risk) in 2021. Additional observations include:

- In addition, this strong performance and enrollment growth has resulted in near record levels of aggregate RBC and very low levels of companies in an RBC action level.
- The industry wide capital levels are relatively consistent with rating agency upgrade/downgrade activity as well as industry outlooks which generally assigned the health insurance sector a stable outlook at the end of 2021.
- Regulators are also closely monitoring the impact that the pandemic and the potential lifting of the public health emergency will have on operating performance and capital levels going forward.

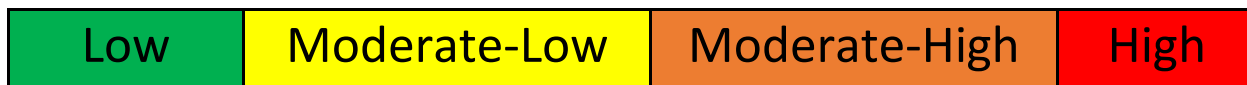




## Appendix A: Risk Assessment Scale

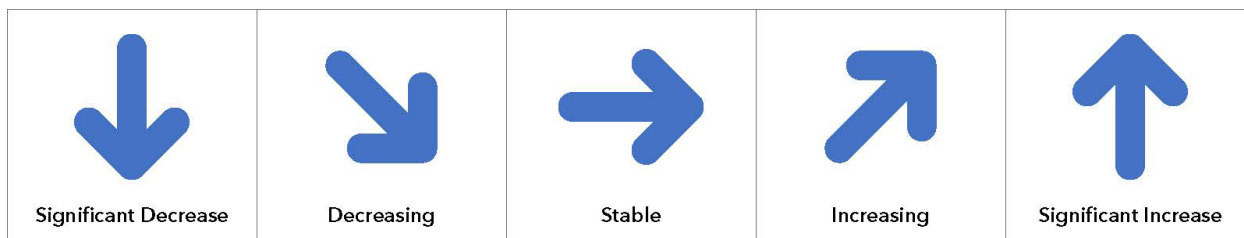
### Risk Assessment Scale

Assessment levels are documented on a four-tier scale consisting of High, Moderate-High, Moderate-Low, or Low. Assessments are based on current and historical risk indicators and expert judgment.



### Trend Scale

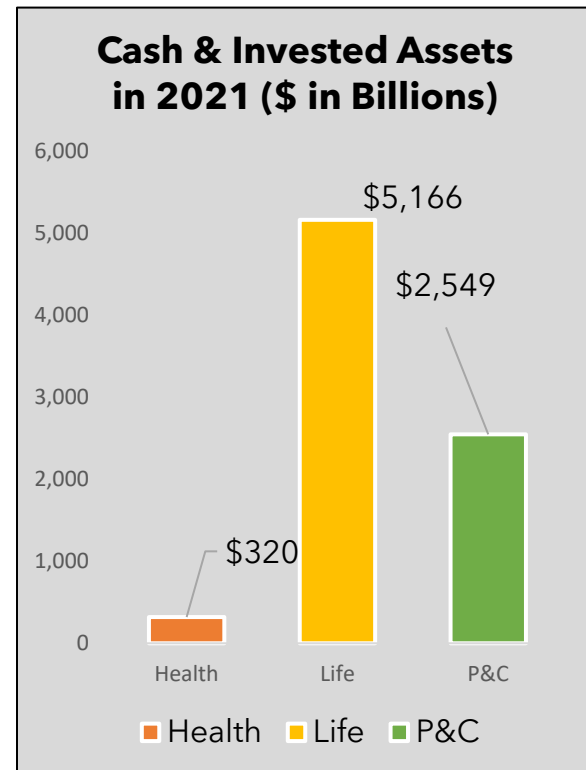
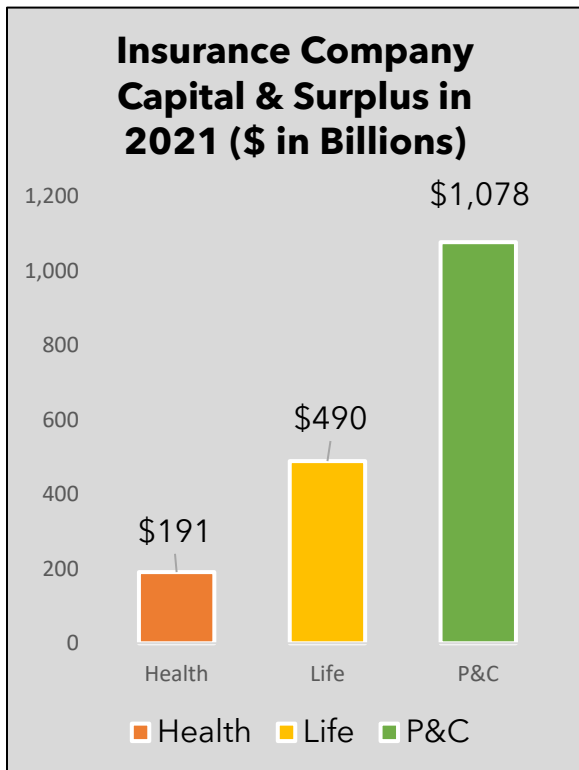
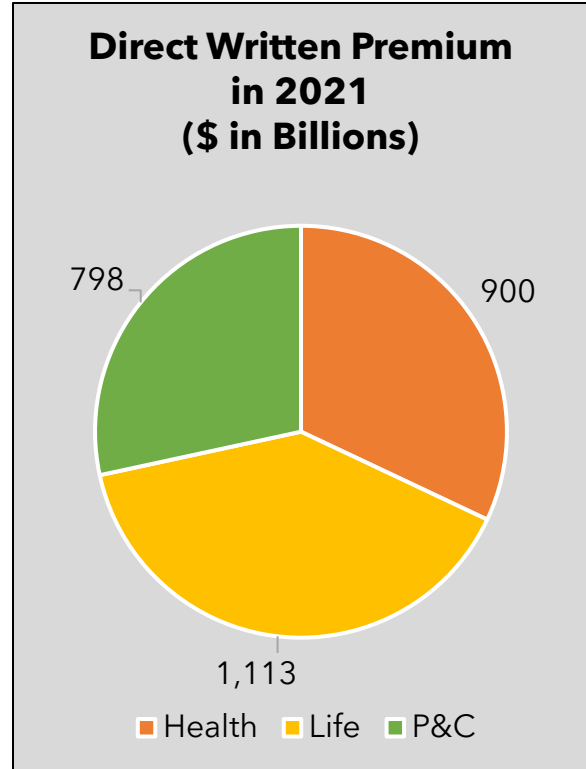
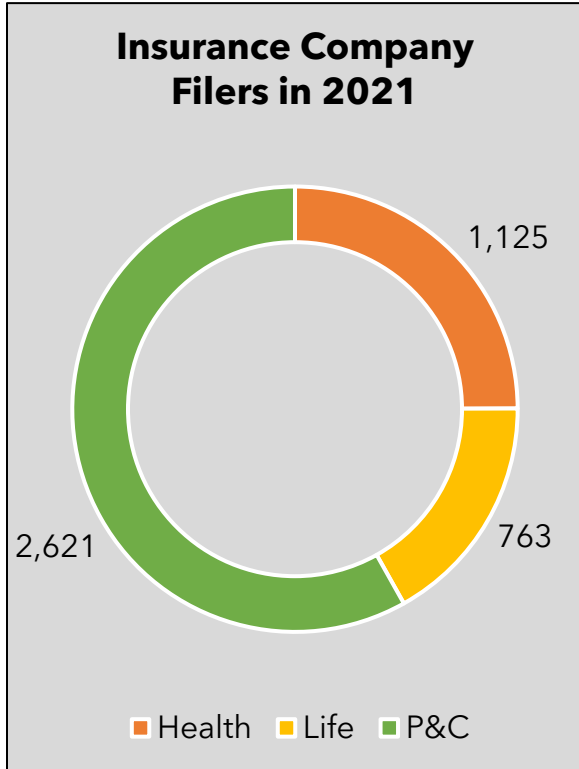
The trend is a historical trend and is indicative of the level of risk. Trend levels are documented on a five-tier scale consisting of Significant Increase, Increasing, Static, Decreasing, or Significant Decrease. Trends are based on the changes in risk indicators and expert judgment.







## Appendix B: Insurance Industry by the Numbers

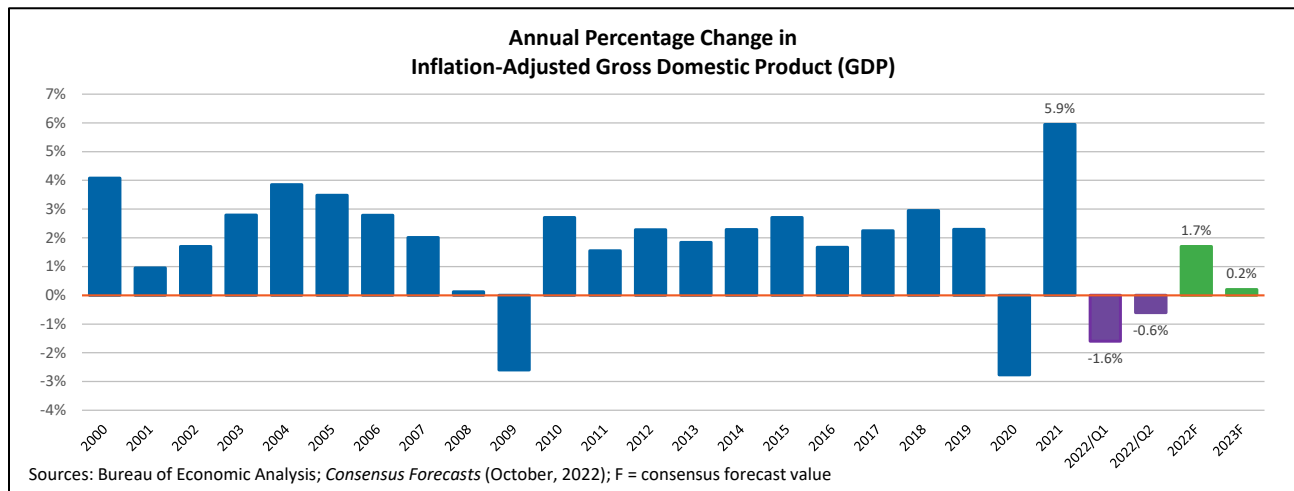




## Appendix C: Details on Macroeconomic Situation

Gross domestic product (GDP) is the total value of all output in the United States over a given period. GDP estimates are released by the Bureau of Economic Analysis (BEA) on a quarterly and annual basis. Inflation-adjusted (real) GDP plummeted by 30% in the second quarter of 2020 (annualized) due to unknowns around the COVID-19 pandemic. Because of the magnitude of the single quarter decline, the National Bureau of Economic Research (NBER) declared a recession. However, real GDP reversed course dramatically in the third quarter of 2020, rising over 35%. Real GDP for the year fell 2.8%, slightly greater in magnitude during the worst of the 2007-2009 recession (2009, -2.6%) (see Figure 1, blue columns). But 2021 was a strong year for real GDP growth, well above the historical trend over the last few decades at 5.9%. Real GDP declined 1.6% in the first quarter of 2022, followed by a 0.6% dip in the second quarter (purple columns). Still, most forecasters predict moderate growth for the year (2022) followed by negligible growth in 2023 (green columns). S&P Global puts the likelihood of a recession in 2023 at 45% (range: 40%, 50%).<sup>1</sup>

Figure 1



The mechanics of the recent downturn are most similar to the 1980s recession in that they are supply-driven (a recession has not been declared by the NBER). Unlike most recessions, where there is a trade-off in unemployment and inflation (higher unemployment rates tend to be associated with lower inflation rates), a supply-side recession can result in what is often termed “stagflation,” where economic growth is stagnant or declining and the inflation rate is high and/or increasing. The primary culprits restricting supply are supply-chain bottlenecks, meaning that intermediate inputs used in production are unavailable, and the difficulty in finding enough workers.

**Labor.** The labor force participation rate (LFPR) is the share of the population working or actively seeking employment. While the LFPR has been in secular decline since the 2001 recession, due in large part to increased retirements of the baby-boom generation, it dropped sharply with the onset of the pandemic, falling from 63.4% pre-pandemic (February 2020) to 60.2% in April 2020 (Figure 2, Panel A). The LFPR has remained below pre-pandemic levels, having rebounded to 62.3% by September 2022 (seasonally adjusted). Indeed, the number of job openings exceeds the number of unemployed people actively

<sup>1</sup>Presentation, NAIC [Valuation of Securities Task Force](#) Seminar, New York, NY, October 13, 2022.



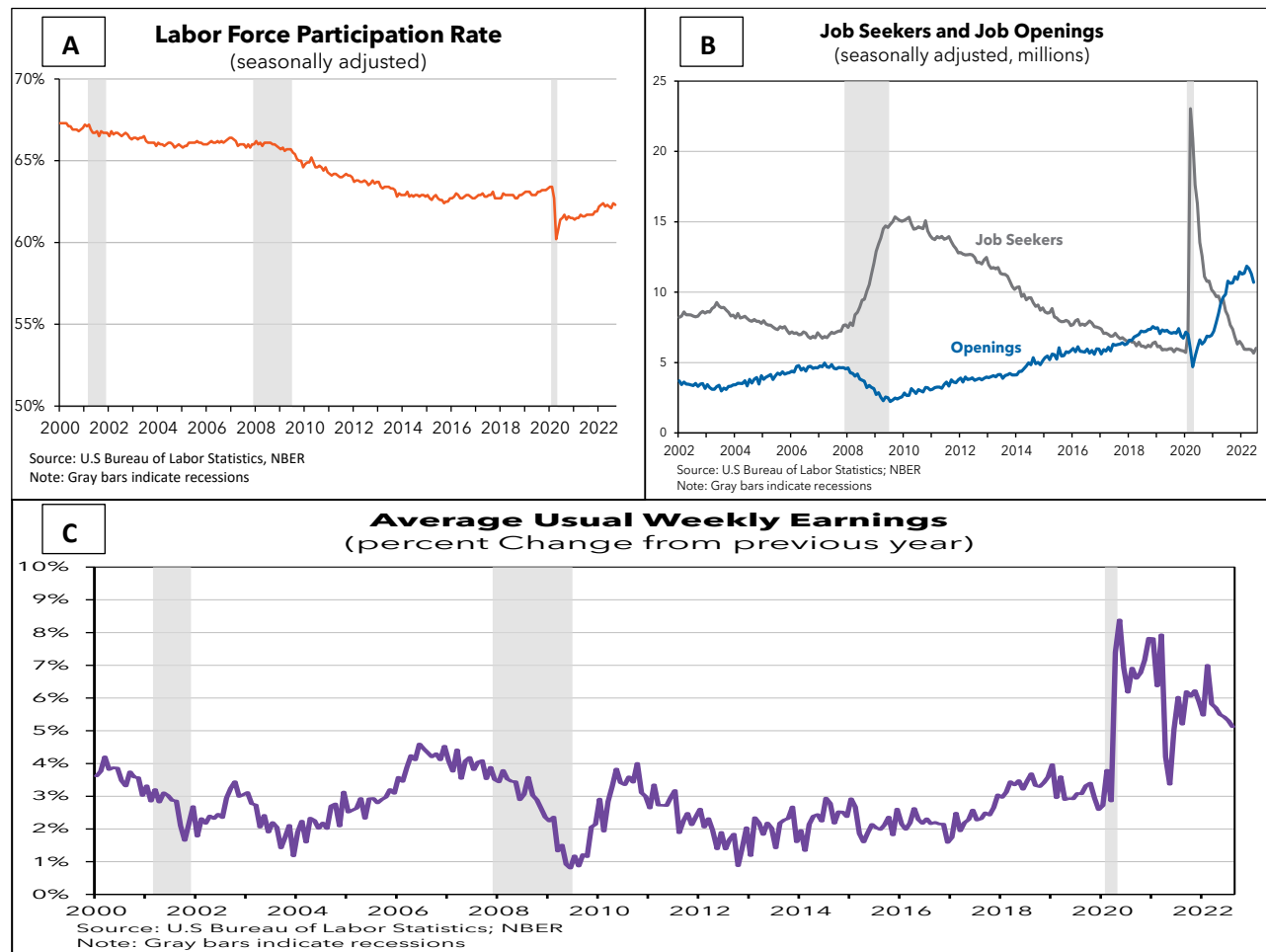
## Macroprudential Risk Assessment

seeking employment, which is historically very unusual (Figure 2, Panel B). Natural labor market frictions, such as job mismatches, explain continued unemployment.

The inability to find qualified workers has caused significant supply disruptions and increased wages, which eventually works its way into consumer prices (Panel C). The labor market outlook is stable. That is, the demand for workers is likely to continue to exceed the supply of workers for some time. A shortage of available workers will continue to weigh on economic growth.

**Figure 2**

**Inflation.** Supply chain disruptions have increased the price of the intermediate inputs that companies need to produce goods and services. If they have sufficient market power, firms can pass these increased costs onto consumers, which causes prices to increase in general, or inflation. As discussed above, labor market conditions are raising the cost of labor, which exacerbates the inflationary pressures of supply chain disruptions. In September 2022, inflation increased at an *annualized rate* of 7.1% (6.7% year-over-year) based on the consumer price index (CPI). Since late 2021 and especially into 2022, the inflation rate



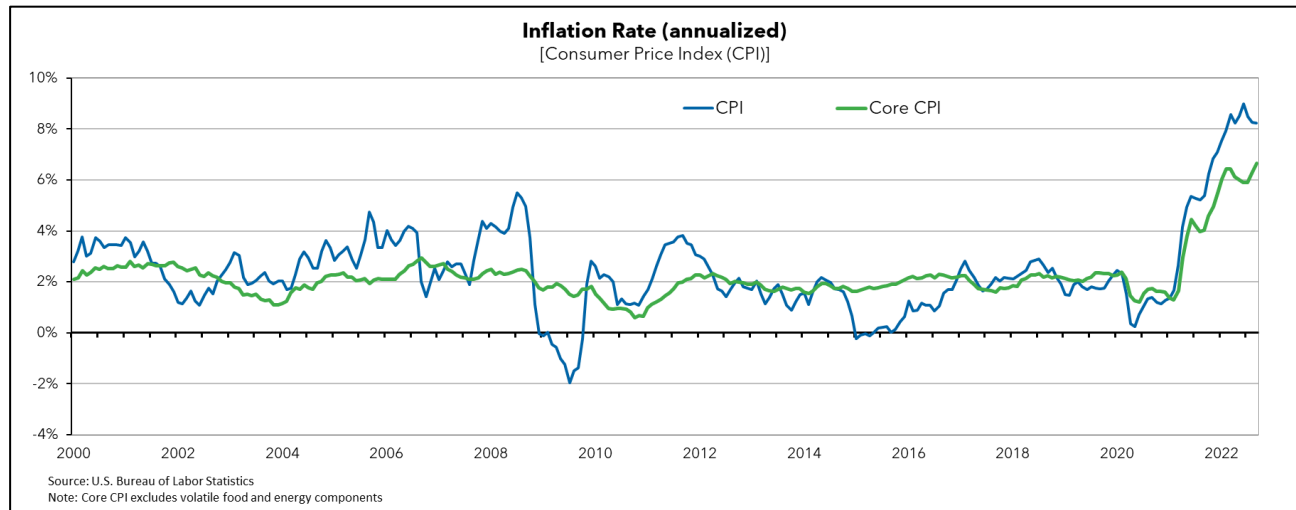


## Macroprudential Risk Assessment

has been near a 50-year high (Figure 3). While energy prices have increased markedly, core CPI inflation, which excludes the volatile energy and food sectors, has followed the trend in “headline” inflation.

**Figure 3**

Current fiscal policy is highly aggressive, which puts an upside risk on inflation. That is, large increases in federal spending and tax increases on businesses may stoke inflation. Unchecked, inflation erodes



consumer purchasing power and the real return on fixed income assets, which make up the largest share of insurance industry assets.

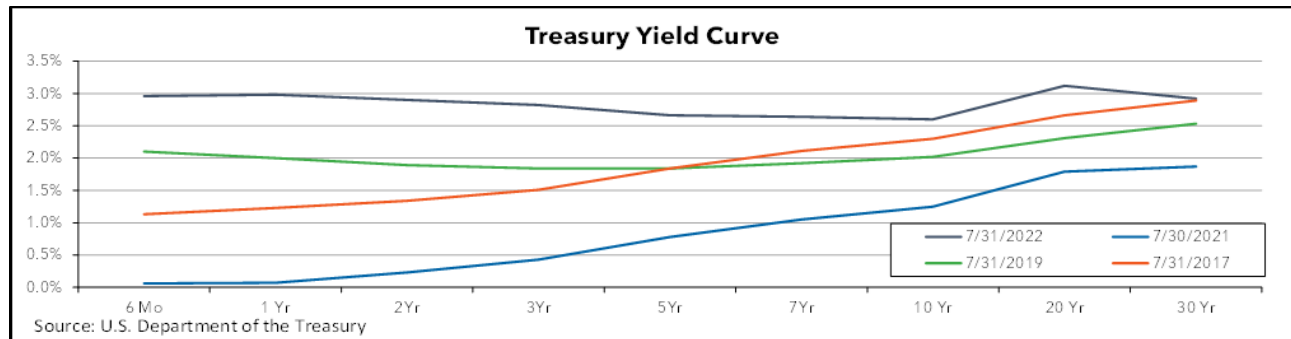
**Interest Rates.** In most (demand side) recessions, the Federal Reserve will increase the supply of money by lowering its target for the Federal Funds Rate (FFR), which is the rate banks charge each other for very short-term loans. Simultaneously, they will change the discount rate, which is the rate at which banks can borrow directly from the Federal Reserve (which is exceedingly rare). Loans from the Federal Reserve also are very short-term. The goal is to lower interest rates, thereby stimulating spending by consumers for big-ticket purchases and business firms for physical capital investment.

This same policy in a supply-side downturn would likely increase inflation by spurring increased demand for goods and services. Inflation is a key component of the Federal Reserve’s dual mandate (stable prices and maximum employment), and the Federal Reserve is taking a “contractionary stance,” meaning they are increasing the FFR and discount rate to combat inflation as their primary policy.

Importantly, the Federal Reserve has control over only the exceedingly short maturity FFR and discount rates. They have little control over medium-term and longer-term interest rates, which are entirely market driven. This constraint is evident in the changing yield curve, which shows the yield on Treasury securities across several maturities from 6 months to 30 years (Figure 4). Short-term rates have increased dramatically with the Federal Reserve’s policy actions. While medium-term and long-term yields have increased, they have not increased as much as short-term yields, leading to a flattening of the yield curve.



Figure 4



Because insurance companies, particularly life insurers, try to match the duration of their liabilities (outlays), which often occur many years into the future, with their assets, they typically require bonds with long maturities. Thus far, longer-term yields have failed to rise substantially and remain below historically typical levels.

During the 2008 financial crisis and for a period thereafter, the Federal Reserve used unconventional policies to reduce medium-term and long-term interest rates. They did so with direct purchases of long-term Treasury bonds and asset-backed securities (Quantitative Easing) and trading short-term Treasury bills for longer-maturity Treasury bonds (Operation Twist). Both efforts raised bond prices, which reduced yields. Ostensibly, the Federal Reserve could do the reverse to raise longer-term yields, but they have not indicated an inclination to do so. The Federal Reserve is gradually selling off their asset-backed securities, but the pace at which they are doing so is unlikely to have a substantial effect on longer-term yields.

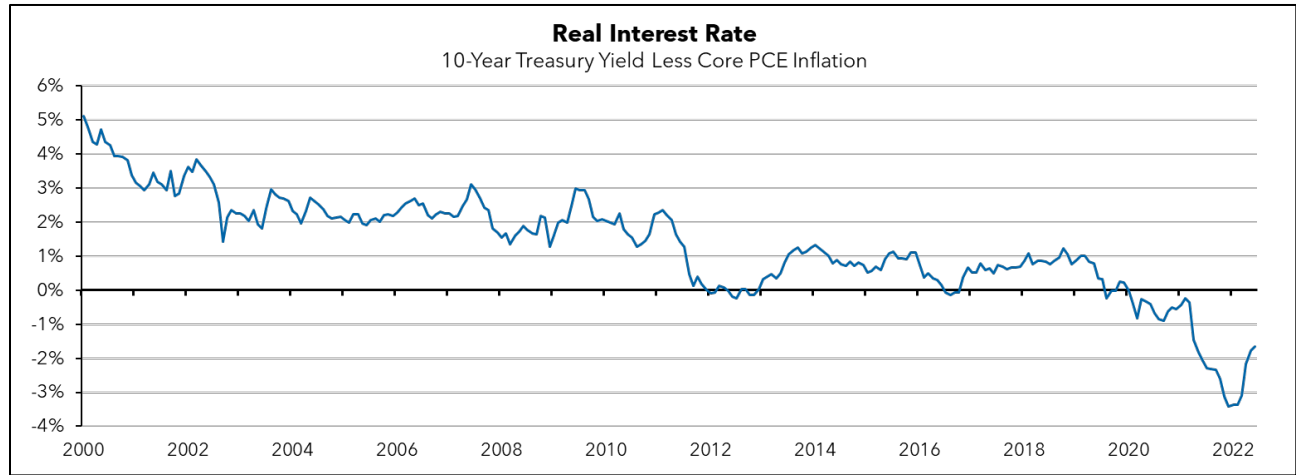
Insurers are in a better financial position when interest rates are higher, particularly longer-term rates, but the problematic low interest rate environment of the past several years has not gone away with higher *current* yields. Insurers, particularly life insurers, commonly hold bonds to maturity (when they come due), and their existing balance sheets retain substantial amounts of long-term bonds yielding low rates of return. Selling *existing* bonds for more recently issued higher-yielding bonds would not effectively improve their earnings because the market value of their existing GAAP balance sheet debt holdings declines as rates increase. That is, they would have to sell the bonds for a much lower price than their par value. The realized loss in the market value of their bonds would erode the gains they would get from purchasing more recently issued, higher yielding bonds.

**Inflation and Interest Rates.** The *nominal interest rate* is the rate posted by banks or the yield posted in bonds. But the interest rate that matters most in terms of a return on investment is the *real interest rate*. The real interest rate is the nominal rate, or nominal return on an asset, adjusted for inflation. Because of the exceptionally high inflation rate and the only moderate increase in bond yields, the real rate of interest is negative (Figure 5). For example, if an insurer were to receive 3.5% interest on a bond and the inflation rate was 8.5%, it would earn an effective return of -5% because the prices of goods and services are increasing at a faster rate than the return on the bond.



## Macroprudential Risk Assessment

Figure 5



The National Association of Insurance Commissioners (NAIC) is the U.S. standard-setting and regulatory support organization created and governed by the chief insurance regulators from the 50 states, the District of Columbia and five U.S. territories. Through the NAIC, state insurance regulators establish standards and best practices, conduct peer review, and coordinate their regulatory oversight. NAIC staff supports these efforts and represents the collective views of state regulators domestically and internationally. NAIC members, together with the central resources of the NAIC, form the national system of state-based insurance regulation in the U.S.

For more information, visit [www.naic.org](http://www.naic.org).

